

INDEX GUIDELINE

Solactive USD Investment Grade Corporate Index

Version 1.3

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INTRODUCTION

This document (the "GUIDELINE") is to be used as a guideline with regard to the composition, calculation and maintenance of the Solactive USD Investment Grade Corporate Index (the "INDEX"). Any amendments to the rules made to the GUIDELINE are approved by the OVERSIGHT COMMITTEE specified in Section 5.5. The INDEX is owned, calculated, administered and published by Solactive AG ("SOLACTIVE") assuming the role as administrator (the "INDEX ADMINISTRATOR") under the Regulation (EU) 2016/1011 (the "BENCHMARK REGULATION" or "BMR"). The name "Solactive" is trademarked.

The text uses defined terms which are formatted with "SMALL CAPS". Such Terms shall have the meaning assigned to them as specified in Section 6 (Definitions).

The GUIDELINE and the policies and methodology documents referenced herein contain the underlying principles and rules regarding the structure and operation of the INDEX. SOLACTIVE does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the INDEX nor the level of the INDEX at any certain point in time nor in any other respect. SOLACTIVE strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for SOLACTIVE – irrespective of possible obligations to ISSUERS – to advise third parties, including investors and/or financial intermediaries, of any errors in the INDEX. The publication of the INDEX by SOLACTIVE does not constitute a recommendation for capital investment and does not contain any assurance or opinion of SOLACTIVE regarding a possible investment in a financial instrument based on this INDEX.



1. INDEX SPECIFICATIONS

1.1. SCOPE OF THE INDEX

- The INDEX aims to mirror the performance of investment grade corporate bonds issued in USD.
- The INDEX is a rules-based, market value weighted index.
- The INDEX is a Total Return Index, i.e. coupon payments will be reinvested in the index on each Rebalancing Day.

1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC	BBG ticker
Solactive USD Investment Grade Corporate Index	DE000SLA3B58	USD	TR	.SOLUSIGC	SOLUSIGC

*TR means that the INDEX is calculated as Total Return index as described in the Bond Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>

The INDEX is published on the website of the INDEX ADMINISTRATOR (www.solactive.com) and is, in addition, available via the price marketing services of Boerse Stuttgart GmbH and may be distributed to all of its affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute or display the INDEX via its information systems.

Any publication in relation to the INDEX (e.g. notices, amendments to the GUIDELINE) will be available at the website of the INDEX ADMINISTRATOR: <https://www.solactive.com/news/announcements/>.

1.3. INITIAL LEVEL OF THE INDEX

The initial level of the INDEX on the START DATE is 1000. Historical values from the LIVE DATE will be recorded in accordance with Article 8 of the BMR. Levels of the INDEX published for a period prior to the LIVE DATE have been back-tested.

1.4. PRICES AND CALCULATION FREQUENCY

The INDEX is calculated and distributed once every BUSINESS DAY based on the EVALUATED BID PRICE of the INDEX COMPONENTS. Bonds added in a rebalancing (see Section 3) are included the INDEX at the EVALUATED ASK PRICE on the relevant REBALANCE DAY. Bonds which are excluded from the INDEX in a rebalance are reflected in the calculation of the level of the INDEX for the REBALANCE DAY at the LAST EVALUATED BID PRICE on the



relevant REBALANCE DAY. INDEX analytical values are calculated each BUSINESS DAY using the LAST EVALUATED BID PRICE based on FIXING TIME.

Should there be no current EVALUATED PRICE available on Intercontinental Exchange ("ICE") the most recent EVALUATED PRICE on Intercontinental Exchange ("ICE") for the preceding BUSINESS DAY is used in the calculation.

1.5. LICENSING

Licenses to use the INDEX as the underlying value for financial instruments, investment funds and financial contracts may be issued to stock exchanges, banks, financial services providers and investment houses by Solactive.



2. INDEX SELECTION

On each SELECTION DAY, all bonds which meet the INDEX COMPONENT REQUIREMENTS are eligible for inclusion in the INDEX and will be added as INDEX COMPONENT on the REBALANCE DAY. Additionally, on each SELECTION DAY, it will be evaluated whether all current INDEX COMPONENTS still meet the INDEX COMPONENT REQUIREMENTS. Each INDEX COMPONENT that does not meet the INDEX COMPONENT REQUIREMENTS will be removed from the INDEX on the next REBALANCE DAY.

2.1. SELECTION OF THE INDEX COMPONENTS

The initial composition of each INDEX, as well as any selection for a rebalance (as specified in Section 3) is determined using the following rules:

- USD denominated corporate debt issues only
- Amount outstanding of at least 400 million USD
- Remaining time to maturity of at least 18 months
- The following bond types are included:
 - Fixed rate coupon bonds
 - Sinkable and amortizing bonds
 - Bearer bonds
 - Zero coupon Bonds
 - Callable and puttable bonds (bonds with an announced call for the upcoming month are excluded)
 - Covered bonds
 - Fix to float bonds that are in the fixed rate phase and are at least one year from their reset date
 - (Callable) Perpetual fixed rate bonds (must be at least one year from their first call date)
 - Securities with alternative coupon mechanisms are also included (i.e. rating driven coupon schedules, step-up bonds with known schedules at issuance, and PIK)
- The following market types are eligible for inclusion:
 - Global issues
 - US domestic issues
 - Private Placements (144A)
 - Yankee



- MTN (issuer must be domiciled in the USA)
- The issue must be rated investment grade (at least BBB- / Baa3) by both Standard & Poor's and Moody's. In case only one rating is available, it must be investment grade.

A price from the PRICING PROVIDER must be available for each INDEX COMPONENT on each SELECTION DAY.

(the "INDEX COMPONENT REQUIREMENTS")

2.2. WEIGHTING OF THE INDEX COMPONENTS

The INDEX COMPONENTS are weighted according to their respective Market Values in proportion to the aggregated Market Value of all INDEX COMPONENTS in the index.



3. REBALANCE

3.1. ORDINARY REBALANCE

In order to reflect the new selection of the INDEX COMPONENTS determined on the SELECTION DAY (in accordance with Section 2.1) the INDEX is adjusted on the REBALANCE DAY after CLOSE OF BUSINESS.

For more information on the rebalance procedure please refer to the Bond Index Methodology, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>.

SOLACTIVE will publish any changes made to the INDEX COMPONENTS with sufficient notice before the REBALANCE DAY on the SOLACTIVE webpage under the section "[Announcement](#)", which is available at <https://www.solactive.com/news/announcements/>

3.2. EXTRAORDINARY REBALANCE

In addition to the ordinary rebalance, the INDEX is also rebalanced extraordinarily. These adjustments take place outside the rebalancing schedule and follow different rules than the ordinary rebalances. The extraordinary rebalance is triggered by the mechanism described below:

- a) Early Redemption or Full Call: The bond proceeds will be held as "Paid Cash" and reinvested into the index on the following Rebalancing Day. For the avoidance of doubt a Tender must be mandatory, the pure offer to tender a bond will not lead to an adjustment of the index.
- b) Flat Trading: A bond is flat trading if the bond issuer will not meet its coupon payment obligation which means that the buyer of a bond is not responsible for paying the interest that has accrued since the last payment. If a bond is defined to be "flat trading" between two Rebalancing Days the respective accrued interests and coupons will be set to 0. The bond will not be removed until the next Rebalancing Day.
- c) Defaulted Bonds: If the status of a bond changes to "In Default", the bond will remain as part of the index or portfolio at the last available evaluated price provided by the pricing source until the next regular index Rebalancing Day.
- d) Exchange Offers:
 - 1) Optional Exchange Offers: Optional Exchange Offers will not result in an adjustment of the index.



- 2) Mandatory Exchanges Offers or Partial Calls:
 - a. In case more than 90% of the Amount Outstanding is exchanged the exchange will be considered in the index calculation by exchanging the relevant bonds, so that the new bond will receive the weight of the old exchanged bond.
 - b. In the case when less than 90% of the Amount Outstanding is exchanged the exchange will not be considered to be an event that affects the relevant bond's position in the index.
- e) Fungible Bonds:
 - 1) The parent bond and the sub-tranche are both index constituents: Both bonds are kept in the index until the next Rebalancing Day. On the next Rebalancing Day, the new bond will be removed and the Amount Outstanding of the parent bond will be increased by the amount of the new bond issue.
 - 2) The parent bond is an index constituent and the sub-tranche is not: On the next Rebalancing Day, the Amount Outstanding of the parent bond will be increased by the amount of the sub-tranche.
 - 3) The parent bond is not an index constituent but the sub-tranche is: On the next Rebalancing Day, the sub-tranche leaves the index and the parent bond enters the index including the Amount Outstanding added from the sub-tranche (assuming that it meets the requirements of the Selection Pool).
- f) Payment-in-Kind Bonds: These bonds pay interest in additional bonds rather than in cash. Assuming the additional bonds will be sold immediately and the proceeds will be reinvested in the index, payments-in-kind are therefore considered as cash in the Paid Cash component in all Total Return calculations.
- g) Ex-dividend Bonds: "Ex-dividend" means that the next coupon is detached from the bond several days in advance of the coupon payment date. Between ex-date and pay-date a buyer of the bond does not get the right to receive the next coupon. Therefore, accrued interest is negative during that period. However, the coupon will be paid to the original bondholder, i.e. if a bond is already in the index the next coupon payment is held separate in the Variable Coupon Adjustment Factor $CPAdj_{i,t}$. If the bond enters the index during the ex-dividend period $CPAdj_{i,t}$ is zero as the next coupon payment will not accrue to the index.

Note: Debt issuances of an existing bond will not be considered until the next Rebalancing Day.



4. CALCULATION OF THE INDEX

4.1. INDEX FORMULA

The INDEX is calculated as a Total Return index.

The calculation is performed according to the Bond Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>.

A gross total return index seeks to replicate the overall return from holding an index portfolio, thus considering both coupon payments and Corporate Action proceeds in addition to the price changes adjusted for any accrued interest. Coupon and other cash payments will be reinvested on each Rebalancing Day.

The periodic reinvestment formula implies a periodic reinvestment in the INDEX of proceeds resulting from corporate actions and coupon payments in respect of the INDEX COMPONENTS on the next regular REBALANCE DAY following such events. For the period until reinvestment the proceeds are held in a cash component. On the REBALANCE DAY the proceeds are reinvested in the INDEX proportionately to the weights of the INDEX COMPONENTS. The periodic reinvestment formula tracks the performance of the INDEX COMPONENTS relative to their market value on the immediately preceding REBALANCE DAY. The market value for an individual INDEX COMPONENT on a REBALANCE DAY is based on the price for the respective bond and its face value on the SELECTION DAY associated with the REBALANCE DAY.

A more detailed description of the mechanics of the periodic reinvestment formula can be found in the Bond index Methodology under Section 1.2.2 which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>.

4.2. ACCURACY

The level of the INDEX will be rounded to four decimal places.

4.3. ADJUSTMENTS

Under certain circumstances, an adjustment of the INDEX may be necessary between two regulars REBALANCE DAYS. Basically, such adjustment is need to be made if a corporate action (as specified in Section 4.4 below) in relation to an INDEX COMPONENT occurs. Such adjustment may need to be done in relation to an INDEX COMPONENT and/or may also affect the number of INDEX COMPONENTS and/or the weighting of certain INDEX COMPONENTS and will be made in compliance with the Bond Index Methodology, which is available which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>.

4.4. CORPORATE ACTIONS

As part of the INDEX maintenance SOLACTIVE will consider various events – also referred to as corporate actions – which result in an adjustment to the INDEX between two regulars REBALANCE DAYS. Such events



have a material impact on the price, weighting or overall integrity of INDEX COMPONENTS. Therefore, they need to be accounted for in the calculation of the INDEX. Corporate actions will be implemented from the cum-day to the ex-day of the corporate action, so that the adjustment to the INDEX coincides with the occurrence of the price effect of the respective corporate action.

Adjustments to the INDEX to account for corporate actions will be made in compliance with the Bond Index Methodology, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/bond-index-methodology/>. This document contains for each corporate action a brief definition and specifies the relevant adjustment to the INDEX variables.

While SOLACTIVE aims at creating and maintaining its methodology for treatment of corporate actions as generic and transparent as possible and in line with regulatory requirements, it retains the right in accordance with the Bond Index Methodology to deviate from these standard procedures in case of any unusual or complex corporate action or if such a deviation is made to preserve the comparability and representativeness of the INDEX over time.

Solactive considers following, but not conclusive, list of corporate actions as relevant for INDEX maintenance:

- > Early Redemption (an event that leads to a redemption of a bond before the regular maturity date)
- > Flat Trading (e.g. a bond ISSUER fails to meet its coupon payment obligation)
- > Bond Default (e.g. when the ISSUER fails to meet its coupon payment obligation or repay the principal at maturity)
- > Tender Offers (a holder of a bond is invited to tender the bond for a specific price at a specific time before the regular maturity date)
- > Exchange Offers (type of a tender offer where the ISSUER offers its bondholders to exchange their existing bonds for an asset other than cash)
- > Distressed Debt Exchange (form of debt exchange when bondholders agree to reduce the principal amount of debt securities in order to obtain higher payment priority in the form of secured debt)
- > Bond Funge (bond issue that is attached to an existing one (parent bond). On a defined date the parent bond absorbs the funged bond)
- > Payment-in-Kind Bonds (a situation where a bond pay interest in additional bonds rather than in cash)
- > Conversion of [CoCo] Bonds
- > Debt Issuance
- > Bond Maturity



4.5. RECALCULATION

SOLACTIVE makes the greatest possible efforts to accurately calculate and maintain its indices. However, errors in the determination process may occur from time to time for variety reasons (internal or external) and therefore, cannot be completely ruled out. SOLACTIVE endeavors to correct all errors that have been identified within a reasonable period of time. The understanding of "a reasonable period of time" as well as the general measures to be taken are generally depending on the underlying and is specified in the Solactive Correction Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/correction-policy/>.

4.6. MARKET DISRUPTION

Market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more INDEX COMPONENTS. The determination of the INDEX may be limited or impaired at times of illiquid or fragmented markets and market stress.



5. MISCELLANEOUS

5.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example the determination of the INDEX COMPONENTS or any other relevant decisions in relation to the INDEX) shall be made in accordance with strict rules regarding the exercise of discretion or expert judgement established by the INDEX ADMINISTRATOR.

5.2. METHODOLOGY REVIEW

The methodology of the INDEX is subject to regular review, at least annually. In case a need of a change of the methodology has been identified within such review (e.g. if the underlying market or economic reality has changed since the launch of the INDEX, i.e. if the present methodology is based on obsolete assumptions and factors and no longer reflects the reality as accurately, reliably and appropriately as before), such change will be made in accordance with the Methodology Policy, which is incorporated by reference available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.

Such change in the methodology will be announced on the SOLACTIVE webpage under the Section "Announcement", which is available at <https://www.solactive.com/news/announcements/>. The date of the last amendment of this INDEX is contained in this GUIDELINE.

5.3. CHANGES IN CALCULATION METHOD

The application by the INDEX ADMINISTRATOR of the method described in this document is final and binding. The INDEX ADMINISTRATOR shall apply the method described above for the composition and calculation of the INDEX. However, it cannot be excluded that the market environment, supervisory, legal, financial or tax reasons may require changes to be made to this method. The INDEX ADMINISTRATOR may also make changes to the terms and conditions of the INDEX and the method applied to calculate the INDEX that it deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The INDEX ADMINISTRATOR is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the INDEX ADMINISTRATOR will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.

5.4. TERMINATION

SOLACTIVE makes the greatest possible efforts to ensure the resilience and continued integrity of its indices over time. Where necessary, SOLACTIVE follows a clearly defined and transparent procedure to adapt index methodologies to changing underlying markets (see Section 5.2 "Methodology Review") in order to maintain



continued reliability and comparability of the indices. Nevertheless, if no other options are available the orderly cessation of the INDEX may be indicated. This is usually the case when the underlying market or economic reality, which the INDEX is set to measure or to reflect, changes substantially and in a way not foreseeable at the time of inception of the INDEX, the INDEX rules, and particularly the selection criteria, can no longer be applied coherently or the INDEX is no longer used as the underlying value for financial instruments, investment funds and financial contracts.

SOLACTIVE has established and maintains clear guidelines on how to identify situations in which the cessation of the INDEX is unavoidable, how stakeholders are to be informed and consulted and the procedures to be followed for a termination or the transition to an alternative index. Details are specified in the Solactive Termination Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/termination-policy/>.

5.5. OVERSIGHT

An oversight committee composed of staff from SOLACTIVE and its subsidiaries (the "OVERSIGHT COMMITTEE") is responsible for decisions regarding any amendments to the rules of the INDEX. Any such amendment, which may result in an amendment of the GUIDELINE, must be submitted to the OVERSIGHT COMMITTEE for prior approval and will be made in compliance with the Methodology Policy, which is available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.



6. DEFINITIONS

"AMOUNT OUTSTANDING" is the face value of the respective bond.

"BENCHMARK REGULATION" shall have the meaning as defined in Section "Introduction".

"BMR" shall have the meaning as defined in Section "Introduction".

"BUSINESS DAY" in relation to the index is each day, Monday to Friday, except banking holidays as defined by the New York Stock Exchange (NYSE) and SIFMA. With respect to the INDEX any day other than a Saturday or Sunday or a day on which the Securities Industry and Financial Markets Association (SIFMA) recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities. The SIFMA holiday recommendations are set out on the following website (or any successor page): <http://www.sifma.org/services/holiday-schedule/>.

"CALL" means that a bond with a callable feature will be redeemed before the actual maturity date of the bond. The callable feature allows the issuer of the bond to retain the privilege of redeeming the bond before the actual maturity date.

"CLOSE OF BUSINESS" is a time stamp when an INDEX is calculated.

"COVERED BONDS" are bonds backed by a ring-fenced pool of assets such as mortgages or public-sector loans. The ISSUER retains the responsibility to maintain the quality of the underlying asset pool.

A "Credit Event" is the suspension of debt service, insolvency or failure to pay on time.

"EARLY REDEMPTION" includes every event that leads to a redemption of a bond before the actual maturity date.

"EX-DIVIDEND" means that the next coupon is detached from the bond several days in advance of the coupon payment date.

"EXCHANGE OFFER" means that the holder of a bond is invited to exchange the existing bond to another debt security.

In particular, an "EXTRAORDINARY EVENT" is

- an early redemption of the bond
- a credit event

"FIXED COUPON BONDS" are bonds with a coupon rate that is fixed throughout their life, as opposed to bonds with floating, or variable coupons.

A bond is "FLAT TRADING" if the bond issuer will not meet its coupon payment obligation which means that the buyer of a bond is not responsible for paying the interest that has accrued since the last payment.

"FLOATING RATE NOTES" are bonds with a floating coupon rate, i.e. the coupon payments fluctuate in line with the underlying level of a pre-specified interest rate.



"FUNGIBLE BOND" is a new issue that has all the same specifications as an existing issue (bonds with the same parameters can be issued in different tranches). At a specific date, the tranches will be combined into one bond. After this date, the parent tranche will include the Amount Outstanding of all new tranches.

A bond is "IN DEFAULT" when the issuer is not able to fulfil its bond payment obligations anymore after the 30 days grace period.

"GUIDELINE" shall have the meaning as defined in Section "Introduction".

"INDEX" shall have the meaning as defined in Section "Introduction".

"INDEX ADMINISTRATOR" shall have the meaning as defined in Section "Introduction".

"INDEX COMPONENT" is each bond reflected in the INDEX.

"INDEX COMPONENT REQUIREMENTS" shall have the meaning as defined in Section 2.1.

"INDEX CURRENCY" is the currency specified in the column "Currency" in the table in Section 1.2.

"INFLATION-LINKED BONDS" are bonds whose principal and coupon payments are indexed to inflation.

"INVESTMENT GRADE" are all ratings of at least BBB- by Standard & Poor's and Fitch or Baa3 by Moody's Investors Service or BBB by DBRS.

"ISSUER" is the issuing entity of the respective bond.

"LAST EVALUATED ASK PRICE" the last available evaluated ask price by the designated PRICING PROVIDER.

"LAST EVALUATED BID PRICE" the last available evaluated bid price by the designated PRICING PROVIDER.

"LAST EVALUATED MID PRICE" is the average between LAST EVALUATED ASK PRICE and LAST EVALUATED BID PRICE.

"LIVE DATE" is 28th April 2017.

"OVERSIGHT COMMITTEE" shall have the meaning as defined in Section 5.5.

"PAID CASH" is either the value of the coupon payments between Rebalancing Days or the resulting payment when a bond is removed from the index between Rebalancing Days. On the next Rebalancing Day "Paid Cash" will be reinvested in the index.

"PAYMENT-IN-KIND BONDS" are a type of bonds that pay interest in additional bonds rather than in cash.

"PREFERRED SECURITIES" combine both debt and equity characteristics.

"PRICING PROVIDER" is Intercontinental Exchange ("ICE").

"REBALANCING DAY" is the last Business Day of each month.

"SECURITIZED BONDS" are bonds secured against specific assets or receivables (ABS), mortgages (MBS) or cash flows.

"SELECTION DAY" is 3 BUSINESS DAYS before the scheduled REBALANCE DAY.



"SINKABLE BONDS" are bonds that are backed by a fund that sets aside money on a regular basis. A sinkable bond issuer is required to buy a certain amount of the bond back from the purchaser at various points throughout the life of the bond.

"SOLACTIVE" shall have the meaning as defined in Section "Introduction".

"START DATE" is 31th January 2005.

"STEP-UP COUPON BONDS" are bonds whose coupons increase while the bond is outstanding. The coupon amounts are determined at issuance.

"TENDER OFFER" means that a holder of a bond is invited to tender the bond for a specific price at a specific time before the actual maturity date.

A "TOTAL RETURN INDEX" measures the performance of the index components by assuming that all distributions are reinvested into the index, i.e. the index does not only reflect pure price movements.

"ZERO COUPON BONDS" means bonds which do not pay interest but are issued at a discount.

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