Managed Futures
Portfolio Diversification for Challenging Markets

One of the primary objectives of investment management is the creation of portfolios with attractive risk-return profiles for various constituencies. This is typically done by combining investments with sufficient diversification properties to each other. Many investors seek to diversify their portfolios across sectors, geographies, and asset classes. Historically, the components of even seemingly diversified portfolios became increasingly correlated during periods of elevated stress, due to contingent effects not directly observable in other periods.

Managed futures strategies have provided valuable diversification benefits during crisis periods, and have been a mainstay in many institutional portfolios for that reason. Over recent years managed futures have attracted attention from a much broader investor base, in part due to significant outperformance during the financial crisis in 2008. In this paper we provide an introduction to managed futures by describing its basic characteristics and reviewing its diversification benefits.¹

Overview of Managed Futures

The term “managed futures” refers to investment strategies whose universe is almost exclusively exchange traded futures across many diversified markets. Futures contracts are standardized contractual agreements to buy or sell a particular underlying financial instrument or physical commodity at a predetermined price in the future. Contracts traded include but are not limited to: equity indices, fixed income indices, short term interest rates, currencies, and commodities. Examples of these are provided in Exhibit 1.

Exhibit 1: Sample Underlying Assets Typically Traded in Managed Futures Strategies

<table>
<thead>
<tr>
<th>Equities</th>
<th>Fixed Income</th>
<th>Currencies</th>
<th>Commodities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• S&amp;P 500</td>
<td>• US Treasuries</td>
<td>• AUD</td>
<td>• Agriculture</td>
</tr>
<tr>
<td>• Euro Stoxx 50</td>
<td>• UK Gilts</td>
<td>• CAD</td>
<td>• Precious Metals</td>
</tr>
<tr>
<td>• FTSE 100</td>
<td>• JGBs</td>
<td>• GBP</td>
<td>• Industrials</td>
</tr>
<tr>
<td>• Nikkei 225</td>
<td>• German Bunds</td>
<td>• EUR</td>
<td>• Energy</td>
</tr>
<tr>
<td>• Hang Seng</td>
<td></td>
<td>• JPY</td>
<td></td>
</tr>
</tbody>
</table>

Source: Credit Suisse

Managed futures strategies take directional positions in futures contracts, and can be long or short at any time depending on the strategy’s forecast for the particular underlying asset. These strategies have historically been employed by institutional investors through hedge funds, Commodity Pool Operators (“CPOs”), and Commodity Trading Advisors (“CTAs”). More recently, the use of managed futures strategies is increasing as the broader universe of investors seeks the diversification benefits these strategies can provide.²

1. Diversification Risk Factor Disclaimer: Even if an investment in managed futures reduces your portfolio’s volatility, the overall performance of your portfolio may be negative or flat. While performance may be largely independent of the general stock and bond markets, there is no assurance that it will be consistently independent or non-correlated. Employing a managed futures strategy could increase rather than reduce overall portfolio losses during periods when stocks and bonds decline in value and the market moves against the positions held as part of the managed futures strategy. There is no way of predicting whether a managed futures strategy will lose more or less than stocks and bonds in declining markets. Moreover, investors’ existing portfolios and individual risk tolerances may differ so that the result of non-independent performance and/or negative performance on individual portfolios will vary. The success of an advisor’s managed futures strategy depends to a great extent upon the occurrence of market conditions favorable to the advisor’s trading strategies. Futures are derivatives that may be highly leveraged. Past performance is not necessarily an indicator of future results.

2. Due to growth of managed futures RICs since 2003, but publicly offered commodity pools have been available to retail investors for many years.
Diversification Benefits of Managed Futures

The diversification benefits of managed futures strategies are relevant to many investors and have been particularly salient for equity investors as evidenced by outperformance during severe equity declines in 2001 and 2008. Exhibit 2 highlights a number of historical equity crisis periods and compares the performance of the MSCI World TR Index (representing global equities) with the Barclay Systematic Traders Index (representing a broad allocation to managed futures funds).

Exhibit 2: Historical Performance of Managed Futures and Global Equities During Crisis Periods (monthly data)

<table>
<thead>
<tr>
<th>Crisis Period</th>
<th>Global Equities</th>
<th>Managed Futures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iraqi invasion in Kuwait (06/1990–10/1990)</td>
<td>-11%</td>
<td>23%</td>
</tr>
<tr>
<td>Tech Bubble (02/2000–09/2001)</td>
<td>-30%</td>
<td>12%</td>
</tr>
<tr>
<td>Iraqi War (03/2002–09/2002)</td>
<td>-26%</td>
<td>18%</td>
</tr>
<tr>
<td>Subprime Crisis (10/2007–02/2008)</td>
<td>-14%</td>
<td>10%</td>
</tr>
<tr>
<td>Global Financial Crisis (08/2008–02/2009)</td>
<td>-44%</td>
<td>9%</td>
</tr>
<tr>
<td>US Credit Downgrade (04/2011–09/2011)</td>
<td>-20%</td>
<td>-3%</td>
</tr>
</tbody>
</table>

These diversification benefits also extend beyond crisis periods, as exhibited by the correlation plot in Exhibit 3 below. The correlation between managed futures and equities tends to be positive during up periods for equities and negative during down periods for equities, exhibiting the “hedge-like” behavior that may be desired in an investment.

Exhibit 3: Rolling 24-Month Comparison of Global Equities and Managed Futures

Source: Bloomberg; Observation period: Jul 1990 to Jun 2015
Managed Futures Strategies

Managed futures strategies encompass a variety of investment styles, which can be broadly classified as either discretionary or systematic. The latter approach is the largest and dominant component (see Exhibit 4), wherein a set of predefined, quantitative rules that rely on the manager’s proprietary research guide portfolio construction. A systematic approach is designed to facilitate the analysis of large amounts of data across asset classes and instruments with the goal of efficiently identifying patterns and trends across various time periods.

Some of the most common investment styles within managed futures include:

- **Trend Following**: This strategy captures persistence in price movements over various time horizons (i.e. taking long positions in assets expected to continue to rise and short positions in those expected to fall). Based on our experience we believe that the largest and historically most successful component of the managed futures industry is focused on medium- to long- term trend trading, where directional positions are held for weeks or months.

- **Contrarian/Counter-trend**: This strategy looks to identify reversals of current trends and aims to time the market by selling assets near market highs and buying near market lows.

- **Others**: Further strategies include but are not limited to: short-term trading, fundamental-based models, and diversified technical strategies such as nonlinear pattern recognition.

Trend Following In Depth

At the core, many trend based trading strategies share the underlying assumption that financial assets exhibit trends which, when correctly identified, can be utilized to forecast the future direction of price movements. Moving average crossovers are one of the most widely used methods to identify such trends. These crossovers generally compare the relationship and movements of short term price averages with long term price averages to identify developing market trends.

Exhibit 6 illustrates a simple yet historically successful trend following strategy that is long an asset when the short term moving average (in this example 3 months) is above the long term moving average (12 months), and has a short position in the asset when it is below the long term moving average.

**Exhibit 4: Estimated Breakdown of Approaches**

<table>
<thead>
<tr>
<th>Systematic (91%)</th>
<th>Discretionary (9%)</th>
</tr>
</thead>
</table>

Source: Credit Suisse Managed Futures Index; data as of June 30th, 2015

**Exhibit 5: Estimated Allocation to Trend Following**

<table>
<thead>
<tr>
<th>Trend-Based (65%)</th>
<th>Non Trend-Based (35%)</th>
</tr>
</thead>
</table>

Source: Credit Suisse Managed Futures Index; data as of June 30th, 2015

**Exhibit 6: Sample Moving Average Crossover Trend Model**

Source: Bloomberg; Observation period: Jul 1990 to Jun 2015
Past performance is not necessarily an indicator of future results.
As illustrated by the example in Exhibit 6, moving average crossover signals can indicate whether the asset is in an up or down trend. However, the navigation of the turning points in these trends as illustrated by the circles above (red indicating a transition from long to short, green indicating a transition from short to long) can be challenging due to the reactionary as opposed to anticipatory nature of trend following, thus requiring an appropriate portfolio management strategy. Some of the implementation considerations associated with trend trading are listed in Exhibit 7 below.

### Exhibit 7: Key Implementation Attributes of Trend Investing

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Sample Implementations</th>
</tr>
</thead>
<tbody>
<tr>
<td>When and how are trends identified?</td>
<td>Moving average crossover (short term vs. long term average crossovers over various observation periods)</td>
</tr>
<tr>
<td>When is the trend entered/exit?</td>
<td>Scaling in and scaling out of positions based on the strength of a predetermined trend signal (strength signals can come in many different forms)</td>
</tr>
<tr>
<td>How is the trend position sized?</td>
<td>Inverse volatility weight (relatively higher weights for assets with low volatility, lower weight for high volatility assets)</td>
</tr>
<tr>
<td>What diversification and risk measures can be incorporated?</td>
<td>Diversify across asset classes and regions; maximum limits on gross exposure; volatility targeting</td>
</tr>
</tbody>
</table>

Trend-based strategies run contrary to the efficient markets hypothesis, which posits that current asset prices reflect all available information and hence prices should anticipate and adjust for all predictable trends. Some possible explanations for the seemingly anomalous success of trend-based strategies are:

**Time-varying risk premia**

- When economic growth slows, demand for commodities may decrease throughout the economic slowdown.
- When economic growth is strong, corporate earnings rise and contribute to growth in equity markets.

**Market structure and segmentation effects**

- Growth in emerging markets may lead to a sustained increase in demand for commodities and currencies, due to increased hedging demand in these asset classes.
- Interest rates and even equity prices may reflect central banks’ current inflation policy regimes, which often have long implementation times that can lead to sustained trends.

Behavioral finance suggests that trends may also arise from investor susceptibility to certain emotional and cognitive biases. Trend-based strategies in managed futures seek to benefit from the predictability in asset prices that stem from these biases. Some of the most common behavioral biases and rationales for why trends exist are:

**Behavioral biases (a.k.a. investor irrationality):**

- Under-reaction to good or bad news
- Disposition effect, where investors hold losing positions for too long and liquidate winners too early
- Herding/bandwagon effects that reflect investors’ tendency to trade similarly to the majority of other investors
- Confirmation bias refers to the tendency of investors to buy investments that performed well in the recent past and sell those with poor recent performance
**Concluding Remarks**

Managed futures strategies offer unique risk and return properties that have offered attractive returns and delivered diversification benefits during times of prolonged downward trends in equities markets. Managed futures may be an appropriate strategy for suitable investors. We thank you for your interest and invite you to reach out to us directly to learn more about whether a managed futures strategy is appropriate for your portfolio.

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