



INDEX GUIDELINE

Adaptive Wealth Strategies U.S. Risk Management Index

Version 1.0

02 October 2020

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Introduction

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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 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 trademarked.

It contains the underlying principles and rules regarding the structure and operation of the Adaptive Wealth Strategies U.S. Risk Management Index (the “Index”). 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 does not constitute a 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.

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Index Specifications

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1 INDEX SPECIFICATIONS

- The Adaptive Wealth Strategies U.S. Risk Management Index (the “Index”) is an Index of Carroll Financial Associates and is calculated and distributed by Solactive AG.
- The Index dynamically allocates across two components: Solactive GBS United States 500 Index GTR which intends to track the performance of the largest 500 companies from the US stock market and is based on the Solactive Global Benchmark Series, and iShares 1-3 Year Treasury Bond ETF which represents the risk-off exposure.
- The Index is a Gross Total Return index.
- The Index is published in USD.

1.1 SHORT NAME AND ISIN

The Index is distributed under ISIN DE000SL0A725; the WKN is SL0A72. The Index is published on Refinitiv under the code .AWSRSK and on Bloomberg under the ticker AWSRSK<Index>.

1.2 INITIAL VALUE

The Index is based on 100 at the close of trading on the start date, 3 January 1994.

1.3 DISTRIBUTION

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

1.4 PRICES AND CALCULATION FREQUENCY

The price of the Index is calculated 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. Prices of Index Components not listed in the Index Currency are translated using spot foreign exchange rates quoted by Refinitiv. Should there be no current price available on Refinitiv, the most recent price or the Trading Price on Refinitiv for the preceding Trading Day is used in the calculation.

The Index is calculated every Business Day from 9:00 a.m. to 10:52 p.m., CET. In the event that data cannot be provided to Refinitiv or to the pricing services of Boerse Stuttgart GmbH, the Index cannot be distributed.

1.5 WEIGHTING

As the allocation of the Index across index components is based on signal calculation described in Section 3.1.

1.6 OVERSIGHT

A Committee composed of staff from Carroll Financial Associates (the “Committee” or the “Index Committee”) is responsible for any amendments to the rules.

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.com> web page and sub-pages.

1.8 HISTORICAL DATA

Historical data will be maintained from the launch of the Index on 1 October 2020.

1.9 LICENSING

Licenses to use the Index as the underlying value for derivative instruments are issued to stock exchanges, banks, financial services providers and investment houses by Carroll Financial Associates.

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Composition of the Index

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2 COMPOSITION OF THE INDEX

At any point in time the index will include one of the following two indices as Index Components:

Component	Name	Currency	RIC	BBG Ticker	ISIN
1	Solactive GBS United States 500 Index GTR	USD	.US500T		DE000SL0AE81
2	iShares 1-3 Year Treasury Bond ETF	USD	SHY.OQ	SHY UQ Equity	US4642874576

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Calculation of the Index

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3 CALCULATION OF THE INDEX

3.1 INDEX FORMULA

3.1.1 Index level

The Index Value on a Business Day at the relevant time is calculated in accordance with the following formula:

$$I_t = I_{t-1} \times (Return_{t-1} + 1)$$

$$Return_t = \sum_{i=1}^2 r_{i,t} \times w_{i,t-3}$$

$$r_{i,t} = p_{i,t}/p_{i,t-1} - 1$$

Where:

I_t = Index level on Business Day t

I_{t-1} = Index level on Business Day immediately preceding t

$p_{i,t}$ = Closing price of Index Component i on Business Day t

$p_{i,t-1}$ = Closing price of Index Component i on Business Day immediately preceding t

$w_{i,t-3}$ = Weight of Index Component i three Business Days prior t

3.1.2 Weights of index components

On each Business Day, weight for Component 1 (.US500T) is determined by 04 signals, namely z-scores of 200-day Single Moving Average (SMA), CBOE Volatility Index (VIX), Moving Average Convergence Divergence (MACD) and drawdown.

Each signal has an equal vote (0.25) on market entry or market exit. On the exit side, each signal will vote 0.25 if it triggers market exit and 0 if otherwise. On the entry side, each signal will vote 0.25 if it triggers market entry and 0 if otherwise. Total entry(exit) vote is equal to sum of all signal entry(exit) votes.

If the total entry(exit) vote is larger than or equal to 0.5, market entry(exit) is favourable, final entry(exit) vote is 1. If the total entry(exit) vote is smaller than 0.5, market entry(exit) is unfavourable, final entry(exit) vote is 0.

The weight of .US500T is equal to final exit vote unless final entry vote is 1. The entry vote overrides the exit vote. Once a decision to enter or exit market has been made, the position will be locked for 10 days. The total weight becomes effective 03 calculation days after the day decision has been made.

The weight of SHY.OQ will be equal to 1 minus the weight of .US500T.

3.1.3 Signals Calculation

Table 1. Threshold values for signals

Signals	z-scores exit threshold	z-scores entry threshold
200-day SMA	-0.5	-4
VIX	1.25	5.5
MACD	-0.25	4
Drawdown	0.5	-2

For exit vote:

If signal is either 200-day SMA or MACD or drawdown:

$$exit\ vote_{j,t} = \begin{cases} 0.25, & zscores_{j,t-1} > threshold_j \\ 0, & otherwise \end{cases}$$

Else:

$$exit\ vote_{j,t} = \begin{cases} 0.25, & zscores_{j,t-1} < threshold_j \\ 0, & otherwise \end{cases}$$

For entry vote:

If signal is either 200-day SMA or drawdown:

$$entry\ vote_{j,t} = \begin{cases} 0.25, & zscores_{j,t-1} < threshold_j \\ 0, & otherwise \end{cases}$$

Else:

$$entry\ vote_{j,t} = \begin{cases} 0.25, & zscores_{j,t-1} > threshold_j \\ 0, & otherwise \end{cases}$$

Where:

$exit\ vote_{j,t}$ = Exist vote from signal j on Business Day t

$entry\ vote_{j,t}$ = Entry vote from signal j on Business Day t

$zscores_{j,t-1}$ = z-scores value of signal j on Business Day immediately preceding t

$threshold_j$ = Threshold level of signal j shown in Table 1.

3.2 ACCURACY

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

3.3 MISCELLANEOUS

3.3.1 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.

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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/>.

3.3.2 Market Disruption

In periods of market stress Solactive calculates its indices following predefined and exhaustive arrangements as described in the Solactive Disruption Policy, which is incorporated by reference and available on the Solactive website: <https://www.solactive.com/documents/disruption-policy/>. Such 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.

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Definitions

4 DEFINITIONS

“Business Day” is any day where the New York Stock Exchange is open for trading.

“Guideline” shall have the meaning as defined in Section “Introduction”.

“Index” shall have the meaning as defined in Section “Introduction”.

“Index Component” shall have the meaning as in Section 2.1.

“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 Calculation Agent) in which an Index Component is listed or quoted; or
 - B) an event that (in the assessment of the Index Calculation Agent) 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.
2. trading on the Exchange or an Affiliated Exchange is ceased prior to the “Normal Exchange Closing Time”, which 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. An exception to this classification as a Market Disruption Event is where the early cessation of trading is announced by the Exchange or Affiliated Exchange on this Trading Day at least one hour before
 - 2.1. the actual closing time for normal trading on the Exchange or Affiliated Exchange on the Trading Day in question or, if earlier.
 - 2.2. the closing time (if given) of the Exchange or Affiliated Exchange for the execution of orders at the time the quote is given.
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 Calculation Agent, whereby the Index Calculation Agent

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makes its decision based on those circumstances that it considers reasonable and appropriate.

“Solactive” shall have the meaning as defined in Section “Introduction”.

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Appendix

5 APPENDIX

5.1 CONTACT DATA

Carroll Financial Associates
4521 Sharon Road, Suite 400
Charlotte, NC 28211
United States of America

Tel.: 704-553-8006

Fax: 704-553-9610

Email: pbobbins@carrollfinancial.com

Solactive AG
German Index Engineering
Platz der Einheit 1
60327 Frankfurt am Main
Germany

Tel.: +49 (0) 69 719 160 00

Fax: +49 (0) 69 719 160 25

Email: info@solactive.com

Website: www.solactive.com

5.2 CHANGES IN CALCULATION METHOD

The application by the Index Calculation Agent of the method described in this document is final and binding. The Index Calculation Agent 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 Calculation Agent 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 Calculation Agent is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the Index Calculation Agent will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.