

Index Guide for 7X Short Index linked to Bund Future V2

ISIN CH0353081091

This Index Guide describes the composition and calculation of the *Factor Index* specified below. The *Index Calculation Agent* makes the *Index Guide* available on the *Information Page*. The *Index Guide* constitutes the basis for calculating and publishing the *Factor Index*.

Index Name:	7X Short Index linked to Bund Future V2 (der " Faktor-Index ")
Reference Instrument	Bund Future December 2018
Index Calculation Agent:	Bank Vontobel AG, Gotthardstrasse 43, 8002 Zürich, Schweiz
Information Page:	https://indices.vontobel.com
Identifier:	ISIN: CH0353081091

This Index is part of the family of Vontobel Leveraged Long and Short indices ("**Faktor Indices**").

The Faktor Indices are not recognized financial indices but are customized indices conceived by Bank Vontobel AG in its capacity as Index Calculation Agent, their sole function being to act as underlying for this type of security (Factor Certificates).

The Index Calculation Agent will perform the calculation and composition of the Factor Index with the utmost care. However, the Index Calculation Agent does not guarantee that the calculation of the indices or of any other parameters required for the composition and calculation, as in accordance with this Index Guide, will be free from error.

Decisions on the manner and method of calculation and composition of its indices are made by the Index Calculation Agent in good faith and based on its best knowledge available. The Index Calculation Agent is neither liable for any damages nor any losses resulting from or associated with the said decisions.

The Index Calculation Agent accepts no liability whatsoever towards third parties for associated direct or indirect damages, resulting from or associated with an inaccurate or erroneous calculation of the indices or any other parameters. Without prejudice to any potential obligations vis-à-vis licensees, the Index Calculation Agent is under no obligation towards third parties, including investors and/or financial intermediaries, to indicate any mistakes or errors related to the Index.

The indices of the Index Calculation Agent do not constitute a recommendation to undertake an investment. In particular, the composition, calculation and publication of the indices are neither to constitute a representation or a warranty nor an opinion on the part of the Index Calculation Agent with regard to the purchase or sale of an index constituents or any financial instrument relating to such index.

The Index and the index family constitute the intellectual property of Bank Vontobel AG, Gotthardstrasse 43, 8002 Zurich, Switzerland, which reserves any and all rights in this respect.

The original version of the Index Guide is in German; foreign-language versions constitute non-binding translations.

The composition and calculation of the *Factor Index* specified above is described in the following. The *Index Calculation Agent* will make an index guide available on the *Information Page* for each *Factor Index*, containing this description together with the stipulations in the Final Terms. The index guide constitutes the basis for calculating and publishing the *Factor Index*.

A) INDEX DESCRIPTION

The *Factor Index* reflects price movements in the *Reference Instrument* with a leverage factor of 7. A decrease in the price of the *Reference Instrument* since the most recent calculation of an Index Closing Value results in a positive change in the *Factor Index* as compared to the previous price of the *Factor Index* and vice versa. The *Factor Index* therefore replicates a "short" strategy.

The *Factor Index* consists of a leverage component and a financing component.

Leverage component

The leverage component tracks an investment in the *Reference Instrument*, whereby movements in the price of the *Reference Instrument* are multiplied by the *Leverage* (Factor). This leverage effect occurs with either positive or negative movements in the price of the *Reference Instrument*, having a disproportionate effect on the value of the *Factor Index*. For example (leaving aside the financing component):

1. An increase in the price of the *Reference Instrument* (as compared to the most recent *Valuation Price* of the *Reference Instrument*) by 2% results in an decrease in the in the *Factor Index* by $7 \times 2\%$;
2. A decrease in the price of the *Reference Instrument* (as compared to the most recent *Valuation Price* of the *Reference Instrument*) by 2% results in a increase in the *Factor Index* by $7 \times 2\%$;

Financing component

The financing component reflects the income and costs that would be incurred in the event of a corresponding investment in the *Reference Instrument*.

Since an investment in futures does not involve the purchase of the reference asset underlying the future but simply consists of entering into a corresponding position in a futures contract, no expenditure is incurred for the acquisition of the reference asset underlying the future. Instead, the only requirement is to make a margin payment based on the position entered into in accordance with the rules and regulations of the *Reference Exchange*. The financing costs for the margin payment are reflected in the financing component.

The financing component also reflects the income that would be earned from a risk-free investment in line with the strategy of the leverage component and at the relevant *Interest Rate*.

Additionally, a fee charged by the *Index Calculation Agent* for the calculation and administration of the *Factor Index* is added (*Index Fee*).

Financing component

If the costs of the margin payment and the *Index Fee* exceed the interest income based on the applicable *Interest Rate* on a particular day, the value of the *Factor Index* on that day is reduced.

B) INDEX DEFINITIONS

The definitions below shall apply for the purposes of this index description:

"**Adjustment Date**" means the first *Index Calculation Day* of each calendar month.

"**Extraordinary Adjustment Event**" means any of the following events as they relate to the *Reference Instrument*:

- (a) changes in the conditions on which the *Reference Instrument* is based or the principal features of the contract on the *Reference Exchange*;
- (b) other changes relating to the *Reference Instrument* by or on the *Reference Exchange*.
- (c)
- (d)

"**Valuation Price**" of the *Current Reference Instrument* for an *Index Calculation Day* means – subject to an *Extraordinary Adjustment* of the index calculation pursuant to section D) – the settlement price of the *Current Reference Instrument* determined and published on the *Reference Exchange*. For the sake of clarity: following a Rollover (see below), the *Valuation Price* of the new *Current Reference Instrument* is applicable for the continuing calculation of the *Factor Index* in accordance with section C).

If an *Index Calculation Day* is not a *Trading Day*, the *Valuation Price* for the immediately preceding *Index Calculation Day* shall continue to apply (adjusted where necessary, in the reasonable discretion of the *Index Calculation Agent*, if and to the extent that a Rollover has taken place since the preceding *Index Calculation Day*). If no *Valuation Price* for the *Current Reference Instrument* is determined or published on a *Trading Day*, the *Index Calculation Agent* shall determine the *Valuation Price* of the *Current Reference Instrument* for that day on the basis of the most recent prices set for the *Current Reference Instrument* in its due discretion.

"Financing Spread" represents (in the form of a premium over the relevant *Interest Rate*) the costs of the margin payment which may be incurred for investments in the *Reference Instrument* in line with the strategy replicated by the *Factor Index*.

The *Financing Spread* on the *Index Start Date* corresponds to the *Initial Financing Spread*. The *Index Calculation Agent* then adjusts the **"Current Financing Spread"** in its due discretion on each *Adjustment Date* to reflect current market conditions and publishes it in accordance with section E) of this index description. The adjusted *Financing Spread* shall apply immediately as from the relevant *Adjustment Date*.

"Initial Financing Spread" means 1.75% per annum.

"Trading Day" means every day on which the *Current Reference Instrument* is traded on the *Reference Exchange*.

"Leverage" means -7. It describes the effect of a change in the *Current Reference Instrument* on the respective Factor Index.

The negative sign for the Leverage indicates that the Short Factor Index participates inversely in, i.e. in the opposite of, the performance of the *Current Reference Instrument*.

"Index Calculation Agent" means Bank Vontobel AG, Gotthardstrasse 43, 8002 Zurich, Switzerland.

"Index Calculation Day" means every day from Monday to Friday.

"Index Fee" is 1.00% per annum. The *Index Fee* is charged each calendar day, beginning as of the *Index Start Date*. It is calculated on the basis of a 360-day year and the most recently calculated *Index Closing Value*.

"Index Closing Value" is calculated for each *Index Calculation Day* by the *Index Calculation Agent* in accordance with section C) 1) of this index description on the basis of the *Valuation Price* of the *Current Reference Instrument* for this *Index Calculation Day* and published in accordance with section E) of this index description.

"Index Start Date" means 19 January 2017.

"Index Start Value" means 1,000 index points and represents the *Index Closing Value* on *Index Calculation Day* T=0 for the purposes of calculating the index in accordance with C).

"Index Currency" means EUR.

"Information Page" means <https://indices.vontobel.com>.

"Information Page" means <https://indices.vontobel.com>. March, June, September, December.

"Reference Instrument Price" corresponds at any time during the trading period on the *Reference Exchange* to

"Reference Exchange" means Eurex.

"Reference Instrument" means Bund Future.

Currency:	EUR
ISIN:	DE0009652644
Bloomberg Symbol:	RX1 Comdty

"Current Reference Instrument" means the *Initial Reference Instrument* from the *Index Start Date* until the first *Rollover Date*. Once the *Index Closing Value* on the first *Rollover Date* has been calculated and determined, this *Reference Instrument* loses its validity and is replaced by the *Reference Instrument* contract for the *Contract Months* specified above next falling due on the *Reference Exchange*. On each subsequent *Rollover Date*, following the calculation and determination of the *Index Closing Value*, the *Current Reference Instrument* is replaced in turn by the *Reference Instrument* contract falling due on the *Reference Exchange* in the next following *Contract Month* (respectively a **"Rollover"**).

Each *Rollover* is published by the *Index Calculation Agent* in accordance with section E).

"Initial Reference Instrument" means Bund Future December 2018 (RXZ8 Comdty)

"Rollover Date" is determined in each case by the *Index Calculation Agent* in its reasonable discretion and falls within a period of ten *Trading Days* prior to the last trading day of the *Current Reference Instrument* on the *Reference Exchange*. In the event that the first notice day of the *Current Reference Instrument* falls prior to its last trading day on the *Reference Exchange*, the period for the *Rollover Date* shall begin ten *Trading Days* before the first notice day and shall end with the last *Trading Day* of the *Current Reference Instrument*.

"Barrier" means 12%. It indicates the maximum permitted positive change in price of the *Reference Instrument* compared with its most recent *Valuation Price* before an *Intraday Index Adjustment* takes place.

"Interest Rate" means [tbd]. EONIA.

EONIA (Euro Over Night Index Average) is a weighted average interest rate for overnight interbank money calculated act/360 by the European Central Bank since 4 January 1999 on the basis of effective turnover.

If the *Interest Rate* is neither set nor published on an *Index Calculation Day*, the *Interest Rate* applied on the immediately preceding *Index Calculation Day* is used to calculate the Index in accordance with section C).

If the Interest Rate has neither been set nor published for ten consecutive Index Calculation Days, the Index Calculation Agent has the right and obligation to stipulate in its reasonable discretion an alternative relevant Interest Rate which has functions comparable to the previous Interest Rate.

C) INDEX CALCULATION

The *Factor Index* shall be calculated for the first time on the *Index Start Date*. The initial level of the *Index* on the *Index Start Date* corresponds to the *Index Start Value*. The respective current index level is calculated by the *Index Calculation Agent* on a continuous basis during the trading period of the *Reference Instrument* on the *Reference Exchange* on each *Index Calculation Day*, rounded to two decimal places and published in accordance with section E). One index point corresponds to one unit of the *Index Currency*.

C) 1) Index Formula

The *Factor Index* is calculated for each time t during an *Index Calculation Day T* in accordance with the following formula:

$$IDX_t = IDX_{T-1} \cdot \left\{ \underbrace{1 + L \cdot \left(\frac{R_t}{R_{T-1}} - 1 \right)}_{\text{leverage component}} - \underbrace{\left(IR_{T-1} - FS_T - IG \right) \cdot \frac{d}{360}}_{\text{financing component}} \right\}$$

where:

<i>T</i> :	current Index Calculation Day
<i>IDX_t</i> :	Index Value at time t on Index Calculation Day T
<i>IDX_{T-1}</i> :	Index Closing Value on Index Calculation Day T-1 which immediately precedes the current Index Calculation Day
<i>L</i> :	Leverage (Factor): -7
<i>R_t</i> :	Reference Instrument Price at time t
<i>RT-1</i> :	Valuation Price on Index Calculation Day T-1
<i>IR_{T-1}</i> :	Interest Rate on Index Calculation Day T-1
<i>FST</i> :	Financing Spread on Index Calculation Day T
<i>IG</i> :	Index Fee
<i>d</i> :	Number of calendar days between Index Calculation Days T-1 and T

Intraday Index Adjustment

If at time s on *Index Calculation Day T* the *Reference Instrument Price* exceeds the most recent *Valuation Price* of the *Current Reference Instrument* by more than 12% (*Barrier*), an "**Intraday Index Adjustment**" takes place, simulating a new day:

$$\begin{aligned} s &= T, \text{ i.e. } IDX_{T-1}(\text{new}) = IDX_s \\ R_{T-1}(\text{new}) &= R_{T-1}(\text{old}) \times 1.12 \\ d &= 0 \end{aligned}$$

A new *Valuation Price* valid after time s ($R_{T-1}(\text{new})$) is calculated by multiplying the previous *Valuation Price* ($R_{T-1}(\text{old})$) by 1.12.

The financing component remains unchanged. No additional costs are incurred for the newly simulated day.

D) EXTRAORDINARY ADJUSTMENT OF THE INDEX CALCULATION

In the event of an *Extraordinary Adjustment Event* occurring in relation to the *Reference Instrument* or the *Current Reference Instrument*, respectively, the *Index Calculation Agent* will adjust the index calculation on the *Reference Date* (as defined below). In doing so, the *Index Calculation Agent* will – to the extent – endeavour to calculate the *leverage component* as if no *Extraordinary Adjustment Event* had occurred.

The *Index Calculation Agent* will generally adjust the index calculation by correcting in its due discretion the relevant *Valuation Price* of the *Current Reference Instrument* on *Index Calculation Day T-1* on the *Reference Date*, in order to factor into the index calculation the adjustments relating to the (*Current*) *Reference Instrument* made on the *Reference Exchange*.

The *Index Calculation Agent* may adjust the index calculation in some other manner if it deems this necessary in its due discretion in order to reflect differences between this Factor Index and the *Reference Instrument* traded on the *Reference Exchange*. Adjustments of this nature may relate in particular to the replacement of the *Reference Instrument* by another comparable *Reference Instrument* on another *Reference Exchange* and, where relevant, to the designation of a different *Reference Exchange* and a different *Reference Instrument Price*.

The list of *Extraordinary Adjustment Events* cited in section B) is not exhaustive. The deciding factor is whether the *Reference Exchange* deems an adjustment of the contract size, the *Reference Instrument* or the designation of the relevant exchange determining the price of the reference item of the *Reference Instrument* to be necessary. In cases of doubt about the application of the adjustment rules, the *Index Calculation Agent* shall decide such questions in its reasonable discretion. The rules and regulations of the *Reference Exchange* shall apply in addition to the provisions set out above.

"Reference Date" within the meaning of this index description means the first *Index Calculation Day* on which the relevant *Reference Instruments* are traded on the *Reference Exchange* after taking the adjustment into account.

Adjustments relating to the Factor Index and all other measures taken under this section will be published by the Index Calculation Agent in accordance with section E).

E) NOTICES

All notices pertaining to the *Factor Index* will be published on the *Information Page*. Such notices shall be deemed to have been given on the date on which they are first published.

Notices are made for informational purposes only and do not represent a precondition for legal effectiveness.