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MANAGED FUTURES:
Cyclical Trough or Structural Impairment?
Analysis & Proposed Solutions

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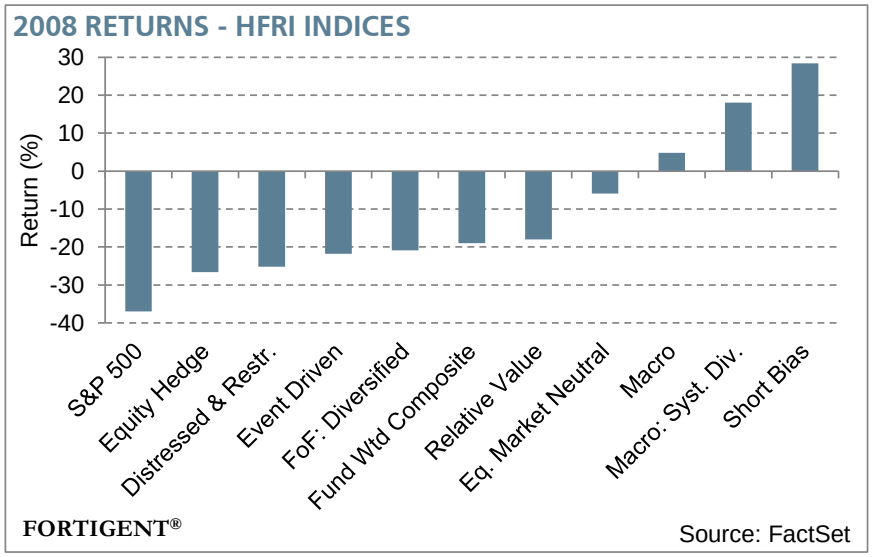
INTRODUCTION

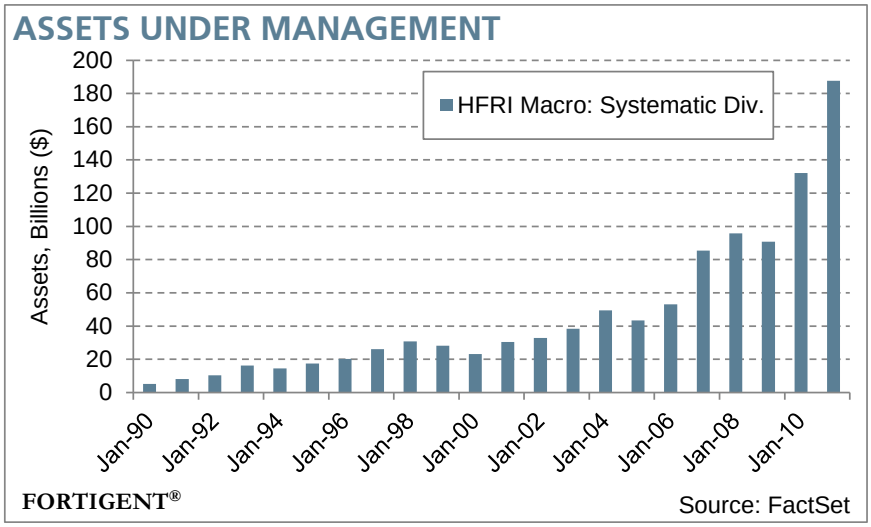
Systematic trend-followers, commonly referred to as "managed futures" funds, have long been an important component of institutional and high net worth portfolios. These strategies' unique ability to go both long and short in a vast array of global financial markets has historically produced a return profile highly uncorrelated to traditional markets. More recently, however, many investors have come to question the asset class amid poor performance in the post-global financial crisis (GFC) period. In this paper we explore the recent struggles of the managed futures industry, discuss what the future may hold for such strategies, and offer suggestions for navigating this space moving forward.

BACKGROUND

The events of 2008 were a startling development for many hedge fund investors; following a near-30 year period of little or no losses in their investments, double-digit declines in most hedge fund strategies shattered an aura of "absolute return" performance. When the dust settled on 2008, only two major segments of the industry generated positive returns: short biased and managed futures funds. More specifically, in a calendar year in which the broad universe of hedge funds fell by 19%, the average managed futures fund rose 18%. Many individual managed futures funds were up 40% or more, as they capitalized on the sell-off in equities and extended trends in bonds, commodities, and currencies. This performance opened many investors' eyes to an asset class that was previously overlooked due to its highly technical and quantitative nature.



On the heels of 2008, investors who previously shied away from these quantitative strategies poured into managed futures en masse. Assets in those strategies grew 120% from 2007 to 2011, while the broader hedge fund industry increased just 7.5%. As a consequence, the share of managed futures funds as a percentage of the total hedge fund assets more than doubled to 9.3% by the end of 2011, or $188 billion. Data aggregator BarclayHedge estimates the current size of the managed futures market is even larger, at $260bn, although those figures are skewed by one extremely large hedge fund[1] BarclayHedge classifies as a CTA.

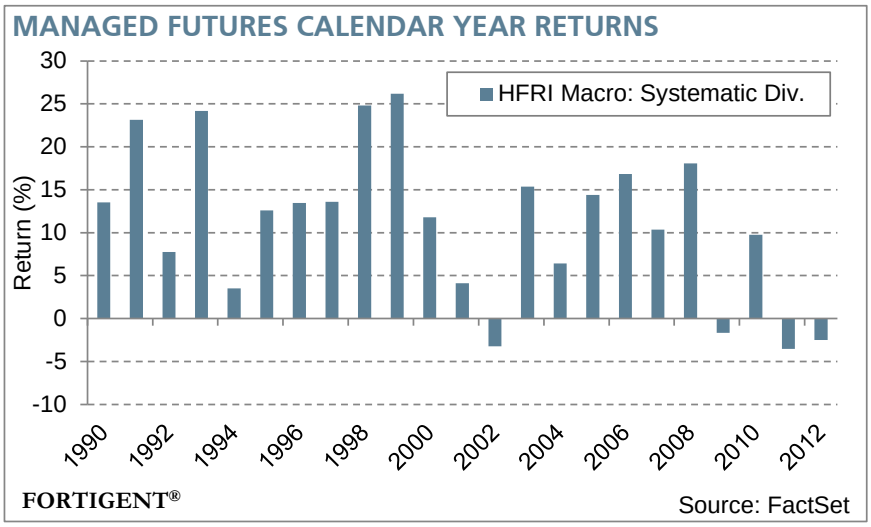


A spate of industry reports indicate that both high net worth and institutional clients entered the managed futures space post-2008, as demand for "tail risk protection" surged. Contributing to the growth in managed futures assets in the current period, however, was the fact that retail investors were also given access to these funds for the first time – primarily through 1940 Act structures. While only one managed futures mutual fund existed before the financial crisis, that number has swollen to 51 today. Total assets in the managed futures mutual fund universe currently stand at $8.6 billion – still a fraction of their hedge fund peers, but not insignificant.

Unfortunately for new entrants, the timing of their new allocations was anything but optimal. Managed futures funds, collectively, posted negative absolute performance in three of the next four calendar years – the worst performance stretch in the history of the asset class. Since the end of 2008, managed futures funds generated an annualized performance[2] of 0.4%, compared to 10.9% for the S&P 500 and 3.6% for the broad hedge fund composite. If one invested in managed futures immediately following 2008, the impact was not devastating on a stand-alone basis; but in the wake of strong double-digit equity market returns, the opportunity cost has certainly been high.

[1] Bridgewater Associates

[2] Through March 31, 2013



HISTORICAL REVIEW

Managed futures investing received its first major academic backing by John Lintner in 1983 with his classic paper, "The Potential Role of Managed Commodity-Financial Futures Accounts (and/or Funds) in Portfolios of Stocks and Bonds." Lintner concluded that, "the combined portfolios of stocks (or stocks and bonds) after including…managed futures accounts (or funds) show substantially less risk at every possible level of expected return than portfolios of stocks (or stocks and bonds) alone." Managed futures strategies proliferated and gained further notoriety in the 1980's with the success of trend-following investors such as John Henry and David Harding.

Since then, a range of academic studies have validated the historical efficacy of managed futures investments and the benefits of inclusion into diversified, traditional portfolios.[3] Edwards and Park (1996), for example, found that an equally weighted portfolio of either CTAs or commodity pools "increases the portfolio's Sharpe ratio by as much as 28%. The primary reason for this result is the low correlation between managed futures returns and the returns on other portfolio assets…" More recent studies such as one by Ibbotson Associates of CTA data between 1980 and 2005 illustrated an asset class that generated superior returns to US equity markets with similar volatility levels. Because of the uncorrelated nature of this performance, however, the authors concluded that layering in an allocation to managed futures to a traditional stock bond portfolio improved the overall risk-adjusted return – i.e. improved the efficient frontier in a mean-variance framework.

In practice, the performance of popular indices of managed futures funds supports the academic research. Since February 1991,[4] the managed futures industry (as represented by the HFRI Macro: Systematic Diversified Index) generated the second highest Sharpe ratio of the major asset classes, save for the broad category of hedge funds. Its annualized return of 10.7% exceeds that of the S&P 500, and achieves it with approximately half of the volatility. In fact, managed futures' performance over this time period exceeds every major asset class except that of hedge funds and REITs. The average volatility of CTAs is also lower than every asset except hedge funds and bonds.

[3] McCarthy, Schneeweis, and Spurgin [1996]; Edwards and Park [1996]; Schneeweis, Spurgin, and Potter [1997]

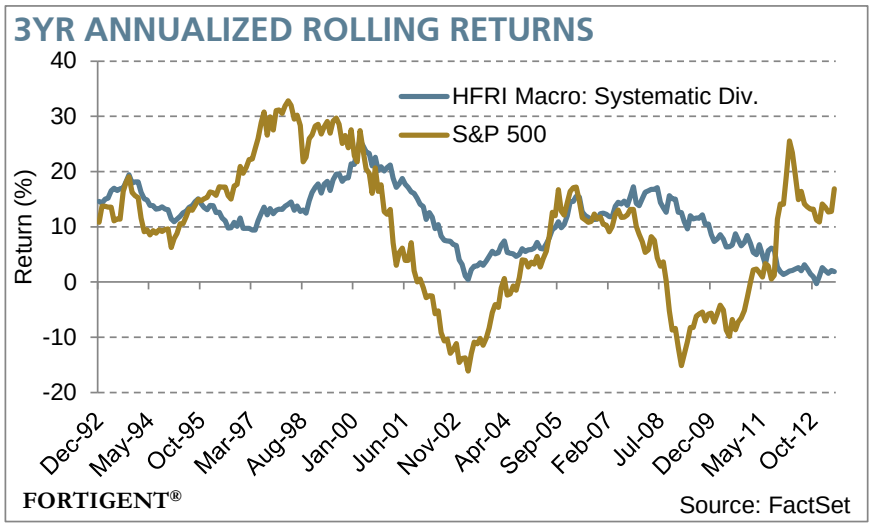
[4] Inception of the Dow Jones UBS Commodity Index

The comprehensive risk management inherent to CTAs result in this mitigated volatility profile, but its impact is most evident in the return distributions. Next to fixed income, managed futures display the most attractive drawdown characteristics of the major asset classes. During the measured time period, only managed futures and bonds experienced a maximum drawdown in the single digits. Although hedge fund strategies generated a superior return with less volatility than managed futures, they were not necessarily less risky, as evidenced by a maximum drawdown of more than 20%. This is due to the negative skewness and kurtosis of the hedge fund category's return distribution, indicating there are fatter "tails" for such strategies. Of the major categories, only managed futures strategies featured positive skewness. This suggests managed futures is one of the few asset classes that mitigate left tail risk effectively.

Risk/Return Statistics - 2/1991 - 3/2013						
Portfolio	Ann'd Return (%)	Ann'd St. Dev (%)	Sharpe Ratio	Max Drawdown (%)	Skewness	Kurtosis
HFRI Macro: Systematic Div.	10.7	7.5	1.00	-9.3	0.15	-0.3
S&P 500	9.3	14.8	0.41	-50.9	-0.63	1.3
Russell 2000	10.4	19.2	0.38	-52.9	-0.53	1.2
MSCI EAFE	5.9	16.9	0.16	-56.4	-0.57	1.1
MSCI Emerging Markets	10.3	23.6	0.30	-61.4	-0.69	2.0
Barclays US Aggregate	6.7	3.6	0.96	-5.1	-0.28	1.0
HFRI Fund Wtd Composite	11.2	7.0	1.15	-21.4	-0.70	2.6
DJ UBS Commodity	4.9	14.9	0.12	-54.3	-0.58	2.7
Dow Jones US Select REIT	11.5	20.1	0.41	-70.5	-0.74	9.0

Source: FactSet

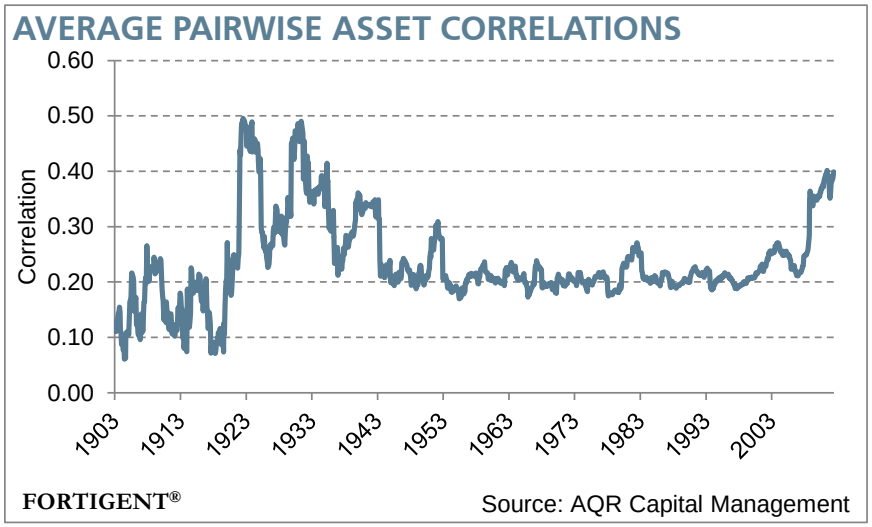
One of the more remarkable features of managed futures strategies is their consistent performance over time. While these strategies in isolation typically run with volatility levels comparable to traditional equities – and experience year-to-year drawdowns in accordance with their standard deviation – the asset class sees steadier results when viewed on a longer term rolling basis. Observation of three year rolling performance, for example, illustrates the relative ability of CTA strategies to consistently generate positive returns. In fact, November 2012 was the only month in the history of the HFRI index that the series posted a negative three-year return. In contrast, pure long-only equity markets and long-only commodity markets (not shown) experienced prolonged periods of negative performance.



Despite the longer-term consistency, returns at present do have the appearance of a slow overall trend downward. Some might argue that we are simply at a periodic performance trough, similar to the one witnessed in late 2002. On the other hand, there are some structural changes in financial markets and the CTA industry that could be grounds for a more persistent degradation in alpha generation. Differentiating between a cyclical trough in performance and a secular trend toward lower returns is of course the key issue to examine.

ANALYSIS OF RECENT PERFORMANCE

The cause of recent underperformance in managed futures managers is a source of intense debate. Whether due to central bank interventions, increased assets in the space, or simply a new regime in investor risk behavior, what is certain is that asset class correlations spiked dramatically in the post-GFC period. Data produced by AQR Capital Management illustrates this phenomenon: following several decades of consistently low correlations among assets, correlations moved sharply higher in the fall of 2008 and have yet to recede.[5] This provided an extremely difficult environment for systematic and discretionary traders alike, but the result is particularly pronounced for managed futures strategies. The inability to establish independent, uncorrelated trades reduced the efficacy of such approaches, creating return profiles where single-asset drawdowns (caused by trend reversals) tend to cluster. The tendency for investors to collectively trade in risk on/risk off fashion during the economic recovery period – in which groups of asset classes move together in rapid fashion – occurred with such a frequency that alpha generation by CTAs eroded.



We discuss a few of the major causes of CTA underperformance in more detail below:

- ***Central Bank Intervention & Market Artificiality:*** Perhaps the most compelling theory for underperformance by managed futures funds is the unprecedented level of central bank intervention that occurred in the wake of the financial crisis. In 2012 alone, central banks changed interest rate policy 158 times[6] and implemented nonconventional measures such as asset purchasing programs and direct currency interventions, which often have far more disruptive impact than rate policy alone.

  Of course, central bank activity was always present in the market. The scope and pace of such events, however, increased dramatically as central bankers took on a more activist role. Compounding this phe-

[5] Three year average absolute pairwise correlation across 59 markets. January 1903-June 2012.

[6] centralbanknews.info

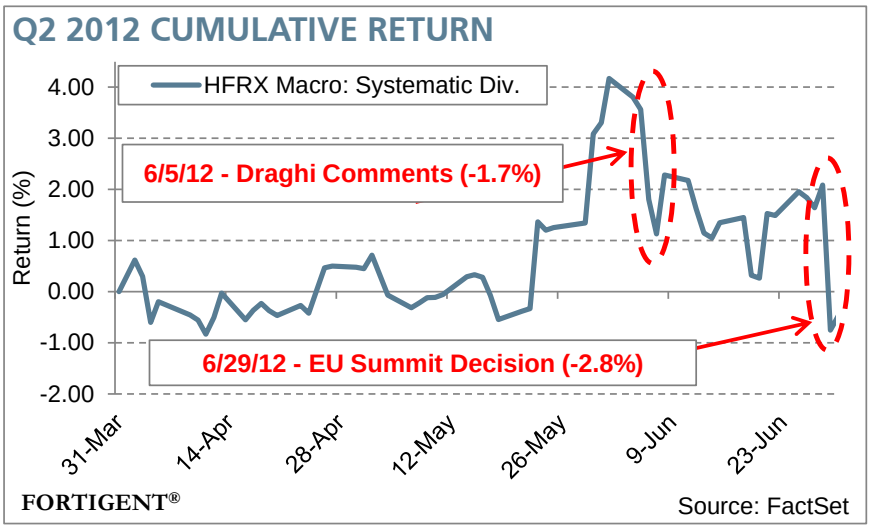
nomenon is the rise in influence of emerging market central banks; global financial markets are now subject to the competing economic interests of a much wider swathe of sovereigns today compared to 20 years ago.

Such intervention presumably disrupted the natural trajectory of many markets. In instances where trends developed – and where managed futures' quantitative models start to initiate positions – central banks or policy makers intervened and the markets reversed. This created a start-stop arena pitting political will versus true economic fundamentals and natural market trends.

The events of June 2012 were particularly illustrative of this phenomenon.

Through June 5, 2012, managed futures strategies had generated a 3.6% return quarter-to-date, while the S&P 500 had lost approximately 8.4%. The next day, however, ECB President Mario Draghi announced at a press conference that the central bank was "ready to act" in response to deteriorating market conditions. This sparked a sharp rally in financial markets, working against many positions held by managed futures strategies. The group (as measured by the daily HFRX Macro: Systematic Diversified Index) lost 1.7% in a single day.

A similar event unfolded on the final day of the second quarter of 2012. Systematic trend-followers slowly crawled back to a positive 2.1% quarter-to-date return through June 28. On June 29, though, an EU summit yielded provisions that directly recapitalized banks in Spain and Ireland and expanded the powers of the European Stability Mechanism (ESM). This catalyzed a sharp reversal in risk markets, once again disrupting market trends. The category lost 2.8% on June 29, and many long-tenured managed futures managers experienced their worst one-day loss ever.

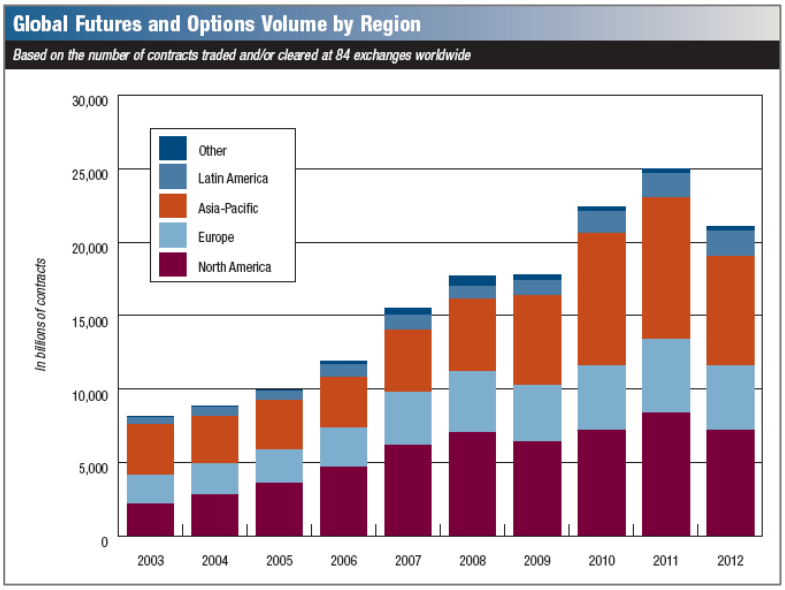


These circumstances are anecdotal, but they underscore a broader phenomenon characterizing the economic recovery. Managed futures funds are designed to capture large portions of a market move, not to identify inflection points. Increased frequency of such inflections whipsawed intermediate trend-followers and caused a protracted period of underperformance.

- ***Asset Growth:*** Another popular theory for managed futures funds' struggles is the tremendous asset growth in the industry. As previously mentioned, assets in systematic diversified managers (as measured by Hedge Fund Research) more than doubled between 2007 and 2011. Because the flood of assets from investors coincided with poor performance, many inferred a causal relationship. As a general rule, the

potential for alpha generation erodes in the face of increased assets and strained capacity, holding all other factors constant.

While it is true that CTA assets swelled rapidly, this coincided with an increase in both the number and volume of futures contracts. Between 2003 and 2012, global volume of futures and options contracts increased 161%, from 8.1 trillion to 21.2 trillion contracts.[7] Estimates of futures and options volume since 1998 suggest an even more dramatic expansion (in the range of 10x). And thanks to the rise in electronic trading, futures markets remain some of the most liquid markets in the world; average bid-ask spreads steadily declined since 2000 because of the automation of transactions.



Source: Futures Industry Association

At first glance, managed futures assets as a share of global futures markets do appear to be quite trivial. One source[8] estimates that CTA assets currently make up 5% of commodities markets, 0.2% of equity markets, 2.6% of bond markets, and 0.2% of currency markets. Those figures are not inconsequential, but generally reveal an industry that is not dominating the futures markets.

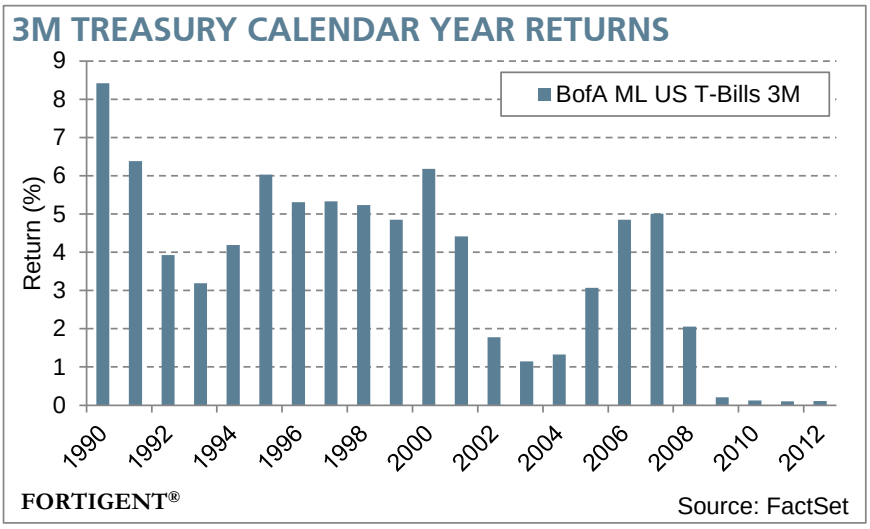
These numbers, however, may not fully illustrate the scope of CTA influence. While managed futures assets constitute a small percentage of overall market volume, on certain key trading days CTA flows can dominate and impact market pricing. Execution skid and piling-on-effects by brokers who see these flows certainly creates short-term serial autocorrelation of pricing, as one manager's model trips another and a wide variety of CTAs seek liquidity in the same market direction at approximately the same time. In ways, this issue is similar (although of a much smaller scale) to what happened with equity quant models in August 2007 – where the downsizing of leverage by one quant model tripped other models into downsizing, and eventually created short-term irrational movement in various equity pairings.

[7] Source: Futures Industry Association

[8] AQR Capital Management, LLC

Unfortunately, it is difficult to generate a cohesive conclusion on this topic; the distinction between correlation and causation of recent poor performance is certainly blurred in this instance. What does appear more certain is that, at the very least, CTAs had to become more sophisticated in their execution to minimize market impacts and to avoid detrimental front running by other parties.

- ***Collateral:*** An often overlooked factor on CTA performance is the impact of low interest rates on managed futures' funds absolute returns. Because futures contracts require only a fraction of the overall notional value of the contract to be posted (known as margin), typically 75-85% of a managed futures fund's assets sit in short-term government bonds or money market securities. Between 1990 and 2008, the average annual return on three month Treasury Bills was 4.4%; since 2008, however, that return dropped to just 0.1% per annum. The current interest rate regime imposed by the Federal Reserve eliminated this complementary source of return, which often cushioned managed futures funds through periodic stretches of underperformance.



One final point on recent performance is that while the scope of managed futures strategies' recent problems appears unprecedented, new historical research suggests otherwise. A study by Hurst, Ooi, and Pederson [2012][9] extends the common research period of managed futures from the 1980s onward back to 1903. The authors reconstructed a time series of common trend-following models based on 59 markets across four major asset classes (commodities, equities, bonds, and currencies). While such a theoretical construction should be viewed with some level of skepticism, the model does provide a proxy for examining longer-term performance of simple trend-following systems.

According to their research, Hurst, et al. determined that the recent drawdown of 13.5% (as measured by their model) between February 2009 and July 2011 is the sixth worst peak-to-trough decline in the last 110 years. In the 10 worst instances during the measurement period, the average drawdown was 14.8% and the average peak-to-recovery length was 25 months. This places the recent move right around the mid-point of those historical events.

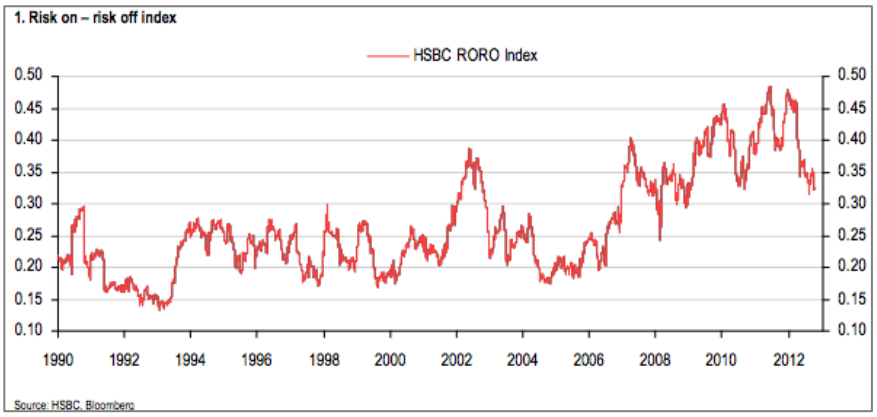
[9] Hurst, Brian, Yao Hua Ooi, and Lasse H. Pedersen. *A Century of Evidence on Trend-Following Investing*. working paper, AQR Capital Management, 2012.

THE CASE FOR MANAGED FUTURES

The critical question for investors at this juncture is whether managed futures strategies still make sense for their portfolios moving forward. Performance during the past four years served to shake the confidence of many investors in this space, with some going so far as to proclaim the CTA model broken. There are a number of items worth discussing that influence the answer to that question.

- ***Risk On/Risk Off:*** The first, and most important, issue at hand is the potential decline in risk on/risk off trading dominating financial markets since the European Debt Crisis erupted in early 2010. Any decline in this phenomenon would be a welcomed development for traditional CTA trend-followers, as they depend on independent, uncorrelated assets to generate successful portfolio positions.

  There is reason to believe that a reduction in risk on/risk off trading is indeed occurring. Analysis by HSBC, which utilizes principal component analysis on 34 major assets to create a measure of market correlation, indicates the tendency for a broad group of assets to be influenced by a single primary factor is abating. The firm's aptly named Risk On/Risk Off Index neared a 0.50 level in late 2012 but has since fallen to under 0.35. While still elevated compared to the levels observed between 1990 and 2006, conditions are substantially improved.



Source: HSBC

  This phenomenon is supported by a number of additional sources. Anecdotally, a broad range of the asset managers Fortigent Research interacts with pointed to lower correlations between asset classes and between individual securities. This assertion is backed up by hard data, indicating that average pair-wise correlations amongst the predominate asset classes shrunk by more than 16% since 2011.[10] Many financial markets are loosening up as a result, such that there is more dispersion within asset classes – particularly in currencies and commodities. These developments are positive for both traditional asset managers as well as systematic trend-followers moving forward.

- ***Downside Performance:*** From a historical perspective, arguably the most important property of managed futures is its negative correlation to risk assets during periods of drawdowns or risk aversion (although this profile could evolve for reasons we discuss in the next section). Several studies[11] examined the downside performance characteristics of managed futures strategies and concluded that CTA strategies do, indeed, offer uniquely positive performance in such environments. An analysis of negative

[10] Trailing 1-year daily correlations, March 2013 vs December 2011 for S&P 500, MSCI EAFE, MSCI EM, Russell 2000, DJ-UBS Commodity, DJ US Select REIT, HFRX Absolute Return, Barcap Agg, and Alerian MLP.

[11] See Schneeweis [2009] and Kat [2002]

months for the S&P 500 since February 1991[12] provides additional context to this assertion: managed futures were the only major asset class to exhibit negative correlation to equity markets.

Downside Correlation to S&P 500 - 2/1991 - 3/2013						
HFRI Macro: Systematic Diversified	Barclays US Aggregate	MSCI EAFE	Russell 2000	DJ UBS Commodity Index	Dow Jones US Select REIT	HFRI Fund Weighted Composite
-0.16	0.00	0.72	0.68	0.31	0.52	0.62

Source: FactSet

This performance profile is critical for investors to remember. While the past four years of performance were disappointing, this period is marked by a near constant climb in equity markets. A decline in equity markets – particularly a sustained decline – would provide an environment in which managed futures strategies could potentially differentiate themselves from other asset classes.

- ***Portfolio Diversification:*** The most critical evaluation of the managed futures industry surrounds its diversification properties. Much of the academic literature regarding the space makes particular note of these strategies' lack of correlation to traditional assets, and the improved risk-return profile of portfolios that allocate to managed futures. The evidence suggests that in the recent years marking managed futures difficulties, their lack of correlation to other asset classes remains intact.

Correlation 2009 - 3/2013	HFRI Macro: Syst. Div.	S&P 500	Russell 2000	MSCI EAFE	MSCI EM	BarCap Agg	HFRI Fund Wtd Comp.	DJ UBS Commodity	DJ US Select REIT
HFRI Macro: Systematic Div.	1.00	0.12	0.02	0.16	0.11	0.19	0.31	0.33	0.09
S&P 500	0.12	1.00	0.95	0.91	0.83	-0.07	0.83	0.69	0.81
Russell 2000	0.02	0.95	1.00	0.84	0.80	-0.18	0.80	0.60	0.83
MSCI EAFE	0.16	0.91	0.84	1.00	0.89	-0.04	0.89	0.74	0.76
MSCI Emerging Markets	0.11	0.83	0.80	0.89	1.00	0.00	0.90	0.75	0.67
BarCap Agg	0.19	-0.07	-0.18	-0.04	0.00	1.00	-0.15	-0.03	0.11
HFRI Fund Wtd Composite	0.31	0.83	0.80	0.89	0.90	-0.15	1.00	0.76	0.64
DJ UBS Commodity	0.33	0.69	0.60	0.74	0.75	-0.03	0.76	1.00	0.46
DJ US Select REIT	0.09	0.81	0.83	0.76	0.67	0.11	0.64	0.46	1.00

Source: FactSet

Because this non-correlation persisted, the portfolio diversification benefits of including managed futures did not suffer a material degradation. For example, a traditional 60/40 portfolio of the S&P 500 and Barclays Aggregate Bond indices since the beginning of 2009 generated an annualized return of 12.7% with a 9.9% annualized standard deviation, or a Sharpe Ratio of 1.27. Adding a 20% allocation to managed futures to this mix resulted in a modest reduction of Sharpe to 1.20 during the four-plus year time period. Although return is modestly reduced, a comparable decline in volatility occurred due to the uncorrelated nature of systematic trend-following. Also noteworthy is the substantial improvement in maximum drawdown during that period. The simple exercise suggests that, in a mean variance framework, an investor was only slightly worse off despite enduring the worst performance stretch in the history of the managed futures industry. One could argue this was not a substantial opportunity cost to bear for the continued downside benefits that managed futures offer.

[12] Inception of the Dow Jones-UBS Commodity Index

Risk/Return Statistics - 2009 - 3/2013				
Portfolio	Ann'd Return (%)	Ann'd St. Dev (%)	Sharpe Ratio	Max Drawdown (%)
60/40 S&P 500/BarCap Agg	12.7	9.9	1.27	-11.5
60/40 S&P 500/BarCap Agg w/ 20% Managed Futures*	10.1	8.3	1.20	-9.5

*HFRI Macro: Systematic Diversified Source: FactSet

- ***Futures Market Risk Premium:*** Finally, an important, fundamental question when evaluating CTAs is: what is the source of their return and has that source dissipated? Many academic studies have investigated the persistence of alpha generation of CTAs within futures markets. One common and important take away from that work is the fact that CTAs are not solely trading against one another within the futures markets (i.e. a zero-sum game). There are many other market participants with their own objectives and preferences that provide opportunity for skilled investors to profit. Research by Keynes famously showed that a risk premium exists in futures markets because of the presence of natural hedgers (both producers and consumers), whom trade with non-economic motivations (i.e. to control risk). Managed futures funds' roles as liquidity providers in the market allows them to exploit this premium, providing a fundamental basis for why these types of strategies can generate positive absolute returns over time. Hedgers have certainly not abandoned the futures marketplace, leaving this important theoretical source of CTA return intact.

THE BIG CAVEAT: A RISING RATE ENVIRONMENT

The counterpoint to the above discussion on risk reduction and diversification is how managed futures strategies will behave in a rising rate market environment. Much of the historical research on rising interest rates indicates that both traditional equities and fixed income securities exhibit difficulty in such regimes. Those results are well documented, but there is less research on the performance of managed futures in such periods as interest rates generally declined since CTAs gained prominence 30 years ago.

Theoretically, one would be led to believe that CTAs can still be effective in such environments. Studies such as one by Campbell & Co. [2013],[13] which evaluated the results of a simple trend-following system through a variety of interest rate climates, affirmed as much: "CTA performance in relation to the direction of rates suggests that the strategy has not historically been rate-regime dependent." The rationale for this thesis is fairly intuitive:

1. Managed futures strategies are designed to capture trends both positive and negative. Should a persistent increase in interest rates occur, trend-following strategies should be able to capitalize.
2. Since the majority of actual portfolio assets are held as collateral, increases in cash rates should provide a higher return on that component of the portfolio.

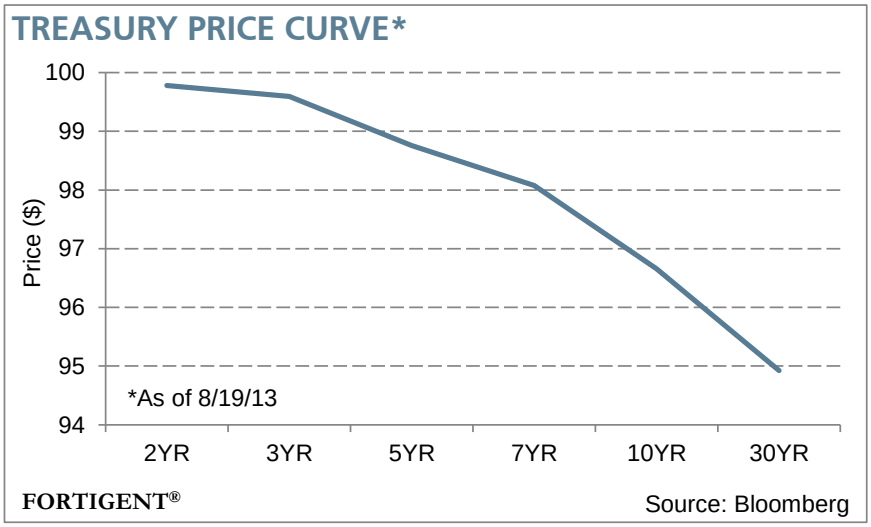
In reality, however, there are a few other important considerations for investors:

- ***Correlation Impact of Short Bond Positioning:*** Because CTAs generally trend-followed bonds higher over the past three decades, CTAs may have developed a portion of their historic alpha-producing negative correlation attributes to equity markets due simply to their long fixed income positioning. Since 1990, US fixed income (as measured by the Barclays Aggregate Bond Index) exhibited a negative daily correlation to the S&P 500. Long bond positioning of managed futures funds entering equity

[13] Campbell & Co., "Prospects for CTAs in a Rising Interest Rate Environment." January 2013.

downdrafts proved pivotal in mitigating the initial negative impact of long equity exposure. In the future, a similar scenario where CTA bond exposure is flat or even short (a likely phenomenon in a rising rate environment), losses would not only be fully felt but could also be exacerbated as a flight to safety trade sends bond prices higher. The historic downside performance and diversification benefits of CTAs, therefore, may be structurally eroded in a new interest rate regime.

- ***Impact of Negative Carry & Roll Yield:*** Since yield curves were positively sloped during the large majority of the evaluation period, CTAs also benefited from the embedded positive carry roll effects of futures prices slipping down the yield curve across the passage of time. In a positively sloped yield curve environment (i.e. a negatively sloped or backwardated futures price curve), however, a CTA effectively must "pay the points" embedded in the futures market roll down cost to remain short. A CTA might for example benefit from a 10% decline lower in a given bond, but if it cost 3% to carry that short in embedded carry/futures roll costs, then the net return becomes only 7%. To the upside of fixed income, this roll cost would have been additive (10% move higher + 3% embedded carry = 13% total return) instead of negative.



In the future, the pace of any bond decline would obviously be important (fast moves overpowering negative carry aspects) and the shape of the yield curve would obviously be important (inverted yield curves would make trend-following far easier to the downside of fixed income). But for now, with a steep yield curve, CTA trend-following to the downside of fixed income will not be as easy as it was to the upside of fixed income. This is a mathematical fact until the time that yield curves invert – an ever so remote possibility at present.

Ultimately, it is Fortigent's opinion that there will be offsetting impacts at work in a structurally rising fixed income environment. Managed futures funds will benefit from higher collateral returns and trend-following bond spot prices lower (if there is a sustained move). However, a decline in diversification characteristics and the negative carry associated with being short a backwardated market will be a new headwind for the industry. This is not an immaterial development, and should be considered when investing in CTAs moving forward. On balance, a new regime in fixed income should adversely impact managed futures returns and diversification benefits.

PROPOSED PATH FORWARD

Given the possibility for a structural shift in CTA efficacy, how does one address these issues within portfolios? Fortigent has a few immediate suggestions.

First, do not panic and eliminate CTAs completely from your portfolio. The above issues may mean that CTAs in general are facing a more difficult return-generating environment, but they do not eliminate all of the diversification benefits of CTAs. As long as general market correlations loosen up somewhat – as they appear to be doing at present -- CTAs should start to perform a bit better. One of the key attributes of CTAs is their ability to generate profit in a variety of asset classes, not just fixed income; the aforementioned increase in dispersion of individual commodities, currencies, and equity markets should still offer fertile ground for alpha capture and returns independent of other traditional portfolio allocations.

However, in the selection of a CTA, it may be increasingly important to choose managers with less embedded fixed income exposure and more exposure to other assets (soft commodities, metals, energies, etc.). At the very least, investors should seek managers with an appreciation for the above fixed income issues and a proposed modeling solution to it – either via trade time horizon, sizing, or other methods.

Fortunately, many managed futures firms are taking it upon themselves to adapt to the changes occurring in financial markets. While the universe has long been dominated by intermediate term trend-followers, asset managers are spending considerable time and effort in developing new alternatives. This may include different time periods of evaluation (shorter or longer term), the addition of new contracts or non-traditional data sets, or the establishment of so-called "non-trend" strategies. These efforts are designed to increase the efficacy of systematic strategies and to provide diversification to traditional intermediate trend-following. We discuss some of those initiatives below:

- ***Short-Term Trading:*** Shorter-term trend-following strategies are gaining greater prominence due to their success in the recent market environment (perhaps due to the shorter half-life of trends due to central bank activity). Increased computing horsepower, the rise in high frequency trading capabilities, and greater accumulation of intra-day data is contributing to the growth of these strategies. These systems may follow data as short as minutes or hours out to a few months, whereas most intermediate trend-followers trade within a 6-12 month time frame. Many prominent managed futures managers today implement some combination of shorter and longer term models to produce more robust signals that succeed in different market cycles.

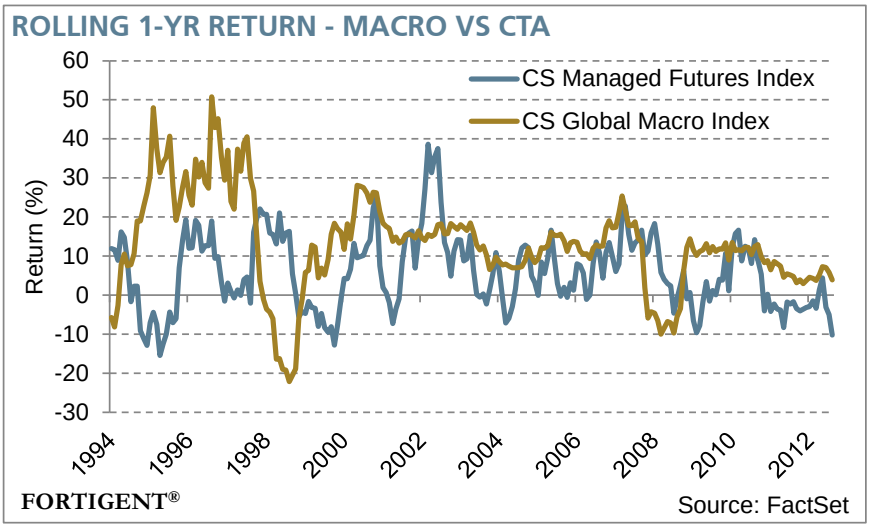
- ***Non-Trend Strategies:*** The proliferation of non-trend strategies has been swift. Such models rely on different systems to generate buy and sell signals, and can also rely on non-price data. For example, some strategies quantify fundamental information to identify potential trading opportunities. Counter-trend models rely on price data to predict market trend reversals. Other systems aim to identify similar historical instances of price movement or fundamental data to select the most optimal trade for that environment (i.e. pattern recognition). The algorithms for such models and methodologies can become exponentially complex as researchers refine and add to their techniques.

- ***Non-Traditional Data Sets:*** A so-called "arms race" has emerged among the largest CTAs, in which teams of PhDs and highly trained academics are scouring non-standardized data sets to discover new anomalies to exploit. Indeed, non-traditional data is a hot new avenue for managers to differentiate themselves. Analyzing data that has not been traditionally used in academia or in financial studies can produce new opportunities for profit. This may include weather forecasts, social media trends, or historical data that has not yet been databased. London-based CTA Winton, for example, the largest in the world with over $20 billion in assets, reportedly "sends researchers to libraries and archives across the

world to find numbers held in books and on microfilms. It has found barley and sesame prices from ancient Babylon, and English wheat prices going back to 1209."[14] Recently researchers at Gallup found samplings of increasingly negative social mood on websites such as Facebook as a more useful predictor of Arab Spring violence than any trailing economic statistics. A group called Topsy Labs now uses big data to produce full scale indices of social website word usage that may be indicative of social and thereby predictive of investment mood as well. They analyze billions of conversations in real time. Some of this type of analysis is already becoming integrated into the more sophisticated CTA programs.

- ***Non-Futures Contracts:*** One other development within the industry is the use of new instruments within CTA portfolios. For example, prominent managers have begun trading cash securities such as individual stocks and bonds, other derivatives like CDS and swaps, as well as more esoteric instruments like energy power contracts. The risk with such trading is that they are often less liquid, may have higher transaction costs, and can require higher capital commitments than traditional futures and forwards.

Additionally, Fortigent believes that within the CTA space, it may be appropriate at this time to include more discretionary managers who are potentially better adapted to handle the current shifting political winds and artificial interest rate environment created by central bankers. While macro managers only performed marginally better than CTAs over recent years (see chart below), they are likely the ones who would first benefit from any initial cracks developing in global confidence in central bankers.



We argue this because discretionary managers are more likely to recognize the un-sustainable aspects of certain global fixed income markets (e.g. managers recently benefiting from a negative view of Japanese government bonds as one extreme example) and may be first in line to profit from the initial reversal in stretched markets. Trend-following CTAs, by comparison, will be slower to react to any such entropic shift. The potential for discretionary managers to capitalize on major market inflection points – either in fixed income, equities, or otherwise – offers a complementary exposure to traditional trend-followers. Investors should consider layering in more discretionary-oriented solutions to add robustness to their CTA allocation.

[14] "The Algorithmic Arms Race," Reuters. May 21, 2012. http://www.reuters.com/article/2012/05/21/us-trading-blackbox-idUSBRE84K07320120521

CONCLUSION

Fortigent Research believes that managed futures strategies continue to play an important role in investor portfolios. While alpha generation has waned in recent years, we believe this is primarily due to cyclical factors in the marketplace. There is preliminary evidence that this adverse environment may be dissipating.

More importantly, managed futures strategies continue to provide important diversification benefits for diversified portfolios. Correlation levels for CTAs are significantly below those seen in other traditional hedge fund categories, and provide a positively skewed performance profile not evident in other strategies. These diversification benefits made up for performance deterioration of the asset class since 2009, resulting in no material decline in risk-adjusted performance for diversified portfolios. This suggests the opportunity cost of holding managed futures allocations is far from unbearable.

With that said, the impending shift in interest rate regime does present a potential structural issue for CTA performance moving forward. One may want to consider managers with less fixed income-centric programs since the correlation benefits of trend-following that particular asset class could become more problematic. Favoring programs with diversifying non-trend exposures and different portfolio time horizons should help mitigate this issue. For the immediate future, we would also favor manager pools with more discretionary influences as they may be better equipped to capitalize on the dislocations caused by overly accommodative central banks.

As always, ongoing manager due diligence is paramount to navigate this new and more complex world. The universe of discretionary and non-trend oriented managers is much more heterogeneous than that of intermediate trend-followers, presenting more potential pitfalls for investors. Careful evaluation of individual strategies, and understanding how they potentially complement your existing portfolio, remains critical.

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