In part I of this article, the authors analyse the characteristics and important differences between CTAs (commodity trading advisers, also known as managed futures managers) and global macro managers. The June issue looks at the types of strategies and their degrees of diversification and the timing of trades. Part II, in the September issue, will look at the use of trading instruments, managing the 'giveback 'and the role of these strategies in the portfolio.

A Comparison of Two Hedge Fund Strategies: CTA and Global Macro[1]

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The two hedge fund strategies that are mentioned most often in the same breath are CTAs (managed futures) and global macro. It is common for funds of funds to dedicate a single analyst to both strategies since the conventional wisdom is that they have much in common and contribute in similar or complementary ways to a multi-manager portfolio. Some funds of funds have a global macro category in which they distinguish between discretionary and systematic managers, thereby subsuming CTAs under the macro heading.

The strategies are indeed related in important ways, yet they often perform differently at key points during major market moves. The overall correlation between various CTA and global macro indices is low, depending on which pair you choose [see inset]. Nevertheless, these two strategies, each of which takes in a variety of sub-strategies, are often treated as two of a kind. To present the investors view of these strategies, we interviewed a funds of funds managers about how they view the two strategies. They unanimously say that there are meaningful differences between them – in the way they trade, manage risk and in their role in the portfolio. They believe that an investor would be remiss in failing to take the time to understand the differences.

There is an interesting difference between the two strategies, worth noting up front before we make a general comparison because it leads into several of the fundamental differences we will discuss. David McCarthy of Martello Investment Management, specialising in CTAs and macro managers, points out that "macro managers tend to stand aside when market fundamentals don't make sense to them, when one aspect of the fundamental picture contradicts another. They would have trouble, for example, taking a long fixed income position while being long commodities. They're likely to sit out this type of market environment since the fundamentals suggest a cautious approach. But systematic trend followers do not care about contradictory fundamentals. They will make both trades if their models tell them to. In particular circumstances, this may be good or bad, but on balance it means CTAs are unlikely to completely miss any major market moves".

GENERAL COMPARISON OF CTAs AND GLOBAL MACRO

CTAs and macro managers differ in *why, when, and how* they make any given trade. We will consider the dimensions of difference in this article. For present purposes, when we refer to CTAs we mean long-term trend followers. There are several strategies under the CTA umbrella. Short-term managers tend to have a low or zero correlation with long-term trend followers. But when comparing CTAs to global macro the most useful comparison, given the approach of most macro managers, is with long-term trend followers. An

[1] The authors express their sincere gratitude to the industry professionals who kindly agreed to be interviewed for this article.

[2] The information contained herein is based on sources that the authors believe to be reliable, but neither Calyon Financial nor Worcester Polytechnic Institute make any representation or warranty regarding the correctness of any information contained herein, or the appropriateness of any transaction for any person.

investor constructing a portfolio of CTAs and macro managers, however, will likely include CTA strategies like short-term momentum traders and non-trend followers.

One of the fundamental differences is that most CTAs, as we use the term here, are momentum traders while macro managers generally take a value investing - and often relative value - approach, expressed through a wide variety of instruments.

Another difference is that CTAs are systematic and macro managers are discretionary, though some of the latter use models as well, applying them to fundamental data and often using technical tools to identify entry and exit points. There are also managers who are a hybrid of the two, calling themselves systematic global macro.

Adam Dunsby of Cornerstone Trading, a systematic global macro manager, observes that "macro often has a relative value component, and a value investing component. Trend followers are generally pure momentum traders". His partner, John Eckstein, says: "we call our approach systematic macro because we combine elements of fundamental analysis with a set of quantitative and systematic tools. We apply quantitative models to market fundamentals to develop our market views. A trader with knowledge of market fundamentals can rate the signals that his models give him".

Global macro is the broadest possible mandate a hedge fund can have. While there are specialised fixed income or foreign exchange-focused macro managers, in general they tend to trade a wide range of markets and geographic regions, employing a broad range of ideas and instruments. It should not come as a surprise then that w*ithin* the macro category managers can be very different from one another. In fact, the differences between them tend to be greater than the differences between long-term trend followers, although the latter can also vary in return profile according to how they manage risk and time their exits from trends. Mark Szycher of Weston Capital, says: "there is much more cross sectional variation within the macro strategy than in the CTA area".

CTAs and macro managers have a fundamental source of returns in common: long-term secular shifts in capital flows, i.e., trends. Generally, both tend to participate in large trends in major equity, fixed income, and foreign exchange markets, and sometimes in commodity markets as well, depending on the individual manager. But they participate in trends in different ways.

For some fund of funds when selecting a strategy, it comes down to efficiency. Some believe that CTAs are more efficient at consistently capturing trends in a wide range of markets. They can be wrong on a majority of their trades yet perform well on balance. Well-designed trading models can process vast amounts of data. While macro managers may use models as well, the approach is more dependent on a day to day basis on the manager's own brain power. While some investors are more comfortable with hands-on brain power than trading systems – they point out that trading systems are more alike than individual trader's minds - many find greater comfort in the processing power of robust models.

David McCarthy says: "long-term trend followers mainly express the same views of markets as one another since their inputs are similar. By contrast, macro managers can be quite different from one another in how they evaluate data and make trading decisions".

In terms of risk management, Patrik Safvenblad of Risk and Portfolio Management AB, focusing on CTAs and global macro, believes that macro managers respond to risk in different ways from CTAs. They can go flat when there is too much macro economic uncertainty for comfort. They often liquidate positions and suspend trading at a pre-determined loss level. This is not typical of CTAs.

TYPES AND DEGREES OF DIVERSIFICATION

The two strategies diversify their activities in different ways and to different degrees. As noted earlier by Adam Dunsby of Cornerstone Trading, macro managers have more style diversification in that they often combine directional trading with relative value trading and value investing. They trade a greater diversity of instruments than CTAs. However, CTAs typically trade a much larger number of individual markets, resulting in greater exposure to trends. Having said that, both CTAs and macro managers, according to Mark Szycher of Weston Capital, "concentrate more in fixed income and currency markets than in equity and commodity markets; the former tend to have longer, cleaner, more pronounced trends, and they also have 'intervention' by central banks, creating trading opportunities".

Ernest Jaffarian of Efficient Capital Management says: "macro managers take a world view with a medium to long-term perspective. Not all macro managers are the same. Some trade directionally, based on fundamentals, and some focus on convergence trades, looking for markets to return to a state of equilibrium, in which case they may be short gamma with liquidity risk".

Macro managers and CTAs often structure their trading operations – as well as their trades - differently, which contributes to the different return profile. Julia Casals of Carillon Advisors notes that "most successful macro funds are run functionally as funds of funds themselves, where risk capital is spread out among different styles or instrument types and geographic concentration, all under one roof". Depending on the individual hedge fund, each portfolio manager would have some degree of autonomy.

Gildo Lungarella of Harcourt Investment Consulting in Zurich observes (of macro managers) that "while their investments can range over many geographic areas they are more concentrated and highly exposed to particular investment themes than CTAs".

THE TIMING OF TRADES – ENTERING AND EXITING THE MARKETS

As the following comments from funds of funds illustrate, the timing with which CTA's and macro managers enter and exit markets varies quite a bit.

Ramon Koss, Head of Alternative Investments and Mutual Funds at Credit Suisse, oversees one of the industry's largest fund of funds operations. He believes that there are times when CTAs and macro managers will have exposure in the same markets. He says: "there is often overlap in the middle part of a well-established trend but the timing is different. The macro traders can get in earlier because they can be anticipatory, whereas CTAs are reactive. For the same reason, macro managers sometimes get out *before* a market turns. CTAs generally will wait for confirmation that a trend is over before exiting. Specifically, the macro manager would often exit the trade before or during the early stages of what Elliot Wave chartists call the 5th leg of the move".

Many investors would agree with Ramon Koss in believing that, although CTAss and macro managers often participate in the same trends, macro managers have an edge in the timing of their trades because the fundamentals that ultimately drive a trend are there first, before the prices reflect them. Good macro managers might be able to detect a change in fundamentals and enter the market during a consolidation period, building a position even before the trend begins. Near the end of a trend, a macro manager might identify a change in fundamentals that forewarns of a trend reversal.

Julia Casals points out that in some cases the CTA might benefit from its approach when compared to a macro manager. She says: "it is true that both types of managers will jump on a clear, strong trend and both may be in it at the same time. If the trend is really strong the macro managers may actually underperform because CTAs have more 'stick' and macro managers may take profits sooner, missing the final leg of the trend".

CTAs are much more price-based in their analysis while macro managers look at the big picture, according to Seb Calabro and Thomas Dobler at Goldman Sachs Asset Management. The way these managers enter and exit trades will reflect this significant difference.

Ernest Jaffarian states that "CTAs can be more responsive to changing market conditions than macro managers. They can reverse positions without worrying about a confusing fundamental picture, going back and forth from long to short relatively quickly, depending on the specific time frames they employ". Many CTAs use multiple time frames, blending short, medium, and long-term models.

Anna Lui of Attalus Capital agrees about the differences in timing of trades. "Both strategies can provide portfolio protection against market shocks, but the timing with which they make their trades varies, resulting in a different risk profile."

Mark Szycher of Weston Capital,sums it up nicely: "macro managers get to the big party early and go home early. CTAs get to the party late, party hard, and go home late."

Special Note

Here we provide some observations on the statistical properties of global macro and managed futures indices using monthly data from January 1997 to November 2003 for the CISDM Hedge Fund- Global Macro Median Index and the CISDM Trading Advisor Index - Trend follower Advisor Sub-index.

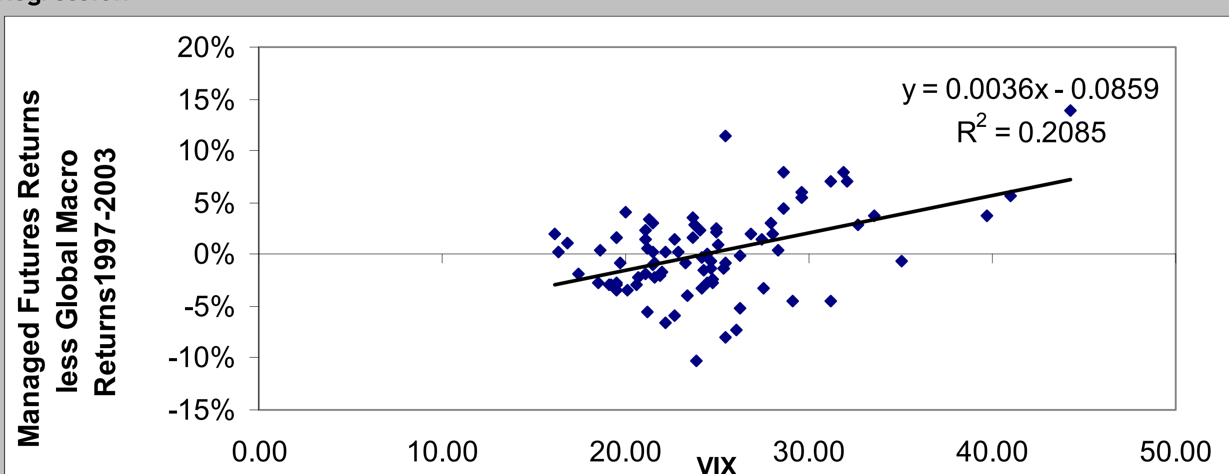
	CISDM Global Macro	*CISDM Managed Futures*	*Managed Futures minus Global Macro*
MEAN	0.71%	0.87%	0.16%
STD DEV	1.40%	4.14%	4.11%

Although the average difference in the mean monthly returns is small, the correlation coefficient is only 0.19 for the entire period. However, the 12- and 18-month rolling correlations vary significantly from -0.57 to +0.86. Interviews with a variety of funds of funds in which we asked how they view CTAs (defined in this context as long-term trend followers) and macro managers in relation to each other lead us to investigate how the difference in their returns at the index level are related to market volatility using the VIX* as proxy. The global macro strategy tends to do better in less volatile markets (with a correlation to VIX of -0.25) while CTA strategies tend do better when the VIX is higher (a correlation of 0.37). Approximately 20% of the variation in the difference in the returns of the two strategies is explained by the variation in the VIX (see regression model below).

Correlation

	CISDM Global Macro	*CISDM Managed Futures*	*Managed Futures minus Global Macro*
CISDM Global Macro	1		
CISDM Managed Futures	0.187	1	
MF - GB	-0.152	0.943	1
VIX	-0.250	0.369	0.457

Regression



**VIX is the Chicago Board Options Exchange (CBOE) Volatility Index. It is a measure of market expectations of near-term volatility conveyed by stock index option prices. In September 2003 CBOE changed the index such that it is based on S&P 500 option prices rather than S&P 100 prices. (For information on the index see: www.cboe.com/vix)*

Special Note

- When we refer to CTAs in this article we mean long-term trend followers.
- Within the CTA world, however, there are other strategies and time frames. Some managers blend short, medium and long-term models in a single program and some run multi-strategy programs. There are also many degrees of diversification across markets. Within global macro too there are multiple strategies. Many managers have individual funds that are multi-strategy.
- CTAs and global macro managers have some properties in common but they also differ in important respects. Investors in these two strategies would do well to fully understand how they compare.
- Both strategies have a common source of returns: major trends generated by long term secular shifts in capital flows.
- CTAs and macro managers are generally both momentum traders. Macro managers are also often relative value traders and value investors.
- CTAs mainly use futures markets and interbank foreign exchange markets while macro managers use these as well as various types of over the counter derivatives. They generally have more flexibility in terms of the instruments they employ.
- CTAs are more vulnerable to givebacks during market reversals than macro managers but disciplined CTAs can manage turnarounds well enough to sustain an overall attractive return/risk profile. Many investors regard these givebacks as a natural part of trend following and accept them. The other side of this is that macro managers sometimes miss some or all of the final stage of a trend, which can be a substantial move.
- Macro managers trade within a relatively small series of themes while CTAs tend to be broadly diversified across a wide range of markets.
- The two strategies have different roles in a portfolio: CTAs can be used offensively, by those seeking high returns, or defensively, to obtain a long option-like risk profile (what some call being long volatility, or what one fund of funds described as endogenous volatility, that is, volatility deriving from a trend rather than from an external market shock.) Macro managers, as discretionary traders, may or may not be positioned to exploit endogenous volatility and in fact may be short volatility in the form of relative value positions. On the other hand, these managers may be flat (unlike most CTAs) if they have anticipated market turmoil, thus avoiding exposure in a potentially dangerous environment.