

GUIDELINE

Solactive U.S. Cumulative Dividends Index – Series 2028

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This document contains the underlying principles and regulations regarding the structure and the operating of the Solactive U.S. Cumulative Dividends Index – Series 2028. Solactive AG shall make every effort to implement regulations. Solactive AG does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the Index nor the Index value at any certain point in time nor in any other respect. The Index is merely calculated and published by Solactive AG and it strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for Solactive AG – 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 AG is no recommendation for capital investment and does not contain any assurance or opinion of Solactive AG regarding a possible investment in a financial instrument based on this Index.

Introduction

This document is to be used as a guideline with regard to the composition, calculation and management of the Index. Any changes made to the guideline are initiated by the Committee specified in section 1.6. The Index is calculated and published by Solactive AG. The name “Solactive” is copyrighted.

1 Index specifications

The Solactive U.S. Cumulative Dividends Index – Series 2028 (the “Dividends Index”, the “Index”) is an Index of Solactive AG and is calculated and distributed by Solactive AG.

The Index aims to represent the discounted present value of all listed annual S&P 500 Dividend Index Futures contracts out to and including the December 2028 dividend futures expiry. To accomplish this, each S&P 500 Dividend Index Future market price will be discounted by using the computed yield of a specified U.S. Treasury Security with a similar or prior maturity date as the corresponding S&P 500 Dividend Index Future expiry. After expiry of any S&P 500 Dividend Futures contract, such futures contract and its corresponding U.S. Treasury Security will be removed from the Index. Any futures contract that has not yet become listed and traded on the Chicago Mercantile Exchange (“CME”) will be treated as worth zero (\$) in the computation of the Index until such point that such contract becomes available for trading. It is anticipated that the December 2017 dividend futures contract will cease trading, and 2028 dividend futures contract will begin trading, on or about December 15, 2017.

The Index is a price only index.

The Index is published in USD.

1.1 Short name and ISIN

The Index is distributed under ISIN DE000SLA3P86; the WKN is SLA3P8. The Index is published in Reuters under the code .SOIDIV28 and in Bloomberg under the code SOIDIV28 <Index>.

1.2 Initial value

The Initial Value Index is based on the close of trading on the start date, December 30, 2016.

1.3 Distribution

The Index is published via the price marketing services of Boerse Stuttgart AG and is distributed to all affiliated vendors. Each vendor decides on an individual basis as to whether he will distribute/display the Index via his information systems.

1.4 Prices and calculation frequency

The price of the Index is calculated and disseminated every 15 seconds on each Business Day based on the prices on the respective Exchanges on which the Index Components are listed. The most recent prices of all Index Components are used. Should there be no current price available on Reuters, the most recent price or the Trading Price on Reuters for the preceding Trading Day is used in the calculation.

The Index is calculated every 15 seconds on any Business Day from 9:00am to 4:30pm, EST. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart AG the Index cannot be distributed.

1.5 Weighting

Since the Index sums up the discounted values of the S&P 500 Dividend Index Futures, no weighting is applied.

1.6 Decision-making bodies

The Index is intended to be a static index in that the composition of the Index should not be expected to change after the Index has been originally constituted. Although intended to be static, a Committee composed of staff from Solactive AG is responsible for decisions regarding the composition of the Index as well as any amendments to the rules (in this document referred to as the "Committee" or the "Index Committee"). The future composition of the Index, if any, is determined by the Committee on the Selection Days according to the procedure outlined in 2.1 of this document. The Committee shall also decide about the future composition of the Index, if any Extraordinary Events should occur and the implementation of any necessary adjustments.

Members of the Committee can recommend changes to the guideline and submit them to the Committee for approval.

1.7 Publication

All specifications and information relevant for calculating the Index are made available on the <http://www.solactive.de> web page and sub-pages.

1.8 Historical data

Historical data will be maintained from the launch of the Index on December 31, 2016.

1.9 Licensing

Licences to use the Index as the underlying value for derivative instruments are issued to stock exchanges, banks, financial services providers and investment houses by Solactive AG.

2 Composition of the Index

2.1 Selection of the Index Components

The initial composition of the Index as well as any ongoing adjustment is based on the following rules:

On the Selection Days, Solactive checks the listed S&P 500 Dividend Index Futures. In case one or more annual contracts are listed that are not part of the current index composition, they will not be added. When any annual dividend futures contract matures, the value of the Index will adjust to reflect the removal of such futures contract from the Index. After expiry of the final dividend futures contract in the Index (the “Index Maturity”), the value of the Index will be 0. The Treasury Security initially used to value the corresponding dividend future is herein termed the “Initial Treasury Security” and is specified in the table herein. The Initial Treasury Security is generally not expected to change. However, on any Selection Day, another U.S. Treasury Security may be used to value each futures contract if the current Treasury Security fails to meet certain thresholds outlined in Section 4 herein.

2.2 Ordinary adjustment

The composition of the Index is reviewed on the Selection Day and necessary changes are announced.

Solactive AG shall publish any changes made to the Index composition on the Selection Day and consequently with sufficient notice before the Adjustment Day.

2.3 Extraordinary adjustment

The Committee may, but is under no obligation to, substitute an Index Component with a successor Index Component upon the occurrence of an Extraordinary Event as determined by Solactive AG. Any such successor Index Component shall be included in the Index after the close of business on the day when an Extraordinary Event has been determined by Solactive AG.

3 Calculation of the Index

3.1 Index formula

The Index is an index whose value on a Business Day is equivalent to the sum of the products of all Index Components of the products of (a) the price of the respective S&P 500 Dividend Index Future and (b) the price of the designated corresponding Treasury STRIP (the “Treasury STRIP” or “STRIPS”) with a similar or prior maturity date (the “STRIPS Maturity Date”) (expressed as a percentage of par).

As a formula:

$$Index_t = M * \sum_{i=1}^n p_{DivFut_{i,t}} * p_{Treasury_{i,t}}$$

With:

$p_{DivFut_{i,t}}$	= price of the S&P 500 Annual Dividend Index Future i on Business Day t
$p_{Treasury_{i,t}}$	= the Ask price (expressed as a percentage of par) of corresponding Treasury STRIP _i on Business Day t
n	= number of annual S&P 500 Dividend Index Futures in the Index
$Index_t$	= Index level on Business Day t
M	= the Index Multiplier, a constant, initially set to 1/40.

In case no Treasury STRIP fulfills the criteria under section 4 for a certain due date, a discount price (expressed as a percentage of par) will be calculated using the Ask Yield of a designated Coupon Treasury Bond with a similar or prior maturity date (the “Coupon Maturity Date”) as the corresponding S&P 500 Dividend Index Future and the following formula:

$$p_{Treasury_{i,t}} = \frac{1}{(1 + Ask Yield_{i,t})^{(\frac{TMaturity_{i,t}}{365})}}$$

With:

$Ask Yield_{i,t}$	= the Ask Yield of the Coupon Treasury Bond i with a Similar Maturity as Future Contract i, expressed on an actual/365 day count basis.
$TMaturity_{i,t}$	= Based on Business Day t, the number of bond days from and including the regular settlement date for the Coupon Treasury Bond to but excluding the Expiry Date of Futures Contract i, calculated on an annual, actual/365 day count basis.

For the period in time on or after the Maturity Date of Treasury STRIP or Coupon Treasury until the expiry of the corresponding dividend futures contract, $p_{Treasury_{i,t}}$ will be equal to 1.00, and the Index will consist of cash in an amount equal to the Dividend Index Futures price for its corresponding dividend futures contract.

3.2 Accuracy

The value of the Index will be rounded to two (2) decimal places.

3.3 Adjustments

Upon the expiration of any dividend futures contract, no additional futures contract (or corresponding US Treasury) will be added to the Index. Therefore, the value of the index is expected to decline in value after each dividend futures expiry. Upon expiration of the last dividend futures contract, the value of the index will be zero. In the event of a change in the calculation of any dividend futures contract, the Index calculation will be adjusted to reflect such change.

If a change is required, Solactive can replace such Initial Treasury Security. Solactive can select another Treasury Security that meets, or most closely meets, the liquidity criteria outlined in Section 4 with a maturity that is nearest to the expiration of the corresponding dividend futures contract (but in no event greater than 65 calendar days prior or 35 calendar days after the futures expiry date). In the event that more than one Treasury Security equally meet the Index liquidity and maturity criteria, Solactive will select that Treasury Security with the lowest coupon (i.e. with a duration closest to the corresponding futures contract).

The table below reflects the S&P 500 Annual Dividend Index futures contracts and Initial Treasury Securities used to calculate the Index. Solactive will announce, via press release to various media outlets and on its website, the identity of any replacement Treasury Security(s) not later than 5 scheduled New York Business Days prior to its replacement.

S&P 500 Annual Dividend Index Futures Expiration Month	Initial Treasury Security Description (CUSIP #)
December 2017	<i>U.S. Treasury 0% Due 12/07/17 (912796LB3)</i>
December 2018	<i>U.S. Treasury 1.25% Due 12/15/2018 (912828N22)</i>
December 2019	<i>U.S. Treasury 1.625% Due 12/31/2019 (912828G95)</i>
December 2020	<i>U.S. Treasury 1.75% Due 12/31/2020 (912828N48)</i>
December 2021	<i>U.S. Treasury 2% Due 12/31/2021 (912828U81)</i>
December 2022	<i>U.S. Treasury 2.125% Due 12/31/2022 (912828N30)</i>
December 2023	<i>U.S. Treasury 2.25% Due 12/31/2023 (912828V23)</i>
December 2024	<i>U.S. Treasury 2.25% Due 11/15/2024 (912828G38)</i>
December 2025	<i>U.S. Treasury 2.25% Due 11/15/2025 (912828M56)</i>
December 2026	<i>U.S. Treasury 2% Due 11/15/2026 (912828U24)</i>
December 2027	<i>U.S. Treasury 6.125% Due 11/15/2027 (912810BF9)</i>
December 2028	<i>U.S. Treasury 5.25% Due 11/15/2028 (912810FF0)</i>

3.4 Miscellaneous

3.4.1 Recalculation

Solactive AG makes the greatest possible efforts to accurately calculate and maintain its indices. However, the occurrence of errors in the index determination process cannot be ruled out. In such cases Solactive AG adheres to its publicly available [Correction Policy](#).

4. Definitions

“Index Universe” in respect of an Adjustment Day are S&P 500 Annual Dividend Index Futures and U.S. Treasury Securities that fulfill the following criteria:

1. All listed annual S&P 500 Dividend Index Futures contracts (December expiry only if more than one) listed on the CME out to the Maturity of the Index. There shall be no more than one S&P 500 Dividend Index Futures contract for any calendar year.
2. U.S. Treasury Strips or Coupon Treasury Bonds with a similar maturity as the future contract expiry date in 1 that meet the below criteria:
 - a. Minimum amount outstanding of \$10 Billion
 - b. Minimum average daily volume over the preceding 60 trading days of \$25MM or more as reported by a source as determined by Solactive in its sole and absolute discretion.

“Index Component” is each component currently included in the Index.

A **“Business Day”** is a day on which New York Stock Exchange and CME are open for trading.

The **“Index Calculator”** is Solactive AG or any other appropriately appointed successor in this function.

The **“Index Currency”** is USD.

“Selection Day” is the 10th NYSE Business Day prior to any Adjustment Day.

“Adjustment Day” is the first NYSE Business Day of any calendar quarter.

An **“Affiliated Exchange”** is with regard to an Index Component an exchange, a trading or quotation system on which options and futures contracts on the Index Component in question are traded, as specified by the Index Calculator.

A **“Market Disruption Event”** occurs if

1. one of the following events occurs or exists on a Trading Day prior to the opening quotation time for an Index Component:
 - A) trading is suspended or restricted (due to price movements that exceed the limits allowed by the Exchange or an Affiliated Exchange, or for other reasons):
 - 1.1. across the whole Exchange; or
 - 1.2. in options or futures contracts on or with regard to an Index Component or an Index Component that is quoted on an Affiliated Exchange; or
 - 1.3. on an Exchange or in a trading or quotation system (as determined by the Index Calculator) in which an Index Component is listed or quoted; or
 - B) an event that (in the assessment of the Index Calculator) generally disrupts and affects the opportunities of market participants to execute on the Exchange transactions in respect of a share included in the Index or to determine market values for a share included in the Index or to execute on an Affiliated Exchange transaction with regard to options and futures contracts on these shares or to determine market values for such options or futures contracts; or
2. trading on the Exchange or an Affiliated Exchange is ceased prior to the usual closing time (as defined below), unless the early cessation of trading is announced by the Exchange or Affiliated Exchange on this Trading Day at least one hour before

(aa) the actual closing time for normal trading on the Exchange or Affiliated Exchange on the Trading Day in question or, if earlier.

(bb) the closing time (if given) of the Exchange or Affiliated Exchange for the execution of orders at the time the quote is given.

“Normal exchange closing time” is the time at which the Exchange or an Affiliated Exchange is normally closed on working days without taking into account after-hours trading or other trading activities carried out outside the normal trading hours; or

3. a general moratorium is imposed on banking transactions in the country in which the Exchange is resident if the above-mentioned events are material in the assessment of the Index Calculator, whereby the Index Calculator makes his decision based on those circumstances that he considers reasonable and appropriate.

5 Appendix

5.1 Contact data

Information regarding the Index concept

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5.2 Calculation of the Index – change in calculation method

The application by the Index Calculator of the method described in this document is final and binding. The Index Calculator 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 Calculator may also make changes to the terms and conditions of the Index and the method applied to calculate the Index, which he 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 Calculator is not obliged to provide information on any such modifications or changes. Despite the modifications and changes the Index Calculator will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.