

Managed-Futures Category Handbook

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Managed-futures funds posted eye-popping returns during the financial crisis, when nearly every other strategy and asset class went down. Are managed futures the holy grail of diversification? Probably not. But that hasn't stopped the strategy from gathering hundreds of billions in assets since the crisis. There's a lack of independent, third-party information for advisors and individuals on this exotic strategy. This handbook attempts to plug the gap. Let's start with the basics.

I Strategy Overview

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The term “managed futures” generally refers to a set of trading strategies that rely on derivatives, especially futures, to express market views across commodity, bond, currency, and equity markets. Managers who run such strategies are commonly called commodity trading advisors, or CTAs, which is typically the registration status held by these managers under the National Futures Association and the Commodity Futures Trading Commission, the organizations which regulate futures trading in the United States.

Most CTAs are trend-followers. This means that their strategies, which are typically systematic (or automated) in nature, attempt to identify and profit from upward or downward price momentum in futures contracts. If the algorithm sees the price of a particular futures contract trending upward (downward), the program will take a long (short) position. Managed-futures strategies measure trends over a wide range of timeframes—from intraday to more than 12 months—and assume a diverse array of calculations (moving averages or breakout indicators, for example). Most trend-followers are diversified, meaning they deploy their trend-following systems over many different types of futures contracts. Many also offer the same strategy with differing amounts of leverage. Because of the diversity of strategies, trend-following managed futures funds’ returns exhibit wide dispersion.

There are, of course, non-trend-followers. These traders can bet on anything from volatility to mean reversion (the opposite of a trend). Furthermore, some CTAs, termed discretionary traders, rely on

human judgment rather than computers to read charts or to divine global supply/demand imbalances from volumes of fundamental data. In the Morningstar categorization schema, these non-trend-followers and the discretionary traders fall under the heading of “global-macro,” rather than managed futures.

Momentum, the Juggernaut

Simple futures-based trend-following strategies have posted unbelievably good results for a long time. Contrary to any efficient-market theories, there aren’t any obvious sources of risk that would justify this performance. Moreover, trend-following’s best returns have come during bad times, like a seemingly impossible insurance policy that pays you to own it. Academics have bent over backwards trying to explain the momentum phenomenon. The best explanation is a simple behavioral story of investors’ underreaction and overreaction.

In light of surprising or extreme news, investors anchor new price estimates to old prices, preventing prices from fully reflecting new information. Investors are also loath to realize losses, preferring to keep dogs until they break even, and are too quick to sell winners. Both biases prevent prices from instantly reflecting new information; instead, prices slowly adjust to fair value, creating sustained price movements. Performance-chasers hop on the trend, overextending it. The trend eventually collapses after the market realizes it has overshot. This behavioral theory behind momentum is just that—a theory. But a wealth of experimental data

supports the irrational or bounded-rational view of man. We're not homo economicus, after all. This behavioral story implies that the growing capital dedicated to managed futures will reduce its profitability going forward, possibly to the point where it offers little reward. One pundit estimates that the strategy's equilibrium Sharpe ratio (annual excess return over cash divided by annualized volatility) is about 0.30, which is approximately the historical risk-reward trade-off for stocks and bonds. This may be optimistic: Impossible creatures don't survive for very long. Even with a relatively low but positive Sharpe ratio, however, managed futures should still provide investors with decent portfolio diversification. The key is that managed futures provide little or no correlation to traditional assets.

In 2009, Asness, Moskowitz, and Pedersen published a paper entitled "Value and Momentum Everywhere," which pointed out that value and momentum factors exist across all asset classes and geographies, as far back as the authors tested (1975). Furthermore, these factors are negatively correlated to each other. Finally, the study points out that, in and of itself, momentum has provided attractive, long-term, positive risk-adjusted returns.

The Options

Not all managed futures funds are created equal. There are distinct differences in the way these strategies are constructed. First, some funds track indexes, while others take more actively managed approaches. Next, of the actively managed strategies, some are advised by a single manager, while others are funds of funds. Finally, there are

differences in the way cash collateral is managed.

Even though managed futures are new to structures like mutual funds and exchange-traded funds which have historically tracked index benchmarks, managed futures indexes have existed for quite some time. The first such well-known index, the Mount Lucas Management Index, launched in 1989 and has served as a benchmark for many hedge funds. More recently, Victor Sperandeo, better known as Trader Vic, created the Diversified Trends Indicator, the benchmark used by several mutual funds and ETFs. (This index, which dates back to 2003, was subsequently licensed to Standard & Poor's). JP Morgan and Credit Suisse have also developed indexes for trend-following mutual funds. Even Morningstar offers a managed futures index, the Morningstar® Diversified Futures Index.

Managed-futures indexes typically diversify across futures markets and use relative simple models to measure momentum, such as seven-month exponential moving average. When evaluating index-based strategies, investors should consider that back-tested index returns may not reflect actual trading conditions. In contrast to index strategies, actively managed strategies often use more than one measure of momentum and may calculate momentum across several different timeframes. Actively managed strategies may also include a countertrend (mean reversion) strategy that serves to profit from or reduce losses of trend following when contracts do not exhibit price trends. AQR Managed Futures Strategy AQMIX is one actively managed example.

Despite the fact that active strategies tend to be more complicated than index-based strategies, they will likely produce similar outcomes. When Morningstar first categorized its hedge fund database in 2006, it found that trend-following strategies exhibited one of the highest cross-correlations (on average 0.7) of all hedge fund strategies. Furthermore, in 2008, 80% of the category made money. This is due to the strong presence of a longer-term momentum “beta” in most of these strategies, which is captured by managed-futures indexes.

Once an investor has decided to invest in an actively managed strategy, he must decide between a single manager or a fund of funds/multimanager structure. The median single manager managed futures hedge fund in Morningstar’s database (as of Sept. 30, 2011) requires a \$250,000 initial investment, while the median hedge fund of funds needs only \$50,000. (A few registered commodity pools take minimum investments of as little as \$1,000, however.) The average fee is much higher for a fund of funds, which typically charges a 1% management fee and 10% on top of standard hedge fund performance and management fees. Even managed-futures funds of funds available in mutual fund structures, such as Altegris Managed Futures Strategy MFTAX, charge a double layer of fees. Investors must consider if the actively managed returns can surmount the fees.

Finally, investors should also consider if the cash collateral in the fund is actively managed and what exactly the underlying investments are. Because futures contracts require relatively low initial margins (as low as 5% for 100% exposure, for example), the majority of a managed-futures fund’s assets are cash collateral. This cash can be invested or it can sit in Treasuries. Historically, managed-futures strategies earned a decent interest rate simply by holding Treasuries, but this is no longer the case. In response, some funds have hired outside advisors to invest this cash into higher-quality, slightly higher-yielding debt instruments. Some managers, however, are taking on much more risk than others to boost returns, investing in nonagency mortgage securities, asset-backed securities, 144A restricted securities, master limited partnerships, or even real estate investment trusts.

II Managed Futures Strategies Across Structures

The first publicly available managed futures fund started in 1948 and operated until the 1960s, trading agricultural commodities (Anson 2006). It wasn't until financial futures were introduced in the 1970s and 1980s that the strategy took off, though, in both public and private vehicles. (Public commodity pools are registered under the Securities Exchange Act of 1933, but not the Investment Company Act of 1940.) In the 1990s, bad press over high fees caused the CFTC to impose stricter reporting requirements. Consequently, the public commodity pool market dried up, and the industry went underground, accessible only to institutions and the rich through hedge funds and separately managed accounts. In 2007, Rydex launched the first managed futures mutual fund, Rydex|SGI Managed Futures Strategy RYMTX. The financial crisis gave birth to several more managed futures mutual funds and even a couple of ETFs and exchange-traded notes, aiming to capitalize on the strategy's stellar performance in 2008.

As of Sept. 30, 2011, there are 331 distinct managed futures hedge funds (under the category systematic futures) reporting to Morningstar's

database, managing a total of \$83.7 billion. The database lists another 129 non-trend-follower hedge funds under Morningstar's global macro hedge fund category, collectively managing \$44.4 billion. Funds of funds are some of the biggest investors in these managed futures and global macro strategies.

The database also holds 95 funds of funds in the macro/systematic futures hedge fund of funds category, managing \$40 billion. The oldest single-manager, managed-futures fund in the database launched in 1977, while the oldest managed-futures hedge fund of funds debuted in 1990.

In terms of mutual funds, there are 19 managed-futures offerings, managing a total of \$7.8 billion. The asset growth of these funds is astounding, considering most do not have even two years of track record. Asset growth in managed-futures ETFs and ETNs has not kept up with mutual funds'. Only one ETF, WisdomTree Managed Futures WDTI, and one ETN, ELEMENTS S&P CTI LSC, exist, holding less than \$300 million combined. (Figure 1.)

Figure 1 Managed-Futures Funds and Assets Across Vehicle

	No. of Managed-Futures Funds	Total Assets (\$ billions)
Hedge Funds Database*	331	83.7
Mutual Funds Database	19	7.8
ETFs Database	2	0.30

*Includes separately managed accounts and does not include non-trend-followers
Source: Morningstar Database (as of 9/30/11)

III Historical Performance of Managed-Futures Strategies

In happy markets, when futures contracts exhibit prolonged price trends, trend-following performs reasonably well. During such times, CTA indexes have earned about the risk-free rate, with a modest risk premium (Kaminski, Mende 2011). The strategy really shines during extreme, protracted market movements like bubbles and market collapses (Fung, Hsieh 2001; Moskowitz, Ooi, Pedersen 2010; Kaminski, Mende 2011). In other words, trend-following behaves like a long position in volatility and market-event risk (Fung, Hsieh 2001). In 2008, the average managed-futures hedge fund in Morningstar's database returned more than 19%, when every other asset class besides government bonds experienced losses.

Almost by definition, trend-following doesn't do well in non-trending markets or markets with short-term reversals. This is because the managed-futures program cannot identify a trend or because it identifies a trend too late, just before it reverses. By the time the program switches its position (from long to short, for example), it may again be on the wrong side of the trend (because the market has started going up again, for example). This is known as being "whipsawed." In 2009, managed-futures returns were poor, due to this phenomenon. (Figure 2.)

Because managed-futures funds performed so well in 2008 and 2010 but didn't lose much in 2009, their risk-adjusted returns over the past four years have been much better than the stock market. (Figure 3.) Of course, the Barclays Aggregate Bond

Index, which heavily weights government bonds, handily outperformed managed futures on a risk-adjusted basis. Investors cannot expect this going forward, though, as interest rates may rise. What investors should expect is for managed-futures strategies, over the long term, to exhibit low correlations to stocks and bonds. Over shorter periods, the correlations may be slightly positive or even negative. (Figure 4.)

When considering the past performance of managed-futures strategies, investors should consider possible reporting biases. For hedge funds, reporting is voluntary, and, therefore, the funds that choose to report are likely to be the better performers (selection bias). Furthermore, when a fund chooses to stop reporting due to bad performance, the last few months of bad performance go unreported. These biases cannot be avoided, but the Morningstar MSCI Hedge Fund Indexes correct for backfill bias, where good performance prior to joining a database is filled in, and survivorship bias, where dead funds with poor performance are taken out of the database. Ibbotson, Chen, and Zhu (2010) studied the effect of survivorship and backfill bias on hedge funds in general since 1995. They found that these two biases can overstate hedge fund returns by more than 5% annually. Mutual fund category averages do not correct for survivorship and backfill biases, although the effect is not as large as it is in hedge funds, as the managed-future mutual funds are so new.

Figure 2 Average Annual Returns by Actively Managed Currency Investment Vehicle

	2008	2009	2010	1-Year	3-Year	5-Year	10-Year
Managed Futures Hedge Funds ¹	19.31	0.43	11.26	5.03	6.99	8.15	7.25
Managed Futures Mutual Funds	8.33	-5.80	3.77	3.54	1.40	N/A ²	N/A ²

¹ As measured by the Morningstar MSCI Systematic Trading Hedge Fund Index

² The first mutual fund was inception in 2007.

Figure 3 Four-Year Risk-Adjusted Return Measures (through Sept. 2011)

	Sharpe Ratio	Sortino Ratio	Morningstar Risk-Adjusted Return
Managed Futures Hedge Funds	0.88	1.72	6.65
Managed Futures Mutual Funds	0.24	0.39	0.98
S&P 500 TR	-0.20	-0.26	-9.67
Barcap US Agg Bond TR	1.56	3.22	5.98

Figure 4 Three-Year Correlation and Beta to Stock and Bonds (through Sept. 2011)

	S&P 500 Correlation	S&P 500 Beta	Barcap US Agg Correlation	Barcap US Agg Beta
Managed Futures Hedge Funds	-0.01	-0.01	-0.05	0.12
Managed Futures Mutual Funds	-0.20	-0.11	-0.37	-1.02

IV Fees

Managed futures strategies can be pricey, even in mutual fund form. The median single-manager managed-futures hedge fund charges a 2% management fee and a 20% performance fee, much like other hedge funds. (Figure 6.)

The range is quite wide, however, with management fees as high as 5% and performance fees as high as 50%. Fees for managed-futures hedge funds of funds incorporate the underlying single-manager fees and then layer on another set of fees. The median managed-futures hedge fund of fund's management fee is 1.5%, while the median performance fee is 10%. Again, these fees range widely. Performance fees can be as little as 0%, and as high as 25%, while management fees can be as low as 0% and as high as 25%.

Theoretically, mutual funds are not allowed to charge a performance fee (only a fulcrum fee in which the management fee slides up or down with performance). Some managed-futures mutual funds, though, have skirted the rules on performance fees thanks to a tax loophole. This loophole (see the Taxes section below) grants mutual funds the ability to trade commodity futures, through a special vehicle called a controlled

foreign corporation, or CFC. SEC rules do not require fund sponsors to disclose the CFC's underlying activity, including holdings, subadvisors, and fees. As a result, several managed-futures funds of funds have launched in mutual fund form charging management fees in the order of 1%-2% and performance fees in the order of 15%-35%. These fees are not disclosed in the prospectus and are not incorporated into the standard mutual fund expense ratio calculation. Managed-futures mutual funds' net prospectus expense ratios range from 1.22% to 4.53%, with the median fund charging 1.97%.

Of course, fees eat into performance. If a fund of funds' subadvisors collectively produce a 10% gross annual return, for example, but then charge a 2% management fee and a 20% incentive fee, the net result is a 6% return. If a mutual fund then charges an expense ratio of 2%, the return is further reduced to 4%.

Figure 6 Median Fees of Managed Futures Strategies Across Vehicles

	Management Fee	Performance Fee	Expense Ratio
Hedge Funds	2.0%	20%	—
Hedge Funds of Funds*	1.5%	10%	—
Mutual Funds	—	—	1.97%

*Does not include underlying management and performance fees

V Taxation

Taxes are an important consideration of any investment. Hedge fund investors must file a K-1 partnership tax form, which could take months to obtain and could also result in non-tax-deductible expenses. Hedge funds structured as limited partnerships generally pass through the net tax characteristics of their underlying investments, and are taxed each year regardless of distributions. Futures contracts are generally governed by Section 1256 of the tax code, which states that 60% of any gain recognized is treated as long-term capital gain and 40% is treated as short-term capital gain. The result is a blended 23% federal tax rate (regardless of holding period).

Mutual fund investors generally file a 1099-DIV form. Mutual fund investors pay taxes on both fund distributions (dividend and net capital gains, taxed at ordinary income and long-term capital gains rates respectively) and share sales (long-term or short-term capital gains) if held outside of tax-deferred accounts. Managed-futures funds are taxed differently from traditional stock or bond mutual funds, however. Because commodity futures are not considered “good income” for mutual fund tax purposes, mutual funds must invest in commodity futures indirectly through swaps or

directly through CFCs. Swaps can result in better tax treatment (if the holding period is long enough), but can generate higher transaction costs. CFCs benefit from lower transaction costs of the futures markets, but they do not pass through the 60%/40% tax treatment of their underlying futures holdings. Instead, CFCs are taxed at 100% ordinary/short-term rates.

ETFs trading commodity futures are often structured as public partnerships, which do receive the 60%/40% futures tax treatment. ETNs taxation depends on the holding period.

VI Role in Portfolio

In order to demonstrate how a managed-futures fund can change the overall risk/return profile of a portfolio, we constructed a model portfolio, using S&P 500 as a proxy for the stock portion, Barcap US Aggregate Bond index for the bond portion, and the Morningstar MSCI Systematic Trading Hedge Fund Index for the managed-futures portion. For the 10-year period ended Sept. 30, 2011, we tested a 5%, 10%, and 20% historical allocation to managed futures, funded from the stock portion of a traditional 60/40 portfolio and rebalanced quarterly (Figure 7).

As the allocation to managed futures increased, the portfolio's return increased and the standard deviation decreased, creating a better risk-adjusted return, as measured by the Sharpe ratio, the Sortino ratio (which measures downside deviation), and Morningstar Risk-adjusted Return (which takes into account tail-risk).

Despite the fact that managed-futures hedge fund indexes contain biased data, the merits of the strategy are clear. Most researchers agree that trend-following is uncorrelated with traditional asset classes and has insurance like payoffs. As such, it represents a very attractive addition to a portfolio and will continue to be, provided two things remain true: trends persist and sideways markets don't decimate returns. It's doubtful that momentum will be extinguished from futures markets any time soon (the size of the futures market is still sufficiently large), but it's possible that the strategy becomes less profitable and more volatile as investors pile into it.

Figure 7 Managed Futures Model Portfolio (through Sept. 2011)

Asset Allocation	10-Yr Return (Annualized)	10-Yr Std. Dev. (Annualized)	10-Yr Sharpe (Annualized) Ratio	10-Yr Sortino (Annualized) Ratio	10-Yr Morningstar Risk-adjusted Return
60/40 Portfolio	4.44	9.41	0.30	0.42	1.51
5% Managed Futures*	4.69	8.63	0.35	0.50	1.91
10% Managed Futures*	4.93	7.88	0.40	0.59	2.27
20% Managed Futures*	5.37	6.55	0.54	0.82	2.91

*Funded from the stock portion of the 60/40 portfolio.

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