

### Background

The term “managed futures” refers to a unique hedge fund strategy that involves the buying and selling of futures contracts on a variety of assets, such as currencies, interest rates, commodities, and equity indices. The investment professionals that implement this strategy are “Commodity Trading Advisors (CTAs)”. CTAs fall into two categories—discretionary and systematic traders. Discretionary traders implement trades in an effort to profit from a price movement that is anticipated, typically as a result of the manager’s fundamental view. Discretionary traders are commonly called “global macro managers.” Systematic traders, on the other hand, invest based solely on computer-generated, trend-following signals. The focus of this article is the potential benefit of systematic, trend-following managers (herein referred to as “managed futures”).

Managed futures has been around for many years, as some of the more established managers have been in business for more than thirty years. The strategy was born in the commodities markets, but has since evolved with the futures markets. Today, it is estimated that financial instruments (interest rates, government debt, currencies, and equities) represent roughly 75% of CTA trading, with physical commodities (agriculturals, metals, and energies) comprising the rest.

### Strategy Description

Systematic trend-followers endeavor to identify trends in the futures markets through quantitative methods. Historical prices are analyzed by sophisticated computer algorithms to detect patterns in prices. Long positions are initiated in futures markets that are rising in price, and short positions are initiated in markets that are trending downward.

Some managers focus on specific markets, but most trend-following managers trade globally diversified programs. Some systematic managers include fundamental inputs to the models, but the majority utilizes historical prices as the primary predictor of future price movements. The investment time horizons of the managers differ greatly, from as little as several hours to several months. Some managers attempt to profit from countertrends (trading against the trend in anticipation of a reversal), while others trade the spreads of prices between contracts anticipating a reversion to the historical relationship.

As a simplified example, at any point in time, a managed futures manager might be long oil, long Treasuries, long the

Euro/\$, short silver, short corn, and short the S&P 500. Positions are typically weighted based on the strength of signal. In other words, those markets displaying the strongest trend may be overweighted and vice versa. If there are no significant trends in place, the manager is likely to have little capital at risk.

Should prices reverse and new trends emerge, the manager will quickly alter the portfolio and reverse the trades. The financial futures markets are among the deepest and most liquid markets in the world, which allows the manager to quickly cover and initiate positions with little market impact. Managers typically hold a dynamically-traded, well-diversified portfolio that is either long or short various markets, depending on the prevailing trends. As such, the managed futures investor is the owner of a portfolio of trends, in a manner of speaking.

### Investment Thesis

The majority of participants in the futures markets are hedgers. These participants have an economic exposure. For instance, a cereal manufacturer that needs corn (naturally short corn) will often make its purchase through the futures market to eliminate the price risk associated with its impending purchase. A financial institution that has significant interest rate exposure, may short Treasury futures to eliminate the interest rate exposure from its books. Hedgers are not necessarily out to make money in the futures market; they are attempting to eliminate an economic risk.

Speculators (managed futures managers) take the other side of the trade from hedgers. In other words, managed futures managers accept the price risk that hedgers are seeking to transfer. Managed futures managers diversify the price risk across global markets and underlying assets. As a result of bearing this risk, managed futures managers should earn a return premium over time.

### Common Concerns

While institutional interest in managed futures is growing, the strategy has not been as widely embraced as other hedge fund strategies. This is not necessarily surprising to us, as illustrated by the following description. “Managed futures is a *volatile, hedge fund* strategy that involves the trading of economically *leveraged derivatives* through *trend-following, black box* security selection methodologies.” The description is accurate and highlights many of the concerns that investors tend to cite when electing not to invest in managed futures.

### **Volatility**

Generally speaking, managed futures is a volatile investment strategy. At the individual manager level, equity-like volatility (mid- to high-teens, annualized) tends to be on the low end of the risk spectrum. Some managers display volatility that is two to three *times* that of equities. Clearly, managed futures should not represent an entire investment program, and we generally recommend a multi-manager approach to the strategy. The key point, however, is that uncorrelated volatility reduces risk at the portfolio level.

### **Hedge Fund**

Managed futures is most often described as a hedge fund strategy. In years past, this designation probably scared off many institutional investors. In light of the phenomenal popularity of hedge funds over the past few years, this label probably attracts investors today.

A case can be made that managed futures is an asset class unto itself, as its risk/return characteristics differ from most other hedge fund strategies. While we can support either argument (asset class or hedge fund), we tend to categorize managed futures as a unique hedge fund strategy, as it shares many characteristics with hedge funds—high, incentive-based fees (2% management plus 20% incentive is typical), private partnership format, sophisticated investor eligibility requirements, and a unique return profile generated from the trading of public securities.

### **Leveraged Derivatives**

Any complete description of the strategy must contain at least two dirty words in the eyes of many investors—leverage and derivatives. The futures contracts that are traded in the strategy have relatively low margin requirements. Margin/equity will differ by manager and market, but may range from 5% to 30%, with an average at about 20%. The remaining capital is typically invested in T-Bills, a portion of which constitutes the variation margin. Futures are marked-to-market daily, so profits and losses must be settled at the close of each trading day.

Like many hedge fund strategies, economic leverage is a tool to implementing the strategy. Leverage is a magnifier of return and risk. In our opinion, the use of leverage in the strategy is another reason to invest through multiple managers and size the allocation to the strategy and individual managers prudently.

### **Trend-Following**

The investment strategy involves investing in trends—long rising markets and short falling markets. The security selection methodologies are those of the technical trader—moving averages, momentum, and price-range breakouts. Understandably, many investors view such security selection methodologies with skepticism, as numerous studies question the value-added of technical trading in traditional equities. However, technical trading has been shown to add value in the futures market. Equity indices tend to represent only a modest portion of the typical managed futures portfolio.

### **Black Box**

Securities are not selected through in-depth, fundamental analysis. Rather, computers are used to identify trends, select securities, and even place trades. Some investors view computer, or “black box” strategies as sub-optimal and prone to risk that human intervention could preclude. Given the mechanical, rules-based nature of the strategy, its black box implementation is appropriate, if not optimal, removing emotion and other human flaws from the process.

### **Investment Merits**

Largely as a result of their ability to invest long or short, managed futures is uncorrelated to most traditional and other alternative investments. Uncorrelated, positive risk-adjusted returns offer significant diversification benefits to a portfolio.

Not surprisingly, managed futures tends to perform best when significant trends are in place in the capital markets. Significant trends often emerge during a crisis period or global market shock. In a period of extreme stress, downward trends emerge in equities (investors flee risky assets), and upward trends emerge in Treasuries or gold (flight to quality). During periods of extreme inflation, which are often difficult for traditional investments, managed futures managers may be able to profit from strong rising trends in oil or other commodities. In short, managed futures have demonstrated an ability to generate handsome returns when traditional investments or other hedge fund strategies suffer.

Many traditional hedge fund strategies (for example, merger arbitrage, convertible arbitrage, and fixed income arbitrage) generate return distributions that exhibit kurtosis and negative skewness. In other words, the returns of these strategies often have a “fat left tail,” meaning that extreme losses occur with greater frequency than the standard deviation suggests. Managed futures, on the other hand, have been shown to generate return distributions that exhibit kurtosis and positive skewness. In other words, a “fat right tail,” or a tendency for outsized gains to occur more often than suggested by the standard deviation. In past crisis periods, the tails of managed futures and traditional hedge fund distributions were concurrent—when hedge funds were generating significant losses, managed futures was generating significant gains. Managed futures appears to be a good hedge against the risk inherent in many other hedge fund strategies.

### **Performance Commentary and Return Characteristics**

While a number of managed futures indices exist, some with performance spanning decades, finding the appropriate proxy for the strategy is challenging. Few are investable, although that trend is changing. Many indices include global macro managers. Given our preference for systematic, trend-following managers, we utilize the S&P Managed Futures Index (S&P MFI) as a proxy for the strategy.

The S&P MFI is an equal-weighted index of 14 systematic trend-following managers, with diversified exposures to markets, holding periods, styles, and security selection methodologies. The index was created in December 2002.

Performance from 1993 through 2002 is *pro forma*. As is always the case, *pro forma* data must be interpreted with extreme caution. Clearly, a degree of survivor bias is present (it is highly unlikely that S&P would have selected this exact mix of managers in 1993).

Despite the survivor bias concerns, we view the index as an appropriate proxy for the strategy. The characteristics of its risk and returns are similar to those we expect and witness with managed futures managers. Our best guess is that survivor bias may overstate returns by up to 2%, per annum. Even if a more conservative stance is taken (using a 3% to 4% annualized haircut), the return profile remains compelling and, in our view, warrants consideration from institutional investors.

[The following performance commentary refers to the risk/return data contained on the last page of this article.] Since January 1993, managed futures, as represented by the S&P Managed Futures Index, has been slightly negatively correlated to the S&P 500 and high yield bonds. Managed futures has been virtually uncorrelated to the average fund of hedge funds. On the other hand, hedge funds, which are typically used to diversify equity and credit risk, are moderately correlated to the equity and credit markets. These risk exposures tend to surface during crisis periods; periods when managed futures tends to shine.

In addition to generating solid absolute and risk-adjusted returns over the past ten years (even after applying a survivor bias haircut), the most attractive characteristic of the strategy may be the timing of those returns. On average, the strategy generated positive returns when stocks and hedge funds fell. During periods of extreme market stress, managed futures has historically performed best. As discussed earlier, this is the result of the significant and extended trends that tend to emerge during such periods.

It should be noted, however, that the “hedge” provided by managed futures is imperfect. For instance, it is possible that a market shock causes trends that are in place to reverse sharply. Under such a scenario, managed futures are prone to suffer extreme losses. However, managers are able to quickly reverse positions. As long as the trend following a crisis is substantial relative to the reversals it creates, managed futures is likely to generate positive returns over the period.

The worst market environment for the strategy is one of trendless or whipsaw markets, similar to 1994 or that experienced since April of this year. In April, a number of trends reversed sharply, and markets have been more or less directionless ever since. As a result, the strategy is currently in the midst of a 15% drawdown (cumulative loss). This is not uncommon, as similar drawdowns have occurred in the past. In prior drawdowns, losses have accumulated (peak to trough) over periods of up to 10 months (for the S&P MFI) or even several years (for some managers). However, the trough to peak period is typically much shorter, with an average recovery period of only 3 months. For example, for the one-

year ended September 2000, the S&P MFI was down 8.8%; over the next 3 months, it returned 27%.

This return profile emphasizes an important investor requirement—patience. The strategy will suffer losses from time to time, which may be extreme and may last for an extended period of time. Investors may feel compelled to abandon the strategy and, invariably, such feelings will occur at precisely the wrong time.

The return behavior of the strategy suggests one other important consideration. Managed futures investors that buy into the strategy during significant drawdowns have historically enjoyed strong returns in short order. Since inception, the S&P MFI has had 12 months, where its drawdown stood at 9.5% or greater. The return over the following one-year period has been 31%, on average.

Given the current drawdown and past performance characteristics of the strategy, this appears to be an opportune time to invest in managed futures. Given the liquidity offered by most funds (monthly contributions/withdrawals are typical), the strategy has potential as a tactical play. Of course, past performance is not necessarily indicative of future results.

### Commentary

Managed futures experienced significant inflows in 2003. According to TASS estimates, managed futures represented more than \$8 billion of the \$72 billion that flowed into hedge funds last year. However, 2003 was in stark contrast to prior years, when managed futures represented only a fraction of capital inflows. In a manner of speaking, managed futures is the ugly duckling of hedge fund strategies.

The relative lack of popularity of managed futures relative to other hedge fund strategies (convertible arbitrage or event driven) is one of the characteristics that we find attractive. While other strategies have struggled with capacity constraints (a trend we expect to continue), we do not expect a similar fate for managed futures for the foreseeable future. While it is likely that more participants in the strategy will dampen returns, we do not expect returns to be truncated to unattractive levels. It is highly unlikely that managed futures managers will manage more capital than the hedgers. As long as hedgers substantially deploy more capital than managed futures managers, opportunities should persist.

Another attractive characteristic of managed futures is the relative unattractiveness of other investments. Bonds will likely generate modest returns in a rising interest rate environment and equity valuations are stretched. Hedge funds offer the promise of absolute returns, but the crowding of strategies is beginning to take its toll. A diversified managed futures allocation, on the other hand, should be able to produce reasonable returns over the long-term and potentially strong returns over the next twelve to eighteen months.

In our opinion, the financial markets possess significant degrees of risk. The threat of terrorism, the prospect of mean reversion in equity valuations, and the potential for a hedge fund crisis pose significant risk to most institutional portfolios. While far from a perfect hedge, managed futures has historically profited in periods of market stress.

#### Recommendation

In our opinion, managed futures represents an appropriate investment for institutional investors, particularly those with significant equity or hedge fund exposure. **We recommend managed futures as a component of a diversified institutional portfolio or hedge fund program.**

#### References

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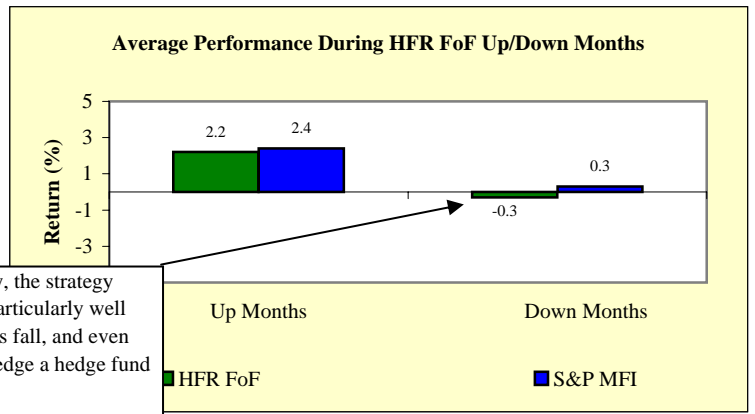
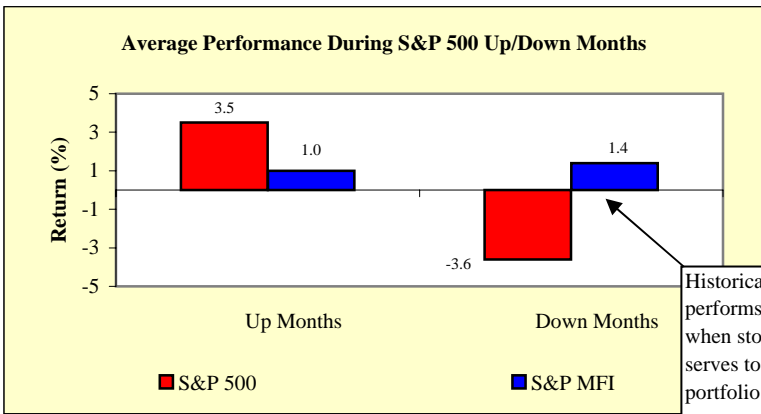
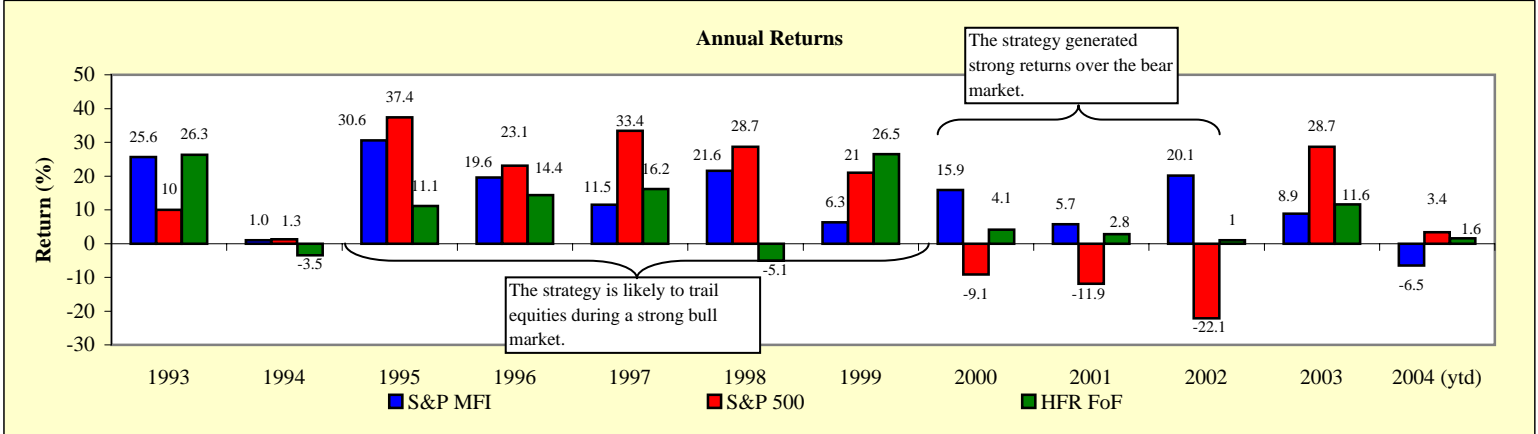
All data are as of June 30, 2004. Returns beyond one year and standard deviations are annualized. S&P MFI returns are net of manager fees.

Correlation Matrix					
	S&P MFI	S&P 500	LAB	CHY	HFR FoF
S&P MFI		-0.19	0.35	-0.17	0.09
S&P 500			0.05	0.51	0.50
LAB				0.23	0.11
CHY					0.44
HFR FoF					

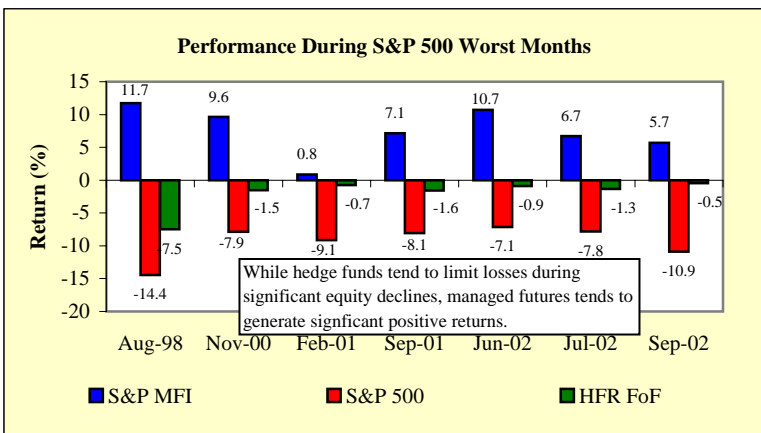
Note the following abbreviations: S&P MFI (S&P Managed Futures Index), LAB (Lehman Aggregate Bond Index), CHY (Citigroup High Yield Bond Index), HFR FoF (HFR Fund of Funds Index).

	S&P MFI	HFR Fund of Funds	S&P 500
1-Year Return (%)	(5.2)	7.8	19.1
3-Year Return (%)	8.8	4.8	(0.7)
5-Year Return (%)	8.5	7.0	(2.2)
10-Year Return (%)	12.0	8.0	11.8
Standard Deviation	±17.9	±6.5	±17.7
Sharpe Ratio	0.67	1.24	0.67
Worst Drawdown (%) <sup>1</sup>	(15.8)	(13.1)	(44.7)
Positive Months	59%	69%	64%

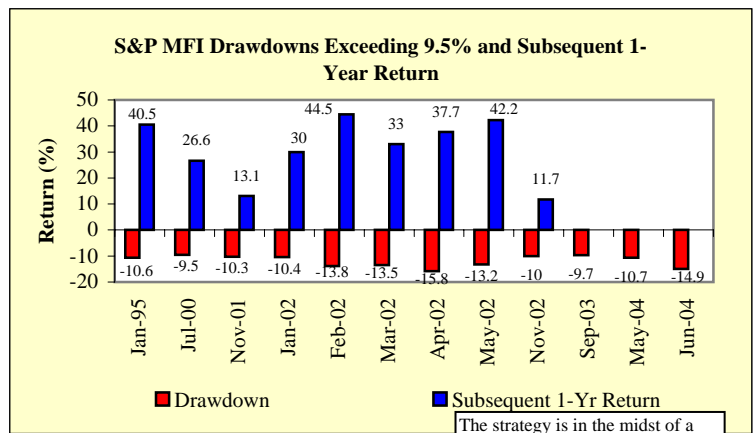
Unless otherwise indicated, statistics above are over 10 years.



Historically, the strategy performs particularly well when stocks fall, and even serves to hedge a hedge fund portfolio.



While hedge funds tend to limit losses during significant equity declines, managed futures tends to generate significant positive returns.



The strategy is in the midst of a substantial drawdown. Historically, similar drawdowns preceded very strong returns.

<sup>1</sup> Worst drawdown is the largest percentage decline from peak.