

US High Yield: Mirror Future and Duration Hedged Indices

This document is intended to be read in conjunction with the [Mirror Futures and Duration Hedged Indices Methodology](#), [Global Fixed Income Methodology](#) and the [US Corporate High Yield Index](#), these documents collectively constitute the index methodology for this Index.

The US High Yield Mirror Futures Index (MFI) is a funded benchmark constructed to match the duration risk of the US High Yield Index using a basket of US Treasury Futures. The US High Yield Duration Hedged Index (DHI) is a funded benchmark constructed as the difference between the Total Return of the US High Yield Index and the Total Return of the Mirror Future Index. The MFI and DHI Indices follow the Bloomberg Indices' monthly rebalancing conventions. The indices were launched in December 2012, with history backfilled to May 1, 1999.

Description of Index Constituents The MFI consists of US Treasury Futures, and the DHI consists of the US HY, US HY MFI and the funding component.

Index Ticker I30456US: US High Yield Mirror Future Total Return Index Value Unhedged
I30457US: US High Yield Duration Hedged Total Return Index Value Unhedged

Eligibility Requirements

Currency USD

Minimum Liquidity Requirements None

US Treasury Futures Basket The MFI consists of the 2-Year US Treasury Futures, 5-Year US Treasury Futures, 10-year US Treasury Futures, 30-Year US Treasury Futures and Ultra Long US Treasury Futures, weighted to closely match the beginning of the month Option Adjusted Duration (OAD) profile of the US High Yield Index. Future Contracts are rolled to the next quarterly expiration month at the beginning of March, June, September, and December.

Funding Component A Cash Investment in the US T-Bills maturing in one month's time to make the MFI and DHI a funded strategy, and comparable with the returns of a traditional cash index.

Pricing Methodology The basket of futures returns is calculated by the weighted price return of the duration matched futures contracts. The returns of the US T-Bill Index are then added to make the MFI a funded index:

$$\text{US HY MFI Return} = \text{Futures Basket Price Return} + \text{US T-Bill Index Total Return}$$

The US High Yield DHI Total Return is defined as it's funded excess return:

$$\text{US HY DHI Return} = \{\text{US HY Total Return} - \text{US HY MFI Total Return}\} + \text{US T-Bill Index Total Return}$$

Construction and Rebalancing Rules

Frequency For each index, Bloomberg maintains two universes: the Returns (Backward) and the Projected (Forward) Universes. The composition of the Returns Universe is rebalanced at each month-end and represents the fixed weights of index/instrument on which index returns are calculated for the next month. The Projected Universe is a forward-looking projection where the weights in the Futures basket change daily to reflect the characteristics of the target cash index, but are not used for return calculations. On the last business day of the month (the rebalancing date), the weights of the latest Projected Universe becomes the Returns Universe for the following month.

Index OAD Bucketing and Futures Selection The US High Yield Index is sorted into five non overlapping OAD buckets, and each treasury future is assigned to one OAD bucket as displayed in the table below. Breakpoints are selected so that the OAD of each bucket is close to that of its matching futures contract.

MFI Weight Calculation For each eligible futures contract, the OAD is calculated using Bloomberg analytics. The market value of each futures contract needed in the MFI is calculated to match the OAD contribution of the futures position with that of the US High Yield Index OAD bucket as displayed in the table below.

US High Yield MFI Futures Weights Calculation as of 31st May 2023

Duration Bucket	US HY OAD	MV (\$mn)	MV %	OAD Contribution	Futures Contract	Futures OAD	Futures Weight
	A		B	A x B		C	(A x B) / C
US HY	3.58	1,229,660.69	100.00%	3.58			
OAD 0-3y	2.01	480,673.32	39.09%	0.79	TUU3	1.95	40.30%
OAD 3-5y	3.98	558,333.67	45.41%	1.81	FVU3	4.07	44.37%
OAD 5-7.5y	5.80	160,998.95	13.09%	0.76	TYU3	5.96	12.75%
OAD 7.5-15y	9.81	29,654.75	2.41%	0.24	USU3	11.78	2.01%
OAD 15y+	0.00	-	0.00%	0.00	WNU3	16.62	0.00%

Pricing and Related Issues

Sources & Frequency	<ul style="list-style-type: none"> All Treasury future contracts are priced on a daily basis based on the CME settlement prices. The US T-Bills are priced on a daily basis by BVAL.
Pricing Quotes	Settlement Prices
Timing	<ul style="list-style-type: none"> US Treasury Futures: 3:00 p.m. (New York time) US T-Bills: 4:00 p.m. (New York time) If the last business day of the month is a public holiday, prices from the previous business day are used.
Market Side	Futures in the MFI are priced at the settlement price.
Verification	Daily price moves for each security are analyzed by the index pricing team to identify outliers. Index users may also challenge price levels, which are then reviewed and updated as needed.
Calendar	The US HY MFI and DHI follows the US bond market holiday schedule.

Environmental, Social and Governance (ESG) Disclosures

The Index does not take into account any ESG factors or pursue any ESG objectives, please refer to the [Global Fixed Income Methodology](#) ESG disclosures.

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