

# INDEX HANDBOOK

SYSTEMATIX® BOND + EQUITY STRATEGY 10% RC USD INDEX



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#### 1. Overview

The SYSTEMATIX® BOND + EQUITY STRATEGY 10% RC USD INDEX (the "Index", or the "Systematix® BEST 10% RC USD Index") is a risk controlled version of the SYSTEMATIX® BOND + EQUITY STRATEGY 10% USD INDEX (the "Top-Level Index"). This Index is comprised of a bond and an equity "Sub-Index". The Index and the Top-Level Index are denominated in USD. All indices are directly based on the performance of the futures markets and its respective contracts mentioned below.

"Index Business Days" for the calculation of the Index are all weekdays except Munich<sup>1</sup> holidays. In case of a holiday on the relevant futures exchange which is not a Munich holiday, the stale price from the prior available Index Business Day is used for the respective constituent. In the case a financial product is linked to the Index, the financial product shall not be traded on such a day and the index level is published for information purposes only.

The values of the Index and the Top-Level Index are calculated on each Index Business Day t, and shall reflect constituent futures prices as of market close in Japan. Hence, for non-Japan listed index constituents, the futures price as of Index Business Day t is actually the settlement price of the relevant futures exchange as of the respective previous Futures Trading Day (as defined below).

The "Index Start Date" is 2 January 1996. On this date, the Index is initialized with a starting value of 100 USD. The "Index Live Date", which is the date the Index Administrator began calculating the Index and will be recorded in accordance with Article 8 of the BMR, is 22 July 2019.

The level of the Index, as determined by the Index Administrator in its function as Calculation Agent (as defined below), will be reported on Bloomberg via the page SXBESTEN <Index> or any successor financial information service as defined by the Index Administrator (as defined below) in its sole and absolute discretion.

#### 2. Index Calculation

# 2.1. Index Components

The "Index Components" are the following futures series (each a "Futures Series"):

#	FUTURES NAME	Ticker Prefix²	Ticker Extension <sup>3</sup>	FX RATE	WEIGHT	SUB INDEX	ASSET-CLASS
i=1	CME 5YR T-Note	FV	Comdty	1	1/9	#1	Fixed Income
i=2	CME 10YR T-Note	TY	Comdty	1	1/9	#1	Fixed Income
i=3	CME 30YR T-Bond	US	Comdty	1	1/9	#1	Fixed Income
i=4	Eurex Euro-Bobl	OE	Comdty	EUR/USD	1/9	#1	Fixed Income
i=5	Eurex Euro-Bund	RX	Comdty	EUR/USD	1/9	#1	Fixed Income
i=6	Eurex Euro-Buxl	UB	Comdty	EUR/USD	1/9	#1	Fixed Income
i=7	OSE 10YR JGB	JB	Comdty	JPY/USD	1/9	#1	Fixed Income

<sup>&</sup>lt;sup>1</sup> New Year's Day, Epiphany, Shrove Tuesday, Good Friday, Easter Monday, Labour Day, Ascension Day, Whit Monday, Corpus Christi Day, Assumption Day, Day of German Unity, All Saints' Day, Christmas Eve, Christmas Day, Christmas Holiday (St. Stephen's Day), New Year's Eve.

<sup>&</sup>lt;sup>2</sup> Ticker as currently available on the market information service by Bloomberg L.P.

<sup>&</sup>lt;sup>3</sup> Ticker as currently available on the market information service by Bloomberg L.P.



i=8	MX 10YR CGB	TF	Comdty	CAD/USD	1/9	#1	Fixed Income
i=9	ICE Long Gilt	G	Comdty	GBP/USD	1/9	#1	Fixed Income
i=10	OSE Nikkei 225	NK	Index	JPY/USD	1/5	#2	Equities
i=11	CME E-mini S&P 500	ES	Index	1	1/5	#2	Equities
i=12	CME E-mini NASDAQ-100	NQ	Index	1	1/5	#2	Equities
i=13	Eurex EURO STOXX 50	VG	Index	EUR/USD	1/5	#2	Equities
i=14	HKFE Hang Seng	HI	Index	HKD/USD	1/5	#2	Equities

The month letter codes of the roll schedule are defined as follows:

Letter	Contract Maturity	Letter	Contract Maturity	Letter	Contract Maturity
F	January	K	May	U	September
G	February	М	June	V	October
Н	March	N	July	Х	November
J	April	Q	August	Z	December

#### 2.2. Futures Roll Indices

A Futures Roll Index (as defined below) is a futures position continuously rolled in the Active Contract as outlined below. A standard futures roll from the front contract into the next contract is performed two index business days before the futures contract's last trade or first notice date, respectively.

Each Futures Roll Index starts with a value of 100 and is denominated in the underlying futures currency. Currently daily settlement prices of the corresponding futures contracts are used to calculate the daily levels of the Futures Roll Indices.

In case the Futures Roll Index is stale due to a holiday on the respective futures exchange, but enters the index calculation, an alternative underlying price source, taking into account the price changes in financial markets during this holiday period, is used to calculate a tradeable index level. The alternative price source is defined in a formulaic manner at least one Index Business Day in advance and is subject to change. The formulas are defined in an Addendum to this Technical Document.

## 2.3. Local Exchange Futures Roll Indices

A Local Exchange Futures Roll Index is a futures position continuously rolled in the Active Contract using the holiday calendar of the relevant futures exchange. Local Exchange Futures Roll Indices are calculated for all covered futures markets.

#### 2.4. Sub-Indices

The top-level index is comprised of a Bond and an Equity Sub-Index.

#### 2.4.1. Bond Sub-Index

The Bond Sub-Index represents a long-only strategy applied to nine major bond futures. It is rebalanced and reweighted on a monthly basis; the sub-index applies an equal weighting on these rebalancing days. The Bond Sub-Index starts 90 index business days prior to the initial index start day with a value of 100 USD.



#### 2.4.2. Equity Sub-Index

The Equity Sub-Index represents a momentum-based long-/neutral strategy applied to five global blue chip equity index futures. For this purpose, the price of a continuous futures time series (LEFRI) is compared to its 200 days moving average for each equity index futures market on each monthly rebalancing day. In case the price of the continuous futures time series is higher than its 200 days moving average, a long position with the weight of 1/5 is established in the respective equity index futures market. Otherwise it is given a zero weight. The Equity Sub-Index starts 90 index business days prior to the initial index start day with a value of 100 USD.

#### 2.4.3. Rebalancing Process

To carry out the aforementioned long-neutral trend following strategy in equities, an adjustment with regard to the default weight may be made for the equity futures markets on an individual basis.

A Rebalancing Day is defined as the first Index Business Day of each month. On each Rebalancing Day, the 200 days simple moving average ("SMA") of each equity index LEFRI is compared to the most recent value of the respective LEFRI. In case the most recent value is above its SMA, the respective equity market is assumed to be in an uptrend and the equity index futures receive a weight budget of 1/5 in the Equity Sub-Index. In all other cases, the respective equity market is assumed to be in a downtrend and the respective equity index futures is not assigned the weight budget of 1/5; rather, this weight budget is shifted to the Bond Sub-Index then and distributed evenly between all Bond Sub-Index members.

# 2.5. Top-Level Index

The Top-Level Index represents a long-only portfolio, which combines the Equity and the Bond Sub-Index. The Top-Level Index is rebalanced on a monthly basis, with Rebalancing Days being defined as the first Index Business Day of each month. Depending on the number of neutral positions in the Equity Sub-Index, the weight of the Bond Sub-Index may be increased above the default value of 50% notional (before leverage) on a Rebalancing Day. In case all equity markets are invested, the Equity Sub-Index has a notional weight of 50% (before leverage). The summed weight budget of all equity markets in neutral position is shifted to the Bond Sub-Index and distributed evenly between all Bond Sub-Index members. The Top-Level Index started on its Index Start Date with a value of 100 USD. All non-USD components are hedged into USD on a daily basis.

## 2.6. Systematix® BEST 10% RC USD Index (the "Index")

The Index is a risk controlled version of the Top-Level Index aiming at realizing a target volatility of 10% using a theoretical maximum leverage of 300%. Weight adjustments due to the risk control mechanism are implemented on a daily basis. The EWMA based volatility estimator using a lambda of 0.98 choses between the estimation results of a short-term (20 days) and a medium term (90 days) time window, whichever has the higher volatility level. Transaction costs occur whenever futures are traded.

#### **Transaction Costs**

Transaction costs of trades executed for the purpose of implementing the investment strategy are reflected in the performance of the Index. The transaction costs of a trade are calculated as the contract value traded times the tick size.

#### **Index Calculation**

The Index starts with a value of 100 USD on the Index Start Date. Its performance results from a) the return generated by the index components (the referenced futures contracts), b) the transaction costs stemming from portfolio adjustments and c) the negative drift of 42 bps per annum (act/360).



# 2.7. Accuracy

The daily closing price of the Index will be rounded to two decimal places.

# 3. Index Principles

The Index is intended to reflect the performance of the investment strategy as defined in this handbook. The Index is denominated in USD. The investment universe comprises of 9 bond and 5 equity index markets. A trend-following investment strategy is controlling the exposure to equity markets and bond markets. The portfolio is rebalanced and risk managed on a daily basis, repositionings may happen on a monthly basis. The Index is aiming at realizing a volatility of 10% per annum.

## 4. Index Owner

The index owner is Munich Reinsurance Company ("Munich Re" or "Index Owner"). The Index Owner will retain all ownership rights, expressed or otherwise, with respect to the Index, including the ability to license, sell or transfer any or all of its ownership rights with respect to the Index.

The Index Owner has appointed an independent Index Calculation Agent to maintain and calculate the Index. The Index Owner may in the future terminate the appointment of the Index Calculation Agent and appoint a replacement index calculation agent.

# 5. Index Administrator and Index Calculation Agent

The Index Owner has entrusted the day-to-day management and maintenance of the Index, the Top-Level Index and its Sub-Indices to an index administrator, who will also fulfil the function of index calculation agent (the "Index Administrator").

The Index Administrator is currently Solactive AG.

The Index Administrator will maintain and employ the rules, procedures and methodology described in this document. This includes the implementation of changes to the Index, the Top-Level Index and its Sub-Indices and/or to the methodology under the instruction of the Index Committee (as defined below). The Index Administrator is responsible for the publication of the values of the Index determined by it as well as any further publication in relation to the Index.

Subject to the terms set out in this document, any determination by the Index Administrator will be made in its sole and absolute discretion by reference to such factors as it deems appropriate at such time. Any such determination by the Index Administrator will, in the absence of manifest error, be final, conclusive and binding.

No assurance can be given that market, regulatory, juridical or fiscal circumstances will not arise that would, in the view of the Index Committee, make a modification or change of the methodology necessary, which then would have to be implemented by the Index Administrator.

# 6. Calculation during Market Disruption Events and Index Adjustments

In its role as Index Administrator Solactive AG (acting as applicable through the Index Committee) may in accordance with the terms of this document, adjust the calculation of, delay, suspend or permanently cancel the Index and may have no obligation to continue the calculation, publication and dissemination of the Index. Any such calculation adjustment, delay, suspension, cancellation or non-publication may have a negative impact on any instruments linked to the Index.



#### 6.1. Index Committee

The "Index Committee" is composed of staff from Solactive AG. The Index Committee is responsible to oversee the Index and the methodology described in this document.

It is the Index Committee's aim to maintain the Index liquid and tradable. This includes the response to an Market Disruption Event, Index Modification and/or Index Correction (each as defined below), which will be implemented by the Index Administrator.

To meet its objectives, the Index Committee may – based on a defined set of internal rules - exercise limited discretion with respect to the modification the methodology described in this document in relation to either of the Index, including, but not limited to, in case an Index Modification and/or Index Correction (together "Index Adjustments") or a Market Disruption Event has occurred.

In case of a reaction by the Index Committee on one of these circumstances, the proposed change(s) and action(s) in relation to the Index will be reported by the Index Committee to the Index Administrator. Any such change(s) or action(s) are publicly announced by the Index Administrator as outlined below.

# 6.2. Market Disruption Event

Local market disruptions can have a global effect. Market disruptions can severely adversely affect the performance of the Index.

If on any Index Business Day a Market Disruption Event (as defined in the 2002 ISDA Equity Derivatives Definitions) has occurred, the Index Administrator shall calculate the value of the Index for such Index Business Day using a value for the affected Index Component(s), which is determined by the Index Committee in its sole and absolute discretion, having regard to the then prevailing market conditions, the last reported trade price of such Index Component(s) and such other conditions that the Index Committee, in its sole and absolute discretion, determines relevant for the valuation of such Index Component(s).

A Market Disruption Event is defined as the occurrence or existence of (a) a Trading Disruption, (b) an Exchange Disruption, which in either case the Index Committee determines is material at any time during the one hour period that end at the relevant settlement time, or (c) an Early Closure (each as defined in the 2002 ISDA Equity Derivatives Definitions).

## 6.3. Index Adjustments

#### **Index Modification**

The Index is subject to certain modifications in situations, in which it is difficult or impossible for the Index Administrator to calculate the value of the Index or to maintain the Index Principles with the chosen calculation parameters or variables and Index Components.

Consequently, the Index Committee may make discretionary decisions with regard to the calculation of the Index (including but not limited to changing the published methodology, make adjustments to the composition or calculation parameters and variables of the Index or the cancellation of the Index).

The Index Committee will make reasonable efforts to assure that such modifications, changes and replacements will result in a methodology that is consistent with the methodology described above.

#### **Index Correction**

If the Index Administrator or the Index Owner determines that a material error has occurred in the calculation of the Index, the Top-Level Index and/or its Sub-Indices, resulting in the publication of a materially inaccurate value of the Index, the Index Administrator or the Index Owner shall bring this to the attention of the Index Committee in order to evaluate a possible Index Correction.



The Index Committee shall determine according to its internal rules, whether such corrected value of the Index shall for the purposes of the calculations of the Index apply from the date such correction is published or on a retrospective basis.

#### **Publication of Index Adjustments**

Any Index Adjustments, including changes to the Index Components, changes to the methodology or a cancellation of the Index, as decided by the Index Committee and implemented by the Index Administrator, will be publicly announced by the Index Administrator as promptly as is reasonably practicable and normally at least 60 Index Business Days prior to the effective date of such change(s).

Changes decided by the Index Committee and implemented by the Index Administrator in response to Market Disruption Events will be publicly announced by the Index Administrator as promptly as it is reasonably practicable. All public announcements will be made on the website for the Index of the Index Administrator at http://www.solactive.com.

#### 7. Historical Data

The values of the Index between the Index Start Date and the Index Live Date have been determined by reference to historical data and must be considered as simulated and thus purely hypothetical. It is provided as an illustration of how the Index would have performed during the period had the Index Calculation Agent began calculating the Index on the Index Start Date using the methodology described in this document. This data does not reflect actual performance, nor was a contemporaneous investment model run of the Index. Whilst any such methodology or assumption is, in the view of the Index Owner, reasonable, the use of historical data may result in material differences between the simulated performance of the Index, prior to the Index Live Date, and any subsequent actual performance. The Index history before the Index Live Date has been determined by the Index Owner and has only partially been verified by the Index Calculation Agent.

Historical levels of the Index for the period from and after the Index Live Date are calculated with reference to the official closing levels of the Index Components determined based on the latest available data published by the relevant futures exchanges and/or benchmark administrators and/or as delivered via the employed information systems.

Past performance of the Index is not a reliable guide to future performance and the past performance of the Index may have been determined on terms different to those described in this Index Handbook. No assurance, representation or warranty is given of the future performance of the Index or that it will achieve its objective. Instruments linked to the Index can fluctuate in price or value and prices, values or income may fall against the interests of any investor exposed to the performance of the Index. Changes in rates of exchange, rates of interest and prices of any Index Components, among other things, may have an adverse effect on the value of the Index.

#### 8. Contact

# 8.1. Index Owner

The Index Owner can be contacted at the following address:

Munich Reinsurance Company Financial Solutions Königinstrasse 107 80802 Munich Germany

Internet: http://www.munichre.com



## 8.2. Index Administrator

The Index Administrator can be contacted at the following address:

Solactive AG
Platz der Einheit 1
60327 Frankfurt am Main
Germany

Internet: http://www.solactive.com

# 8.3. Index Calculation Agent

The Index Calculation Agent can be contacted at the following address:

Solactive AG
Platz der Einheit 1
60327 Frankfurt am Main
Germany

Internet: http://www.solactive.com

#### 9. Risk Provisions

Without prejudice to the Disclaimer in Section 9, regard should be had to the non-exhaustive risk factors below which describe events or circumstances that may affect the calculation and/or the performance of the Index and may be material for the purposes of assessing the risks associated with any investment related to the Index.

#### 9.1. Nature of the Index

The Index is a rules-based formula that enables the value of the Index to be calculated from time to time. Although instruments may be issued or entered into whose return is linked to the performance of the Index, the Index is not itself an investment or instrument and does not give any person any entitlement to, or ownership interest in, any Index Components or any other obligation or asset referenced (directly or indirectly) by the Index.

### 9.2. Potential Conflicts of Interest

Potential conflicts of interest may exist in the internal teams, divisions or entities of the Munich Re Group. For example, one team may make determinations and take actions in relation to the Index in its capacity as Index Owner, while another team within the organisation may issue or promote/sell products linked to the Index.

In addition, a further team within the organisation may have trading positions in or relation to instruments and assets to which the performance of the Index is directly or indirectly linked (including any Index Component). No entity within the Munich Re Group shall have any duty or obligation to take into account any impact in the performance of the Index when effecting transactions in such instruments and assets.

# 9.3. Risks associated with an investment in instruments linked to the Index

### **Counterparty Risk**

Instruments linked to the Index may be exposed to counterparty credit risk. If an entity trades, enters into or issues any such instruments and becomes insolvent it may not be able to meet all of its payment obligations.



#### **Interaction Risk**

The value of the Index is based on the performance of different investment types. Different types of financial risk may interact unpredictably on these investments, particularly in times of market stress.

#### Tax

The value of the Index may be reduced to account for certain taxes and other deductions and therefore, may impact the performance of the Index and returns on any instruments linked to the Index.

#### **Duty of Care**

Subject always to their regulatory obligations and except as may be required by applicable law, neither the Index Owner, the Index Administrator (including where it acts through the Index Committee) nor the Index Calculation Agent shall have a duty of care or any fiduciary duty to any person in respect of the Index including any investor in any instrument linked to the Index. Neither the Index Owner, the Index Administrator nor the Index Calculation Agent is acting as an investment adviser or manager or providing advice of any nature in relation to the Index or any instrument linked to the Index.

#### **Other Risks**

There is no guarantee, warranty or assurance that this document discloses all possible factors that may affect the performance of the Index and the risks of investing in any instrument that is linked to the Index.

Before investing in any such instrument, you must satisfy yourself that you fully understand the risks of such investment and you are solely responsible for making an independent appraisal of and investigation into the Index and should not rely on this document as constituting investment advice.



#### 10. DISCLAIMER

THE INDEX OWNER, THE INDEX ADMINISTRATOR AND THE INDEX CALCULATION AGENT MAY EACH BE SUBJECT TO A NUMBER OF CONFLICTS OF INTEREST IN CONNECTION WITH THEIR ROLE AND SERVICES PERFORMED WITH RESPECT TO THE INDEX. IN THE EVENT THAT SUCH CONFLICTS ARISE, THE INDEX OWNER, THE INDEX CALCULATION AGENT AND THE INDEX ADMINISTRATOR SHALL USE THEIR REASONABLE ENDEAVOURS TO RESOLVE SUCH CONFLICTS OF INTEREST FAIRLY (HAVING REGARD TO THEIR RESPECTIVE OBLIGATIONS AND DUTIES).

ALTHOUGH THE INDEX OWNER, THE INDEX ADMINISTRATOR AND THE INDEX CALCULATION AGENT, AS APPLICABLE, WILL EACH OBTAIN INFORMATION FOR INCLUSION IN OR FOR USE IN THE PROVISION OF THE INDEX FROM SOURCES WHICH THE INDEX OWNER OR THE INDEX ADMINISTRATOR CONSIDERS RELIABLE, NEITHER THE INDEX OWNER NOR THE INDEX ADMINISTRATOR NOR THE INDEX CALCULATION AGENT WILL INDEPENDENTLY VERIFY SUCH INFORMATION AND OR GUARANTEE THE ACCURACY AND/OR THE COMPLETENESS OF THE INDEX OR ANY DATA INCLUDED THEREIN. THE INDEX IS COMPILED BY THE INDEX ADMINISTRATOR AND CALCULATED BY THE INDEX CALCULATION AGENT. POTENTIAL INVESTORS SHOULD BE AWARE THAT THE INDEX ADMINISTRATOR HAS A NUMBER OF SIGNIFICANT DISCRETIONS IN RELATION TO THE PROVISION OF THE INDEX.

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THE INDEX CALCULATION AGENT AND THE INDEX ADMINISTRATOR SHALL NOT BE LIABLE (IN NEGLIGENCE OR OTHERWISE) TO ANY PERSON FOR ANY ERROR IN THIS INDEX, OR ANY DELAY OR OMISSION OR FOR THE QUALITY, ACCURACY, TIMELINESS AND/OR COMPLETENESS OF THIS DOCUMENT AND IT SHALL NOT BE UNDER ANY OBLIGATION TO ADVISE ANY PERSON OF THE FOREGOING. WITHOUT LIMITING ANY OF THE FOREGOING, NEITHER THE INDEX CALCULATION AGENT NOR THE INDEX ADMINISTRATOR SHALL HAVE IN ANY EVENT ANY LIABILITY (WHETHER IN NEGLIGENCE OR OTHERWISE) TO ANY PERSON FOR ANY INDIRECT, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS) EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

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