At A Glance

Hedge Fund Replication

Overview

Hedge fund replication is a term used for a series of techniques that attempt to simulate or reproduce the returns of a hedge fund or a group of hedge funds. Many of these methods are applied for investment purposes, where replication strategies aim to create "hedge fund-like" returns using liquid and investable instruments of asset classes such as equity, commodity, and fixed income.

However, hedge fund replication is also widely used in other domains. In fact, similar methods are applied in economic and financial analysis to estimate the performance of hedge fund strategies. These analyses can be used to model counterfactual scenarios (i.e., hedge fund returns absent a particular factor or event) or to undertake performance assessment and benchmark comparison.

Motivation for Hedge Fund Replication

Hedge funds are often perceived as attractive investment vehicles due to their active strategies, which have shown, in some cases, higher risk adjusted returns compared to a relevant benchmark (the relevant benchmark can differ depending on the specific characteristics of the hedge fund, such as the type of strategy, the financial instruments used, or the geographical reach). Nevertheless, there are several characteristics that have limited their appeal and accessibility. First, there are restrictions on the number and types of investors that a hedge fund can have. These limits may restrict hedge fund access for many retail investors. In addition, selecting hedge fund managers and carrying out thorough due diligence may be too expensive for some investors. Finally, hedge funds typically charge higher management and performance fees (2 and 20%, respectively, have been the industry standard) than other collective investment schemes, such as mutual funds or investment trusts.

For these reasons, hedge fund replication can be of interest to financial intermediaries and investors because, if successful, the strategy could generate returns that are similar to those of a hedge fund, while providing greater liquidity and transparency at less cost.

Replication Techniques

Although a thorough review of the different replication models is beyond the scope of this summary, several techniques can be used to estimate hedge fund returns. In general, these models are premised on an assumption that hedge fund returns can be explained by common factor and asset class exposures. Examples of these potential exposures include stocks, bonds, commodities, currencies, credit risk, and volatility. Hedge fund replication models can generally be divided between somewhat static models and more dynamic models. Static models use statistical techniques to estimate the historical relationship between hedge fund returns and the returns or levels of various factors or asset class exposures. Dynamic models attempt to mimic the market timing decisions of active managers (i.e., anticipate likely changes in exposures over time).

When hedge fund replication is applied for investment purposes, models are typically estimated using data for tradable instruments. This is because the aim is to identify an executable trading strategy to achieve returns similar to those of a hedge fund. In other contexts, models can be estimated using data for both tradable securities as well as data for factors or exposures that need not be directly tradable.

Hedge Fund Replication in Litigation

Hedge fund replication techniques can be used in a litigation context to model hedge fund performance. For example, this type of analysis can be useful in estimating counterfactual hedge fund performance, absent an alleged breach. As part of such an analysis, statistical techniques can be used to estimate a range for counterfactual hedge fund returns. Hedge fund replication techniques can also be used to analyse a hedge fund's strategy over time.

In this context, the aim of hedge fund replication is to find the best-fitting model using the available historical market data. It is the role of economic and financial experts to provide thorough analysis, on a case-by-case basis, to determine the appropriate model(s).

NERA experts have provided advice, analysis, and expert testimony in a range of actions where hedge fund replication techniques have been used. These have included:

- Estimation of the counterfactual performance of a fund absent the resignation of a top manager, who was alleged to be in breach of an employment contract.

- Counterfactual estimation of returns assuming that a programming error in the investment algorithm had not occurred.

- Estimation of key performance indicators of a hedge fund, including: counterfactual assets under management, management and performance fees, and capital inflows.

- Estimating the likelihood of a claimed strategy achieving the reported returns.

NERA has assisted clients in a range of disputes involving hedge funds, including those involving the resignation of key personnel, the implementation of specific trading strategies, or the alleged mismarking of securities in portfolios. NERA's securities experts have been involved in many disputes where issues related to the estimation of forgone performance and management fees have been analysed. A number of these projects have required using multi-factor models to estimate the counterfactual performance of hedge funds and then modelling what assets under management would have been.

About NERA

NERA Economic Consulting (**www.nera.com**) is a global firm of experts dedicated to applying economic, finance, and quantitative principles to complex business and legal challenges. For over half a century, NERA's economists have been creating strategies, studies, reports, expert testimony, and policy recommendations for government authorities and the world's leading law firms and corporations. We bring academic rigor, objectivity, and real-world industry experience to bear on issues arising from competition, regulation, public policy, strategy, finance, and litigation.

NERA's clients value our ability to apply and communicate state-of-the-art approaches clearly and convincingly, our commitment to deliver unbiased findings, and our reputation for quality and independence. Our clients rely on the integrity and skills of our unparalleled team of economists and other experts backed by the resources and reliability of one of the world's largest economic consultancies. With its main office in New York City, NERA serves clients from more than 25 offices across North America, Europe, and Asia Pacific.

Contact

For more information or to contact our experts, please visit **www.nera.com/sec-hedgefund**.