



# IQ Hedge Indexes

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## METHODOLOGY

IndexIQ LLC

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## Introduction

This document sets forth the methodology for the IQ<sup>®</sup> Hedge Indexes (the “Indexes”). Capitalized terms are defined herein. The IQ Hedge Indexes include the following indices:

### Composite Indexes

- IQ Hedge Multi-Strategy Index
- IQ Hedge Macro Index
- IQ Hedge Market Neutral Index
- IQ Hedge Long Short Index
- IQ Hedge Event Driven Index

### **Index Objective**

The IQ Hedge Indexes uses a rules-based process to select individual Index Components (defined below) that, when combined, produce an Index designed to replicate the risk-return characteristics of hedge funds generally, not individual hedge funds.

This process is referred to as the “Hedge Fund Replication Process.” As set forth in the IQ Hedge Beta Indexes methodology document, ([https://www.nylinvestments.com/public\\_files/iqetfs/pdf/methodology/iqhgeb-iiqhedgebetaindexes.pdf](https://www.nylinvestments.com/public_files/iqetfs/pdf/methodology/iqhgeb-iiqhedgebetaindexes.pdf)) the Indexes employ a quantitative process that seeks to replicate the risk-adjusted return characteristics of the collective hedge funds *within a hedge fund strategy*. The Indexes are constructed by combining one or more Beta Indexes to accomplish their replication objectives.

Each Index seeks to replicate the risk-adjusted return characteristics of a hedge fund strategy as represented by publicly available hedge fund performance data (i.e., monthly returns of hedge fund indexes) provided by unaffiliated third parties (each a “Hedge Fund Style Series”). Such data is available from Credit Suisse Hedge Fund Index LLC (“CS”) and Hedge Fund Research, Inc. (“HFR”). CS reports applicable hedge fund performance data on its web site ([www.hedgeindex.com](http://www.hedgeindex.com)) and in press releases on approximately the 15th business day of every month. HFR reports applicable hedge fund performance data on its web site ([www.hedgefundresearch.com](http://www.hedgefundresearch.com)) each business day.

Each Index is the combination of one or more of the six Beta Indexes and incorporates varying weighting methodologies depending on the type of Index and its primary objective(s), as more fully described below. The combination of the Beta Indexes may include an optimization process, whereby Index Components are weighted, pursuant to a rules-based process, in an optimal manner to achieve particular investment objectives. Such investment objectives may include, but are not limited to, better replication results, or one or more of superior returns, low volatility, or low correlation relative to the broad equity markets.

## Eligibility Requirements

### **Index Universe**

All components of the Indexes are traded on one of the major U.S. exchanges (NYSE, NYSE Arca, and NASDAQ).

The components of the Indexes are liquid ETFs or ETVs with at least \$50 million in AUM.

### **Selection Criteria**

The Components of each Index include Components of the Beta Indexes underlying such Composite Index as well as any other ETFs or ETVs that meet the Eligibility Requirements and are substantially similar to the investment strategies and/or asset class exposures of such Beta Index Components.

The Beta Index Components and the additional ETFs and ETVs, if any, are weighted within a given investment strategy or asset class in the final Index proportionately based on their relative AUM levels. For ETFs selected to represent the Ultra-Short Duration Bond asset class, the components are weighted in the final Index proportionately based on their relative dividend yields. Such additional ETFs and ETVs, if any, may be added to each Index as part of the Annual Reconstitution. In addition, each Index may include as Components Financial Instruments or other securities that provide substantially similar exposures as the Beta Index Components in the Low Back Tested Index for each Beta Index. The Beta Index Components and the additional ETFs and ETVs comprise the Distributed Weights.

The IQ Hedge Multi-Strategy Composite Index is an optimized weighted composite of all the Beta Indexes, as more fully described below.

The IQ Hedge Macro Index is an optimized weighted composite of the IQ Hedge Global Macro Beta Index and the IQ Hedge Emerging Markets Beta Index, as more fully described below.

The IQ Hedge Market Neutral Index is an optimized weighted composite of the IQ Hedge Market Neutral Beta Index and the IQ Hedge Fixed Income Arb Beta Index, as more fully described below.

The IQ Hedge Long Short Index consists of the IQ Hedge Long Short Beta Index.

The IQ Hedge Event Driven Index consists of the IQ Hedge Event Driven Beta Index.

## Index Construction

### Weighting

#### **The process described below applies to the IQ Hedge Multi Strategy Index:**

Each Beta Index weight in the IQ Hedge Multi Strategy Index is determined by a quadratic program algorithm whose objective is to find the optimal combination of the 6 Beta Index weights that would maximize the correlation to the Hedge Fund Style Series of the IQ Hedge Multi-Strategy Index, maximize its returns and minimize the volatility over the prior 12 months. The process uses the prior 12 month returns for each Beta Index as well as for the Hedge Fund Style Series as inputs into the algorithm.

The weight assigned to each Beta Index within the IQ Hedge Multi-Strategy Index is bounded between -16.7% and 33.3%.

To determine the minimum and maximum Beta weights for a particular rebalance, the constrained beta coefficients are calculated for each Hedge Fund Style from an ordinary least squares (OLS) regression where the dependent variable is the Hedge Fund Style Series return and the independent variables are the Beta Index returns.

The beta coefficients are scaled so that the sum of all beta coefficients is 1.

Beta coefficients can be either positive or negative indicating either a long or short exposure, respectively.

The regression process is performed four times using varying time windows (24, 36, 48 and 60 months). The beta coefficients are bounded to be between -16.7% and 33.3% to be consistent with the minimum and maximum weights in the quadratic optimization. The minimum and maximum coefficients for each Beta Index across the 4 time periods become the effective minimum and maximum weights for the optimization for that particular rebalance.

Following the optimization, each Component's weight within the Beta Index is multiplied by the weight of such Beta Index within the Index. The resulting values are summed across all Beta Indexes to determine each Component's weight in the Index.

The Distributed Weights are determined as defined in the process above.

Raw weights at the Beta Index level can be either positive or negative indicating either a long or short exposure, respectively.

All weights are scaled such that the maximum sum of all positive weights is 110% and the maximum sum of all negative weights is -10%. In any case, the sum of the positive and negative weights will be 100%.

**The process described below applies to the IQ Hedge Macro Index:**

Each Beta Index weight in the IQ Hedge Macro Index is determined by a quadratic program algorithm whose objective is to find the optimal combination of Beta Index weights that would have most closely matched the risk-adjusted returns of the equal weighted combination of the Global Macro and Emerging Markets hedge fund strategies over the prior 12 months. The process uses the prior 12 month returns for each Beta Index. The weight assigned to each Beta Index within the IQ Macro Index is bounded between 25 and 75%.

To determine the minimum and maximum Beta weights for a particular rebalance, the constrained beta coefficients are calculated for each Hedge Fund Style from an ordinary least squares (OLS) regression where the dependent variable is the Hedge Fund Style Series return and the independent variables are the Beta Index returns.

The weight assigned to each Beta Index within the IQ Hedge Macro Index is bounded between 25% and 75%.

To determine the minimum and maximum Beta weights for a particular rebalance, the constrained beta coefficients are calculated for each Hedge Fund Style from an ordinary least squares (OLS) regression where the dependent variable is the Hedge Fund Style Series return and the independent variables are the Beta Index returns.

The beta coefficients are scaled so that the sum of all beta coefficients is 1.

Beta coefficients can be either positive or negative indicating either a long or short exposure, respectively.

The regression process is performed four times using varying time windows (24, 36, 48 and 60 months). The beta coefficients are bounded to be between 25% and 75% to be consistent with the minimum and maximum weights in the quadratic optimization. The minimum and maximum coefficients for each Beta Index across the 4 time periods become the effective minimum and maximum weights for the optimization for that particular rebalance.

Following the optimization, each Component's weight within the Beta Index is multiplied by the weight of such Beta Index within the Index. The resulting values are summed across all Beta Indexes to determine each Component's weight in the Index.

The Distributed Weights are determined as defined in the process above.

Raw weights at the Beta Index level can be either positive or negative indicating either a long or short exposure, respectively.

All weights are scaled such that the maximum sum of all positive weights is 110% and the maximum sum of all negative weights is -10%. In any case, the sum of the positive and negative weights will be 100%.

**The process described below applies to the IQ Hedge Market Neutral Index:**

Each Beta Index weight in the IQ Hedge Market Neutral Index is determined by a quadratic program algorithm whose objective is to find the optimal combination of Beta Index weights that would have most closely matched the risk-adjusted returns of the equal weighted combination of the Market Neutral and Fixed Income Arbitrage hedge fund strategies over the prior 12 months. The process uses the prior 12 month returns for each Beta Index. The weight assigned to each Beta Index within the IQ Macro Index is bounded between 25 and 75%.

To determine the minimum and maximum Beta weights for a particular rebalance, the constrained beta coefficients are calculated for each Hedge Fund Style from an ordinary least squares (OLS) regression where the dependent variable is the Hedge Fund Style Series return and the independent variables are the Beta Index returns.

The weight assigned to each Beta Index within the IQ Hedge Market Neutral Index is bounded between 25% and 75%.

To determine the minimum and maximum Beta weights for a particular rebalance, the constrained beta coefficients are calculated for each Hedge Fund Style from an ordinary least squares (OLS) regression where the dependent variable is the Hedge Fund Style Series return and the independent variables are the Beta Index returns.

The beta coefficients are scaled so that the sum of all beta coefficients is 1.

Beta coefficients can be either positive or negative indicating either a long or short exposure, respectively.

The regression process is performed four times using varying time windows (24, 36, 48 and 60 months). The beta coefficients are bounded to be between 25% and 75% to be consistent with the minimum and maximum weights in the quadratic optimization. The minimum and maximum coefficients for each Beta Index across the 4 time periods become the effective minimum and maximum weights for the optimization for that particular rebalance.

Following the optimization, each Component's weight within the Beta Index is multiplied by the weight of such Beta Index within the Index. The resulting values are summed across all Beta Indexes to determine each Component's weight in the Index.

The Distributed Weights are determined as defined in the process above.

Raw weights at the Beta Index level can be either positive or negative indicating either a long or short exposure, respectively.

All weights are scaled such that the maximum sum of all positive weights is 110% and the maximum sum of all negative weights is -10%. In any case, the sum of the positive and negative weights will be 100%.

**The process described below applies to the IQ Hedge Event Driven Index:**

The IQ Hedge Event Driven Index is comprised of the IQ Hedge Event Driven Beta index.

Raw weights at the Sub Index level can be either positive or negative indicating either a long or short exposure, respectively.

The Distributed Weights are determined as defined in the process above.

All weights are scaled such that the maximum sum of all positive weights is 110% and the maximum sum of all negative weights is -10%. In any case, the sum of the positive and negative weights will be 100%.

**The process described below applies to the IQ Hedge Long Short Equity Index:**

The IQ Hedge Long Short Equity Index is comprised of the IQ Hedge Long Short Equity Beta index.

Raw weights at the Sub Index level can be either positive or negative indicating either a long or short exposure, respectively.

The Distributed Weights are determined as defined in the process above.

All weights are scaled such that the maximum sum of all positive weights is 110% and the maximum sum of all negative weights is -10%. In any case, the sum of the positive and negative weights will be 100%.

**Concentration Limitations**

The sum of the weights of Components that generate non-qualifying income under Subchapter M of the Internal Revenue Code is limited to no more than 10% of the Index.

**Index Shares**

Shares held within the index are derived from a notional value, the weight as determined above, and component prices as of the Reconstitution or Rebalance.



## Index Maintenance

### Reconstitution

The Index is reconstituted once a year (the “Annual Reconstitution”) and adjusted intra-year only in connection with the monthly rebalance of its Index Components (the “Monthly Rebalance”) or with certain corporate actions (as described below).

The Annual Reconstitution occurs during the first calendar quarter and implemented no later than the second calendar quarter.

### Rebalance

At each Monthly Rebalance, the Index Components for each Index and Composite Indexes are re-weighted according to the process outlined above.

The Monthly Rebalance occurs on the first business day of each month and becomes effective at the open of the fourth business day of the month.

### Corporate Events and Index Policy

Refer to the IndexIQ Events Guide.

## Index Calculation

### Index Level

The following general formula is used to calculate the Index Level:

$$\frac{\sum_{i=1}^n (P_i \times \text{Shares}_i)}{D}$$

$P_i$  = Price of security  $i$

$\text{Shares}_i$  = Shares of security  $i$

$D$  = Divisor

To reflect the estimated cost of gross exposure of the index above 100%, the Divisor is adjusted each day to reduce the performance of the index by an annual equivalent of 10bps.

### Return Series

The Index return series is based on the treatment of cash dividends, stock dividends, and

spin-offs (collectively determined as a “Distribution”).

- The Price Return (PR) index is calculated without adjustments for distributions.
- The Total Return (TR) index reinvests distributions as of the ex-date.

In the event there are no distributions the daily performance of both indexes will be identical.

## Currency

The Indexes are calculated in U.S. Dollars.

## Base Dates and History Availability

Index	Base Date	Base Value
IQ Hedge Multi Strategy Index	October 31, 2007	1000
IQ Hedge Market Neutral Index	October 31, 2007	1000
IQ Hedge Macro Index	October 31, 2007	1000
IQ Hedge Long/Short Index	October 31, 2007	1000
IQ Hedge Event Driven Index	October 31, 2007	1000

## Ticker

Index levels are available through major quote vendors, numerous investment-oriented websites, and various print and electronic media. IndexIQ LLC’s website also provides an archive of recent index announcements.

Index	Return Type	Bloomberg
IQ Hedge Multi Strategy Index	Price Return Total Return	IQHGMS IQHGMST
IQ Hedge Market Neutral Index	Price Return Total Return	IQHGMN IQHGMNT
IQ Hedge Macro Index	Price Return Total Return	IQHGMA IQHGMA
IQ Hedge Long/Short Index	Price Return Total Return	IQHGLS IQHGLST
IQ Hedge Event Driven Index	Price Return Total Return	IQHGED IQHGEDT

## Contact Information

For questions regarding the Index, please contact: (888) 474-7725 or

[index@indexiq.com](mailto:index@indexiq.com).

## APPENDIX 1: Amendment History

### Amendment History

Effective Date	Change
December 31, 2019	Effective date for new rule book template
January 8, 2020	Added disclosure on the inclusion of the index fee in the divisor
April 17, 2020	Amended Distributed weights description for Ultra-Short duration bonds to be based on dividend yield, not AUM levels

## APPENDIX 2: Disclaimers

### Disclaimers

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