hedge fund replication: a practitioner’s scorecard

has hedge fund replication “worked”?

### introduction

There is a great deal of confusion about how to measure the success of hedge fund replication – in a sense, to answer the question, “Has hedge fund replication worked?” In this note, we provide a candid assessment of the successes and failures of the space and introduce a framework of five criteria – a “scorecard” – as a guide for potential investors.

On the one hand, replication products overall have fulfilled the original promise of delivering “hedge fund returns” but with much lower all-in fees and daily liquidity. Specifically, over the past five plus years an array of replication products has delivered returns comparable to funds of hedge funds and, more importantly, outperformed managed account platforms, UCITS funds and investable hedge fund indices.

On the other hand, potential investors often are put off by the complexity and opacity of many such products – especially those offered by investment banks. We attribute this frustration to unrealistic expectations, set by the banks themselves, that the strategy should be as simple and predictable as “investing in the S&P 500 index” – that is, a default allocation that requires minimal due diligence with *de minimus* tracking error and no idiosyncratic (manager) risk. As discussed in detail below, this was misguided and has hindered more widespread adoption.

In the chart below, we offer a scorecard on standard hedge fund replication products along five criteria: performance, liquidity, transparency, fee reduction and “index-like” alternative:

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| --- | --- | --- |
| Measure | Conclusion | Comments |
| Performance | Good relative results, but low absolute returns | * Matched performance of funds of funds and outperformed liquid alternatives, but underperformed most direct portfolios
* Principal issue is low industry returns, not replication per se
 |
| Liquidity | Provide daily liquidity and no gating risk | * Successfully proved that daily liquidity is feasible without a material drag on performance
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| Transparency | Available, but portfolios often opaque | * Most products are far too opaque on portfolio composition and fully-loaded costs
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| Fee Reduction | Significant reduction relative to hedge funds | * Lower all-in fees than hedge fund portfolios
* However, fee reduction has not translated into higher returns due to targeting net returns
 |
| “Index-like” Alternative | Eliminated manager risk, but too much variation to qualify as “index-like” | * Reduced hedge fund manager risk, but wide variation in product design, opacity and other factors added a different form of idiosyncratic risk and due diligence burden
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#####  “replication” defined

*Note: For compliance reasons, we do not include the performance of Beachhead products since this would limit the distribution of this paper to a small subset of investors for whom it might be valuable. Furthermore, at Beachhead we have migrated away from the “standard” approach described herein in an effort to capture both hedge fund alpha and beta through fee disintermediation and other more sophisticated strategies.*

Replication is a broad term. For our purposes, hedge fund replication is defined as a factor-based approach to delivering the returns of a pool of hedge funds. The pool might be an index or an actual portfolio.[[1]](#footnote-1) It’s based on the (now proven) concept that hedge funds derive the majority of returns from market forces, that exposures to different markets change over time, but that these shifts are slow enough that a “backward looking” model can keep up. Therefore, a dynamically–adjusted portfolio of market betas (equities, bonds, currencies, etc.) can do a very good job of delivering returns that look a lot like those of the pool of actual funds.

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| Alpha | Stock or security selection |
| Illiquidity premia |
| Alternative Beta | Risk premia from established trading strategies |
| Benchmark strategies |
| Dynamic Beta | Strategic and tactical asset allocation  |
| Relative value trades across asset classes or geographic regions |
| Static Beta | Stable long exposure to equities, rates, credit and other asset classes |

 | **Correlation to Traditional Assets****Sharpe Ratio***High**Low**Low**High***Hedge fund beta** |

When discussing the replication “universe” below, we focus only on funds and indices with live performance; pro forma index returns are subject to backfill bias. As noted, it is often challenging to try to make “fee equivalent” comparisons across strategies. Consequently, we specify when likely fee adjustments would impact the conclusions.

Importantly, we differentiate hedge fund replication from rules-based trading strategies, which seek to capture “alternative betas” like momentum, currency carry, merger arbitrage, etc. These strategies can be an effective way to get exposure to a particular strategy at a lower cost and with greater transparency. However, alternative betas represent a small portion of overall hedge fund returns. Therefore, while the rules-based approach can provide additional liquidity or reduce fees at the margin, factor-based replication is necessary to approximate the returns of a diversified portfolio or index.

### Evaluating the Five Criteria of hedge fund replication

##### performance: good relative, low absolute, returns

The principle criticism of replication products is that returns over the past five years have been “mediocre.” As shown below, the primary cause was the decline in hedge fund returns, not the failure of replication per se.

Remember that most replication products were designed to match the performance of funds of hedge funds, net of fees, at a time when trailing hedge fund returns had been exceptionally high on a risk-adjusted basis. As of mid 2008 funds of funds had returned 8% per annum over the preceding five years – equal to equities and much higher than bonds. It was taken as a given that performance would remain strong. Therefore, the products were designed to offer comparable net returns but with superior liquidity and transparency – which were scarce at the time. In the subsequent five years, however, hedge funds significantly underperformed expectations, especially relative to stocks and bonds. As shown below, this explains virtually all of the “mediocrity.”

 **The Objective in 2007-08… …The Results to the Present**

Actual performance of most replication products

Return objective of most Replication products

Interestingly, replication products had much lower drawdowns during the financial crisis than hedge funds and funds of funds. As with funds of funds, the replication strategies modestly underperformed most direct portfolios since the crisis, as represented below by the HFRI Fund Weighted Composite.

Given the superior liquidity of replication, a fairer comparison is to judge the performance of replication strategies against liquid “alternatives” to hedge funds.[[2]](#footnote-2) Replication had a similar drawdown during the crisis, but has outperformed recently.

The results above should provide comfort to investors that, as hedge fund returns improve over time, so too should replication results.

##### liquidity: daily, no gating risk

All replication products provide daily liquidity and have no gating or suspension risk. In a market dislocation, investors should be able to efficiently cut exposure to replication products – a valuable benefit that is not captured in historical returns.

Arguably, though, the “value” of liquidity has declined since the crisis. Many hedge funds now provide investors with shorter redemption cycles and there has been a marked expansion of more liquid alternatives, like UCITS funds and managed account platforms. However, overall there is little doubt that replication products can provide far more reliable liquidity than direct hedge funds and most other liquid hedge fund alternatives.

##### Transparency: available, but often difficult to interpret

Position level transparency enables investors to monitor current holdings and provides a window into exposures as a risk management tool. Unfortunately, while many replication products technically offer transparency, the information value is limited.

For example, the top holdings on Bloomberg for the Goldman Sachs Absolute Return Tracker are Treasurys and repurchase agreements; market exposure instead is held through derivatives that are “off balance sheet.” As an investor, this raises a series of questions, such as who are the counterparties, what are the actual underlying costs vs. investing in straightforward market instruments, and whether there are conflict of interest (self-dealing) issues. In a similar vein, while the IndexIQ ETF invests mostly in other ETFs, its holdings include a variety of overlapping funds, presumably to meet mutual fund diversification and position limit requirements. Many of those fixed income ETFs in turn invest through derivatives and have the same issues related to underlying counterparty risks, all-in costs and potential drag on performance.

These portfolios are typical in the space: they place an unnecessarily high due diligence burden on investors, complicate portfolio level analyses and make it more difficult to monitor results over time.

##### Fees: lower (headline) fees, but not better performance

The fees for replication mutual funds are in the range of 100 bps to 200 bps – a significant reduction relative to hedge funds – and vary considerably between the retail and institutional markets. In general, replication fees are 50% or less than hedge fund fees, and lower relative to indirect investors (through funds of funds, platforms, etc.). Lower fees, however, have not translated into a commensurate increase in performance. Here’s why:

As noted above, almost every established hedge fund replication product is designed to target the net of fee performance of the relevant index or portfolio of funds. Before the crisis, hedge fund fees were roughly 30-40% of gross returns; post-crisis this figure was much higher. Consequently, as industry returns have declined, this assumption has been called into question.

Going forward, a better approach may be to target the pre-fee, or gross, returns of the hedge fund portfolio. Part of the problem is that investors often unnecessarily pay away a substantial portion of alpha by overpaying for beta. Replication strategies, if properly designed and implemented, should be able to recapture a portion of these lost fees and help investors to better evaluate whether a fee structure is fair and reasonable.

##### “Index-like” alternative: cut some, but added other, idiosyncratic risk

The final value proposition of replication was to provide an “index-like” alternative to investing in individual hedge funds. “Index-like” implies several attributes: investable, liquid, relatively low cost and a significant reduction in idiosyncratic risk. Investing should be relatively simple and efficient and hence require substantially less due diligence. In 2007-08, the analogy most often used was that of the S&P 500 – how investors could use replication as their “default” allocation and concentrate due diligence and monitoring resources on individual managers.

As noted, this comparison was misguided for a few reasons. At a basic level, there was not and is not a widely accepted definition of the “hedge fund industry”; consequently, different products track different populations of funds. Some track indices with well-established data biases; others are constructed opaquely from internal databases (e.g. prime brokerage clients) and raise conflict of interest questions. Some view index returns as, by definition, mediocre and hence unattractive in an industry where allocators constantly seek to identify outperformers.

Second, given the “approximation” approach of replication models, performance by product will vary depending on choice of factors, window length, investment vehicles, fees and a variety of other constraints. What this should translate to in practice is that while replication models can successfully reduce hedge fund manager risk (e.g., Madoff/fraud and/or headline risk), investors still need to carefully evaluate any replication product – in a sense, the idiosyncratic risk of one replication product/provider versus another.

In reality, potential investors should consider replication to be a low cost investment strategy and not an index.[[3]](#footnote-3) As with any strategy that relies on a quantitative model, there is a great deal of human judgment that goes into building the model and interpreting the results, and this should not deter investors from seeking the other valuable benefits that the strategy can offer.

### conclusions: what to expect going forward?

The most important thing about hedge fund replication is that it adds another (and very powerful) tool to the arsenal of investors. Hedge fund replication proves that the primary drivers of hedge fund returns can be identified and that these exposures are stable enough to foster a reliable investment strategy. The ability to deconstruct hedge fund returns enables investors to make more informed decisions about the merits of different strategies and to better identify where true alpha resides – and, hence, isolate when it’s worthwhile to sacrifice liquidity and pay high fees for portfolio diversification.

The hedge fund industry overall has undergone a wrenching change over the past six or seven years. The composition of the investor base is far more institutional today. The entire fund of funds industry effectively has restructured, with perhaps 80% of pre-crisis funds now closed, and many of its traditional investors now invest directly. More widespread and comprehensive due diligence practices have reduced the risk of individual manager fraud or blow-up risk. Investors are much more sensitive to gating and suspension issues, and this shows up in better redemption terms and much more liquid underlying portfolios. In addition, many more liquid investment vehicles – whether UCITS funds, managed account platforms or now alternative mutual funds – are available today. Disappointing returns have sharpened the focus on hedge fund fees.

In this context, several leading investors now predict that replication-based products are the “next wave” for pension plans and other fee-sensitive investors. Many highly sophisticated investors already incorporate replication strategies into their investment portfolios and 2012-13 saw a marked increase in interest among leading consultants and institutional investors.

In conclusion, though, we assert that “standard” replication products offer an effective yet only partial solution. Much of the real promise, we believe, lies in a “customized” approach where replication methodologies are adapted to the specific, stringent and changing demands of investors. One promising approach is to target pre-fee returns and hence improve performance through a form of “fee disintermediation.” For some portfolios, this can improve performance by 200 bps or more annually. Another solution is to replicate the return profile of actual “high alpha” portfolios – those with a higher returns, concentration and turnover. There is strong evidence that even 300-400 bps of persistent outperformance can be “captured” by a carefully designed and implemented replication strategy. These and other enhancements lay the groundwork for the next generation of replication products and should help sophisticated investors to achieve their long-term goals of maximizing net of fee performance while minimizing risk.

1. Replication generally does not work for individual funds because the exposures of individual funds are generally less stable, and hence less predictable, than those of a portfolio. [↑](#footnote-ref-1)
2. The composite consists of investable hedge fund indices, UCITS products and managed account platforms sponsored by Lyxor, RBC, HFR, Alix Capital, and Dow Jones/Credit Suisse (discontinued in May 2013). Note that we only use live data and that there may be differences in reported numbers and actual net of fee returns realized by investors. [↑](#footnote-ref-2)
3. This is true as well for alternative beta strategies, which essentially are single strategy funds. See [Merger Arbitrage Replication: Does it Work?](http://beachheadcapital.com/images/ResearchPapers/Merger%20Arbitrage%20Replication.pdf) [↑](#footnote-ref-3)