

BlackRock[®]

BlackRock Rate Hedged Series Methodology

PRODUCED AND MAINTAINED BY:
BLACKROCK INDEX SERVICES, LLC

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Introduction

Each Index in the BlackRock Rate Hedged Series of indices (“the Indices”) provides exposure to a single Fixed Income ETF, while seeking to minimize either the Interest Rate or Inflation exposure of the ETF. Each Index holds:

- An ETF position that is held with a fixed number of shares, which will adjust for any stock splits that occur;
- A series of up to 10 swaps, with terms corresponding to various KRDs points; and
- A cash position intended to replicate collateral that is held for managing the day-to-day changes in swap prices.

Indices that comprise the BlackRock Rate Hedged Series are the following:

Incepted October 29, 2021:

- BlackRock Interest Rate Hedged Long-Term Corporate Bond Index
- BlackRock Interest Rate Hedged Emerging Markets Bond Index
- BlackRock Interest Rate Hedged High Yield Bond Index
- BlackRock Interest Rate Hedged Corporate Bond Index
- BlackRock Inflation Hedged Corporate Bond Index

Incepted April 29, 2022:

- BlackRock Interest Rate Hedged U.S. Aggregate Bond Index
- BlackRock Inflation Hedged High Yield Bond Index
- BlackRock Inflation Hedged U.S. Aggregate Bond Index

Definitions

Business Day - Refers to a day when the New York Stock Exchange is open for regular trading.

Closing Price - With respect to an Index Constituent means the Closing Price for such Index Constituent as reported on its Exchange, or its successor.

Equity ETF Daily Return – The daily return R_t of an Equity ETF is defined as:

$$R_t = \frac{L_t - L_{t-1} + D_t}{L_{t-1}}$$

Where:

L_t is the ETF Closing Price with respect to Business Day t

D_t is the ETF Gross cash dividend with respect to Business Day t

Exchange – Means the primary exchange on which shares of an ETF are listed.

Fixed-Rate Leg – The segment of a swap that pays a fixed rate coupon that is set at the time the swap is first traded.

Index Administrator – Means BlackRock Index Services, LLC being the entity responsible for the production and maintenance of this Methodology and the administration and calculation of the Index.

Index Constituent – Means each of the ETFs and the Cash Constituent.

Index Subscriber – Is a person or entity that licenses Index determination services from the Index Administrator and hence is the licensee of the Index.

Index Website – Accessed via <https://www.blackrock.com/us/blackrock-index-services> (and may be updated by the Index Administrator from time to time).

Interest Rate – USD LIBOR, SOFR, or any successor rate should such rate be discontinued, as determined by the Index Administrator.

Interest Rate Swaps – forward contract in which one stream of future interest payments is exchanged for another based on a specified principal amount. They usually involve the exchange of a fixed interest rate for a floating rate, or vice versa.

Inflation Swaps – contract used to transfer inflation risk from. One party pays a fixed rate cash flow on a notional principal amount while the other party pays a floating rate linked to an inflation index.

Key-Rate Duration (KRD) – Measures the sensitivity of an asset to a 1% change in yield for a specific maturity.

Market Disruption Events – Occurs when data is not sufficiently available or able to accurately and reliably represent the market or economic reality. Additional details are available upon request in the Error and Event Handling Policy document.

SOFR – Secured Overnight Financing Rate. It is a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities.

Total Return – Calculated as the relative change in levels between two periods, expressed in units of 1 (i.e., 0.01 corresponds to a 1% change).

Trade Date – for a swap, the first day that the swap is traded. In the US market, the swaps accrual date starts 2 days after the trade date.

USD LIBOR – London interbank offered rate for U.S. dollars, representing the cost of unsecured short-term borrowing in the interbank market.

Index Objective

Each Index within the BlackRock Rate Hedged Series of Indices (the “Series”) provides exposure to a specific Fixed Income ETF, while seeking to minimize the Interest Rate or Inflation exposure of the constituents of the ETF. Through a rules-based approach, each Index will hold up to 10 Interest Rate or Inflation Swaps, whose weights are dynamically updated daily. In addition, each Index will also hold a cash position that is intended to reflect the collateral that must be held to manage the swaps positions by any fund tracking the Index.

Index Eligibility Criteria

Each Index will hold a single pre-determined Fixed Income ETF, up to 10 swaps, and a cash position. The ETFs below are hedged to minimize their Interest Rate exposure:

AGG – US Aggregated Bonds denominated in USD

LQD - Investment Grade Corporate Bonds denominated in USD

HYG – High Yield Corporate Bonds denominated in USD

EMB – Emerging Market Bonds denominated in USD

IGLB – Investment Grade Corporate Bonds with maturities greater than 10 years denominated in USD

The below ETF is hedged to minimize the inflation exposure:

AGG – US Aggregated Bonds denominated in USD

HYG – High Yield Corporate Bonds denominated in USD

LQD – Investment Grade Corporate Bonds denominated in USD

Index Construction

Each Index in the Series is constructed by combining its single associated ETF with 10 Interest Rate or Inflation Swaps with maturities of 1, 2, 3, 5, 7, 10, 15, 20, 25, and 30-year. The weight of each swap contract is calculated to best achieve neutral Key-Rate Durations (KRDs) of the Index at the 1, 2, 3, 5, 7, 10, 15, 20, 25, and 30-year points. The ETF for each Index will be held with a fixed number of shares (to be adjusted in the event of any stock splits), while the weights of the swaps will be rebalanced daily. The rebalance takes place at the end of each Business Day, with the new weights being effective on the following Business Day.

Initially, the Interest Rate version of the indices will hold swaps with a Fixed-Rate Leg that is scheduled to pay on a semi-annual basis, and a floating-rate leg that is scheduled to pay on a quarterly basis, resetting based on the USD 3-month LIBOR Interest Rate.

Starting with the December 2021 month-end rebalance, for index weights effective in January 2022, both the fixed and the floating-rate legs will be scheduled to pay annually. The floating rate leg will have its coupon rate set based on the USD Secured Overnight Financing Rate (“SOFR”), compounding daily. The Index Administrator reserves all rights for this methodology to be changed in the future.

On each business day, the index weights w_{ETF} and w_S 's are obtained by solving the following optimization problem:

$$\begin{aligned} & \text{Minimize } \sum_M (w_{ETF} P_{ETF} KRD_{ETF,M} + \sum_{S,L} w_S P_{S,L} KRD_{S,L,M})^2 \\ & \text{Subject to: } w_{ETF} + \sum_S w_S + w_{CASH} = 1 \end{aligned}$$

Where:

M is the 1, 2, 3, 5, 7, 10, 15, 20, 25, or 30-year maturity point

S is the 1, 2, 3, 5, 7, 10, 15, 20, 25, or 30-year maturity swap

L is the paying or receiving swap leg

P_{ETF} is the price of the ETF (as of T)

$P_{S,L}$ is the price of the swap S leg L (as of T)

$KRD_{S,L,M}$ is the KRD of the swap S and leg L at maturity M (as of T)

$KRD_{ETF,M}$ is the KRD of the ETF at maturity M (as of $T-1$)

w_{ETF} is the weight of the ETF, equal to 95% of the total market value

w_S is the weight of swap S

w_{CASH} is the cash weight

Index Calculations

Each Index is calculated on each business day based on the Total Return of the Constituents:

$$R^{TR}(t) = \sum_{i=1}^n \left[\left(\frac{P_i(t) + D_i(t)}{P_i(t-1)} - 1 \right) \times W_i(t-1) \right]$$

where:

$R^{TR}(t)$ = Total Return from close of day $t - 1$ to close of day t

n = Number of ETFs in the Index

$P_i(t)$ = Closing Price of the i^{th} ETF at close of day t $D_i(t)$

Gross cash dividends of the i^{th} ETF on day t . Dividends only applicable to the ETF holding of each Index in the Series positions.

$P_i(t-1)$ = Closing Price of the i^{th} ETF at close of day $t - 1$

$w_i(t-1)$ = weight of the i^{th} ETF after the close on day $t - 1$

t = Business Day on which the Index is calculated

The Index level for a given Business Day will be computed and published after market close using the following formula:

$$Index(t) = (1 + R^{TR}(t)) * Index(t-1)$$

In the event of half trading days, the Index level will be calculated in the same way as a full trading day where the Closing Price is used. All indices in the Index Series are calculated in U.S. dollars.

Data Sources

Data Provider	Data Point
Refinitiv	ETF Prices
ICAP	Swap Curves

Index Maintenance & Publication

The inception date of the Index is October 29, 2021, or April 29, 2022, when the base Index level was set to 1000. Index values are calculated once every Business Day at the close of the applicable Business Day. The Index value is calculated in U.S. dollars and published to the second decimal place.

Dividend Reinvestment

- Cash dividends –The Index assumes cash dividends from the ETFs are reinvested back into the Index after the close of trading on the ex-dividend date.
- ETF stock split – Index shares are multiplied by the split factor. Price is divided by the split factor.

Monthly Index Rebalance Timeline

On the first business day of each month, swaps that were in the index through the prior month are replaced with new swap contracts. These new swap contracts have a Trade Date of 1 Business Days prior to when they enter the index, on the first Business Day of the month. The weights of the new swaps are determined on the last business day of the month and become effective on the first business day of the following month.

Governance

For additional Governance and Methodology details including usage and licensing opportunities for the BlackRock Indices, please contact BLKIndexServices@blackrock.com.

Appendix

1. New York Stock Exchange – The Indices will follow the schedule which can be obtained on <https://www.nyse.com/markets/hours-calendars>.

2. Index Methodology Changes

The indices follow a rules-based methodology and more details pertaining to Methodology Change Policy can be made available upon request.

3. Error Correction Process

The Error and Event Handling Policy can be made available upon request.

4. Index Complaints

Complaints can be submitted, which seek clarity or proposed action relating to

- Index determination process
- Application of the methodology
- Market conditions or other changes impacting the index strategy

Complaints regarding the index must be submitted via email to BLKIndexServices@BlackRock.com

The complaint must include the:

1. The name of the Index;

2. The date of the issue;
3. A detailed description of how the issue impacts the Index;
4. Suggested turnaround time to resolve the issue to denote the priority of the matter.

5. Index Cessation

Index Cessation Policy can be made available upon request

Disclaimer

The BlackRock Rate Hedged Series (The “Series”) commenced ongoing calculation on October 29, 2021, and April 29, 2022. BlackRock Index Services, LLC (“Index Services”), a subsidiary of BlackRock, Inc. designs, sponsors and publishes the BlackRock Indices for use in portfolio benchmarking, and portfolio management. The BlackRock Indices, allocations and data are subject to change.

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