DIVERSIFICATION COMES IN MANY FLAVORS

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Diversification has always been a key element for Commodity Trading Advisors (CTAs). Most managers trade diverse portfolios and apply different methodologies over varied time horizons to maximize their potential sources of return. For example, the Lynx Program currently has an investment universe of approximately 100 markets and employs around 45 unique models to forecast prices over multiple holding periods. However, how each CTA approaches diversification – and attempts to maximize its benefits – differs based on what they are trying to achieve.

When viewed in isolation, maximizing Sharpe ratio would seem to be the most intuitive and reasonable objective function when optimizing a portfolio, particularly for a strategy like managed futures where leverage is so easily attained. However, as CTAs do not exist in a vacuum, should managers not also consider the role they play in a broader context? Trend-followers have historically attracted investors due in part to their performance during extended equity market declines; the approach is largely agnostic to market direction – being as easily long or short – and has subsequently done particularly well during bear market cycles. The ability to generate these results, however, is necessarily influenced by how managers select and optimize their asset allocation, timeframe and investment style. Those managers choosing to concentrate exclusively on Sharpe ratio arguably do so at the expense of their conditional negative correlation to stocks.

ASSET CLASS DIVERSIFICATION

Allocating capital across asset classes is perhaps the easiest way to benefit from diversification. Trading as many markets as possible – preferably with low cross correlation and positive expected rates of return – should lead to more attractive return characteristics. Assuming an equally weighted risk allocation, a portfolio of 100 uncorrelated assets each with a Sharpe ratio of 0.2 would statistically produce an aggregate Sharpe of 2.0. Realistically, finding 100 truly orthogonal liquid markets to trade is challenging. Many managers constrain their market selection based on liquidity and counterparty risks, largely for valid reasons. Most market dislocations are fueled by some combination of leverage and illiquidity.

By going down the liquidity spectrum, some managers have been able to capitalize on differentiated opportunities in recent years. Smaller, esoteric markets tend to exhibit lower correlation to one another as micro fundamentals are generally the catalysts for major price moves. However, as more speculators have become involved in these relatively illiquid contracts, they have necessarily become a much larger percentage of the open interest and volume. Identifying that tipping point where they begin to outweigh hedgers and other disparate market participants is a challenge. Once that happens, though, correlations could rise.

While Lynx trades a broadly diversified portfolio, we focus on liquid exchange-traded futures and over-the-counter foreign exchange to mitigate liquidity and counterparty risks. Sharpe ratio is an important objective of the Lynx Program, but so is the capacity to generate positive returns during stressed environments for equity and bond investors. Being able to actively redeploy capital is critical in achieving this latter goal. We have rather chosen to concentrate on other areas to further diversify our portfolio. Timeframe is one of these.

TIMEFRAME DIVERSIFICATION

Markets move on a variety of factors, both macro and micro. Cyclical macro trends take place over long periods of time, in some cases multiple decades. A trend-follower that had bought US government bond futures in the early 80's and continued to roll that long position over the past forty years would have generated solidly positive results. However, very long-term trend models tend to be negatively skewed. In fact, the longest-term trend-following timeframes largely capitalize on risk premia: specifically, carry and equity earnings yield – both of which are prone to reverse dramatically during stressed market environments. While long timeframes serve a purpose in a diversified portfolio, as with illiquid markets they are unlikely to offer reliable risk mitigating properties when equity prices or carry quickly reverse.

Over time, some CTAs have migrated towards longer holding periods as their assets under management have increased. Being able to transact without having an adverse market impact is influenced by both trade size and how quickly an order needs to be filled. Execution timing becomes increasingly less important the longer the expected holding period of a trade; taking an extra day to fully implement a signal that has an expected duration of six months is much less impactful than losing a day on a trade with a forecast horizon of two weeks. For many, extending timeframe was a natural way to increase capacity without markedly increasing slippage.

Meanwhile, shorter-term timeframes are more reactive to changing market conditions. Consider a simplistic channel breakout strategy that buys when prices eclipse previous highs and sells when prices fall below prior lows. Signals are dependent on how much historical data is used to determine that range from high to low; the shorter the lookback, the narrower the price channel and the greater the likelihood that a trade will be signaled. While the trend-following models employed by Lynx are considerably more sophisticated than channel breakout, they are similarly dependent on the length of history being used to identify opportunities. Generally, the shorter the timeframe of a model, the quicker that model will react to changing prices.

Finding the optimal balance across timeframes is an important component of portfolio management and integral in achieving return objectives. With our focus on equity risk mitigation and market liquidity, a majority of the trend-following risk in the Lynx Program is derived from short- to medium-term models. While we may not always be correctly positioned to profit from an idiosyncratic market shock, we strive to quickly adapt should it continue to influence prices over time. We have dedicated significant resources to improving our trading efficiency as our assets have risen and – through proprietary execution algorithms and innovative implementation strategies – have mitigated the negative impact of slippage. Further, as previously mentioned, we generally focus on markets with ample liquidity and tight bid/offer spreads facilitating more efficient trading.

STYLE DIVERSIFICATION

Beyond asset class and timeframe, we have found that style diversification offers many exciting possibilities. Trend-following is a divergent strategy: the strongest performance tends to be generated in the tails of the distribution of market returns. When Lynx first decided to include diversifying models in the Lynx Program, we determined that using convergent strategies – such as mean reversion and carry – was the most logical choice. Employing models that were expected to be noncorrelated (and potentially negatively correlated in certain environments) with trend would allow us to take greater risk in those same trend signals without markedly increasing the expected volatility of our portfolio. Based on our understanding of our peers, we believe that many other CTAs similarly took this route.

However, these convergent strategies tended to detract from the portfolio protection characteristics we were generating from trend-following. We began to explore other investment styles and methods which could offer similar diversification benefits without detracting from the dual objectives of the program: maximizing Sharpe ratio while providing downside equity protection. Over time, this led to a relatively substantial shift in our research and development and model approval processes. We determined that the most reliable way to ensure that the characteristics of the program remained intact as we added or removed models was to focus on key performance indicators. In addition to risk-adjusted return and correlation to the existing model suite, skewness, correlation to volatility, performance during market crises, and many other relevant factors were considered. With this change, we could systematically quantify not only how a model influenced the expected Sharpe ratio of the program, but also how it impacted other key performance characteristics which were important to our investors.

Over the past decade Lynx has made significant advances in how we approach trend-following and implement diversifying concepts in the portfolio. For example, most trend models we currently employ no longer look at markets in isolation, but rather at how markets interact with one another wholistically. While there is a tremendous amount of noise in prices, there is also information on what is driving investor behavior. By statistically analyzing and extracting the factors explaining that behavior, we can filter out some of the noise, potentially amplifying the strength of the signal. And perhaps most importantly, each of these factors is statistically independent from the others, affording us the ability to capitalize on diversifying opportunities. We examine some trend-following developments in the Lynx Program in the virtual forum *Advanced Trend-Following*, and explore an area where we have had success in diversifying the risk away from trend in another – *Machine Learning*; both of these videos can be found on our website: https://www.lynxhedge.se/en/insights/.

CONCLUSION

Diversification remains at the heart of how CTAs build their strategies and attempt to achieve their performance objectives. Every manager makes decisions on asset allocation, timeframe and methodology that influence the character of their return. These differences do not necessarily make one manager better or worse than another, but rather just different. As investors evaluate CTAs, understanding these differences and their impact on past results and future performance expectations should be considered. We welcome the opportunity to discuss the decisions that Lynx has made over the years and how we plan to meet our return objectives going forward.

IMPORTANT INFORMATION