Back to the Futures

CTAs can still deliver in spite of recent setbacks

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After a long dry spell in managed futures, performance has improved. Investors are asking important questions: why has performance turned around, and is it likely to continue? Does this mean that the managed futures strategy isn't broken? *Should I reconsider an allocation?* In a recent Efficient client webinar (after having the best quarter in our flagship fund's history since 2004) we outlined some of the market conditions that have provided recent opportunity for managed futures (or CTA) funds, and may very well continue to provide strong performance looking forward.

In the following article, we will list some of the reasons behind the turnaround in performance, and market conditions that may lead into a continued strong CTA environment. We will then talk about some of the new developments in the long-term case for managed futures that have helped investors better understand the source and character of CTA returns. This can deepen the commitment to a strategic long-term allocation. In short, we believe a sound case can be made for a recommitment to the CTA space.

REASONS FOR AN OPPORTUNISTIC ALLOCATION TO MANAGED FUTURES NOW

The end of quantitative easing

The 2009-2013 period of unprecedented quantitative easing and corresponding risk-on/risk-off market behaviour, while successful in boosting equity markets, was overall disappointing for CTAs. As QE drew to a close in the autumn of 2013, we anticipated it could open the door for a turnaround in CTA funds. So far, that has been the case. Further, the current divergence in central bank policy globally is creating some meaningful trends in the currency and fixed income markets.

Apart from the equity markets, which enjoyed a strong bull market recovery post global financial crisis (GFC), the risk-on/risk-off market environment created whipsaws in most other markets. Whipsawed, range-bound markets are not generally favourable for CTA funds. CTAs need trends to follow, and then for those trends to persist in order to generate profits. Fig.2 shows the corresponding poor performance of our flagship fund following each QE stimulus, and the corresponding recovery period once the stimulus ended.

Now, with the US central bank ending QE, the UK hawkish, but the ECB and BOJ continuing to expand liquidity, these divergent central bank policies are creating trends in both interest rate markets and currency markets. Commodity markets seem to be back to operating based on their underlying fundamentals instead of risk on/risk off and monetary policy affecting commodity prices. These

Fig.1 S&P 500 Index — January 2008 - 14 November 2014 *Source: Bloomberg*

Fig.2 EDF, SPC Class S — January 2008 — 14 November, 2014 *Source: Efficient Capital Management LLC*

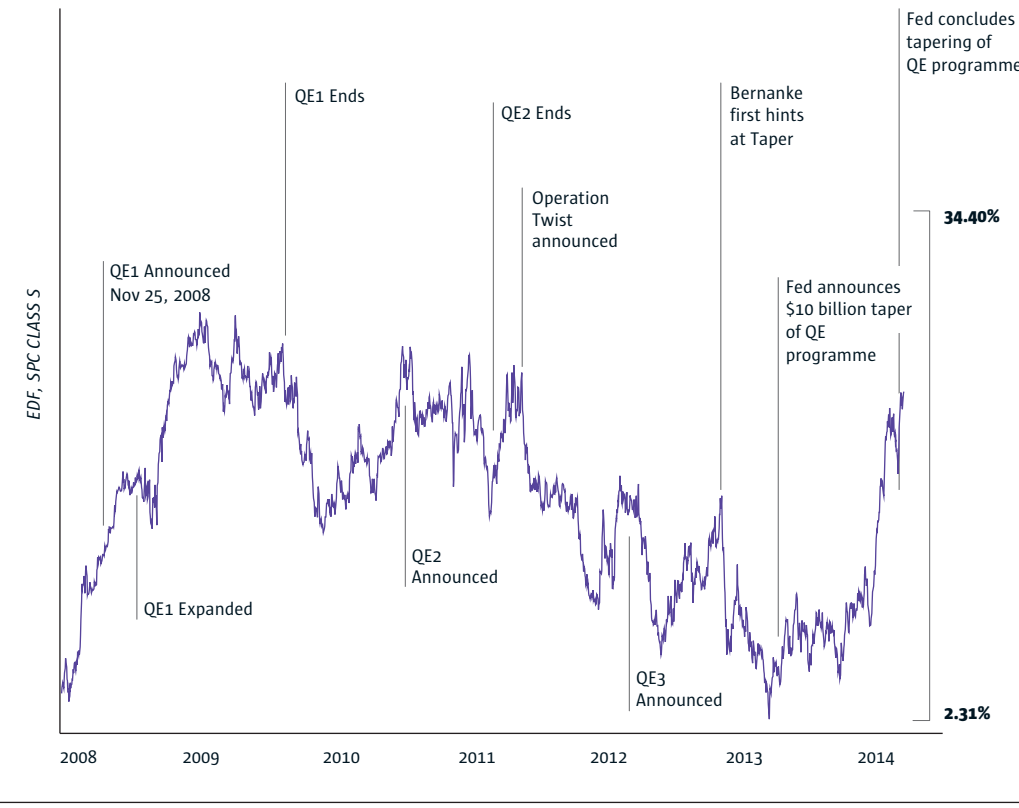


Fig.3 Rolling annual cross-sectional market correlation

Source: Bloomberg, Efficient Capital Management LLC

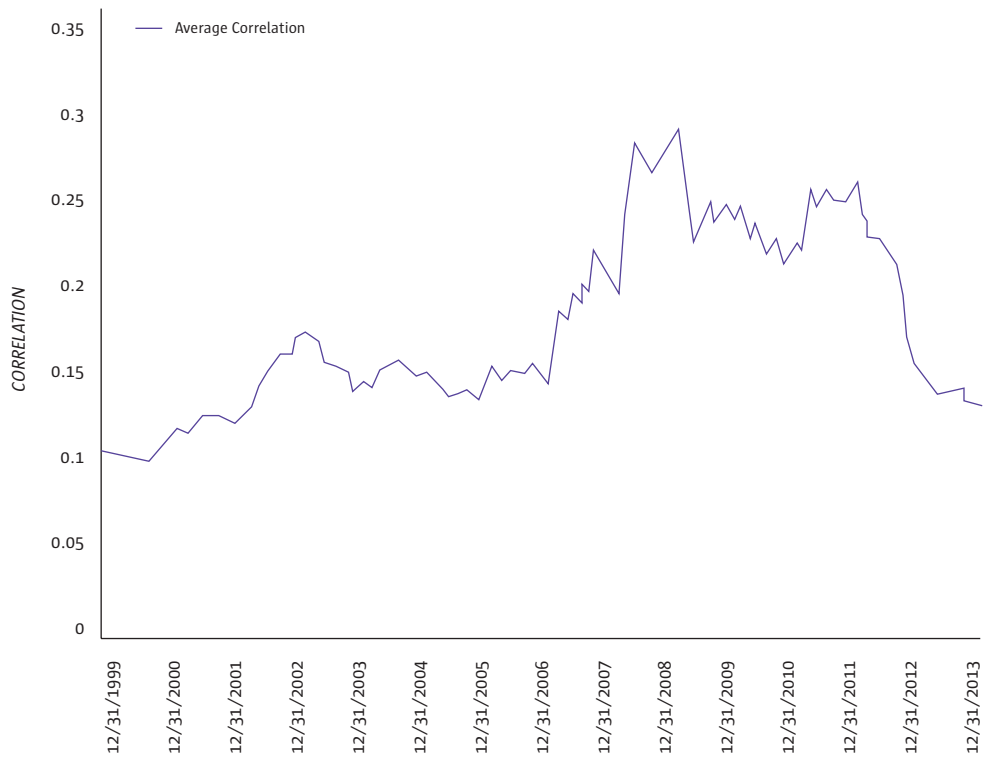
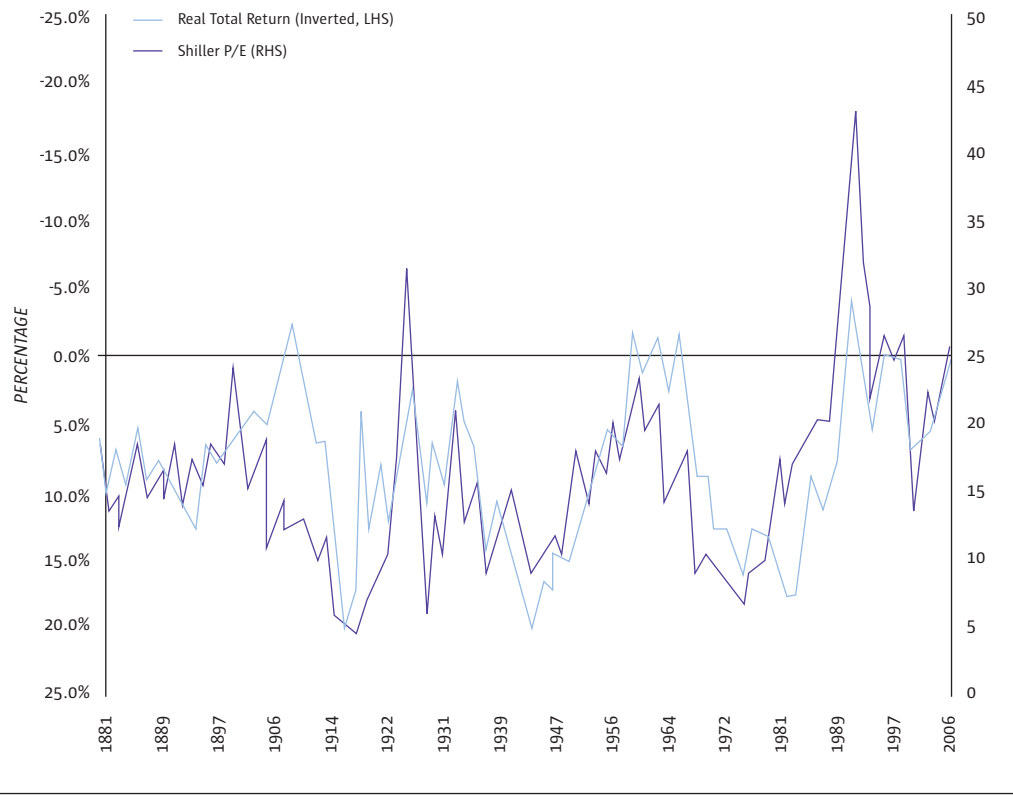


Fig.4 US equity market highly valued relative to its hitory

Source: SEB "10 Reasons to Invest in CTA Funds"



are macro developments and do not seem likely to change in the near term. These developments have provided the opportunities CTAs have captured over the past several months, and if the environment persists, are likely to keep providing CTAs opportunity.

Lowering inter-market correlations

Average correlations between markets have come down to historically low levels. In general, one of the good environmental factors forCTA performance is having markets that act independently fromeach other. Since CTA funds take a large number of small bets in lots of different markets, a higher diversification benefit from uncorrelated markets is typically a good thing. CTAs are (mostly) systematic strategies that follow trends in markets. They are not (typically) market timers, able to reliably predict which markets will trend in the future. CTAs build systems that are good at systematically detecting trends and following them as they occur. Therefore, when markets trend independently from each other, it is good for CTA strategies. They follow the trends whenever and wherever they appear. Lower inter-market correlations are typically better for more diversified CTA programmes that trade more markets, and have exposure beyond just the most liquid markets.

In Fig.3 we show the average pairwise correlation of the most liquid 70 futures markets from 1999-2014. Correlations between markets rose substantially during the GFC, and have been declining rapidly in 2013-2014. This has helped with improved CTA performance.

Bubbles and trends may be back

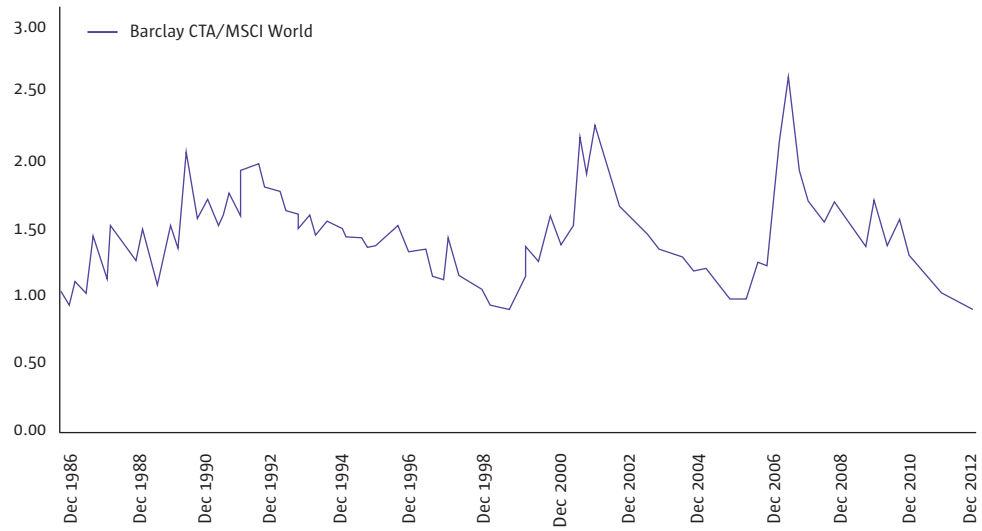
SEB is a CTA manager which has also published research on why this could be an opportune time for a tactical allocation. The following two points are summarized from a recent SEB paper: "10 Reasons to Invest in CTA Funds." Over the past 18 months, the market has not been so dominated by risk-on/risk-off as in the prior 2009-2012 period. SEB suggests that we are getting into the "greed" part of the cycle. No one knows how long the market will continue to expand, but perhaps we are starting to move into equity bubble territory. Fig.4 from SEB shows the relationship of price/earnings (PE) ratios and the subsequent period of equity performance. High PE ratios have tended to be predictive of poor future equity performance.

Ratios of CTA to equity performance

Another point made by SEB concerns the historical ratio between the CTA index and equity index: the times in the past when the ratio was near 1 or dropped below 1 were turning points for excellent CTA performance and poor equity performance. In this case, SEB uses the Barclay CTA Index and MSCI World. We are currently at one of those lows, and

Fig.5 Is the tide turning in favour of CTAs again?

Source: SEB "10 Reasons to Invest in CTA Funds"



it seems performance is already turning for CTAs. This could be another signal towards improving CTA performance.

A better CTA environment

In general, rising volatility, decreasing correlations, and increased market diversification lead to better performance from CTAs. The VIX is at historically low levels. Correlations have dropped down to historically low levels. Markets are operating independently based more on idiosyncratic factors instead of risk-on/ risk-off caused by central banks. These environmental factors tend to allow for better CTA performance.

A practical reality

In general, we at Efficient do not believe we are able to time CTAs effectively. Even with a team of dozens of professionals, decades of experience, an exclusive focus on this space, one of the largest databases of CTA information in the world, rigorous quantitative research, and intensive qualitative research visiting hundreds of managers on site, we can't – even though we've tried! We advise a strategic long-term commitment to the managed futures space. That said, the host of reasons offered above does seem like a strong buying opportunity with CTAs. As investors like Warren Buffett has said, "Buy when everyone else is selling, and sell when everyone else is buying." This would have been great advice in 2009, post-GFC and the strong CTA returns of 2008. It's probably great advice now.

NEW DEVELOPMENTS IN THE LONG-TERM CASE FOR MANAGED FUTURES

The classic long-term case for managed futures is well known by many, and almost every marketing piece on CTAs includes it. That case (which is true) is CTAs: 1) increase the Sharpe of the portfolio, 2) reduce drawdowns, 3) have low correlation to stocks, bonds, and other alternatives, 4) have convexity with equity markets, i.e., they tend to perform best in equity drawdowns when you need them most (aka the "managed futures smile" seen in Fig.6 over the page) 5) are liquid, 6) are transparent, and 7) are non-directional, i.e., they can make money going long or short with equal ease and typically no bias.

Newer developments

There are three newer developments that have become more commonly accepted over the past couple of years. These developments have further explained and fortified the case for CTAs. They have helped investors better understand CTA returns, and have higher confidence in the strategy. The new long-term case has three parts: 1) understanding the economic behavioural fundamentals of why trends and bubbles exist, and are likely to be a part of how markets function as long as humans are key market participants, 2) back-testing the performance of trend-following systems over long-term data sets, much longer than any previously available data, and 3) explaining managed futures returns to a meaningful degree through trend and momentum systems, establishing trend as an "alternative beta."

Understanding behavioural fundamentals

Before all the research on momentum and the growth of behavioural finance, the underlying sources of return in CTAs, and reasons for bubbles and trends in markets, were not understood. CTAs were often sold as "pure alpha", seen by investors as a "black boxes," and many fundamental investors could not see how trend following fits into modern economic theory, efficient markets, and value-based investing. For many investors, the behavioural explanation for trends and momentum has provided compelling underlying fundamental economic understanding.Thinking about efficient markets has become more nuanced over the years. In the past, economic purists in support of the Efficient Market Hypothesis (EMH) seemed unable to accept market behaviour that seemed to contradict the theory. The presence of some anomalies, and the tension in some of the different explanatory theories has now become more acceptable and commonplace. The authors of the CFM paper, "Two centuries of trend following," point out an interesting example of this nuanced tension. The 2013 Nobel economics committee awarded prizes to both Eugene Fama who declares that markets are efficient, and Robert Shiller who declares the existence of bubbles caused by "irrational exuberance."

Table 1 Hypothetical performance of time series momentum

Time period	Gross of fee returns (annualized)	Net of 2/20 fee returns (annualized)	Realized volatility (annualized)	Sharpe ratio net of fees	Correlation to S&P 500 returns	Correlation to US 10-year bond returns
Full sample:						
Jan 1903 - June 2012	20.0%	14.3%	9.9%	1.00	-0.05	-0.05
By decade:						
Jan 1903 - Dec 1912	18.8%	13.4%	10.1%	0.84	-0.30	-0.59
Jan 1913 - Dec 1922	17.1%	11.9%	10.4%	0.70	-0.12	-0.11
Jan 1923 - Dec 1932	17.1%	11.9%	9.7%	0.92	-0.07	0.10
Jan 1933 - Dec 1942	9.7%	6.0%	9.2%	0.66	0.00	0.55
Jan 1943 - Dec 1952	19.4%	13.7%	11.7%	1.08	0.21	0.22
Jan 1953 - Dec 1962	24.8%	18.4%	10.00%	1.51	0.21	-0.18
Jan 1963 - Dec 1972	26.9%	19.6%	9.2%	1.42	-0.14	-0.35
Jan 1973 - Dec 1982	40.3%	30.3%	9.2%	1.89	-0.19	-0.40
Jan 1983 - Dec 1992	17.8%	12.5%	9.4%	0.53	0.15	0.13
Jan 1993 - Dec 2002	19.3%	13.6%	8.4%	1.04	-0.21	0.32
Jan 2003 - Dec 2012	11.4%	7.5%	9.7%	0.61	-0.22	0.20

Source: Brian Hurst, et all, "A Century of Trend Following", white paper, AQR Capital Management, Fall 2012

Shiller is a founding father of behavioural finance, which has gone a long way to explaining why markets sometimes have trends and bubbles. Human fear, greed, optimism, and irrational bias play into market participant behaviour, and therefore prices. As Cliff Asness states – himself a University of Chicago PhD and teaching assistant to Fama whose dissertation was on momentum – value and momentum both work. Trends and bubbles exist for periods of time before true underlying value brings asset prices back to where they should be. Markets are not perfectly efficient all the time. Momentum and value both work, at different times, and therefore, work really well as complements to each other.

Back-testing over centuries of data

Another major development is that a number of independent studies have back-tested trend and momentum systems over very long data sets. These studies tested centuries of data and confirmed the long-term performance profile, excess returns, and portfolio benefits of momentum-based trading. In Table 1, AQR presents a time series momentum model's returns over a century, from 1903-2012.

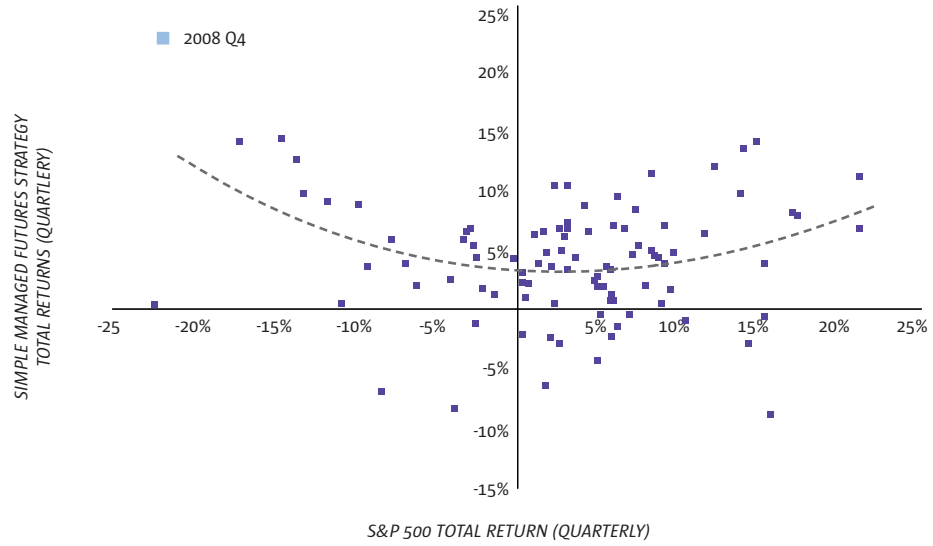
It is noteworthy that AQR's rule-based momentum system provided over a century the benefits CTAs have provided over the past 30 years – namely, strong risk-adjusted returns on a stand-alone basis, with no correlation to stocks and bonds.

Perhaps an extended poor performance period like the industry has experienced post-2008 was what was needed to encourage research into trend following's longer past. The CTA industry is only about 30 years old. Until recently, CTA indices had never had a rolling three-year period of poor performance. Many investors (and practitioners) starting asking if something fundamental had changed about trend following, so that it no longer worked.

AQR provided a drawdown table that showed momentum systems can have extended drawdown periods (see Table 2 over the page). In addition to the AQR paper, Geczy and Samonov published, "212 Years of Price Momentum," Bouchard, Potters, et al published, "Two centuries of trend following," and ISAM published, "The Multi-Centennial View of Trend Following Investing." There is a consistent bottom line of these four studies. Momentum-based strategies demonstrate persistent excess returns, non-correlation, and diversification properties. The longer track records provide similar benefits as CTAs have provided over their 30-year history. However, some of the studies showed the potential of long, multi-year drawdowns. So it seems that although CTAs are a strong stand-alone performer over a long-term track record, and a compelling diversifier in a portfolio, there can be extended periods of non-performance, as was experienced by recent investors in 2009-2013.

Fig.6 Managed futures "smile"

Source: Brian Hurst, et all, "Understanding Managed Futures", white paper, AQR CapitalManagement, Winter 2010



This graph plots quarterly non-overlapping hypothetical returns of the Simple Managed Futures Strategy (gross of transaction costs) versus the S&P 500 from 1985 to 2009.

Table 2 The largest drawdowns of time series momentum between 1903 and 2012

Rank	Start of Drawdown (Peak)	Lowest point of Drawdown (Trough)	End of Drawdown (Recovery)	Size of Peak-to - Trough Drawdown	Peak-to-Peak Length (Months)	Trough-to-recovery length (months)	Peak-to-recovery length (months)
1	Mar - 1947	Dec - 1948	Mar - 1954	-26.3%	21	63	84
2	May - 1939	Jun - 1940	Jul - 1941	-20.7%	13	13	26
3	Oct - 1913	Mar - 1914	Oct - 1914	-15.2%	5	7	12
4	Feb - 1937	Apr - 1937	Dec - 1937	-14.4%	2	8	10
5	Oct - 1916	Apr - 1917	Nov - 1917	-13.8%	6	7	13
6	Feb - 2009	Jun - 2009	Jul - 2011	-13.5%	4	25	29
7	Jul - 1910	May - 1911	Dec - 1912	-11.3%	10	19	29
8	Nov - 1956	Mar - 1957	Jul - 1957	-11.2%	4	4	8
9	Oct - 2001	Apr - 2002	Jul - 2002	-10.8%	6	3	9
10	Dec - 1907	May - 1909	Jul - 1910	-10.4%	17	14	31

Source: Brian Hurst, et all, "A Century of Trend Following", white paper, AQR Capital Management, Fall 2012

This is helpful for investors to understand recent drawdowns in historical context, and have higher confidence in the sustainability profile of trend and momentum-based strategies.

An alternative beta

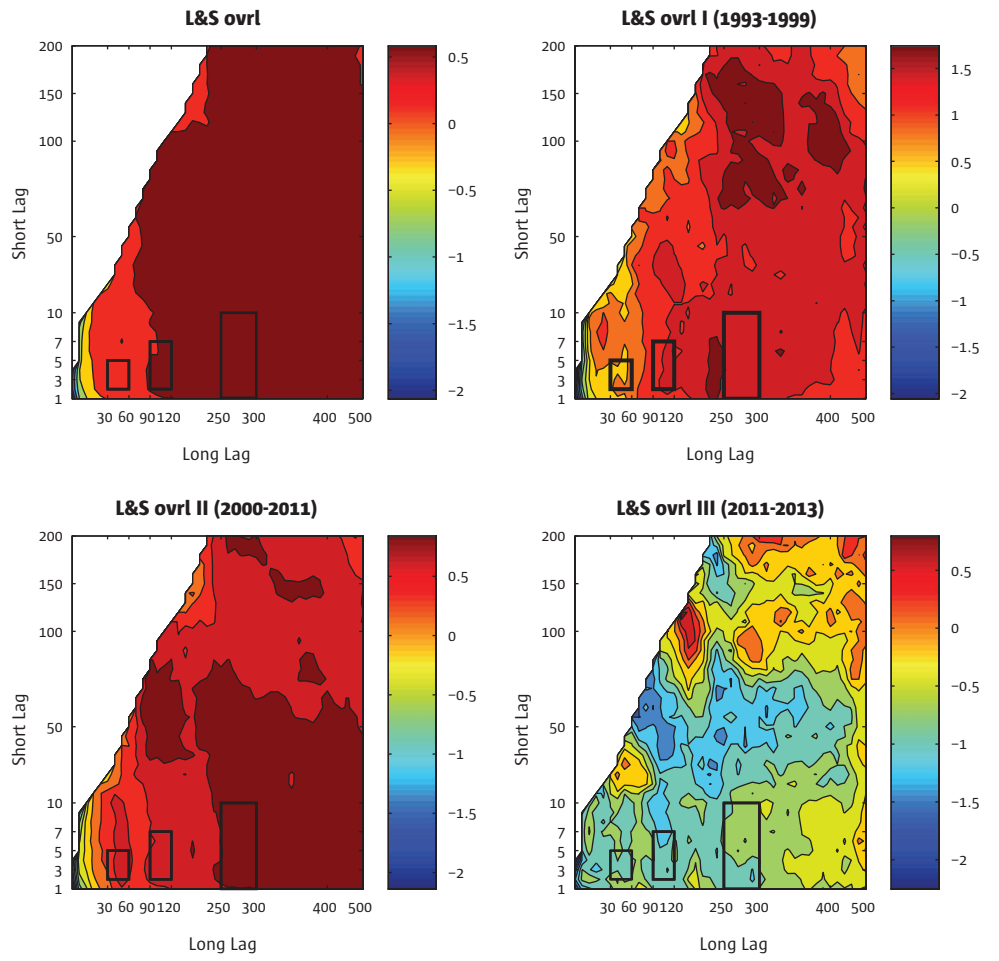
As mentioned above, there has been a strong research movement in the investment world to attempt to explain trend-following CTA returns using time series momentum. Whenever investors can explain hedge fund returns in a substantial way through an alternative strategy style, through an understandable and repeatable source of return, or through what is sometimes called "alternative beta," then investors benefit in two ways primarily: first, by adding predictability and higher confidence to returns and portfolio results; second, this normally results in a further primary benefit of lowering fees. Since all the excess returns are not "pure alpha," there is an understandable and repeatable source of return that can be captured in less expensive ways.

In order to demonstrate the performance of a simple trend-following strategy, we built moving average cross-over models over many timeframes and tested them in 70 futures markets. This would be one way of measuring a simple time series momentum strategy style beta that could be regressed against active manager returns.

It turns out that time series momentum is persistent across markets and timeframes, produces

Fig.7 Performance of moving average cross-over models

Source: Efficient Capital Management LLC



excess returns, and is highly explanatory of trend following CTA managers. This is a strong justification for considering trend following an alternative beta, and understanding manager returns.

In the heat maps in Fig.7, we show the performance of simple moving average cross-over models over many different time frames, as simple examples of time series momentum, aka "trend following." The colours on the heat maps show the Sharpe ratio of the different models. The "short lags" are tested on every timeframe from 1-200 days, and the "long lags" on every time frame from 2-500 days. We tested over 70 different futures markets individually, but show the overall results of all the markets in the heat maps. We also show results over different historical periods. The overall dataset was 1993-2013. "Ovrl I" was 1993-1999, "Ovrl II" was 2000-2011, "Ovrl III" was 2011-2013.

Although there is strong, consistent performance of these simple models across markets over long periods of time, these heat maps do show that the more recent past (2011-2013) was difficult for these models. This helps put recent CTA performance into context. Yet, the big picture point is clear: trend following works consistently over different markets and timeframes, with higher results towards the longer-term models, and is explanatory of CTA returns. **THFJ**

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ABOUT THE AUTHOR

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Joel D. Handy is the director of client relations at Efficient Capital Management, LLC. He is the head of institutional sales for North America at Efficient, overseeing relationships with consultants, pensions, endowments, foundations, and family offices. Handy is actively involved in the research and investment process at Efficient. He holds a CAIA charter, a Series 3 license, and has been in the industry since 2008.