

INDEX GUIDELINE

RBC Asset Allocator 5% Risk Control Index

Version 1.0

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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 RBC Asset Allocator 5% Risk Control 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 by RBC Capital Markets, LLC ("**INDEX OWNER**"). The INDEX is 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

| Category | Description |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Asset Class | Multi-Asset |
| Strategy | The INDEX takes a variable exposure to the UNDERLYING INDEX with the aim to achieve an annualized volatility of less than or equals to 5.0%. The INDEX allows leverage up to 150.0%. |
| Volatility Target | 5.0% |
| Rebalancing Frequency | Daily |

1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

| Name | ISIN | Currency | Type | RIC | BBG ticker |
|-------------------------------------------|--------------|----------|---------|-----------|----------------|
| RBC Asset Allocator 5% Risk Control Index | DE000SLOBMY7 | USD | VT*/AR* | .RBCUAA5U | RBCUAA5U Index |

VT* means there is a volatility control formula used on top of the underlying basket. Please see section 3.1. AR* means the index return is adjusted for a daily fee.

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 30/3/2007, the START DATE, is 1000. Historical values from the 27/11/2020 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 level of the INDEX is calculated on each CALCULATION DAY from 9:30 a.m. to 4:52 p.m. EST based on the TRADING PRICES of the INDEX COMPONENT, which are calculated and distributed by SOLACTIVE. TRADING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the current Reuters spot foreign exchange rate. Should there be no current TRADING PRICE for the INDEX COMPONENT, the later of: (i) the most recent CLOSING PRICE; or (ii) the last available TRADING PRICE for the preceding CALCULATION DAY is used in the calculation.

In addition to the intraday calculation a closing level of the INDEX for each CALCULATION DAY is also calculated. This closing level is based on the CLOSING PRICE for the INDEX COMPONENT as calculated by SOLACTIVE. The CLOSING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the 4pm London time WM Fixing quoted by Reuters. If there is no 4pm London time WM Fixing for the relevant CALCULATION DAY, the last available 4pm London time WM Fixing will be used for the closing level 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 the INDEX OWNER.



2. INDEX SELECTION

2.1. INDEX CONSTITUENTS

The INDEX consists of the below UNDERLYING INDEX which is also referred to as "INDEX COMPONENT":

| Name | Ticker | ISIN | Currency |
|---------------------------|----------------|--------------|----------|
| RBC Asset Allocator Index | RBCUMAAU Index | DE000SLOBMJ8 | USD |

3. CALCULATION OF THE INDEX

3.1. INDEX FORMULA

$$IL_t = IL_{t-1} + Units_{t-1} \times (UIL_t - UIL_{t-1}) - TC_t - Fee_t$$

Where:

IL_t : the level of the INDEX as of CALCULATION DAY t.

IL_{t-1} : the level of the INDEX as of CALCULATION DAY t-1.

$Units_{t-1}$: Units of the UNDERLYING INDEX as of CALCULATION DAY t-1.

UIL_t : the level of the UNDERLYING INDEX as of CALCULATION DAY t.

UIL_{t-1} : the level of the UNDERLYING INDEX as of CALCULATION DAY t-1.

TC_t : Transaction Costs as of CALCULATION DAY t.

Fee_t : Index Fee as of CALCULATION DAY t.

The Units of the UNDERLYING INDEX as of CALCULATION DAY t are calculated according to the following:

If CALCULATION DAY t is the START DATE:

$$Units_t = UIW_t \times \frac{1000}{UIL_t}$$

If CALCULATION DAY t is also a Rebalance Date:

$$Units_t = UIW_t \times \frac{IL_{t-1}}{UIL_{t-1}}$$

Otherwise:

$$Units_t = Units_{t-1}$$



Where:

$Units_{t-1}$: Units of the UNDERLYING INDEX as of CALCULATION DAY t-1.

IL_{t-1} : the level of the INDEX as of CALCULATION DAY t-1.

UIL_t : the level of the UNDERLYING INDEX as of CALCULATION DAY t.

UIL_{t-1} : the level of the UNDERLYING INDEX as of CALCULATION DAY t-1.

UIW_t : Underlying Index Weight as of CALCULATION DAY t.

Underlying Index Weight as of CALCULATION DAY t is calculated as:

If CALCULATION DAY t is the START DATE:

$$UIW_t = \min\left(Cap, \frac{VT}{UIVol_{t-1}}\right)$$

If CALCULATION DAY t is also a Rebalance Date:

$$UIW_t = UIW_t^{temp}$$

Otherwise:

$$UIW_t = UIW_{t-1}$$

Where:

UIW_t^{temp} : Temporary Underlying Index Weight as of CALCULATION DAY t, which is calculated according to the below:

$$UIW_t^{temp} = \min\left(Cap, \frac{VT}{UIVol_{t-1}}\right)$$

Cap : Weighting Cap of 150.0%.

VT : Volatility Target of 5.0%.

UIW_{t-1} : Underlying Index Weight as of CALCULATION DAY t-1.

$UIVol_{t-1}$: Underlying Index Volatility as of CALCULATION DAY t-1.

Underlying Index Volatility as of CALCULATION DAY t is calculated as

$$UIVol_t = \max(UIVol_t^{LT}, UIVol_t^{ST})$$

With

$UIVol_t^{LT}$ being the Underlying Index Long-Term Volatility as of CALCULATION DAY t calculated as

$$UIVol_t^{LT} = \sqrt{\frac{252}{N_{LT}} \times \sum_{i=t-N_{LT}+1}^t \left(\ln\left(\frac{UIL_i}{UIL_{i-1}}\right) \right)^2}$$

$UIVol_t^{ST}$ being the Underlying Index Short-Term Volatility as of CALCULATION DAY t calculated as



$$UIVol_t^{ST} = \sqrt{\frac{252}{N_{ST}} \times \sum_{i=t-N_{ST}+1}^t \left(\ln \left(\frac{UIL_i}{UIL_{i-1}} \right) \right)^2}$$

N_{LT} : the total number of historical CALCULATION DAYS used to calculate Underlying Index Long-Term Volatility, which is 60.

N_{ST} : the total number of historical CALCULATION DAYS used to calculate Underlying Index Short-Term Volatility, which is 20.

$\ln \left(\frac{UIL_i}{UIL_{i-1}} \right)$: a logarithmic return of the UNDERLYING INDEX with respect to a CALCULATION DAY i .

CALCULATION DAY t is a Rebalance Date if:

- a. CALCULATION DAY t is also a START DATE
- b. The following condition is satisfied:

$$\frac{abs(UIW_t^{temp} - UIW_{t-1})}{UIW_{t-1}} \geq Threshold$$

With

UIW_t^{temp} : Temporary Underlying Index Weight as of CALCULATION DAY t .

UIW_{t-1} : Underlying Index Weight as of CALCULATION DAY $t-1$.

Threshold: Rebalancing Threshold of 2.0%.

Transaction Costs as of CALCULATION DAY t are calculated as:

$$TC_t = abs(Units_t - Units_{t-1}) \times UIL_t \times Rate_{TC}$$

Where:

$Units_t$: Units of the UNDERLYING INDEX as of CALCULATION DAY t .

$Units_{t-1}$: Units of the UNDERLYING INDEX as of CALCULATION DAY $t-1$.

UIL_t : the level of the UNDERLYING INDEX as of CALCULATION DAY t .

$Rate_{TC}$: Transaction Costs Rate of 0.02%.

Index Fee as of CALCULATION DAY t is calculated as:

$$Fee_t = IL_{t-1} \times Rate_{fee} \times \frac{ACT_{t-1,t}}{360}$$

With:

IL_{t-1} : the level of the INDEX as of CALCULATION DAY $t-1$.

$Rate_{fee}$: fixed Index Fee Rate of 1.0%.

$ACT_{t-1,t}$: the number of calendar days between CALCULATION DAY t (excluded) and CALCULATION DAY



(included).

3.2. ACCURACY

The level of the INDEX will be rounded to 3 decimal places. CLOSING PRICES of the UNDERLYING INDEX will not rounded.

3.3. 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/>.

3.4. 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.

4. MISCELLANEOUS

4.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example the determination of the Index Universe (if applicable), the selection of the INDEX COMPONENTS (if applicable) 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.



4.2. 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 SOLACTIVE Methodology Policy, which is incorporated by reference and available on the SOLACTIVE website: <https://www.solactive.com/documents/methodology-policy/>.

Such change in the methodology will be announced on the SOLACTIVE website 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.

4.3. 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 and 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.

4.4. 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 4.2 "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 an 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 an 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/>.

4.5. 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/>.



5. DEFINITIONS

“**BENCHMARK REGULATION**” shall have the meaning as defined in Section “Introduction”.

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

“**CALCULATION DAY**” is a day on which New York Stock Exchange (MIC: XNYS) and NASDAQ Stock Exchange (MIC: XNAS) are open for general business and which is not a Disruption Day for the UNDERLYING INDEX.

“**CLOSE OF BUSINESS**” is the calculation time of the closing level of the INDEX as outlined in Section 1.4.

The “**CLOSING PRICE**” in respect of an INDEX COMPONENT and a CALCULATION DAY is a security's final regular-hours price as calculated by SOLACTIVE.

“**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 the UNDERLYING INDEX listed in Section 2.1.

“**INDEX CURRENCY**” is the currency specified in the column “Currency” in the table in Section 1.2.

“**INDEX OWNER**” shall have the meaning as defined in Section “Introduction”.

“**LIVE DATE**” shall have the meaning as defined in Section 1.3.

“**OVERSIGHT COMMITTEE**” shall have the meaning as defined in Section 4.5.

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

“**START DATE**” shall have the meaning as defined in Section 1.3.

“**TRADING PRICE**” in respect of an INDEX COMPONENT and a CALCULATION DAY is the most recent price as calculated by SOLACTIVE.

“**UNDERLYING INDEX**” is the Index listed in Section 2.1.

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