

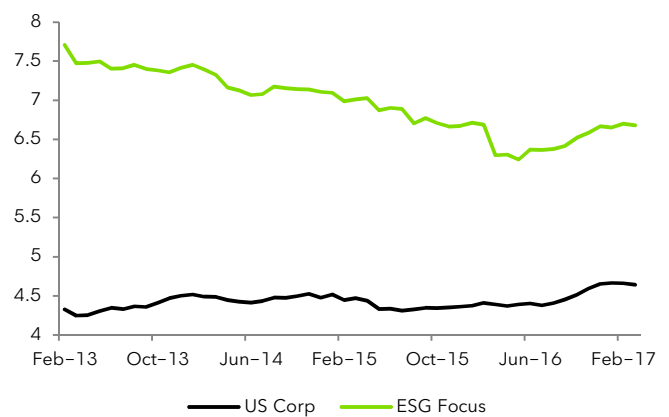
# Bloomberg Barclays MSCI US Corporate ESG Focus Index

The Bloomberg Barclays MSCI US Corporate Year ESG Focus Index measures investment grade, fixed-rate, taxable corporate bonds, and is optimized to maximize exposure to positive environmental, social and governance (ESG) factors. The index aims to preserve the overall risk characteristics of the Bloomberg Barclays US Corporate Index, while targeting issuers with the highest MSCI ESG Ratings in each sector. The index was launched in May 2017, with history available back to February 2013.

**Historical Index Values - US Corporate vs US Corporate ESG Focus**



**Historical Average MSCI ESG Scores - US Corporate vs US Corporate ESG Focus**



## Rules for Inclusion

<b>Sector</b>	Corporate (industrial, utility and financial institutions) issuers only.
<b>ESG Rating</b>	Only issuers with MSCI ESG Ratings are eligible.
<b>ESG Controversies</b>	Excludes all issuers involved in one or more very severe ESG Controversies (MSCI ESG Controversy Score < 1).
<b>Business Involvement Screening</b>	<ul style="list-style-type: none"> <li>Excludes all issuers classified as tobacco producers or distributors, retailers, or suppliers that derive 15% or more of their revenue from tobacco-related products.</li> <li>Excludes all issuers classified as cluster bomb, landmine, depleted uranium, or chemical/biological weapons systems or components manufacturers.</li> </ul>
<b>Eligible Currencies</b>	Principal and interest must be denominated in USD.
<b>Quality</b>	<p>Securities must be rated investment grade (Baa3/BBB-/BBB- or higher) using the middle rating of Moody's, S&amp;P and Fitch; when a rating from only two agencies is available, the lower is used; when only one agency rates a bond, that rating is used. In cases where explicit bond level ratings may not be available, other sources may be used to classify securities by credit quality:</p> <ul style="list-style-type: none"> <li>Expected ratings at issuance may be used to ensure timely index inclusion or to properly classify split-rated issuers.</li> <li>Unrated securities may use an issuer rating for index classification purposes if available. Unrated subordinated securities are included if a subordinated issuer rating is available.</li> </ul>
<b>Amount Outstanding</b>	<p>USD300mn minimum par amount outstanding.</p> <ul style="list-style-type: none"> <li>From April 1, 2017 the minimum amount outstanding for the US Aggregate is 300mn. Previously, the minimum amount outstanding was 250mn.</li> </ul>

## Rules for Inclusion

<b>Coupon</b>	<ul style="list-style-type: none"> <li>• Fixed-rate coupon.</li> <li>• Callable fixed-to-floating rate bonds are eligible during their fixed-rate term only.</li> <li>• Bonds with a step-up coupon that changes according to a predetermined schedule are eligible.</li> </ul>	
<b>Maturity</b>	<ul style="list-style-type: none"> <li>• At least one year until final maturity, regardless of optionality.</li> <li>• Bonds that convert from fixed to floating rate, including fixed-to-float perpetual, will exit the index one year prior to conversion to floating-rate. Fixed-rate perpetual bonds are not included.</li> <li>• Sub-indices based on maturity are inclusive of lower bounds. Intermediate maturity bands include bonds with maturities of 1 to 9.999 years. Long maturity bands include maturities of 10 years or greater.</li> </ul>	
<b>Taxability</b>	<ul style="list-style-type: none"> <li>• Only fully taxable issues are eligible.</li> <li>• Dividend Received Deduction (DRD) and Qualified Dividend Income (QDI) eligible securities are excluded.</li> </ul>	
<b>Market of Issue</b>	<ul style="list-style-type: none"> <li>• SEC-registered securities, bonds exempt from registration at the time of issuance and SEC Rule 144A securities with registration rights are eligible. A security with both SEC Regulation-S (Reg-S) and SEC Rule 144A tranches is treated as one security for index purposes. The 144A tranche is used to prevent double-counting and represents the combined amount outstanding of the 144A and Reg-S tranches.</li> <li>• Global bonds are included.</li> <li>• Bonds that were previously SEC-registered or 144A with registration rights but later deregistered by the issuer remain index eligible.</li> </ul>	
<b>Security Types</b>	Included	Excluded
	<ul style="list-style-type: none"> <li>• Corporate bonds</li> <li>• Fixed-rate bullet, puttable, sinkable/amortizing and callable bonds</li> <li>• Original issue zero coupon bonds</li> <li>• Underwritten MTN</li> <li>• Enhanced equipment trust certificates (EETC)</li> <li>• Certificates of deposit</li> <li>• Fixed-rate and fixed-to-float (including fixed-to-variable) capital securities</li> </ul>	<ul style="list-style-type: none"> <li>• Bonds with no MSCI ESG Rating</li> <li>• Bonds with very severe ESG Controversies</li> <li>• Tobacco producers or companies with 15% or more of their revenue derived from tobacco products</li> <li>• Cluster bomb, landmine, depleted uranium, or chemical/biological weapon systems or components manufactures</li> <li>• Contingent capital securities, including traditional CoCos and contingent write-down securities, with explicit capital ratio or solvency/balance sheet-based triggers</li> <li>• Bonds with equity type features (e.g., warrants, convertibles, preferreds, DRD/QDI-eligible issues)</li> <li>• Inflation-linked bonds, floating-rate issues</li> <li>• Fixed-rate perpetuials</li> <li>• Taxable and tax-exempt municipal securities</li> <li>• Securitized bonds (MBS, ABS, CMBS, covered)</li> <li>• Private placements, retail bonds</li> <li>• USD25/USD50 par bonds</li> <li>• Structured notes, pass-through certificates</li> <li>• Formosa Bonds</li> <li>• Illiquid securities with no available internal or third-party pricing source</li> </ul>

## Optimization Constraints and Calculations

### Overview

- The Bloomberg PORT Optimizer is used to select and weight each security in the index.
  - All bonds are selected from the Bloomberg Barclays US Corporate Index, also known as the parent index.
  - The optimizer runs once per month, selecting securities and calculating notional positions.
  - This process will not impact bond prices and other security-level analytics.
- The optimizer has three main objectives:
  - Maximize the overall MSCI ESG Score.
  - Minimize Active Total Risk versus the Bloomberg Barclays US Corporate Index. This is the ex-ante (or predicted) tracking error based on the Bloomberg Fixed Income multi-factor risk model.
  - Minimize month-to-month index turnover.
- Each of these objectives is assigned a weight (trade-off) in order to make these goals directly comparable. Active Total Risk is assigned the highest weight, followed by ESG Score, and finally by Turnover.
- By default, only securities eligible for the Bloomberg Barclays US Corporate Index are included.
- Index turnover does not include cash reinvestment.

### Optimization Constraints

Each of these constraints, with the exception of turnover, is a hard constraint. This means that the optimizer will only consider solutions within these bounds. Parent Index refers to the Bloomberg Barclays US Corporate Index.

- Modified duration must be within 0.1 years of the parent index.
- DTS (duration times spread) must be within 0.2 years of the parent index. DTS is calculated by multiplying spread duration by Libor option-adjusted spread. DTS measures sensitivity to relative spread change as opposed to absolute spread change like modified duration.
- Active total risk, as calculated by the Bloomberg multi-factor fixed income risk model, must be within 0.1 or 10bps of the parent index. This is an annualized measure.
- Yield to worst must be greater than or equal to the parent index.
- Bloomberg Barclays Class 3 sector weights must be within 2% of the parent index.
- Individual security weights must be within 1% of their weight in the parent index.
- Small issues, those with less than or equal to \$500MM par amount outstanding, are capped at 25 times their weight in the parent index.
- Issuer weights are limited to 1.5 times their weight in the parent index.
- Only long positions are allowed.

### Turnover

- Unlike standard rules-based indices, past index holdings will directly impact which securities are chosen for index inclusion in the present and future. This is because one of the constraints and objectives of the optimization process is to limit monthly index turnover. The optimizer sets a 5% turnover soft constraint each month. This means that if a solution cannot be found satisfying the hard constraints defined above, the 5% upper bound will be breached.
- In any instance where the parent index's monthly turnover is greater than 5%, the turnover constraint will be increased to equal the parent index monthly turnover + 2%.
- All coupon payments and cash holdings are reinvested into the index at each month-end. These cash trades will not count towards the 5% turnover constraint.

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## Rebalancing Rules

### Frequency

The composition of the index is rebalanced at each month-end and represents the fixed set of bonds on which index returns are calculated for the next month.

### Index Changes

During the month, indicative changes to securities (credit rating change, sector reclassification, amount outstanding changes, corporate actions, and ticker changes) are reflected daily. These changes will affect the composition of the index on month-end only, when the index is next rebalanced.

### Reinvestment of Cash Flows

Intra-month cash flows from interest and principal payments contribute to monthly index returns but are not reinvested at a short-term reinvestment rate between rebalance dates. At each rebalancing, cash is effectively reinvested into the returns universe for the following month so that index results over two or more months reflect monthly compounding.

March 17, 2017

## Rebalancing Rules

**New Issues** Qualifying securities issued, but not necessarily settled on or before the month-end rebalancing date, qualify for inclusion in the following month's index if the required security reference information and pricing are readily available.

## Pricing and Related Issues

<b>Sources &amp; Frequency</b>	All bonds in the index are priced daily using Bloomberg's evaluated pricing service, BVAL.
<b>Timing</b>	<ul style="list-style-type: none"><li>• 3pm (New York time).</li><li>• On early market closes, prices are taken as of 1pm (New York time), unless otherwise noted. If the last business day of the month is a public holiday, prices from the previous business day are used.</li></ul>
<b>Bid or Offer Side</b>	Bonds in the index are priced on the bid side. The initial price for new corporate issues entering the index is the offer side; after the first month, the bid price is used.
<b>Settlement Assumptions</b>	T+1 calendar day settlement basis for all bonds. At month-end, settlement is assumed to be the first calendar day of the following month, even if the last business day is not the last day of the month, to allow for one full month of accrued interest to be calculated.
<b>Verification</b>	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 using input from various sources.
<b>Calendar</b>	The US Corporate ESG Focus Index follows the US bond market holiday schedule.

## Monthly Returns in USD, 2013-2017(%)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2013	-	0.78	0.05	1.82	-2.30	-2.71	0.74	-0.70	0.71	1.42	-0.25	-0.20	-0.73
2014	1.89	1.01	0.07	1.21	1.39	0.06	-0.04	1.45	-1.32	1.00	0.66	0.09	7.68
2015	3.06	-1.09	0.38	-0.73	-0.60	-1.81	0.74	-0.57	0.73	0.31	-0.16	-0.68	-0.52
2016	0.57	0.61	2.67	1.26	0.00	2.21	1.41	0.20	-0.18	-0.82	-2.68	0.64	5.93
2017	0.37	1.10	-0.20	1.05	-	-	-	-	-	-	-	-	2.33

## Accessing Index Data

<b>Bloomberg Professional® service</b>	<p>Bloomberg benchmarks are the global standard for capital markets investors.</p> <ul style="list-style-type: none"> <li>• INDEX&lt;Go&gt; – The Bloomberg Indices landing page is a dashboard for index-related information on the terminal. Find daily and monthly index returns for key indices from each index family as well as index publications including methodologies, factsheets, monthly reports, updates and alerts.</li> <li>• IN&lt;Go&gt; – The Bloomberg Index Browser displays the latest performance results and statistics for the indices as well as history. IN presents the indices that make up Bloomberg's global, multi-asset class index families into a hierarchical view, facilitating navigation and comparisons. The "My Indices" tab allows a user to focus on a set of favorite indices.</li> <li>• PORT&lt;Go&gt; – Bloomberg's Portfolio &amp; Risk Analytics solution includes tools to analyze the risk, return, and current structure of indices. Analyze the performance of a portfolio versus a benchmark or use models for performance attribution, tracking error analysis, value-at-risk, scenario analysis, and optimization.</li> <li>• DES&lt;Go&gt; – The index description page provides transparency into an individual index including membership information, aggregated characteristics and returns, and historical performance.</li> </ul>
<b>Bloomberg Indices Website (www.bloombergindices.com)</b>	<p>The index website makes available limited index information including:</p> <ul style="list-style-type: none"> <li>• Index methodology and factsheets</li> <li>• Current performance numbers for select indices</li> </ul>
<b>Data Distribution</b>	<p>Index subscribers may choose to receive index data in files. Files may include:</p> <ul style="list-style-type: none"> <li>• Index level and/or constituent level returns and characteristics for any indices</li> <li>• Automatic delivery of files via email or SFTP following the completion of the index production process after market close</li> <li>• Clients may receive standard files or may customize file contents</li> <li>• Index data is also available via authorized redistributors</li> </ul>

## Bloomberg Total Return Index Value Tickers: US Corporate ESG Focus Index and Related Indices

Ticker (USD Unhedged)	Index	Ticker (USD Unhedged)	Index
BESFTRUU	US Corporate ESG Focus Index	LUACTRUU	US Corporate Index
B15FTRUU	US Corporate 1-5 year ESG Focus Index	UCEWTRUU	US Corporate ESG-Weighted Index

Total Return Index Values are available in other currencies and on a hedged basis. Attributes such as yield and duration, are also available. Please refer to Accessing Bloomberg Barclays Index Data Using Bloomberg Tickers for a full list of tickers and attributes that are available.

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