WISDOMTREE RULES-BASED METHODOLOGY

U.S. High Yield Corporate Bond Index Family

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WisdomTree U.S. High Yield Corporate Bond Index Family

Overview of Core Index Methodology

Each index is designed to capture the performance of selected issuers in the U.S. non-investment-grade corporate bond market with favorable fundamental and income characteristics. Each index employs a multi-step process, which screens on fundamentals to identify bonds with favorable characteristics and then tilts to those individual securities which offer favorable income characteristics (screen for favorable bonds and tilt towards income). The goal is to improve the risk-adjusted performance of traditional market-cap approaches for high-yield corporate bond indices.

Each index utilizes a screen and tilt approach to isolate bonds that have favorable fundamentals and tilts to those bonds with favorable income and valuation characteristics. Each index defines the universe, scores the individual issues across a fundamental metric distinguishing cash flow characteristics (*i.e.*, free cash flow) and momentum metrics based on relative equity market performance of issuers. Fundamentals are the principal driver for inclusion or exclusion for credits within the index, with very strong and very weak equity return momentum scores offering a potential adjustment to the long-term fundamental signal.

An income tilt score with adjustments accounting for the probability of default and recovery values is then applied to the market capitalization of each remaining security. The income tilt score incorporates the incremental income offered over Treasuries with similar maturities within the context of the credit risk they entail. The income tilt scores are translated into a multiplier, which is applied to the market cap percentile ranking to determine the issue weight within each index. As a final step, both issuer and issue exposure are capped as described in the index methodology rules. The index is rebalanced every six months with bonds removed monthly due to ratings changes, if any.

Relevant Indices in the Family

- WisdomTree U.S. High Yield Corporate Bond Index
- WisdomTree U.S. Short-term High Yield Corporate Bond Index
- WisdomTree U.S. High Yield Corporate Bond, Zero Duration Index

Index Methodology

1. Index Universe

Each index is comprised of corporate bonds of public issuers domiciled in the United States. All eligible bonds are denominated in U.S. dollars.

1.1 Liquidity

For the WisdomTree U.S. High Yield Corporate Bond Index, each issue must have at least $500 million in par amount outstanding.

For the WisdomTree U.S. Short-term High Yield Corporate Bond Index, each issue must have at least $350 million in par amount outstanding.

Each issue must have a remaining maturity of at least one year, or equivalent of 365.25 days.

1.2 Rating

Each issue must be rated high-yield (below BBB- or Baa3) by Standard & Poor's or Moody's to be eligible for the index. For selection purposes, the final rating is determined by the lower rating from the rating agencies. Defaulted Bonds are not eligible for inclusion in the index. Additionally, issues in a distressed state (rated C or below by Standard & Poor's or Moody's; or at rebalance, the issue has an option-adjusted spread (OAS) that exceeds the higher of 300% of the average OAS of the high yield corporate universe or an absolute OAS level of 1000 basis points) are excluded.

1.3 Maturity

For the WisdomTree U.S. High Yield Corporate Bond Index and the WisdomTree U.S. High Yield Corporate Zero Duration Index, each underlying issue must have at least one year to maturity at the time of rebalance.

For the WisdomTree U.S. Short-term High Yield Corporate Bond Index, each issue must have at least one year to maturity and at most five years to maturity at the time of rebalance.

1.4 Sector

Each issue is classified into one of five sectors: Industrial, Financial, Utility, Consumer, or Energy. Government, quasi-government, foreign agencies, or supra-national issuers are excluded.

1.5 Regulation S

Bonds issued under Regulation S are excluded.

2. Ratings Change

In the case that an issue no longer meets the ratings criteria defined above (rise to investment grade, fall into distress or default), the issue(s) would be removed at month-end after the ratings/default event is announced. With the removal, the weight of the remaining index constituents will be adjusted accordingly on a pro-rata basis.

3. Factor Definition

Free Cash Flow
Five-year annual average of Free Cash Flow, or such lesser period based on available data.

Short-term Momentum Score
The percentage rank of the average of 1-month, 3-month, and 6-month equity returns of an issue's parent company across the public issuers of the universe.

Long-term Momentum Score
The percentage rank of the 12-month equity returns of an issue's parent company across the public issuers of the universe.

4. Fundamental Cut with Potential Adjustments for Extreme Momentum
All issues with a non-positive factor (*i.e.*, non-positive free cash flow) are isolated for potential exclusion. Very strong and very weak momentum signals calculated from parent company stock returns can be used to enhance the fundamental signal. Issues of issuers with a positive fundamental factor, but very weak momentum scores are excluded. Issues of issuers with a very strong momentum score but negative fundamental score are included.

The issues with no factor data (*i.e.*, no free cash flow) available are excluded.

5. Momentum adjustment

For each issue, two momentum scores (a short-term and long-term score) for equity returns are calculated and issues are ranked within the universe. The momentum scores will then be considered together with a bond's fundamental metric scores to enhance the selection process. Momentum can be classified as neutral, positive. or negative. Short-term momentum scores in the top 10% create a positive momentum classification. This classification will be retained in subsequent rebalances as long as the long-term momentum ranking for the issuer does not fall below the Top 30%. Should this occur, the momentum classification returns to neutral. Conversely, a short-term momentum ranking in the bottom 10% of all public issuers in the high yield corporate debt universe will produce a negative momentum classification. This classification will be retained in subsequent rebalances if long-term momentum does not rise above the bottom 30%. Should this occur, the momentum classification returns to neutral.

Momentum Classification from Previous Rebalance	Looks to…	Momentum…
NEUTRAL	Short-Term Momentum Rank (STMR)	Turns POSITIVE, if STMR is in the Top 10% Turns NEGATIVE if STMR is in the Bottom 10%

POSITIVE	Long-term Momentum Rank (LTMR)	Remains POSITIVE if LTMR is in the Top 30% Returns to NEUTRAL, if LTMR falls below Top 30%
NEGATIVE	Long-term Momentum Rank (LTMR)	Remains NEGATIVE if LTMR is in the Bottom 30% Returns to NEUTRAL if LTMR rises above 30%

A large majority of the issues will be designated as NEUTRAL momentum and their inclusion in or exclusion from the index will be driven by the fundamental score. For the subset of bonds with POSITIVE or NEGATIVE momentum, this factor is considered with the fundamental score in the following manner:

- A bond issued by a company meeting the fundamental criteria, but showcasing significant negative momentum would be excluded from the Index and
- bonds falling short of the fundamental criteria but showcasing POSITIVE momentum scores would be included in the Index.

Newly issued debt of existing issuers will reference the issuers' existing momentum classification when they are considered for inclusion during the next rebalance. Debt issued by companies who are new to the high yield public universe will carry a momentum classification of NEUTRAL for the next rebalance**.**

6. Liquidity Cut

A liquidity score is assigned to each issue, calculated by:

$$\text{liquidity} = 0.5 * \ln(\text{amount outstanding}) - \ln(\text{age of issuance}),$$

where amount outstanding is determined at index reconstitution, and the age of issuance (in years) is calculated by the number of calendar days between the index reconstitution date and the issuance date, divided by 365.25.

Issues that fall below the bottom 5% of the liquidity scores within their respective sectors, and issues with no liquidity scores are removed from the index.

The ***reference constituents*** are defined as all remaining bonds after the fundamental cut and the liquidity cut that are applied.

7. Distance-to-Default (D2D) and Probability of Default (PD) Measure

D2D is obtained using Merton's formula. Denote σ_E as the annualized volatility of trailing 1-year daily equity price changes, the firm's asset volatility σ is given by:

$$\sigma^2 = \frac{\sigma_E^2}{1+L} + \frac{(0.05 + 0.25 * \sigma_E^2)}{1 + 1/L}, \text{where } L = \frac{\text{Total Debt}}{\text{Common Shares Outstanding} * \text{Equity Price}}$$

The distance to default of a firm is calculated as:

$$D2D = \frac{\ln\left(100 * \frac{\text{Short Term Debt} + \text{Long Term Debt}}{\frac{\text{Total Debt}}{\text{Total Assets}} * \text{Default Barrier}}\right)}{\sigma} + \frac{R_E - 0.5\sigma^2}{\sigma},$$

where $\text{Default Barrier} = \text{Short Term Debt} + 0.5 * \text{Long Term Debt}$ and R_E refers to the equity return. Correspondingly, each index uses a PD measure given by a transformation of the D2D:

$$PD = 1 - \frac{e^{-0.5+0.75*D2D}}{1 + e^{-0.5+0.75*D2D}}$$

8. Income Tilt and Amount Outstanding Adjustment

For each issue an income tilt score is obtained by its ROAS(1-PD), which is then ranked (in descending order) within each sector. The ROAS (in bp) is recovery-adjusted OAS calculated by:

$$ROAS = \frac{60\% * OAS}{LGD},$$

where LGD (loss given default) is determined using the following look up table

Senior Unsecured	60%
Senior Subordinate	70%
Subordinate	70%
Junior	75%
Junior Subordinate	80%

The amount outstanding of each issue is adjusted by 2α (a constant between 0 and 2), where α is the percentage rank of the issue's income tilt score within its sector. For an issue with the top tilt score within its sector, its weight in the index would be doubled; for an issue with the worst tilt score within its sector, its weight in the index would be set to 0.

Issues with no income tilt score are excluded from each index.

If the tilting process results in a position change of 5 basis points of less for a particular issue from the previous rebalance, the positions from the last rebalance are maintained.

9. Issuer and Issue Cap

For the WisdomTree U.S. High Yield Corporate Bond Index and the WisdomTree U.S. High Yield Corporate Zero Duration Index, an issuer cap of 2% in total market value is applied to the index at rebalance. For the WisdomTree U.S. Short-term High Yield Corporate Bond Index, an issuer cap of 3% in total market value is applied to the index at rebalance. Issues with the same

ultimate parent ticker are aggregated under the same issuer. Individual issues are capped at 0.50% at the time of rebalance.

Excess exposures above the caps are redistributed to the remaining bonds on a pro-rata basis. If an issuer in an index exceeds the cap, the total market value of the issues under this issuer would be scaled down to conform with the cap at rebalance. Caps are implemented as part of the rebalance process, but weights for both issuers and individual issues could drift higher between rebalances as driven by market conditions and corporate actions.

10. Index Constitution and Rebalancing

Each index is rebalanced semi-annually on the last business day of May and November.

10.1 Determination of the Reference Constituents

The reference constituents are determined seven business days (T-7) preceding each rebalancing date, using the fundamental and momentum screen described in this methodology. Reference constituents are confirmed for the adherence to universe selection criteria (ratings, size and whether they have been called) again before conducting the tilting step on T-5.

10.2 Determination of Constituent Positions and Weights

Five business days (T-5) preceding each rebalancing date, the tilt step and the issuer and issue caps are applied to the reference constituents based on the most current pricing data. The tilting process produces the constituent exposures that will be applied on the rebalance date. The exposures and initial weights are disseminated to the public on T-3. This allows for advanced notice concerning potential exposures and weight changes in the index. This projected universe will become the new index universe at the close of business on the rebalance date (T).

10.3 Maintenance of Eligibility Criteria Intra-Rebalance

Except as otherwise noted here (*e.g.*, ratings changes), the Index may include constituents that no longer meet the Index's eligibility criteria as described above intra-rebalance.

11. Exclusion due to a Delayed or Unfiled Annual Report

If a company filed an NT 10-K report stating that it is not going to file the annual 10-K report within the extension period as dictated by the SEC based on reasons involving financial or accounting aspects solely pertaining to this company, all bonds issued by this company will be excluded from the reference universe. If such company is already in the index, its bonds will be dropped on the 3rd business day after the filing.

If a company filed an NT 10-K report and subsequently did not file the annual 10-K report during the extension period based on reasons involving financial or accounting aspects solely pertaining to this company, all bonds issued by this company will be excluded from the reference universe.

If such company is already in the index, its bonds will be dropped on the 3rd business day after the end of the extension period.

If a company has been excluded from the reference universe or the index due to the reasons listed above, it will need to file or restate its 10-K and then file the next 10-Q on time before the next reference universe determination date to be eligible for inclusion into the reference universe.

12. Index Maintenance

Index Maintenance includes monitoring and implementing the adjustments for redemptions, conversions, ratings changes, calls, exchanges or other corporate actions.

Bonds that are fully called will exit the index at their call price. Bonds that are called or are subject to ratings change that would push them into distress or up into investment grade status (during a particular month) will be removed from the index at the end of month and the weights of the remaining components are adjusted proportionately to reflect the change in composition of the index at month end.

Cash payments received through coupon payments during the month are retained within the index and captured in the total return as coupon return. At month end, the cash is effectively reinvested pro-rata across the entire index.

Debt Exchanges
Securities that are originated under US Rule 144A with registration rights and later registered with the SEC are treated as the same security for the index. Once the SEC registered identifier becomes available, it is used in the index.

Mergers and Acquisitions
Any corporate action will be implemented after the close of trading on the day prior to the ex-date of such corporate actions.

13. Pricing Timing and Frequency

Constituents within the index are priced each business day using 4pm New York BID prices from the BVAL pricing service of Bloomberg. Newly issued securities enter the index on the offer side. When markets close early for holidays, prices may be taken earlier in the day. In these instances, the standard pricing time is 1pm New York. Bond prices are not calculated on market holidays.

14. Index Calculation Agent

Bloomberg Index Services Limited serves as the index calculation agent and monitors and calculates the daily total returns and statistics for the indices, based on the initial exposures

provided by WisdomTree prior to rebalance balance and in anticipation of changes to constituent composition at month-end due to rating changes and bond calls.

15. WisdomTree U.S. High Yield Corporate Bond Zero Duration Index

The WisdomTree U.S. High Yield Corporate Bond, Zero Duration Index measures the return of the WisdomTree U.S. High Yield Corporate Bond Index with its interest rate (duration) exposure hedged to zero years using a short position in five on-the-run (OTR) US Treasury bellwether securities. The interest rate hedge is rebalanced on a monthly basis to achieve the target duration exposure.

15.1 Index Calculation Methodology

The return of the WisdomTree U.S. High Yield Corporate Bond, Zero Duration Index can be represented as the following:

$$\text{WisdomTree U.S. High Yield Corporate Bond, Zero Duration Index}_{\text{Total Return}} = WFCHY_{Total\ Return} - WFCHY_{Zero\ Duration\ Hedge} + Funding_{1M\ T-Bills}$$

Where:

$WFCHY_{Total\ Return}$
$= published\ return\ of\ the\ WisdomTree\ U.S.\ High\ Yield\ Corporate\ Bond\ Index,$
$including\ a\ price, coupon\ and\ paydown\ return\ component$

$WFCHY_{Zero\ Duration\ Hedge}$
$= the\ return\ of\ a\ portfolio\ of\ 6M, 2Y, 5Y, 10Y\ and\ 30Y\ OTR\ securities\ weighted\ to\ bring\ the$
$duration\ of\ the\ WisdomTree\ U.S.\ High\ Yield\ Corporate\ Bond\ Index\ to\ zero\ years$

$Funding_{1M\ T-Bills}$
$= the\ return\ of\ a\ basket\ of\ 1\ month\ T-Bills\ to\ make\ the\ total\ return\ a\ funded\ return$

15.2 Construction of Hedged Position

1. Bucketing of the Option Adjusted Duration (OAD) of the WisdomTree U.S. High Yield Corporate Bond Index
2. Selection of on-the-run Treasury bellwethers for the hedge portfolio
3. Calculation of hedge portfolio weights
4. Calculation of hedge portfolio and funding returns

Step 1: The hedge portfolio consists of OTR US Treasury securities in four different tenors: 6m, 2y, 5y, 10y, and 30y. The first step to constructing the hedge portfolio is to sort the underlying

WisdomTree U.S. High Yield Corporate Bond Index (Statistics Universe) into five non-overlapping duration buckets, and to identify the duration contribution to be hedged by each of these instruments in the hedge portfolio. The duration measure used is OAD, as computed and reported by Bloomberg Barclays.

Contribution to OAD is calculated by multiplying the market value percent of each duration bucket as of the month-end index rebalancing date by the OAD of each bucket.

Step 2: The selected securities for each monthly rebalance match the instruments that are used for Bloomberg Barclays US Treasury Bellwether Indices. OTR instruments for the portfolio are selected once a month on the last business day to include the most recently issued instrument for each tenor used in the hedge.

Step 3: To replicate the duration exposure from Step 1 with the five on-the-run US Treasuries selected in Step 2, an optimization technique is employed that establishes an aggregate duration equivalent to that of the underlying index (+/- 0.02 year) and minimizes the sum of squared differences of the contribution to duration of the index in each bucket vs. the contribution to duration of the OTR US Treasuries.

Step 4: To calculate the return of the hedged position, the weights assigned for each US Treasury security are multiplied by the total return of that security for the month.