



THE CASE FOR REPLICATION OF MANAGED FUTURES HEDGE FUNDS

Factor-based replication of managed futures hedge funds may solve the two principal issues with investing in the space. First, replication of a portfolio of funds provides diversification of single manager risk, a serious issue when there is a 30% or more dispersion among top and bottom managers each year and the evidence is strong that alpha does not persist. Second, replication can be delivered at a fraction of the all-in cost, which means more performance would inure to investors rather than managers or counterparties. This means that investors can potentially gain exposure to the space while generating “alpha” relative to actual hedge funds through a concept called “fee disintermediation.”

Replication and Fee Disintermediation

Factor-based replication of hedge funds entails the use of statistical models to deconstruct recent returns in order to contemporaneously determine key portfolio weights. For broad portfolios of hedge funds, the concept remains controversial in some quarters despite over a decade of strong out-of-sample performance. The principal criticism is that broad indices can mimic the portfolio weights of hedge funds across major markets, but may not perfectly match the exposures of hedge funds, which typically invest in single securities. Simplistically, exposure to the S&P 500 will approximate, but not exactly represent, which large cap US stocks hedge funds own today. The second criticism is that hedge funds derive some portion of returns from illiquid assets that cannot effectively be captured by liquid futures contracts. Neither of these concerns apply to managed futures hedge funds, which generally invest only in liquid futures contracts (hence, the name). A replication model that can correctly determine whether managed futures hedge funds are, for instance, long gold and short the Euro and in the appropriate weights, should have minimal “slippage” by investing directly in those instruments as well.

Fee Disintermediation as a Source of Alpha

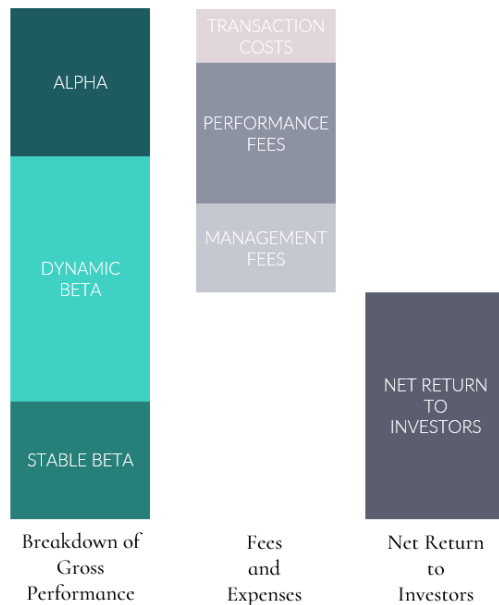
For two identical investments, the cheaper version clearly will deliver better returns over time. In this way, fee reduction can be an important source of alpha. For replication of hedge funds, where fees can consume six or more of every ten dollars of gross-of-fee returns, the central question is whether the replication model can deliver enough of the pre-fee returns so that, net of much lower fees, the replication model can match or outperform. Said another way, do the fee savings exceed “slippage”? As argued below, the combination of low fees and trading costs plus minimal “slippage” suggests that replication of managed futures hedge funds could deliver meaningful alpha.

The schematic below shows a breakdown of the gross-of-fee performance attribution for a typical diversified hedge fund portfolio (equity long/short, relative value, event driven and macro) compared to managed futures hedge funds, then shows the impact of high fees and trading costs on investor returns. In the former, there are three principal sources of return: stable beta, dynamic beta, and alpha. Stable beta reflects long-term exposure to equity markets – generally in the range of 0.3. Dynamic beta is the excess return associated with overweight and underweight positions across markets; for instance, ELS funds that have been long tech stocks have generated excess returns relative to broad equities as those stocks have outperformed in recent years. True alpha reflects what is not captured by stable and dynamic beta: the premium on illiquid assets, security selection, certain asymmetrical trades, and other sources. In the case of managed futures, however, all pre-fee returns come from dynamic beta.

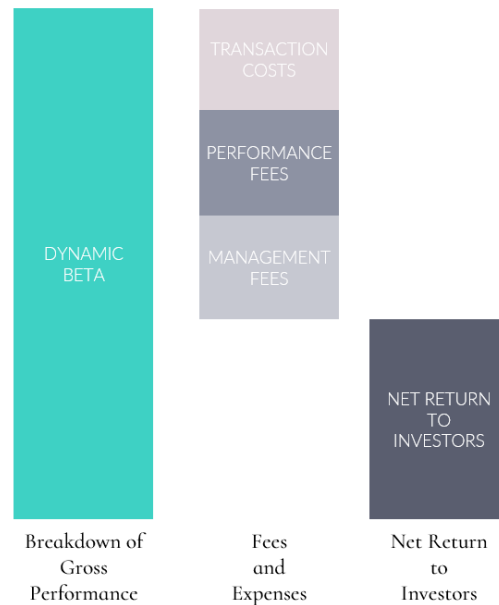
Replication seeks to deliver both stable beta and dynamic beta cost effectively. Expected “alpha” from replication is derived from “disintermediation” of many of the costs associated with investing directly in managed futures hedge funds. Historically, managed futures hedge funds have been extraordinarily expensive: management fees alone on some products a decade or two ago might have been 4% per annum. Contractual trading costs on some controversial products a decade ago were 4-6% per annum as well. Today, there is a broad range of pricing and some large institutions can access the strategy at lower fees. For the typical investor today, we estimate that trading costs will consume 200-250 bps of pre-fee returns, and management and performance fees another 300 bps. As shown in the schematic above, this implies that investors are paying 500-550 bps per annum solely for dynamic beta.

In order to minimize trading costs, a well-designed replication model will invest in only the most important exposures (e.g. crude oil but not soybeans) and using only the most liquid futures contracts. Consequently, annual trading costs can potentially be as low as 10 bps per annum. Combined with a flat management fee of 1% or less, replication could deliver around 400 bps per annum of outperformance with minimal (or no) incremental risk.

Diversified Hedge Fund Portfolio



Managed Futures Hedge Funds



What are the Limitations?

Managed futures hedge funds generally invest in a much broader range of futures contracts – sometimes forty to sixty markets or instruments. For marketing reasons, this can make sense: investors might infer that more markets will present a broader opportunity set and hence improve performance. However, those secondary markets often are capacity-constrained and less liquid, which means that it is unlikely that, perhaps, soybeans will contribute meaningfully, after trading costs, to overall portfolio returns of a diversified managed futures hedge fund (of course, for a small, focused fund, the calculus will be very different). There appears to be a consensus today among investors that core positions in the most liquid markets (e.g. long bonds in July/August) will drive almost all performance over time.

A second limitation is that replication only works well with diversified portfolios of hedge funds. If an allocator can select strong performers *ex ante*, he or she should outperform the replication model. Few allocators today seem confident in this today, and the drawdown characteristics of single funds can be prohibitive.

Replication May Be Superior to Alternative Approaches

The first alternative is to seek out low cost products offered by the same managers who run diversified managed futures hedge funds. Those products tend to be relatively simple trend models, and the managers argue that they save the most innovative strategies for their high cost funds. The second, and similar approach, is to invest in trend risk premia products offered by banks. The issue

with each approach is that individual models have the same dispersion risk as single manager hedge funds, so an allocator needs to invest in up to a dozen single products to achieve diversification.

Replication, on the other hand, seeks to replicate the pre-fee performance of flagship hedge funds and hence seeks to piggyback off the best of what these managers offer – just in a potentially more cost-effective form. By using ten to twenty underlying funds as a “target” portfolio, the replication portfolio can reflect the diversification of a multi-manager portfolio, not single manager fund, and hence seek to control for the “left fat tail” characteristics of single products.

Conclusion

Managed futures strategies offer diversification benefits and an allocation today could be very timely should macroeconomic conditions continue to deteriorate. However, many investors have withdrawn from the space due to frustration with low net of fee returns and sharp drawdowns among many single manager funds. Replication is potentially a rational and compelling approach to get the benefits of the space without many of the key drawbacks.