OCTOBER 2018

iSTOXX® METHODOLOGY GUIDE

STOXX

INNOVATIVE. GLOBAL. INDICES.

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1. INTRODUCTION TO THE STOXX INDEX GUIDES

The STOXX index guides are separated into the following sub-sets:

- The **STOXX Calculation guide** provides a general overview of the calculation of the STOXX indices, the dissemination, the index formulas and adjustments due to corporate actions
- The **STOXX Index Methodology guide** contains the index specific rules regarding the construction and derivation of the portfolio based indices, the individual component selection process and weighting schemes
- The **STOXX Strategy guide** contains the formulas and description of all non-equity/strategy indices
- The **STOXX Dividend Points Calculation guide** describes the dividend points products
- The **STOXX Distribution Points Calculation guide** describes the distribution points products
- The **STOXX ESG guide** contains the index specific rules regarding the construction and derivation of the ESG indices, the individual component selection process and weighting schemes
- The **iSTOXX guide** contains the index specific rules regarding the construction and derivation of the iSTOXX indices, the individual component selection process and weighting schemes
- The **STOXX Reference Rates guide** contains the rules and methodologies of the reference rate indices
- The **STOXX Statistical Calculations** guide provides a detailed view of definitions and formulas of the statistical calculations as utilized in the reports, factsheets, indices and presentations produced by STOXX

All rule books are available for download on http://www.stoxx.com/indices/rulebooks.html

2. CHANGES TO THE GUIDE BOOK

2.1. HISTORY OF CHANGES TO THIS METHODOLOGY GUIDE

» June 2011: Publication of a completely new rule book
» July 2011: Inclusion of iSTOXX World Select
» May 2012: Inclusion of EURO iSTOXX 50 Equal Risk index
» December 2012: Inclusion of iSTOXX Efficient Capital Managed Futures 20 index
» January 2013: Inclusion of the iSTOXX Dynamic VSTOXX
» February 2013: Inclusion of iSTOXX Low Risk weighted indices, modification of chapter 4 iSTOXX MINIMUM VARIANCE
» September 2013: Inclusion of STOXX SD-KPI indices
» November 2013: Addition of iSTOXX Turkey Strong Quality indices
» December 2013: Addition of iSTOXX Global ESG Select
» February 2014: Addition of iSTOXX Turkey Optimised Risk Control RV indices
» March 2014: Amendment of notation in chapter 5.1 EURO iSTOXX EQUAL RISK index
» July 2014: Addition of chapter 5.4 iSTOXX EUROPE NEXT DIVIDEND LOW
» July 2014: Addition of chapter 10 iSTOXX QUALITY and chapter 3 GENERAL PRINCIPLES
» August 2014: Amendment of chapter 5.4 iSTOXX EUROPE NEXT DIVIDEND LOW RISK 50
» November 2014: Addition of the iSTOXX Europe ESG Select 30
» December 2014: Addition of Decrement indices: EURO iSTOXX Equal Weight Constant and Increment indices
» December 2014: Addition of iSTOXX Europe Select High Beta 50
» May 2015: Addition of iSTOXX Europe Maximum Dividend 8% Decrement
» July 2015: Addition of EURO iSTOXX 50 Style Weighted and EURO iSTOXX 50 Style Weighted Decrement
» August 2015: Addition of chapter 12 iSTOXX MUTB INDICES
» August 2015: Addition of chapter 17 iSTOXX Centenary indices
» August 2015: Addition of chapter 14 iSTOXX DEMOGRAPHY
» August 2015: Addition of chapter 17.1 EURO ISTOXX EX FINANCIALS HIGH DIVIDEND 50
» September 2015: Addition of EURO iSTOXX High Dividend Low Volatility 50
» September 2015: Addition of iSTOXX Global ESG Select 50
» January 2016: Addition of iSTOXX Transatlantic 100 Equal Weight Decrement, modifications of section 17.1.EURO iSTOXX ex Financials High Dividend 50
» January 2016: Addition of iSTOXX MUTB Global Quality indices to section 12 iSTOXX MUTB INDICES
» February 2016: Deletion of iSTOXX Efficient Capital Managed Futures 20 index
» March 2016: Addition of chapter 4.2 iSTOXX EUROPE MINIMUM VARIANCE HIGH DIVIDEND INDICES
» March 2016: Modification of chapter 4.1iSTOXX EUROPE MINIMUM VARIANCE INDICES, effective July 18, 2016
» March 2016: Addition of EURO iSTOXX 50, EURO iSTOXX 50 Equal Weight and EURO iSTOXX 50 Low Carbon Decrement Indices
» April 2016: Addition of iSTOXX Europe Single & Multi Factor Indices
» April 2016 (2): Modification of section 12 iSTOXX MUTB INDICES
» April 2016 (3): Modification to STOXX SD-KPI indices
» April 2016 (4): Addition of EURO iSTOXX 60 Equal Weight and EURO iSTOXX 70 Equal Weight indices

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» April 2016 (5): Addition of EURO iSTOXX Smart Quality Momentum Value and EURO iSTOXX Smart Quality Momentum Value Decrement 50 indices
» April 2016 (6): Addition of EURO iSTOXX 60 Equal Weight Decrement 4.5% and EURO iSTOXX 70 Equal Weight Decrement 5% indices
» May 2016: Addition of EURO iSTOXX 50 FX Neutral indices
» May 2016 (2): Addition of ISTOXX MUTB JAPAN PROACTIVE LEADERS 200
» May 2016 (3): Addition of iSTOXX Broad Demography Indices, iSTOXX Global Demography Select 50 Index and iSTOXX North America ESG Select 30 Index
» June 2016: Addition of iSTOXX USA Weak Balance Sheet Ex Utilities and Financials Index
» June 2016 (2): Addition of iSTOXX FactSet Thematic Indices
» October 2016: Change of score name for SD-KPI indices
» November 2016: Addition of ISTOXX MUTB QUALITY DIVIDEND INDICES
» December 2016: Addition of ISTOXX FACTSET THEMATIC INDICES
» December 2016 (2): Addition of iSTOXX GLOBAL WOMEN LEADERSHIP SELECT 30 INDEX
» January 2017: Addition of iSTOXX Europe Single & Multi Factor Market Neutral Indices
» February 2017: Improvement of wording and addition of details to the iSTOXX Global ESG Select 100 and iSTOXX Europe ESG Select 30, EURO iSTOXX High Dividend 50, EURO iSTOXX High Dividend Low Volatility 50, iSTOXX Europe Low Variance Adjusted Beta, iSTOXX Equal Risk, iSTOXX Quality Income indices. All modifications are intended to better describe the existing processes and no changes have been made to the existing index methodologies.
» March 2017: Addition of section 25 EURO iSTOXX BANKS CAP 5% INDEX
» March 2017 (2): Addition of iSTOXX Nordic ESG DW Decrement 4.5% Index.
» March 2017 (3): Addition of 4.5/8/35 diversification rules during the calculation of the final index weights in the iSTOXX EUROPE SINGLE & MULTI FACTOR Indices in order to have portfolios in line with broadly accepted diversification criteria in terms of single weights concentration
» March 2017 (4): Addition of section 12.3 iSTOXX MUTB Japan Quality 150 Daily Hedged index
» March 2017 (5): Addition of iSTOXX Global Transitions Select 30 Index
» April 2017: Addition of iSTOXX Europe Economic Growth Select 50 Index
» July 2017: Addition of iSTOXX MUTB China A Quality AM 150 indices to section 12 iSTOXX MUTB INDICES; addition of iSTOXX Börsen-Zeitung Global 600 and addition of iSTOXX Infrastructure True Exposure USA 75% DW Index
» August 2017: addition of 12.7 ISTOXX MUTB VALUE INDICES
» August 2017 (2): addition of EURO iSTOXX 50 Futures Leveraged Index
» September 2017: correction of universe for iSTOXX Broad Demography Indices
» October 2017: addition of further index versions to 12.5 ISTOXX MUTB QUALITY DIVIDEND INDICES
» October 2017 (2): addition of index-specific dissemination calendars in line with definition of Dissemination Calendar in the STOXX Calculation Guide for the following indices: iSTOXX® MUTB Japan Quality 150 Index, iSTOXX® MUTB Japan Proactive Leaders 200 Index, iSTOXX® MUTB Global ex Australia Quality 150 Index, iSTOXX® MUTB Global ex Japan Quality 150 Index, iSTOXX® MUTB Global Quality 150 Index, iSTOXX® MUTB Asia/Pacific Quality Dividend 100 Index, iSTOXX® MUTB Japan Quality 150 Daily Hedged Index, iSTOXX® MUTB China A Quality AM 150 Index, iSTOXX® Transatlantic US 30 Index, iSTOXX® Transatlantic 100 Equal Weight Index, iSTOXX® Transatlantic 100 Equal Weight Decrement Index, iSTOXX® MUTB Global Value 600, iSTOXX® MUTB Global ex Japan Value 600, iSTOXX® MUTB Japan Value 300, iSTOXX® MUTB Japan Quality Dividend 100, iSTOXX® MUTB Japan ex Banks Quality Dividend 100, iSTOXX® MUTB Global Quality Dividend 300,

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iSTOXX® MUTB Global ex Japan Quality Dividend 250, iSTOXX® MUTB Global ex Australia Quality Dividend 300.

» November 2017: Termination of calculation and dissemination of iSTOXX World Select Index
» November 2017 (2): addition of index-specific dissemination calendars in line with definition of Dissemination Calendar in the STOXX Calculation Guide for the following indices: Dynamic VSTOXX, Dynamic VSTOXX Net of Costs, EURO iSTOXX Futures Leveraged
» November 2017 (3): Addition of iSTOXX Diversity Impact Select Indices
» November 2017 (4): Addition of iSTOXX Global Economic Growth Select 50 Index
» November 2017 (5): Addition of iSTOXX USA Factor indices under Section 20 (iSTOXX Factor Indices)
» November 2017 (6): Addition of iSTOXX World Top 200 Indices (Section 30), and iSTOXX World Top 200 Decrement 50 Index in Section 11.10: Decrement Indices.
» November 2017 (7): Termination of calculation and dissemination of iSTOXX Optimised Turkey Risk Control RV Index and iSTOXX Turkey Strong Quality Index
» November 2017 (8): Addition of iSTOXX MUTB Minimum Variance Indices
» December 2017: Clarification of index-specific dissemination calendars in line with definition of Dissemination Calendar in the STOXX Calculation Guide for the following indices: iSTOXX® MUTB Japan Quality 150 Index, iSTOXX® MUTB Japan Proactive Leaders 200 Index, iSTOXX® MUTB Global ex Australia Quality 150 Index, iSTOXX® MUTB Global ex Japan Quality 150 Index, iSTOXX® MUTB Global Quality 150 Index, iSTOXX® MUTB Asia/Pacific Quality Dividend 100 Index, iSTOXX® MUTB Japan Quality 150 Daily Hedged Index, iSTOXX® MUTB China A Quality AM 150 Index, iSTOXX® Transatlantic US 30 Index, iSTOXX® Transatlantic 100 Equal Weight Index, iSTOXX® Transatlantic 100 Equal Weight Decrement Index, iSTOXX® MUTB Global Value 600, iSTOXX® MUTB Global ex Japan Value 600, iSTOXX® MUTB Japan Value 300, iSTOXX® MUTB Japan Quality Dividend 100, iSTOXX® MUTB Japan ex Banks Quality Dividend 100, iSTOXX® MUTB Global Quality Dividend 300, iSTOXX® MUTB Global ex Japan Quality Dividend 250, iSTOXX® MUTB Global ex Australia Quality Dividend 300, iSTOXX World Top 200 Indices and iSTOXX MUTB Minimum Variance Indices (iSTOXX MUTB Japan Minimum Variance, iSTOXX MUTB Global ex Japan Minimum Variance and iSTOXX MUTB Global Minimum Variance)
» December 2017 (2): Addition of iSTOXX American Century USA Indices
» January 2018: Amendment in the base values of the iSTOXX China H 20 Equal Weight HKD Index and iSTOXX Switzerland 10 Equal Weight CHF Index, following a restatement in their history. Clarification of index-specific dissemination calendars in line with definition of Dissemination Calendar in the STOXX Calculation Guide for the following indices: EURO iSTOXX 65 Equal Weight Index, iSTOXX UK 25 Equal Weight Index, iSTOXX Switzerland 10 Equal Weight Index, iSTOXX USA 60 Equal Weight Index, iSTOXX Japan 20 Equal Weight Index, iSTOXX China H 20 Equal Weight Index, iSTOXX World Top 200 Equal Weight Index and iSTOXX World Top 200 Equal Weight Decrement 50 Index.
» February 2018: Addition of EURO iSTOXX 50® Collar Hedged Index
» February 2018: Addition of EURO iSTOXX Banks GR Decrement 50 Index
» February 2018: Addition of EURO iSTOXX 50 Equal Weight NR Decrement 5% Index
» March 2018: Addition of iSTOXX Global Industry Neutral ESG 600 index
» March 2018 (2): Addition of iSTOXX MUTB Global Ex Australia Quality Leaders 150 index
» April 2018: Addition of iSTOXX Europe Diversity Impact Select 30 NR Decrement 5%, and iSTOXX Global Diversity Impact Select 30 NR Decrement 5% Indices
» April 2018 (2): Addition of EURO iSTOXX 50 Daily Leverage, and EURO iSTOXX 50 Daily Short Indices

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» April 2018 (3): Change of review dates of iSTOXX American Century USA Value Index and iSTOXX American Century USA Income Index, change of review procedure due to calculation change of iSTOXX American Century USA Quality Value Index
» May 2018: Addition of EURO iSTOXX 50 ESG Focus and EURO iSTOXX 50 ESG Focus GR Decrement 5% Indices
» May 2018 (2): Clarification of optimization and constraint relaxation procedure for iSTOXX Factor Indices in section 18.1.5
» May 2018 (3): Inclusion of iSTOXX Asia indices
» May 2018 (4): Amendment of iSTOXX Decrement index calculation methodology and link to the Strategy guide (no functional change)
» May 2018 (5): Amendment of iSTOXX FactSet Thematic Indices methodology as per the OC determination in May 2018
» June 2018: Rule clarification: Chapter 12 iSTOXX MUTB Indices: change market capitalization to free-float market capitalization
» June 2018 (2): Addition of EURO iSTOXX 25 Challengers Equal Weight and EURO iSTOXX 25 Challengers Equal Weight NR Decrement 5.5% indices.
» July 2018: Addition of iSTOXX MUTB Momentum Indices
» July 2018 (2): Addition of Euro iSTOXX Next 30 Index and Euro iSTOXX Next 30 NR Decrement 5% Index
» July 2018 (3): Addition of iSTOXX UK 35 Index, iSTOXX Switzerland 15 Index, iSTOXX European 100 Index and iSTOXX European 100 GR Decrement 50 Index
» July 2018 (4): Addition of iSTOXX Developed Markets B.R.AI.N. Index
» August 2018: Addition of EURO iSTOXX 50 Monthly KRW Hedged Index
» August 2018 (2): Addition of iSTOXX A.C.I. USA Pure Growth Index, iSTOXX A.C.I. USA Stable Growth Index, iSTOXX American Century USA Quality Growth Index
» August 2018 (3): Addition of iSTOXX Yewno Developed Markets Blockchain Index
» August 2018 (4): Amendment in the base values of the iSTOXX MUTB Global ex-Australia Quality Leaders 150 USD Index and iSTOXX MUTB Global ex-Australia Quality Leaders 150 AUD Index, following a restatement in their history.
» August 2018 (5): Addition of iSTOXX Europe ESG Climate Awareness Select 50 Index
» September 2018: Addition of iSTOXX Asia/Pacific and South Korea Total Market Index
» September 2018 (2): Addition of WIBOR 6-month interest rate for PLN to the iSTOXX Quality Income Indices
» Valid from 21.12.2018: Addition of second non-relaxable beta constraint in 18. iSTOXX Factor Indices
» September (3): Addition of EURO iSTOXX 50 NR Decrement 5% Index and EURO iSTOXX 50 ESG Focus NR Decrement 5% Index
» October (1): Addition of iSTOXX Europe 600 Energy ex Coal GR Decrement 50 Index and iSTOXX Europe 600 Real Estate GR Decrement 50 Index
» October (2): Addition of iSTOXX FactSet Automation & Robotics (TTM) JPY Index
» October (3): Adiditon of iSTOXX Europe Climate Impact ex GC CW & Tobacco GR Decrement 5% Index and iSTOXX Europe Climate Impact ex GC CW & Tobacco NR Decrement 4.75%
» October (4): Addition of EURO iSTOXX 50 Collar Index

3. GENERAL PRINCIPLES

3.1. INDEX RATIONALE

STOXX defines the index rationale as the basis for applying a certain methodology in order to achieve the index objective. STOXX performs intensive research and may conduct conversations with market participants and third parties for this purpose. STOXX discloses the index objective in every case.

3.2. METHODOLOGY REVIEW POLICIES

STOXX constantly monitors the execution of the index calculation rules in order to ensure the validity of the index methodology. STOXX also conducts general methodology reviews in a periodic and ad-hoc basis, to reflect economic and political changes and developments in the investment industry. As result of these activities, STOXX introduces changes to the methodology books. Material changes are notified to subscribers and the media through the usual communication channels. Clarifications of the methodology are updated in the rulebook. All changes are tracked in the section 2.1 HISTORY OF CHANGES TO THIS METHODOLOGY GUIDE

3.3. INDEX TERMINATION POLICY

For the termination of an index or index family for which outstanding products are present in the market to the knowledge of STOXX, a market consultation with the involved clients will be initiated by STOXX to take into account their views and concerns related to the termination or transition. A consultation period will be opened. Its duration depends on the specific issue. After the consultation period and in case of further action needed, a notification will be issued and the process defined above will be followed. In the case of a transition, STOXX will launch the alternative index and will notify of its character as a suitable replacement for an existing index whose calculation should be discontinued in the future. This notification advices clients on the alternative recommended by STOXX as replacement. The timeframe in which both indices will be calculated in parallel will be disclosed in the notification’s text and will be no shorter than three months.

For the termination of an index or index family for which, to the knowledge of STOXX, no listed financial products are issued in the market, a press release notification or e-mail notification to subscribers will be communicated at least three months before coming into force. Clients or third parties with interest in the index or index family are urged to communicate as soon as possible their concerns to STOXX. Based on the feedback collected, STOXX may alter the index termination decision. For the termination of an index without financial product issued on there will be no market consultation. Changes to the original notification will be communicated in the same manner.

4. iSTOXX MINIMUM VARIANCE INDICES

4.1. iSTOXX EUROPE MINIMUM VARIANCE INDICES

4.1.1. OVERVIEW

The aim of the index is to minimize the volatility of the STOXX Europe 600. To do so, the portfolios' variance is minimized based on historical price data. The optimization process including all relevant constraints is described in detail below.
The concept significantly reduces the variance of the STOXX Europe 600 portfolio with far fewer stocks included. It therefore offers the possibility to achieve a much better risk profile without the need to trade all 600 components of the STOXX Europe 600.
Universe: All stocks of the STOXX Europe 600 index.

Weighting scheme: The index is price weighted with a weighting factor.

Index value formula:

$$\text{Index}_t = \frac{\sum_{i=1}^{M} P_t^i q_{T\text{prev}}^i C_t}{D_t}$$

The divisor D transforms the value of the hypothetic index portfolio into index level, and ensures continuity of the index after accounting for the transaction costs. The quantities q^i are weighting factors, that are defined as:

$$q_t^i = \frac{w_t^i}{P_t^i C_t}$$

Base values and date: 100 on May 20, 2011.
Index types and currencies: Price and net return in EUR.

Trading and holidays: The index is calculated and disseminated according to STOXX dissemination calendar.

4.1.2. INDEX REVIEW

The universe as defined by the STOXX Europe 600 index including the future composition changes due to the periodic index reviews and corporate actions. Only the stocks that have a price and volume history of 90% during the observation period will be considered for inclusion in the index. Only the STOXX trading days are included in the estimation of the variance-covariance and the ADTV. A day will be omitted for a specific stock in the optimization if data are missing. The following screening is applied:

Liquidity: Only the most liquid stocks from the investment universe are selected. Liquidity is estimated for each stock, using most recent transaction volume data from the primary exchange. Then the Average Daily Traded Value is calculated as a simple average of the daily transaction volume series over the past T_v days.

4. iSTOXX MINIMUM VARIANCE INDICES

$$ADTV^i = \frac{1}{Tv} \sum_{t=T-Tv}^{T} V_t^i \cdot P_t^i$$

T = Estimation date
V_t^i = adjusted volume in number of shares of index component i at time t
P_t^i = adjusted stock price in EUR of index component i at time t

The stocks from the investment universe are ranked by their ADTV in descending order. The first M stocks featuring the highest liquidity are selected. The liquidity filter is applied when index is rebalanced, i.e. before calculating new optimized weights.

Component selection: Index constituents are weighted by an optimization procedure, aimed at minimizing portfolio variance under constraints.

Return Data: The optimization procedure starts by calculating daily arithmetic price returns according to the following formula:

$$r_t^i = \frac{TR_t^i \cdot C_t}{TR_{t-1}^i \cdot C_{t-1}} - 1$$

(t-1) = Previous business day
TR= adjusted stock price (gross return) in local currency. The is adjusted for corporate actions and dividend payments
C = Foreign exchange rates to EUR

Variance Estimation Details: For all the stocks admitted to the optimization step a variance-covariance matrix is estimated as follows:

$$\sum_T^{ij} = \delta_T^i \cdot \delta_T^j \cdot \rho_T^{ij}$$

M = Number of stocks admitted for optimization
δ^i = Volatility of stock i
ρ^{ij} = Correlation between stock i and j

The ingredients of the covariance matrix are estimated on arithmetic daily returns as follows:

$$\delta_T^i = \sqrt{\frac{1}{Ts-1} \sum_{t=T-Ts+1}^{T} (r_t^i - \bar{r}^i)^2}$$

T_s = Volatility estimation period in days
$\bar{r}$ = Simple average of stock returns

Correlation coefficients are estimated as:

4. iSTOXX MINIMUM VARIANCE INDICES

$$\rho_T^{ij} = \frac{\frac{1}{Tr-1}\sum_{t=T-Tr+1}^{T}(r_t^i - \bar{r}^i)(r_t^j - \bar{r}^j)}{\sigma_T^i \cdot \sigma_T^j}$$

T_r = Correlation estimation period in days; volatilities in the denominator are estimated over the Tr-day period

Optimization

Objective function: The function to be minimized is the variance of the index portfolio:

$$\sigma_{ind}^2 = \sum_{i=1}^{M}\sum_{j=1}^{M} w_i \sum_{ij} w_j$$

Constraints: The optimization is subject to the following constraints:

100% leverage constraint: $\sum_{i=1}^{M} w_i = 1$

Long-only constraint: $w_i \geq 0, \text{for all } i$

Maximal weight constraint: $w_i \leq w_{max}$

Additionally, level 1 of the ICB classification of the STOXX Europe 600 Index is used:
Maximal Industry exposure constraint: $w_i \leq w_{max}, \text{where } w_s = \sum_{i \in I} w_i \text{ is the net exposure to the Industry I}$

Diversification target: $\sum_{i=1}^{M} w_i^2 = \frac{1}{H}$

Numerical Algorithm: The optimization problem is a quadratic constrained minimization problem. It is solved numerically, using the interior-point algorithm. This algorithm solves an iterative sequence of approximate minimization problems, where inequality constraints are transformed into equality constraints using slack variables. The optimal solution is defined with the help of the following convergence criteria:

TolFun = Termination tolerance on the function value
TolCon = Tolerance on the constraint violations
MaxIter = Maximal number of iterations allowed

Rounding Issues: Input data to the optimization, as well as all intermediate calculations, are not rounded.
The optimized weights that are smaller than *wtol* (i.e. that are essentially zero) are rounded to exact zero.

Estimation Period Definition:
For the variance and correlation estimation procedure STOXX dissemination days according to STOXX Trading Calendar are considered, with exception of 26th December.

4. iSTOXX MINIMUM VARIANCE INDICES

Weighting cap factors:
The weightings are published on the Wednesday prior to the third Friday of each month using Tuesday's closing prices (K business days prior to the rebalancing date).
Weighting cap factor = (100,000,000,000 x initial weight / closing price of the stock in EUR) and rounded to integers.

Review frequency: The reviews are conducted on a monthly basis, on the third Friday of each month. The new index composition and weights becomes effective on the following trading day.

Derived indices: Not applicable.

Parameters:

N	= 10%	Maximum share of missing values inside observation period accepted
T_v	= 50 days	Liquidity estimation period
M	= 300	Number of the most liquid stocks selected by liquidity filter
T_s	= 125 days	Volatility estimation period
T_r	= 500 days	Correlation estimation period
wmax	= 4.5%	Maximum weight
Smax	= 20%	Upper bound for single sector exposure
Sect. Classif.	= ICB	Sector classification
H	= 50	Inverse diversification target
TolFun	= 10^{-12}	Termination tolerance on the objective function value
TolCon	= 10^{-8}	Tolerance on constraints violation
MaxIter	= 10^{12}	Maximal number of iterations
Wtol	= 10^{-5}	Significance threshold for weights
θ	= 0.0003	Fixed transaction fee
K	= 3 days	Gap between the cut-off date and the rebalancing date

4.1.3. ONGOING MAINTENANCE

Treatment of corporate actions:
Share and price adjustments that do not affect the membership of the index or their risk characteristics do not lead to changes in the index value or composition. Below are the maintenance rules for the most common corporate actions. For all the cases not explicitly mentioned in this document or in case of doubts the maintenance is made according to the general practices of the STOXX index family.

Spin-offs: A spin-off is added to the index with a price of zero; the close of the original company is not adjusted. The spin-off will be deleted after the first trading day with the closing price.

$$\text{New weighting factor of the spin-off} = \text{weighting factor of the parent company} \cdot \frac{B}{A}$$

Shareholders will receive "B" new shares for every "A" share held.

Merger & Acquisition: We denote companies by the capital letters A, B, C to demonstrate consequences of M&A.

4. iSTOXX MINIMUM VARIANCE INDICES

A takes over B and forms company C

1. If A and B are in the index:

$$w_C = \min(w_A + w_B, w_{max})$$

$$wf_C = \min(wf_A + \frac{wf_B * p_B}{p_A}; \frac{w_{max} * \sum_{i=1}^{n} wf_i * p_i}{p_A})$$

wf = Weighting factor
p = Price of constituent in index currency
w = Weight of constituent

The weighting factor for company C will be calculated using the closing prices four trading days prior to the merger effective day, will be announced after the market close of the following trading day, will be implemented at the close of the market on the last trading day of company B and effective at the following day.

2. If A is in the index, and B is not:
$w_C = w_A$

3. If only B is in the index: The acquired stock is eliminated from the index and the proceedings are reinvested pro-rata in the remaining stocks.

Share conversion: If a company converts its shares from one class to another the weighting factor is adjusted in the following way:

$$\text{New weighting factor} = \text{Old weighting factor} \cdot \frac{B}{A}$$

Shareholders will receive “B” new shares for every “A” share held.

Class A shares that are converted into non-component class B-shares are kept in the index until the next rebalancing. The new share class (B-shares) is considered a new entity after the next review, if it is a component of the investment universe. It does not inherit the historical price/volume data of the old share class (A-shares)

Fast Exit: If a company that is currently present in the index is excluded from the investment universe between two subsequent rebalancing dates, it is not replaced and its weight is distributed pro-rata among the remaining stocks.

4. iSTOXX MINIMUM VARIANCE INDICES

4.2. iSTOXX EUROPE MINIMUM VARIANCE HIGH DIVIDEND INDICES

4.2.1. OVERVIEW

The iSTOXX Europe Minimum Variance High Dividend selects liquid companies with high and sustained gross dividend yields. The weights of the index constituents are then calculated in order to minimized the portfolio variance which is estimated using historical price data.

Universe: All stocks of the STOXX Europe 600 index.

Weighting scheme: The index is price weighted with a weighting factor. The constituents receive a weighting that results from a minimum portfolio variance optimization.

Base values and date: 100 on Feb 19, 2016.
Index types and currencies: Price, gross and net return in EUR.

Trading and holidays: The index is calculated and disseminated according to STOXX dissemination calendar.

4.2.2. INDEX REVIEW

Pre-selection list:
The following rules apply sequentially:

- For each stock the 50 day ADTV is calculated as of the current month's cut-off-date
- Each stock is ranked by 50 day ADTV in descending order. Stocks with more than 10% missing volume observations are assigned a zero ADTV value
- The highest ranked 300 stocks by ADTV are eligible
- The stocks between 301 to 350 by ADTV which were ranked within the best 300 in the previous month selection are also eligible
- For each stock the dividend yield is calculated as of the cut-off-dates of the current month and 12 months' back
- For Dual Listing Companies (DLCs) that have an equalization agreement between the separate shareholder registries only the one with higher dividend yield is eligible
- All stocks passing the ADTV criterion and the rule for DLCs are ranked by dividend yield (current month, 12 months) in descending order
- Stocks ranked by dividend yield (12 months) within the best 200 remain eligible
- The highest ranked 100 stocks by dividend yield (current month) are eligible
- Stocks between 101 to 150 by dividend yield which were ranked within the best 100 in the previous month selection are also eligible
- For all components that were not pre-selected in the previous month selection the dividend per share (DPS) of the current month must be greater than the DPS 12 months back adjusted for corporate actions. When a listing of a DLC has replaced another listing of the same DLC, which was a pre-selected component as of the previous month selection, the eligible listing is considered a pre-selected component for the effects of the selection rules.

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Component selection and weighting: Pre-selected constituents are subject to the same optimization procedure that is described for the iSTOXX Europe Minimum Variance Index in the previous section. Additionally, a Maximal Country exposure constraint has been added to the optimization as follows: $w_i \leq C_{max}$, where $w_s = \sum_{i \in C} w_i$ is the net exposure to the Country C

The optimization procedure assigns weights to the pre-selected constituents. Only the constituents that receive a non-zero weight are added as index constituents.

Estimation Period Definition:
For the liquidity (ADTV), variance and correlation estimation procedure STOXX dissemination days according to STOXX Trading Calendar are considered, with exception of 26th December.

Weighting cap factors:
The weightings are published on the Wednesday prior to the third Friday of each month using Tuesday's closing prices (K business days prior to the rebalancing date).
Weighting cap factor = (100,000,000,000 x initial weight / closing price of the stock in EUR) and rounded to integers.

Review frequency: The reviews are conducted on a monthly basis, on the third Friday of each month. The new index composition and weights becomes effective on the following trading day.

Parameters:

N	= 10%	Maximum share of missing values inside observation period accepted
T_v	= 50 days	Liquidity estimation period
M	= 300	Number of the most liquid stocks selected by liquidity filter
T_s	= 125 days	Volatility estimation period
T_r	= 500 days	Correlation estimation period
wmax	= 4.5%	Maximum weight
Smax	= 20%	Upper bound for single sector exposure
Cmax	= 50%	Upper bound for single country exposure
Sect. Classif.	= ICB	Sector classification
H	= 30	Inverse diversification target
TolFun	= 10^{-12}	Termination tolerance on the objective function value
TolCon	= 10^{-8}	Tolerance on constraints violation
MaxIter	= 10^{12}	Maximal number of iterations
Wtol	= 10^{-5}	Significance threshold for weights
K	= 3 days	Gap between the cut-off date and the rebalancing

Review frequency: The reviews are conducted on a monthly basis. The review cut-off date for the underlying data is the Tuesday prior to the 3rd Wednesday of each month

4.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

4. iSTOXX MINIMUM VARIANCE INDICES

Fast entry: Not applicable.

Spin-offs: A spin-off is not permanently added to the index.

Mergers and takeovers:
We denote companies by the capital letters A, B, C to demonstrate consequences of M&A.
A takes over B and forms company C

1. If A and B are in the index:

$$w_C = \min(w_A + w_B, w_{max})$$

$$wf_C = \min(wf_A + \frac{wf_B * p_B}{p_A}; \frac{w_{max} * \sum_{i=1}^{n} wf_i * p_i}{p_A})$$

wf = Weighting factor
p = Price of constituent in index currency
w = Weight of constituent

The weighting factor for company C will be calculated using the closing prices four trading days prior to the merger effective day, will be announced after the market close of the following trading day, will be implemented at the close of the market on the last trading day of company B and effective at the following day.

2. If A is in the index, and B is not:
$w_C = w_A$
$wf_C = wf_A$

3. If only B is in the index: The acquired stock is eliminated from the index and the proceedings are reinvested pro-rata in the remaining stocks.

Data sufficiency: Standard STOXX indices trade prices provided by Thomson Reuters.

5. RISK BASED INDICES

5.1. EURO iSTOXX EQUAL RISK INDEX

5.1.1. OVERVIEW

With EURO iSTOXX 50 Equal Risk Index an equal risk contribution concept is applied to the EURO STOXX 50 Index. Whereas the risk profile of a standard index like the EURO STOXX 50 Index is the outcome of the existing market-cap weighted index concept, the risk contribution of the constituents in the EURO iSTOXX 50 Equal Risk Index is equal.

The optimization process employed draws on the principles of the Modern Portfolio Theory set out by Markowitz, Lintner and Sharpe in 1950s and 1960s. However, even though it can be analyzed in the mean-variance framework, the Equal Risk approach is more derived from the techniques of risk-budgeting. The objective the Equal Risk portfolio is to find a risk-balanced allocation such that the risk contribution of each asset in the portfolio is equal. As a consequence, unlike the traditional mean-variance portfolio, the Equal Risk portfolio does not require an assumption about the expected returns of each asset and thus the only inputs needed the build an Equal Risk portfolio is the covariance matrix of the portfolio's components.

Universe: All stocks in EURO STOXX 50

Weighting scheme: The index is price weighted.
Base values and date: 1,000 on May 3, 2012.
Index types and currencies: Price, gross return and net return in EUR and USD.

5.1.2. INDEX REVIEW

Component selection: All current components of the EURO STOXX 50 index.

Review frequency: The index is reviewed monthly.

Index constituents risk contribution
The risk contribution of an Equal Risk Index Constituent to the volatility of the Equal Risk Index is equal to the product of the weight of such Equal Risk Index Constituent by its marginal risk contribution. The marginal risk contribution corresponds to the change in the volatility of the Equal Risk Index induced by a small increase in the weight of each Equal Risk Index Constituent.

The risk contribution (RC) of the i^{th} Equal Risk Index Constituent is given by the following formula:

$$RC_i = x_i \frac{\partial \sigma(x)}{\partial x_i} = x_i \frac{(\sum x)_i}{\sqrt{x' \sum x}}$$

$\sigma(x)$ = Volatility of the Equal Risk Index: $\sigma(x) = \sqrt{x' \sum x}$
x_i = Weight of the i_{th} Equal Risk Index Constituent in the Equal Risk Index
x = Vector composed of all the weights x_i
$\sum$ = Covariance matrix of the Equal Risk Index Constituents

5. RISK BASED INDICES

Equal Risk Index Constituent Weights
The objective is to determine the weight of each Equal Risk Index Constituent such that the risk contribution of each Equal Risk Index Constituent in the Equal Risk Index is equal.

The solution can be calculated using a sequential quadratic programming algorithm. The vector x which is composed of all the weights x_i minimizing the objective function is computed:

$$f(x) = \sum_i \sum_j (RC_i - RC_j)^2$$

RC_i = Risk contribution of the i^{th} Equal Risk Index Constituent to the Equal Risk Index
RC_j = Risk contribution of the j^{th} Equal Risk Index Constituent to the Equal Risk Index

Under the following constraints:
» Weight of each Equal Risk Index Constituent shall be strictly positive
» Cumulated weight of the Equal Risk Index Constituents must be equal to 1.

Stocks with price history shorter than 3 months
If a constituent has prices for a period of less than 3 months, e.g. due to a recent IPO, it receives the weight equal to 1/number of constituents. This weight comes from the equal weight portfolio concept, which is consistent with the Equal Risk concept. The equal weight portfolio is the most naïve scheme of portfolio diversification and does not require any inputs. It is also a special case of the Equal Risk portfolio where all the stocks volatilities and correlations are assumed to be equal.

Example: If only one stock does not have the required price history out of a universe of 50 stocks, the Equal Risk weights are computed on the other 49 stocks such that the total of their weights adds to 98% (=49/50). The stock with the short price history receives the weight of 2% (=1/50).

Covariance Matrix Computation
The index is reviewed on the first business day of each month using the current composition. The implementation of the new weighting factors is on the 4^{th} business day after the close, effective for the 5^{th} business day. The covariance matrix is computed on the review date using the closing price for each Equal Risk Index Constituent over the past 365 calendar days whenever the EURO STOXX 50 index is calculated, but excluding the current index review date of the Equal Risk weighted. Per STOXX methodology, in case a stock did not trade on a day, the previous price is used. The price of each index constituent is adjusted to reflect corporate actions and dividends.

For each i^{th} constituent, the adjusted closing prices on a window of T days t=1, T are observed and the daily returns computed.

Let $P_{i,t}$ represents the adjusted closing price on day t for the i^{th} constituent. Then, the total return $r_{i,t}$ of the i^{th} constituent between t-1 and t is given by:

$$r_{i,t} = \frac{P_{i,t}}{P_{i,t-1}} - 1$$

5. RISK BASED INDICES

The covariance matrix **Σ** of the constituents' returns is thus defined as:

$$\mathbf{\Sigma} = \begin{bmatrix} \sigma_{11} & \cdots & \sigma_{1n} \\ \vdots & \ddots & \vdots \\ \sigma_{n1} & \cdots & \sigma_{nn} \end{bmatrix}$$

where each element σ_{ij} denotes the population covariance of the i^{th} and j^{th} constituent:

$$\sigma_{ij} = \frac{1}{T-1} \sum_{k=2}^{T} \left(r_{i,t} - \bar{r}_i\right)\left(r_{j,t} - \bar{r}_j\right)$$

with $\bar{r}_i$ denoting the average return of the i^{th} constituent:

$$\bar{r}_i = \frac{1}{T-1} \sum_{t=2}^{T} r_{i,t}$$

Index weighting: the optimal weight of each stock is defined by the solution of the sequential quadratic programming problem as defined in the previous paragraph.

Weighting cap factor = optimal weight / price · 1,000,000,000 and rounded to integers, where "price" is the stock's closing price on the day prior to the review day expressed in EUR.

Derived indices: Not applicable.

5.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-offs are not permanently added to the index.

5. RISK BASED INDICES

5.2. iSTOXX LOW VARIANCE 120 INDEX

5.2.1. OVERVIEW

The iSTOXX Low Variance 120 (LVI) is built out of the lower volatility stocks that are constituents of the STOXX Europe 600 index. It serves as underlying for the iSTOXX Europe Low Variance Adjusted Beta.

Universe: The index universe are stocks in the STOXX Europe 600 index.

Weighting scheme: Price-weighted.

Base value and dates: 1000 on Dec 31,2007

Index types and currencies: Net return in EUR and USD

5.2.2. INDEX REVIEW

Review frequency: The index is reviewed monthly. The review cut-off date is the last trading day of the previous month. Changes will be implemented on the close of the third Friday and are effective the next trading day.

Component selection:

On the review cut-off date (RCD) for each stock i of the STOXX 600 Europe index, the average daily traded
volume (ADTV) in EUR is calculated over the six month period ending on the review cut-off date.

Over the same six month period, the daily log-returns and the annualized volatilities thereof are calculated.

If the first day of the time series is not a trading day, the next trading day will be considered to start the time series and the period will consequently be shorter than 6 months.

» All stocks with an ADTV below 3,000,000 EUR are excluded
» The remaining stocks are ranked in ascending order by their respective volatility and the highest ranked 120 stocks are selected (e.g. 120 stocks with the lowest volatility).
» In case the ADTV screen results in less than 120 stocks, all remaining stocks are selected for the index and the volatility criteria is omitted.

Weighting factors: All components are equal-weighted. The weighting factors are published on the second Friday of each month, one week prior to monthly review implementation using Thursday's closing prices.

Weighting factor = (1,000,000,000 / closing price of the stock in EUR), rounded to integers.

5. RISK BASED INDICES

5.2.3. ONGOING MAINTENANCE

Corporate Actions and Dividends: All corporate actions and dividends are applied according to the STOXX calculation guide.

Replacements: A deleted stock is not replaced immediately. The weights are distributed among the remaining constituents.

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: A spin-off is added temporarily to the index and is removed after its first trading day.

5. RISK BASED INDICES

5.3. iSTOXX EUROPE LOW VARIANCE ADJUSTED BETA INDEX

5.3.1. OVERVIEW

The iSTOXX Europe Low Variance Adjusted Beta index leverages a low volatility investment, the iSTOXX Europe Low Risk Weighted 120 index, with the view to obtain a similar beta exposure as its underlying index, the STOXX Europe 600 index.

Universe: The index universe is the iSTOXX Low Variance 120 Net return (EUR) (LVI) index.

Index types and currencies: Net return in EUR
The beta of the LVI (net return EUR) which is the sensitivity of LVI log returns relative to the STOXX Europe 600 ([EU0009658210 / SXXR] – net return EUR) log returns is calculated on the trading day following each Review Cut-off Date (RCD)[1], and implemented on the following rebalancing date T (which is the third Friday of that month):

$$\beta_T^{LVI} = \mathrm{Max}\left[\mathrm{Min}\left(\beta_T^*; \frac{1}{\mathrm{Exp_{OLD}(T)} - 20\%}\right); \frac{1}{\mathrm{Exp_{OLD}(T)} + 20\%}\right]$$

Where:

$$\begin{cases} \beta_T^* = \dfrac{\sum_{t=RCD-N(RCP)+1}^{RCD} \ln(1 + r_t^{LVI}) * \ln(1 + r_t^{SXXR})}{\sum_{t=RCD-N(RCP)+1}^{RCD} \ln(1 + r_t^{SXXR})^2} \\ \mathrm{Exp_{OLD}(T)} = \mathrm{Max}\left(50\%; \mathrm{Min}\left(C, \dfrac{1}{\beta_{T(-1)}^{LVI}}\right)\right) \end{cases}$$

For each trading day t, daily log returns are defined as follows:

$$r_t^i = \ln\left(\frac{IC_t^i}{IC_{t-1}^i}\right)$$

Where,
r_t^i is the log return of index i between trading days t-1 and t

IC_t^i is the Index Close of index i on trading day t

And where,

RCP is the "Review Computation Period", a six month period which ends on the review cut-off date RCD

N(RCP) is the number of trading days during the Review Computation Period

[1] Refer to the methodology of the iSTOXX Europe Low Variance 120 for a definition.

5. RISK BASED INDICES

T(-1) is the rebalancing date immediately preceding T

C equals 200% and is the maximum leverage taken.

Any variation in β_T^{LVI} on a rebalancing date would therefore result in a variation of exposure of SXLABR to LVI which is capped at 20%.In addition, the exposure of SXLABR to LVI will always be comprised between 50% and C.

5.3.2. INDEX FORMULA

The SXLABR is calculated as follows:

$$SXLABR_t = SXLABR_{t-1}\left(1 + Max\left(50\%, Min\left(C, \frac{1}{\beta_{T(t)}^{LVI}}\right)\right)\left(\frac{LVI_t}{LVI_{t-1}} - 1\right) + \left(1 - Max\left(50\%, Min\left(C, \frac{1}{\beta_{T(t)}^{LVI}}\right)\right)\right)\left(\left(EONIA_{t-1} + I_{T(t)} \times Spread_{t-1}\right)\frac{D_{t,t-1}}{360}\right)\right)$$

where,

$$Spread_{t-1} = EUR012M_{t-1} - EUSWE_{t-1}$$

and where,

$SXLABR_t$ is the SXLABR index on trading day t. The value of the index on base date will be 1,000.

C equals 200% and is the maximum leverage taken.

$\beta_{T(t)}^{LVI}$ is the beta of of the LVI portfolio calculated as per formula 9. T(t) is the rebalancing date immediately preceding t (included)

$EUR012M_{t-1}$ is the Euribor 12-month rate on trading day t-1, RIC code: EURIBOR= (1Y Maturity)

$EUSWE_{t-1}$ is the Euro swap EONIA 12-month rate on trading day t-1, RIC code: EONIAINDEX (1Y Maturity)

$EONIA_{t-1}$ is the EONIA overnight rate on trading day t-1, RIC code: EONIA=

360 is the day-count convention for the above interest rates

$D_{t,t-1}$ is the number of calendar days between two immediate trading days t (excluded) and t-1 (included).

$I_{T(t)}$ is a dummy variable calculated in respect of each rebalancing date T(t) (which is the rebalancing date immediately preceding t (included)):

$I_{T(t)} = 1$ if $\beta^{LVI}_{T(t)} < 1$

$I_{T(t)} = 0$ if $\beta^{LVI}_{T(t)} \geq 1$

t-1 is the trading day immediately preceding t.

5.3.3. INTRADAY REBALANCING

In order to account for the risk of a dramatic fall in the value of the SXLABR index due to extreme market movements, the SXLABR index also incorporates an intraday reset feature. If, at any time v during a trading Day t between 9:00 to 16:00 CET, the SXLABR loses 50% or more compared to its last closing level (such event being defined as an "Intraday Restrike Event"), then STOXX shall observe the values of the SXLABR index during the 15 minutes following time v (such period being called the "Observation Period").

The lowest value of the SXLABR during the observation time is used to simulate a new closing time called SXLABR* with its corresponding LVI* value at time v according to the formula below.

$$SXLABR_{t*} = SXLABR_{t-1}\left(1 + Max\left(50\%, Min\left(C, \frac{1}{\beta^{LVI}_{T(t)}}\right)\right)\left(\frac{LVI_{t*}}{LVI_{t-1}} - 1\right) + \left(1 - Max\left(50\%, Min\left(C, \frac{1}{\beta^{LVI}_{T(t)}}\right)\right)\right)\left(\left(EONIA_{t-1} + I_{T(t)} \times Spread_{t-1}\right)\frac{D_{t,t-1}}{360}\right)\right)$$

where,

$SXLABR_{t*}$ = lowest values during the observation period

LVI* = corresponding LVI value at the time of the lowest SXLABR value

After the observation period until the real daily close the SXLABR index will calculate using $SXLABR_{t*}$ and LVI* as new reference points:

$$SXLABR_{t*}\left(1 + Max\left(50\%, Min\left(C, \frac{1}{\beta^{LVI}_{T(t)}}\right)\right)\left(\frac{LVI_t}{LVI_{t*}} - 1\right)\right)$$

The difference between the calculation before and after the intraday rebalancing event is that the right hand part of the initial formula has been dropped because interest rate / financing charges have already been accounted for between the daily open and intraday rebalancing event. In the

5. RISK BASED INDICES

unlikely case that a second intraday rebalancing event is triggered - within the same trading day t – a new observation period is triggered and the SXLABR index will calculate again as described as above with new reference points $SXLABR_{t*}$ and LVI*.

5. RISK BASED INDICES

5.4. iSTOXX EUROPE NEXT DIVIDEND LOW RISK 50 INDEX

5.4.1. OVERVIEW

The iSTOXX Europe Next Dividend Low Risk 50 Index monthly selects companies from the STOXX Europe 600 that will have a dividend ex-date in the next month and have historically shown low volatility. All stocks are risk-weighted.

Universe: The index universe is defined by the STOXX Europe 600 Index.

Weighting Scheme: Price-weighted with a weighting factor based on the inverse of the 6-month volatility.

Base values and dates: 100 on Jan 23, 2009.

Index types and currencies: Price, net return, gross return in EUR and USD.
Price EUR: realtime, others: end-of-day

5.4.2. INDEX REVIEW

Selection List: In a first step a liquidity filter is applied to the universe: Only companies with a 3-month average daily traded value (ADTV) greater than EUR 10mln are selected.
In a second step all remaining companies are ranked in increasing order by their 6-month volatility (using daily returns). The top third (i.e. with low volatility) is selected and builds the selection list.

Component selection: From that selection list the 50 highest ranked companies which are going to pay a dividend during the next review cycle are then chosen as index components. If this yields less than 50 companies, the highest ranked companies (i.e. with low volatility) which are not paying a dividend are selected to complete the index.

Review frequency: The reviews are conducted on a monthly basis. New compositions are implemented after the third Friday of each month. The new compositions are announced on the second Friday and underlying data (weighting factors) will be published on Wednesday after markets close based on the closing prices of Tuesday.

Weight and capping factors: The weighting factors are calculated based on the inverse of the 6-month historical volatility as follows:

$$w_i = \frac{\frac{1}{\sigma_i}}{\sum_{j=1}^{N} \frac{1}{\sigma_j}}$$

w_i weight of component (i)
σ_i historical 6-month volatility of component (i)

Weighting factor = weight * (100,000,000,000 / closing price of the stock in EUR), rounded to integers

5. RISK BASED INDICES

An additional cap factor of 5% per index constituent applies.

5.4.3. ONGOING MAINTENANCE

Replacements: A deleted company is not replaced.
If one company is excluded from the STOXX Europe 600 between review dates, but remains in the STOXX Global TMI, this company will not be excluded from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.

Corporate Actions: All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

5. RISK BASED INDICES

5.5. iSTOXX EUROPE SELECT HIGH BETA 50 INDEX

5.5.1. OVERVIEW

The iSTOXX Europe Select High Beta 50 Index monthly selects those companies from the STOXX Europe 600 that have shown a high beta historically will have a dividend ex-date in the next month.

Universe: The index universe is defined by the STOXX Europe 600 Index.

Weighting scheme: Price-weighted with a weighting factor to achieve an equal weight

Base values and dates: 100 on Dec 23, 2002

Index types and currencies: Price, net return, gross return in EUR and USD.

5.5.2. INDEX REVIEW

Selection List: In a first step a liquidity filter is applied to the universe: Only companies with a 3-month average daily traded value (ADTV) greater than EUR 25mln are selected.
In a second step all remaining companies are ranked in by their 6-month volatility (using daily returns) and the top and bottom fifth is removed. The companies left are then sorted by their 6-month beta with the EURO STOXX 50 Index and companies with a beta greater than 1.5 are removed as well. The top 125 companies by beta of the remaining companies build up the selection list.

Component selection: From the selection list the 50 highest ranked companies that will have a dividend ex-date in the next month are chosen as index components. If this yields less than 50 companies, the highest ranked companies (i.e. with high beta) which are not paying a dividend are selected to complete the index.

Review frequency: The reviews are conducted on a monthly basis. New compositions are implemented after the third Friday of each month. The new compositions are announced on the second Friday and underlying data (weighting factors) will be published on Wednesday after markets close based on the closing prices of Tuesday.

5.5.3. ONGOING MAINTENANCE

Replacements: A deleted company is not replaced. If one company is excluded from the STOXX Europe 600 between review dates, but remains in the STOXX Global TMI, this company will remain in the index.

Fast exit: Not applicable.
Fast entry: Not applicable.
Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.
Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

6. DYNAMIC VSTOXX INDEX

6.1. DYNAMIC VSTOXX INDEX

6.1.1. OVERVIEW

The Dynamic VSTOXX Index is an “index of indices”, i.e. its value is calculated based on the value of other underlying indices.

The indices constituting the Dynamic VSTOXX index are the EURO STOXX 50 Volatility Short-Term Futures Index and EURO STOXX 50 Volatility Mid-Term Futures Index.
The goal of the dynamic allocation between the two components is to exploit the better returns short-term futures normally offer in non-stressed markets over longer termed futures. Non-stressed markets are typically associated with backwardation: an indicator of the current backwardation/contango status can be used to trigger the allocation between the two index components.

The portion allocated to each component index is adjusted on every Index Rebalancing Day and such an event can occur as frequently as daily, depending on certain conditions being met (please refer to the tables below for a detailed definition).
In essence, the allocation is triggered by the level reached by a Trading Signal, calculated as ratio of the closing values of the VSTOXX Index and VSTOXX 120 days Index: to a higher ratio level, corresponds a higher allocation to the EURO STOXX 50 Volatility Short-Term Futures Index. The tables detail how a Trading Signal is commuted into allocation weights for the three different index variants available: Standard, Long-Only and Alpha.

Universe: EURO STOXX 50 Volatility Short-Term Futures Index (VST1ME) and EURO STOXX 50 Volatility Mid-Term Futures Index (VMT5ME)

Weighting scheme: signal-based, daily rebalanced.

Dissemination calendar: STOXX Eurex Calendar

Index value formula:

1. A Trading Signal is calculated as follow:

$$TS_d = \frac{\text{Index } A_d}{\text{Index } B_d}$$

Index A_d = Closing level of VSTOXX index (V2TX) on Index Calculation Day *d* and Index Index B_d = Closing level of VSTOXX120 days index (VSTX120) on Index Calculation Day d.

2. On any Index Calculation Day d the Target Exposure for Short-Term (STE_d) and Mid-Term (MTE_d) are calculated based on the Trading Signal calculated on the previous Index Calculation Day (TS_{d-1}), according to the tables below.

3. On any Index Calculation Day d the Exposure for Short-Term (SE_d) and Mid-Term (ME_d) are calculated based on the Target Exposure for Short-Term and Mid-Term for that day

6. DYNAMIC VSTOXX INDEX

(STE_d, MTE_d) and the Exposure for Short-Term and Mid-Term on the previous day (SE_{d-1}, ME_{d-1}):

$$SE_d = \begin{cases} \min(STE_d, SE_{d-1} + buffer) & \text{if } SE_{d-1} < STE_d \\ \max(STE_d, SE_{d-1} - buffer) & \text{if } SE_{d-1} > STE_d \\ SE_{d-1} & \text{otherwise} \end{cases}$$

$$ME_d = \begin{cases} \min(MTE_d, ME_{d-1} + buffer) & \text{if } ME_{d-1} < MTE_d \\ \max(MTE_d, ME_{d-1} - buffer) & \text{if } ME_{d-1} > MTE_d \\ ME_{d-1} & \text{otherwise} \end{cases}$$

Parameter buffer = 5%.

On Index Commencement Date (d = 0): $SE_0 = STE_0$ and $ME_0 = MTE_0$.

4. On any Index Calculation Day d, the value of the Excess Return Index at time t is calculated as:

$$I_t^{ER} = I_R^{ER} \cdot \left[1 + SE_R \cdot \left(\frac{SIU_t}{SIU_R} - 1 \right) + ME_R \cdot \left(\frac{MIU_t}{MIU_R} - 1 \right) \right]$$

R (subscript)	= Value of the relevant variable on the immediately preceding Rebalancing Date R, as described in formula 5
SIUt	= Index Value at time t of the EURO STOXX 50 Volatility Short-Term Futures Index (VST1ME)
MIU_t	= Index Value at time t of the EURO STOXX 50 Volatility Mid-Term Futures Index (VMT5ME).

On Index Commencement Date (d = 0), $I_0^{ER} = 100.00$.

5. An Index Rebalancing Day R is defined as:
   - » First Index Calculation Day d of each calendar month, or
   - » Any Index Calculation Day d on which $SE_d \neq SE_{d-1}$, or
   - » Any Index Calculation Day d on which $ME_d \neq ME_{d-1}$, or
   - » Any Index Calculation Day d on which $\frac{I_{d-1}^{ER}}{I_R^{ER}} < 0.5$

6. On any Index Calculation Day d, the value of the Total Return Index at time t is calculated as:

6. DYNAMIC VSTOXX INDEX

$$I_t^{TR} = I_{d-1}^{TR} \cdot \left[\frac{I_t^{ER}}{I_{d-1}^{ER}} + CR_{d-1} \cdot \frac{days_{d-1,\,d}}{360} \right]$$

CR_d = Official Close Value of EONIA rate on Index Calculation Day d

$days_{d-1}$ = Number of actual calendar days between the immediately preceding Index Calculation Day d-1 (excluded) and the current Index Calculation Day d (included)

On Index Commencement Date (d = 0), $I_0^{TR} = 100.00$.

List of Indices/Variants

The Index is calculated in 3 versions and 2 variants for each version:

1. Standard version:
    a. Dynamic VSTOXX ER, as calculated in step 4
    b. Dynamic VSTOXX TR, as calculated in step 6
2. Long-Only version:
    a. Dynamic VSTOXX Long-Only ER, as calculated in step 4
    b. Dynamic VSTOXX Long-Only TR, as calculated in step 6
3. Alpha version:
    a. Dynamic VSTOXX Alpha ER, as calculated in step 4
    b. Dynamic VSTOXX Alpha TR, as calculated in step 6

For the purpose of calculating Target Exposure for Short-Term (STE_d) and Mid-Term (MTE_d), the following assignments hold:

Standard Version

Trading Signal (TS_{d-1})	Short-Term Target Exposure (STE_d)	Mid-Term Target Exposure (MTE_d)
$TS_{d-1} < 100\%$	-30%	70%
$100\% \le TS_{d-1} < 103\%$	0%	100%
$103\% \le TS_{d-1} < 110\%$	25%	75%
$TS_{d-1} \ge 110\%$	50%	50%

Long-Only Version

Trading Signal (TS_{d-1})	Short-Term Target Exposure (STE_d)	Mid-Term Target Exposure (MTE_d)
$TS_{d-1} < 100\%$	0%	0%
$100\% \le TS_{d-1} < 103\%$	0%	50%
$103\% \le TS_{d-1} < 110\%$	25%	75%
$TS_{d-1} \ge 110\%$	50%	50%

Alpha Version

Trading Signal (TS_{d-1})	Short-Term Target Exposure (STE_d)	Mid-Term Target Exposure (MTE_d)

6. DYNAMIC VSTOXX INDEX

$TS_{d-1} < 100\%$	-50%	50%
$100\% \leq TS_{d-1} < 103\%$	-25%	75%
$103\% \leq TS_{d-1} < 110\%$	25%	75%
$TS_{d-1} \geq 110\%$	50%	50%

Base values and date: 100 on June 17, 2010

Index types and currencies: Total return and excess return, in EUR, in real-time.

7. DYNAMIC VSTOXX NET OF COSTS INDEX

7.1. DYNAMIC VSTOXX NET OF COSTS INDEX

7.1.1. OVERVIEW

The Dynamic VSTOXX Net of Costs Index is conceptually similar to the Dynamic VSTOXX Index, but it additionally accounts for costs which are typically associated with the index replication process, with the goal of improving representativeness and replicability, for the benefit of the investor: Execution Costs associated with the Turnover and Replication Costs are included.
All costs are clearly stated and identifiable in the formulae, therefore ensuring the highest transparency to the investor.

The Dynamic VSTOXX Net of Costs is a combination of the EURO STOXX 50 Volatility Short-Term Futures Index and EURO STOXX 50 Volatility Mid-Term Futures Index.

The indices constituting the Dynamic VSTOXX index are the EURO STOXX 50 Volatility Short-Term Futures Index and EURO STOXX 50 Volatility Mid-Term Futures Index.
The goal of the dynamic allocation between the two components is to exploit the better returns short-term futures normally offer in non-stressed markets over longer termed futures. Non-stressed markets are typically associated with backwardation: an indicator of the current backwardation/contango status can be used to trigger the allocation between the two index components.

The portion allocated to each component index is adjusted on every Index Rebalancing Day and such an event can occur as frequently as daily, depending on certain conditions being met (please refer to the tables below for a detailed definition).

In essence, the allocation is triggered by the level reached by a Trading Signal, calculated as ratio of the closing values of the VSTOXX Index and VSTOXX 120 days Index: to a higher ratio level, corresponds a higher allocation to the EURO STOXX 50 Volatility Short-Term Futures Index. The tables detail how a Trading Signal is commuted into allocation weights for the three different index variants available: Standard, Long-Only and Alpha.

Universe: EURO STOXX 50 Volatility Short-Term Futures Index (VST1ME) and EURO STOXX 50 Volatility Mid-Term Futures Index (VMT5ME).

Weighting scheme: Signal-based, daily rebalanced.

Dissemination calendar: STOXX Eurex Calendar

Index value formula

1. A Trading Signal is calculated as follow:

$$TS_d = \frac{\text{Index } A_d}{\text{Index } B_d}$$

Index A_d = Closing level of VSTOXX index (V2TX) on Index Calculation Day d

7. DYNAMIC VSTOXX NET OF COSTS INDEX

Index B_d = Closing level of VSTOXX120 days index (VSTX120) on Index Calculation Day d.

2. On any Index Calculation Day d the Target Exposure for Short-Term (STE_d) and Mid-Term (MTE_d) are calculated based on the Trading Signal calculated on the previous Index Calculation Day (TS_{d-1}), according to the tables below.

3. On any Index Calculation Day d the Exposure for Short-Term (SE_d) and Mid-Term (ME_d) are calculated based on the Target Exposure for Short-Term and Mid-Term for that day (STE_d, MTE_d), and the Exposure for Short-Term and Mid-Term on the previous day (SE_{d-1}, ME_{d-1}):

$$SE_d = \begin{cases} \min(STE_d, SE_{d-1} + buffer) \text{ if } SE_{d-1} < STE_d \\ \max(STE_d, SE_{d-1} - buffer) \text{ if } SE_{d-1} > STE_d \\ SE_{d-1} \text{ otherwise} \end{cases}$$

$$ME_d = \begin{cases} \min(MTE_d, ME_{d-1} + buffer) \text{ if } ME_{d-1} < MTE_d \\ \max(MTE_d, ME_{d-1} - buffer) \text{ if } ME_{d-1} > MTE_d \\ ME_{d-1} \text{ otherwise} \end{cases}$$

Parameter buffer = 5%.

On Index Commencement Date (d = 0), $SE_0 = STE_0$ and $ME_0 = MTE_0$.

4. On any Index Calculation Day d, the value of the Excess Return Index at time t is calculated as:

$$I_t^{ER} = I_R^{ER} \cdot (1 - EC \cdot TO_d) \cdot \left[1 + SE_R \cdot \left(\frac{SIU_t}{SIU_R} - 1 \right) + ME_R \cdot \left(\frac{MIU_t}{MIU_R} - 1 \right) - Fee_d \right]$$

R (subscript) = Value of the relevant variable on the immediately preceding Rebalancing Date R, as described in formula 5

EC = Execution Cost, $EC = 0.10\%$

TO_d = Turnover on Index Calculation Day d, calculated as in formula 6

SIU_t = Index Value at time t of the EURO STOXX 50 Volatility Short-Term Futures Index (VST1ME)

MIU_t = Index Value at time t of the EURO STOXX 50 Volatility Mid-Term Futures Index (VMT5ME)

Fee_d = Total fees on Index Calculation Day d, as calculated in formula 7

7. DYNAMIC VSTOXX NET OF COSTS INDEX

On Index Commencement Date (d = 0), $I_0^{ER} = 100.00$.

5. An Index Rebalancing Day R is defined as:
   » First Index Calculation Day d of each calendar month, or
   » Any Index Calculation Day d on which $SE_d \neq SE_{d-1}$, or
   » Any Index Calculation Day d on which $ME_d \neq ME_{d-1}$, or
   » Any Index Calculation Day d on which $\frac{I_{d-1}^{ER}}{I_R^{ER}} < 0.5$
6. On any Index Calculation Day d, Turnover represents the amount of Short-Term Index Underlying and Mid-Term Index Underlying rebalanced on that day, according to the following formula:

$$TO_d = |SE_d - SE_R| + |ME_d - ME_R|$$

7. The total fees on Index Calculation Day d are comprised of the Index Management Fee and the Replication Cost based on daily exposure:

$$Fee_d = \left(|SE_R| + |ME_R|\right) \cdot RC \cdot \frac{days_{R,d}}{365}$$

RC = Replication Cost, $RC = 1.00\%$ p.a.
$days_{R,d}$ = Number of calendar days between the immediately preceding Rebalancing Day R (excluded) and the current Index Calculation Day d (included).

8. On any Index Calculation Day d, the value of the Total Return Index at time t is calculated as:

$$I_t^{TR} = I_{d-1}^{TR} \cdot \left[\frac{I_t^{ER}}{I_{d-1}^{ER}} + CR_{d-1} \cdot \frac{days_{d-1,d}}{360} \right]$$

CR_d = Official Close Value of EONIA rate on Index Calculation Day d
$days_{d-1,d}$ = Number of actual calendar days between the immediately preceding Index Calculation Day d-1 (excluded) and the current Index Calculation Day d (included)

On Index Commencement Date (d = 0), $I_0^{ER} = 100.00$.

List of Indices / Variants
The Index is calculated in 3 versions and 2 variants for each version:

1. Standard version:
   c. Dynamic VSTOXX Net of Costs ER, as calculated in step 4
   d. Dynamic VSTOXX Net of Costs TR, as calculated in step 6

7. DYNAMIC VSTOXX NET OF COSTS INDEX

2. Long-Only version:
    a. Dynamic VSTOXX Long-Only Net of Costs ER, as calculated in step 4
    b. Dynamic VSTOXX Long-Only Net of Costs TR, as calculated in step 6
3. Alpha version:
    a. Dynamic VSTOXX Alpha Net of Costs ER, as calculated in step 4
    b. Dynamic VSTOXX Alpha Net of Costs TR, as calculated in step 6

For the purpose of calculating Target Exposure for Short-Term (STE_d) and Mid-Term (MTE_d), the following assignments hold:

Standard Version

Trading Signal (TS_{d-1})	Short-Term Target Exposure (STE_d)	Mid-Term Target Exposure (MTE_d)
$TS_{d-1} < 100\%$	-30%	70%
$100\% \leq TS_{d-1} < 103\%$	0%	100%
$103\% \leq TS_{d-1} < 110\%$	25%	75%
$TS_{d-1} \geq 110\%$	50%	50%

Long-Only Version

Trading Signal (TS_{d-1})	Short-Term Target Exposure (STE_d)	Mid-Term Target Exposure (MTE_d)
$TS_{d-1} < 100\%$	0%	0%
$100\% \leq TS_{d-1} < 103\%$	0%	50%
$103\% \leq TS_{d-1} < 110\%$	25%	75%
$TS_{d-1} \geq 110\%$	50%	50%

Alpha Version

Trading Signal (TS_{d-1})	Short-Term Target Exposure (STE_d)	Mid-Term Target Exposure (MTE_d)
$TS_{d-1} < 100\%$	-50%	50%
$100\% \leq TS_{d-1} < 103\%$	-25%	75%
$103\% \leq TS_{d-1} < 110\%$	25%	75%
$TS_{d-1} \geq 110\%$	50%	50%

For the purpose of calculating Net of Costs variants, the following assignments hold:

Execution Cost: EC=0.10%
Replication Cost: RC=1.00% p.a.

Base values and date: 100 on June 17, 2010

Index types and currencies: Total return and excess return, in EUR, in real time.

8. iSTOXX SD-KPI INDICES

8.1. iSTOXX SD-KPI INDICES

8.1.1. OVERVIEW

iSTOXX SD-KPI indices represent a sustainability-based alternative weighting concept. Components of an existing underlying index are over- or underweighted based on sector-specific ratings. Three Sustainable Development Key Performance Indicators (SD-KPI) per sector are applied. The over-/underweighting percentage ranges from -10% (very low SD-KPInformation® Score) to +10% (very high SD-KPInformation® Score) for the EURO iSTOXX 50 SD-KPI index and iSTOXX Europe 50 SD-KPI index (blue-chip version) and from -50% to +50% for the iSTOXX Europe 600 SD-KPI index (benchmark version).

The SD-KPI Standards have been developed by SD-M GmbH in cooperation with global investors and analysts and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety ("Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit", BMU).

Universe: The universe is defined by the parent indices, the STOXX Europe 50, EURO STOXX 50 and STOXX Europe 600

Weighting scheme: The indices are free-float market cap weighted

Base values and dates: 1000 on Sep 21, 2007 for the EURO iSTOXX 50 SD-KPI and iSTOXX Europe 50 SD-KPI and 100 on Jan 31, 2011 for the iSTOXX Europe 600 SD-KPI

Index types and currencies: Price, net return, gross return in EUR and USD

8.1.2. INDEX REVIEW

Component selection: Identical as the parent indices: The components of the STOXX Europe 50, EURO STOXX 50, and STOXX Europe 600 are the basis for the iSTOXX SD-KPI indices.

Review Frequency: The blue-chip indices are reviewed annually in September, the benchmark indices quarterly in March, June, September and December.

Weighting cap factors: For each company a weighting cap factor is determined according to the SD-KPI rating to over- or underweight the company in comparison to the original index. Based on the SD-KPInformation® Score per company, companies are classified into five intervals. A weight ranging from -10% to +10% is assigned to each interval.

Normalized SD-KPInformation® Score	Weight adjustments blue-chip version	Cap factor (SD-KPI) blue-chip version	Weight adjustments benchmark version	Cap factor (SD-KPI) benchmark version
0%-20%	-10%	0.9	-50%	0.5
20.01%-40%	-5%	0.95	-25%	0.75
40.01%-60%	0%	1	0%	1
60.01%-80%	+5%	1.05	+25%	1.25

8. iSTOXX SD-KPI INDICES

80.01%-100%	+10%	1.1	+50%	1.5

The final weighting cap factor in the index is calculated as follows:

$cf_{it,final} = cf_{it,original} * cf_{it,SD-KPI}$

where
$cf_{it,original}$ = cap factor of constituent in the parent index
$cf_{it,SD-KPI}$ = cap factor (SD-KPI)

8.1.3. INDEX MAINTENANCE

Replacements: If a company is deleted from the parent index, the company is also deleted in the iSTOXX SD-KPI indices. The company chosen as replacement for the parent index will be added to iSTOXX SD-KPI indices at the same time with a cap factor of 1. The cap factor will be reviewed during the next quarterly index review.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-Offs are not added permanently to the indices.

9. iSTOXX ESG SELECT INDICES

9.1. ISTOXX GLOBAL ESG SELECT 100 INDEX

9.1.1. OVERVIEW

The index represents the top 100 companies from the STOXX Global ESG Leaders index in terms of lowest volatility and highest dividend yield.

Universe: The index universe are stocks from the STOXX Global ESG Leaders Index

Weighting scheme: Free Float Market Cap weighted with a 10% weighting capfactor per constituent

Base values and dates: 100 on Sep 20, 2004

Index types and currencies: Price, net return and gross return in EUR, GBP and USD

9.1.2. INDEX REVIEW

Selection List: On the review cut-off date for each stock of the STOXX Global ESG Leaders Index the following factors are calculated:
» One year historical volatility
» Gross dividend yield

The stocks are ranked in ascending order by their respective volatility (in EUR) and in descending order by their gross dividend yield. All stocks are then ranked according to the average rank of the two ranks previously described.

Composition list: The highest ranked 100 stocks are selected (i.e. smallest overall rank). In case several stocks have the same overall rank, priority is given to the stock with the lowest volatility.

Review frequency: The index is reviewed annually in September based on the cut-off date end of July. Shares, Free Float factors and capfactors are reviewed each quarter (March, June, September, December). The implementation of the reviews is in line with the STOXX Global indices.

Weighting cap factors: Components weights are capped quarterly at a maximum weight of 10%. Cap factors are calculated using prices of the Thursday prior to the second Friday of the month.

Derived indices: not applicable

9.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are replaced with highest ranked non-component from the selection list. The selection lists are created annually in line with the periodic index review.

Fast exit: Not applicable.

9. iSTOXX ESG SELECT INDICES

Fast entry: Not applicable.

Spin-offs: A spin-off is added temporarily and removed after its first trading day.

9. iSTOXX ESG SELECT INDICES

9.2. iSTOXX EUROPE ESG SELECT 30 INDEX

9.2.1. OVERVIEW

The index represents the top 30 European companies from the STOXX Global ESG Leaders index in terms of lowest volatility and highest dividend yield.

Universe: The index universe are all European stocks from the STOXX Global ESG Leaders Index

Weighting scheme: Free Float Market Cap weighted with a 10% weighting capfactor per constituent

Base values and dates: 100 on Sep 20, 2004

Index types and currencies: Price, net return and gross return in EUR, GBP and USD

9.2.2. INDEX REVIEW

Selection List: On the review cut-off date for each European stock of the STOXX Global ESG Leaders Index the following factors are calculated:
» One year historical volatility
» Gross dividend yield

The stocks are ranked in ascending order by their respective volatility (in EUR) and in descending order by their gross dividend yield. All stocks are then ranked according to the average rank of the two ranks previously described.

Composition list: The highest ranked 30 European stocks are selected (i.e. smallest overall rank). In case several stocks have the same overall rank, priority is given to the stock with the lowest volatility.

Review frequency: The index is reviewed annually in September based on the cut-off date end of July. Shares, Free Float factors and capfactors are reviewed each quarter (March, June, September, December). The implementation of the reviews is in line with the STOXX Global indices.

Weighting cap factors: Components weights are capped quarterly at a maximum weight of 10%. Cap factors are calculated using prices of the Thursday prior to the second Friday of the month.

Derived indices: not applicable

9.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are replaced with highest ranked non-component from the selection list. The selection lists are created annually in line with the periodic index review.

Fast exit: Not applicable.
Fast entry: Not applicable.
Spin-offs: A spin-off is added temporarily and removed after its first trading day.

9. iSTOXX ESG SELECT INDICES

9.3. iSTOXX NORTH AMERICA ESG SELECT 30 INDEX

9.3.1. OVERVIEW

The index selects North American components from the STOXX Global ESG Leaders index based on the following main criteria: low volatility and high dividends yield

Universe: All the North American stocks from the STOXX Global ESG leaders index

Weighting scheme: Price-weighted with a weighting factor according to the inverse of the 12 months historical volatility and additionally with weighting cap limit of 10% per constituent

Base values and dates: The following base values and dates apply: 100 as of June 21, 2004

For a complete list, please consult the data vendor code sheet on the website[2]. Customized solutions can be provided upon request.

Index types and currencies: Price, net and gross return in EUR and USD.

9.3.2. INDEX REVIEW

Selection List: On the review cut-off date, for each North American stock of the STOXX Global ESG Leaders Index, the following factors are calculated:
» One year historical volatility in USD
» Gross dividend yield

The stocks are ranked in ascending order by their respective volatility and in descending order by their Gross Dividend yield. All stocks are then ranked according to the average rank of the two ranks previously described.

Component list and selection: Top 30 are selected (i.e. smallest overall rank).

In case several stocks have the same overall rank, priority is given to the stock with the lowest volatility.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting and capping factors: The weighting factors are calculated based on the inverse of their historical volatility. The prices based on the Thursday prior to the second Friday of the month.

[2] http://www.STOXX.com/download/indices/vendor_codes.xls

9. iSTOXX ESG SELECT INDICES

$$w_i = \frac{\frac{1}{\sigma_i}}{\sum_{j=1}^{N} \frac{1}{\sigma_j}}$$

wi weight of component (i)
σ i historical 12-months volatility of component (i)

Weighting factor = weight * (1,000,000,000 / closing price of the stock), rounded to integers.
Additionally, components are capped at a maximum weight of 10%.

9.3.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is not added permanently to the index.

9. iSTOXX ESG SELECT INDICES

9.4. iSTOXX GLOBAL ESG SELECT 50 INDEX

9.4.1. OVERVIEW

The index selects, among the Global ESG Leaders index, the top dividend payers of each region (Europe, North America, Asia/Pacific), while applying constrains on the minimum/maximum numbers of stocks per regions and industries. The selected companies are weighted according to the inverse of their 12-month historical volatility in EUR (with a minimum of 0.5% and a maximum of 4%).

Universe: All stocks from the STOXX Global ESG Leaders index.

Weighting scheme: The indices are weighted according to the inverse of the 12-month historical volatility in EUR.

Base values and dates: The following base values and dates apply: 100 on June 21, 2004.

Index types and currencies: Price, net and gross return in EUR and USD.

For a complete list please consult the data vendor code sheet on the website[3]. Customized solutions can be provided upon request.

9.4.2. INDEX REVIEW

Selection list: The review cutoff date of the index is the last trading day of the month preceding the review date.

The STOXX Global ESG Leaders index constituents are separated into three groups by region: Europe, Asia/Pacific and North America.

In each group, all constituents are screened in the following order:

1. Availability of 1 year of historical prices to calculate the 1-year volatility in EUR
2. 3-month Average Daily Traded Volume (ADTV) above USD 20 Mln
3. 1-year historical growth dividend yield above the regional benchmark

The gross dividend yield of each region is calculated by subtracting the EUR 1-year price performance of the benchmark index to the EUR 1-year gross return performance:

$$\text{Gross Dividend Yield}_{\text{Region}} = 1\text{ Year Gross Return performance}_{\text{benchmark index}} - 1\text{ Year Price performance}_{\text{benchmark index}}$$

With the following parameters:

Region	Benchmark index
Asia/Pacific	STOXX Asia/Pacific 600

[3] http://www.STOXX.com/download/indices/vendor_codes.xls

9. iSTOXX ESG SELECT INDICES

North America	STOXX North America 600
Europe	STOXX Europe 600

If one or several parameters are not available, the company is excluded from the base universe. In each region, a minimum number of companies must pass the liquidity screening. If in any region, the minimum number of stocks is not reached, the ADTV threshold is reduced to USD 10 Mln for all regions. If still less than that the minimum number of stocks pass the liquidity screening, the ADTV threshold is decreased stepwise by 10% for all regions.

Additionally, in each region, a minimum number of companies must pass the dividend screening. If in any region, the minimum number of stocks is not reached, the dividend threshold is reduced by 20% for all regions. If still less than that the minimum number of stocks pass the dividend screening, the dividend threshold is decreased stepwise by 10% for all regions.

Region	Minimum number of stocks
Asia/Pacific	5
North America	10
Europe	15

All stocks that pass the screenings are ranked according to their gross dividend yield in descending order.

Component selection: The highest ranked 5 companies from Asia/Pacific, 10 from North America and 15 from Europe are selected. To complete the index, the next highest ranked 20 companies across all regions are selected while applying the following constraints:

- a maximum number of stocks per region as defined below,
- a maximum number of stocks per ICB industry (15).

Region	Maximum number of stocks
Asia/Pacific	15
North America	30
Europe	35

If the set of constrains prevent the methodology to select 50 stocks, the index is completed by the companies with the highest gross dividend yield that did not go through the dividend screening.

Review frequency: The reviews are conducted on a quarterly basis.

Weighting cap factors: All components are weighted according to the inverse of their 1-year historical volatility with a minimum weight of 0.5% and a maximum weight of 4%.

$$\text{Weighting factor} = \frac{\text{weight in percentage} \times 100{,}000{,}000{,}000}{\text{price in EUR}}$$

9. iSTOXX ESG SELECT INDICES

9.4.3. ONGOING MAINTENANCE

Replacements: Deleted companies are replaced by the next one in the selection list. If a company is excluded from the parent index (the STOXX Global ESG Leaders), this company should also be excluded from the index and replaced by the next one in the selection list while meeting the minimum and maximum number of constituents per region and industry. The company entering the index gets the weight of the company leaving the index.

Fast exit: Following the STOXX Global ESG Leaders rules.

Fast entry: Not applicable.

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.

10. iSTOXX QUALITY INCOME INDICES

10.1. iSTOXX EUROPE QUALITY INCOME UH INDEX

10.1.1. OVERVIEW

The iSTOXX Europe Quality Income UH Index aims to capture the performance of shares which offer attractive and sustainable dividend yields.

Universe: STOXX Europe 600 ex financials

Weighting scheme: Price weighted with a weighting factor to achieve an equally weighting

Base values and dates: 100 as of Dec 31, 2004

Index types and currencies: Price, net return and gross return in EUR and USD.

10.1.2. INDEX REVIEW

Selection list:
The review cut-off date is the last trading day of the month preceding the rebalancing date.
At cutoff date, for each stock of the universe, a Quality Score and Balance Sheet Risk Score are calculated as following.

The quality score is defined as the number of criteria that a company meets and can range from 0 to 9:

- Return On Assets (ROA) greater than or equal to zero. The ROA is calculated as the net income before extraordinary items divided by total assets

$$\mathrm{ROA}_{t_0} = \frac{\text{net income before extraordinary items}_{t_0}}{\text{total assets}_{t_0}}$$

- CFO ratio greater than or equal to zero. The ratio is calculated as Cash Flow from Operation (CFO) divided by total assets

$$\text{CFO Ratio}_{t_0} = \frac{\text{cash flow from operation}_{t_0}}{\text{total assets}_{t_0}}$$

- Accruals less than or equal to zero. Accruals are calculated as ROA minus CFO Ratio

$$\mathrm{Accruals}_{t_0} = \mathrm{ROA}_{t_0} - \text{CFO Ratio}_{t_0}$$

- Positive or zero 1-year growth in ROA (1YΔROA)

$$1\mathrm{Y}\Delta\mathrm{ROA}_{t_0} = \mathrm{ROA}_{t_0} - \mathrm{ROA}_{t_{-1}}$$

- Negative or zero 1-year growth in Leverage (1YΔLev). The Leverage is calculated as the long-term debts divided by standardized total assets

$$\mathrm{Leverage}_{t_0} = \frac{\text{long term debts}_{t_0}}{0.5 \times \text{total assets}_{t_0} + 0.5 \times \text{total assets}_{t_{-1}}}$$

$$1\mathrm{Y}\Delta\mathrm{Lev}_{t_0} = \mathrm{Leverage}_{t_0} - \mathrm{Leverage}_{t_{-1}}$$

10. iSTOXX QUALITY INCOME INDICES

- Positive or zero 1-year growth in Liquidity Ratio (1YΔLR). The LR is calculated as the ratio of current assets to current liabilities (also called current ratio)

$$1\text{Y}\Delta\text{LR}_{t_0} = \text{current ratio}_{t_0} - \text{current ratio}_{t_{-1}}$$

- 1-year growth in the Number of Shares Outstanding (1YΔNBO) less than or equal to 5%[4].

$$1\text{Y}\Delta\text{NBO}_{t_0} = \frac{\text{number of shares outstanding}_{t_0}}{\text{number of shares outstanding}_{t_{-1}}} - 1$$

- Positive or zero 1-year growth in the Gross Operating Margin (1YΔGOM). The GOM is calculated as the ratio of Gross Incomes to Sales.

$$\text{GOM}_{t_0} = \frac{\text{gross income}_{t_0}}{\text{sales}_{t_0}}$$

$$1\text{Y}\Delta\text{GOM}_{t_0} = \text{GOM}_{t_0} - \text{GOM}_{t_{-1}}$$

- Positive or zero 1-year growth in the Asset Turnover (1YΔAT). The AT is calculated as the ratio of sales to total assets.

$$\text{AT}_{t_0} = \frac{\text{sales}_{t_0}}{\text{total assets}_{t_0}}$$

$$1\text{Y}\Delta\text{AT}_{t_0} = \text{AT}_{t_0} - \text{AT}_{t_{-1}}$$

The Balance Sheet Risk Score (or Distance to Default or DD) measures the number of standard deviations between the asset value and the default point. It is calculated as following:

$$\text{Distance to Default} = \frac{\text{assets value} - \text{default point}}{\text{asset Value} \times \text{asset Volatility}}$$

or

$$\text{Distance to Default} = \frac{\ln\left(\frac{\text{A}}{\text{F}}\right) + \left(\text{r} - \frac{\sigma_\text{A}^2}{2}\right) \times \text{T}}{\sigma_\text{A} \times \sqrt{\text{T}}}$$

with

$$\text{E} = \text{A} \times \text{N}(\text{d}_1) - \text{e}^{-\text{rT}} \times \text{F} \times \text{N}(\text{d}_2)$$

$$\sigma_\text{E} = \frac{\text{A}}{\text{E}} \times \text{N}(\text{d}_1) \times \sigma_\text{A}$$

$$\text{d}_1 = \frac{\ln\left(\frac{\text{A}}{\text{F}}\right) + \left(\text{r} - \frac{\sigma_\text{A}^2}{2}\right) \times \text{T}}{\sigma_\text{A} \times \sqrt{\text{T}}} \text{ and } \text{d}_2 = \text{d}_1 - \sigma_\text{A} \times \sqrt{\text{T}}$$

$$\text{F} = \text{CL} + 0.5 \times \text{LTL}$$

[4] Hereby last year's Shares Outstanding are adjusted for corporate actions such as splits.

10. iSTOXX QUALITY INCOME INDICES

where,

- A market value of assets,
- Fdefault point,
- r interest rate, i.e. six-month interbank rate,
- Ttime to maturity assumed to be 1
- σA 6-months asset volatility
- E Full market capitalization
- σE 6-months historical volatility
- CL current liabilities
- LTL long term liabilities

Interest rates to be used are*:

- EURIBOR 6-months for EUR
- CIBOR 6-months for DKK
- PRIBOR 6-months for CZK
- STIBOR 6-months for SEK
- LIBOR 6-months for GBP
- LIBOR CHR 6-months for CHF
- NIBOR 6-months for NOK
- REIBOR 6-months for ISK
- WIBOR 6-months for PLN

(*Interest rates may reflect a broader universe of rates affected by changes in coutry classification)

If one the nine criteria of the Quality score or the Distance to Default cannot be calculated due to missing data, the company is not eligible for the selection list.

Component selection:

All current components remain in the index if they fulfil the following criteria:

- a Quality Score of 5 or better,
- a Balance Sheet Risk Score ranked within the top 60% of the selection list,
- a Forecasted Dividend Yield greater than 3.5%,
- a FFMCAP of at least EUR 700 mln,
- a 6-month ADTV of at least EUR 5 mln

Companies fulfilling the following criteria are selected for being included in the index:

- a Quality Score of 7 or better,
- a Balance Sheet Risk Score ranked within the top 40% of the selection list,
- a Forecasted Dividend Yield greater than 4%,
- a Free-Float Market Capitalization (FFMCAP) of at least EUR 1 bln,
- a 6-month Average Daily Traded Volume (ADTV) of at least EUR 5 mln

10. iSTOXX QUALITY INCOME INDICES

In case less than 25 or more than 75 companies are selected for the index an Overall Quality Score is calculated as following:

$$\text{Overall Quality Score} = \text{Quality Score} + 2 \times \text{Balance Sheet Score quintile}$$

If less than 25 companies meet the above criteria the following processes are applied and a new selection list for the remaining, non-eligible companies, is produced:

1. All companies meeting the above criteria are included into the index,
2. The dividend yield threshold is decreased to 3.5%, the FFMCAP threshold is decreased to EUR 700 Mln and the ADTV threshold is decreased to EUR 5 Mln for the remaining companies on the selection list,

3a. If the number of companies meeting the new criteria is less than the number of company needed to increase the number of component to 25, all these companies are included.

3b. If the number of companies meeting the new criteria exceeds the number of company needed to increase the number of component to 25, all these companies are ranked according to their Overall Quality Score and the top companies are included till the index reaches 25 components.

4. If there are less than 25 components in the index, the thresholds are further decreased stepwise by 10% and step 3 is repeated until the index contains 25 companies.

If more than 75 companies meet the criteria,

1. All components already in the index and passing their criteria are selected,
2. All non-components passing the entry criteria are ranked according to their Overall Quality Score,
3. Non-components are added based on their Overall Quality Score until the index contains 75 components. For companies with identical Overall Quality Score, priority is given to the one with the higher dividend yield.

Review frequency: The reviews are conducted on a quarterly basis and implemented on the third Friday in line with the Benchmark reviews.

10.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is not added permanently to the index.

10. iSTOXX QUALITY INCOME INDICES

10.2. iSTOXX EUROPE QUALITY INCOME INDEX

10.2.1. OVERVIEW

The iSTOXX Europe Quality Income index measures the performance of the iSTOXX Europe Quality Income UH Index while at the same time eliminating foreign currency fluctuations though hedging. The indices therefore combine the performance of the underlying index with a hypothetical, rolling investment into one-month foreign exchange forward contracts.

10.2.2. CALCULATION FORMULA

The currency hedged methodology follows a standard portfolio approach when hedging currency risk by writing currency forwards:

$$H\_IDX_t = H\_IDX_0 \cdot \left[\frac{UH\_IDX_t}{UH\_IDX_0} + \sum_{c=1}^{C} HR_{c,0} \cdot \left(\frac{FX_{c,0}}{FF_{c,0}} - \frac{FX_{c,0}}{IFF_{c,t}} \right) \right]$$

$$IFF_{c,t} = FX_{c,t} + \left(1 - \frac{t}{T}\right) \cdot (FF_{c,t} - FX_{c,t})$$

where:
H_IDX_t = hedged index for day t
UH_IDX_t = unhedged reference index (in hedged currency) for day t
t=0 = last calculation day of preceding month (reset date)
t = day of index calculation / number of calendar days since t=0
T = number of calendar days in current month
C = number of foreign currencies in the unhedged index
$HR_{c,t}$ = hedge ratio of currency c for day t
$FX_{c,t}$ = spot currency rate for day t
$FF_{c,t}$ = 1-month forward currency rate for day t
$IFF_{c,t}$ = interpolated forward currency rate for day t

The hedge ratio can be varied to arrive at index portfolios that are over- and under-hedged to varying degrees. Furthermore, it can be used to hedge multi-currency portfolios:

$$HR^c = \sum_{n=1}^{N_c} w_n$$

where:
N_c = number of constituents with currency c
w_n = weight of constituent n in the reference index

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.1. EURO iSTOXX CONSTANT & INCREMENT INDICES

11.1.1. OVERVIEW

The EURO iSTOXX Equal Weighted Constant 50 index replicates the returns of an investment into the Underlying Index (gross return versions) with a constant dividend markdown expressed in index points that are subtracted on an accrued basis. Consequently due to the index points being subtracted, the iSTOXX Constant indices are underperforming the standard gross return indices that include a full dividend investment. The iSTOXX Constant Indices perform better than the standard price indices that do not consider dividend investments as long as the overall gross dividend yield of the base indices is greater than the index points being subtracted.

11.1.2. EURO iSTOXX EQUAL WEIGHT INCREMENT 7% INDEX

Base date: 19 November 2014
Base Value: 1000
Underlying Index: EURO STOXX 50 Equal Weight EUR GR
Index Type: Price
Index Currency: EUR

Calculation:

$$IV_t = IV_{t-1}\frac{U_t}{U_{t-1}} - Fix_{t-1}\frac{ACT(t-1,t)}{365}$$

where:

$Fix_t = Fix_{t-1} \cdot 1.07^{\frac{ACT(t-1,t)}{365}}$ for t > 0 (after the base date)
$Fix_t = 38$ for $t \leq 0$ (before the base date)

The parameter 38 reflects a dividend yield of 3.8% at the base date and historically, but increases by 7% annually (accrued on a daily basis).

11.1.3. EURO iSTOXX EQUAL WEIGHT CONSTANT 50 INDEX

Base date: 19 November 2014
Base Value: 1000
Underlying Index: EURO STOXX 50 Equal Weight EUR GR
Decrement Amount (in Index points): 50
Dissemination calendar: STOXX Europe Calendar
Index Type: Price
Index Currency: EUR

Calculation: The EURO iSTOXX Equal Weight Constant 50 Index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.1.4. ONGOING MAINTENANCE

All index changes and adjustments of the underlying EURO STOXX 50 Equal Weight index are reflected in the EURO iSTOXX Constant & Increment indices.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.2. iSTOXX EUROPE MAXIMUM DIVIDEND 8% DECREMENT

11.2.1. OVERVIEW

The iSTOXX Europe Maximum Dividend 8% Decrement replicates the return of an investment into the underlying index (net return versions) with a constant dividend markdown expressed in percentage of the index performance that is subtracted on an accrued basis. Consequently due to the percentage of performance being subtracted, the iSTOXX Europe Maximum Dividend 8% Decrement index is underperforming the standard net return index that include a net dividend investment. The iSTOXX Europe Maximum Dividend 8% Decrement performs better than the standard price index that does not consider dividend investments as long as the overall net dividend yield of the base indices is greater than the value being subtracted.
The underlying index is the STOXX Europe Maximum Dividend Net Return Index in EUR.

11.2.2. DEFINITIONS

iSTOXX Europe Maximum Dividend 8% Decrement Index
Base date: 20 March 2000
Base Value: 100
Underlying Index: STOXX Europe Maximum Dividend Index (EUR Net Return)
Decrement Amount (in percentage points): 8%
Dissemination calendar: STOXX Europe Calendar
Index Type: Price
Index Currency: EUR

11.2.3. CALCULATION

The iSTOXX Europe Maximum Dividend 8% Decrement Index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.3. EURO iSTOXX 50 STYLE WEIGHTED & EURO iSTOXX 50 STYLE WEIGHTED DECREMENT

11.3.1. OVERVIEW

The EURO iSTOXX 50 Style Weighted Index has the same composition as the EURO STOXX 50, but weight its components based on fundamentals data.

Universe: EURO STOXX 50

Weighting scheme: The indices are price-weighted with a weighting factor according to their overall score

Base values and dates: The following base values and dates apply: 100 on March 19, 2001

Index types and currencies:
EURO iSTOXX 50 Style Weighted: Price, Net and Gross Return in EUR
EURO iSTOXX 50 Style Weighted Decrement: Price Return in EUR

11.3.2. INDEX REVIEW

Composition list: The composition of the EURO STOXX 50 is used for the EURO iSTOXX 50 Style Weighted Index on a quarterly basis

Review frequency: The rebalancing of the weights is conducted each quarter with the STOXX Benchmark indices

Weighting cap factors: At cutoff date, for each stock of the EURO STOXX 50, the following scores are calculated

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

A Size sub-score, $w_i^S(t)$, where FFMC is the Free-Float Market Capitalization:

$$s_i(t) = -\left(FFMC(t-1) - \overline{FFMC(t-1)}\right)$$

$$S_i(t) = \begin{cases} 1 + s_i(t), & s_i(t) > 0 \\ \dfrac{1}{1 - s_i(t)}, & \text{else} \end{cases}$$

$$w_i^S(t) = \frac{S_i(t)}{\sum S_i(t)}$$

A Value sub-score, $w_i^V(t)$, where PB is the Price to Book Ratio:

$$v_i(t) = -\left(PB(t-1) - \overline{PB(t-1)}\right)$$

$$V_i(t) = \begin{cases} 1 + v_i(t), & v_i(t) > 0 \\ \dfrac{1}{1 - v_i(t)}, & \text{else} \end{cases}$$

$$w_i^V(t) = \frac{V_i(t)}{\sum V_i(t)}$$

A Quality sub-score, $w_i^Q(t)$, where ROE is the Return on Equity:

$$q_i(t) = \left(ROE(t-1) - \overline{ROE(t-1)}\right)$$

$$Q_i(t) = \begin{cases} 1 + q_i(t), & q_i(t) > 0 \\ \dfrac{1}{1 - q_i(t)}, & \text{else} \end{cases}$$

$$w_i^Q(t) = \frac{Q_i(t)}{\sum Q_i(t)}$$

where,

i	constituent of the EURO STOXX 50
$\bar{x}$	average of *x* for all constituents of the EURO STOXX 50

The overall score, $w_i(t)$, is calculated as following:

$$w_i(t) = \frac{w_i^Q(t) + w_i^V(t) + w_i^S(t)}{3}$$

The components of the index are sorted in a descending way according to their score $w_i(t)$ and divided into 5 groups of 10 stocks.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

Each constituent of the same group get the same weight as described in the following table:

From rank	To rank	Weight
1	10	5%
11	20	2.5%
21	30	1.5%
31	40	0.75%
41	50	0.25%

Weighting factor = weight * (1,000,000,000 / closing price of the stock in EUR), rounded to integers.

The weighting factors are published on the second Friday in March, one week prior to quarterly review implementation using Thursday's closing prices.

11.3.3. DERIVED INDICES

The EURO iSTOXX 50 Style Weighted Decrement replicates the return of an investment into the net return version of the EURO iSTOXX 50 Style Weighted Net Return Index (EUR) with a constant dividend markdown expressed in percentage of the index performance (5.5%) that is subtracted on an accrued basis. Consequently due to the percentage of performance being subtracted, the EURO iSTOXX 50 Style Weighted Decrement Index will underperform the standard EURO iSTOXX 50 Style Weighted Net Return index that includes a net dividend investment.

11.3.3.1. DEFINITIONS

Base value: 100
Base date: 19 March 2001
Underlying Index: EURO iSTOXX 50 Style Weighted Index (EUR Net Return)
Decrement Amount (in percentage points): 5.5%
Dissemination calendar: STOXX Europe Calendar
Index Type: Price
Index Currency: EUR

11.3.3.2. CALCULATION

The EURO iSTOXX 50 Style Weighted Decrement is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide

11.3.4. ONGOING MAINTENANCE

Replacements: Following EURO STOXX 50 rules. In case a company replaced another, the new constituent takes the weight of the previous constituent

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.4. EURO iSTOXX 50, EURO iSTOXX 50 EQUAL WEIGHT AND EURO iSTOXX 50 LOW CARBON DECREMENT INDICES

11.4.1. OVERVIEW

Each of the decrement indices listed below replicates the performance of its respective underlying index, assuming a constant performance deduction per annum. The performance deduction accrues constantly on a daily basis. Consequently, due to the percentage of performance being subtracted, the Decrement index underperforms the parent index. A Decrement index applied to an underlying net / gross return index that includes a net / gross dividend reinvestment will perform worse than the underlying index. The Decrement index may perform better than the standard price index that does not consider dividend investments if the dividend yield of the net / gross return underlying index is greater than the decrement being subtracted.

11.4.2. DEFINITIONS

Index Name	Underlying Index	Decrement Amount (in percentage points)	Base value	Calendar	Base date	Index Type	Index Currency
EURO iSTOXX 50 Decrement 4.75%	EURO STOXX 50 Net Return Index	4.75%	1000	STOXX Europe Calendar	31 Dec 1986	Price	EUR
EURO iSTOXX 50 NR Decrement 5%	EURO STOXX 50 Net Return Index	5.00%	1000	STOXX Europe Calendar	31 Dec 1986	Price	EUR
EURO iSTOXX 50 Decrement 5%	EURO STOXX 50 Gross Return Index	5.00%	1000	STOXX Europe Calendar	02 Jan 2001	Price	EUR
EURO iSTOXX 50 Equal Weight NR Decrement 5%	EURO STOXX 50 Equal Weight Net Return Index	5.00%	1000	STOXX Europe Calendar	30 Dec 1999	Price	EUR
EURO iSTOXX 50 Equal Weight Decrement 4.75%	EURO STOXX 50 Equal Weight Net Return Index	4.75%	1000	STOXX Europe Calendar	30 Dec 1999	Price	EUR
EURO iSTOXX 50 Equal Weight Decrement 5%	EURO STOXX 50 Equal Weight Gross Return Index	5.00%	1000	STOXX Europe Calendar	29 Dec 2000	Price	EUR

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

EURO iSTOXX 50 Low Carbon Decrement 4.75%	EURO STOXX 50 Low Carbon Net Return Index	4.75%	1000	STOXX Europe Calendar	19 Dec 2011	Price	EUR
EURO iSTOXX 50 Low Carbon Decrement 5%	EURO STOXX 50 Low Carbon Gross Return Index	5.00%	1000	STOXX Europe Calendar	19 Dec 2011	Price	EUR

11.4.3. CALCULATION

The Decrement Indices listed above are each calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.4.4. ONGOING MAINTENANCE

All index changes and adjustments of the Underlying Index is reflected in the corresponding Decrement Index.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.5. iSTOXX TRANSATLANTIC 100 EQUAL WEIGHT DECREMENT 50

11.5.1. OVERVIEW

The iSTOXX Transatlantic 100 Equal Weight Decrement index aims to replicate an investment in Euro- and USD- denominated securities, to which a fixed decrement of 50 index points p.a. is applied. The USD-denominated portion of the portfolio is converted to Euro.

The iSTOXX Transatlantic 100 Equal Weight Decrement index is constructed by building and then combining several indices:

i. iSTOXX Transatlantic EU 70 EUR (Gross Return)
ii. iSTOXX Transatlantic US 30 USD (Gross Return)
iii. iSTOXX Transatlantic 100 Equal Weight EUR (Gross Return)
iv. iSTOXX Transatlantic 100 Equal Weight Decrement EUR (Price)

Index name	Symbol	Bloomberg ticker	Reuters RIC
iSTOXX Transatlantic EU 70 EUR (Gross Return)	IXTEUGR	IXTEUGR Index	.IXTEUGR
iSTOXX Transatlantic US 30 USD (Gross Return)	IXTUSGV	IXTUSGV Index	.IXTUSGV
iSTOXX Transatlantic US 30 EUR (Gross Return)	IXTUSGR	IXTUSGR Index	.IXTUSGR
iSTOXX Transatlantic 100 Equal Weight EUR (Gross Return)	IXTEWGR	IXTEWGR Index	.IXTEWGR
iSTOXX Transatlantic 100 Equal Weight Decrement EUR (Price)	IXTEWDP	IXTEWDP Index	.IXTEWDP

11.5.2. iSTOXX TRANSATLANTIC EU 70

11.5.2.1. OVERVIEW

Universe: the index is derived from the parent index STOXX Europe 600

Weighting scheme: equal-weighted

Base value: 1000

Base Date: 20 November 2015

Index types and currencies: Gross Return in EUR

11.5.2.2. INDEX REVIEW

Selection list: the composition of the parent index is observed after the respective quarterly review.

Composition list: the largest 70 Eurozone stocks from the STOXX Europe 600 index in terms of free-float market capitalization.

Review frequency: quarterly, in line with the Benchmark indices.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.5.2.3. **ONGOING MAINTENANCE**

Replacements: Deleted companies are not replaced

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: Spin-off companies are not added permanently

11.5.3. iSTOXX TRANSATLANTIC US 30

11.5.3.1. **OVERVIEW**

Universe: the index is derived from the parent index STOXX North America 600

Weighting scheme: equal-weighted

Base value: 1000

Base Date: 20 November 2015

Index types and currencies: Gross Return in EUR, USD

Dissemination calendar: STOXX Americas calendar

11.5.3.2. **INDEX REVIEW**

Selection list: the composition of the parent index is observed after the respective quarterly review

Composition list: the largest 30 U.S. stocks from the STOXX North America 600 index in terms of free-float market capitalization

Review frequency: quarterly, in line with the Benchmark indices.

Weighting cap factors: none

11.5.3.3. **ONGOING MAINTENANCE**

Replacements: Deleted companies are not replaced

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: Spin-off companies are not added permanently

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.5.4. iSTOXX TRANSATLANTIC 100 EQUAL WEIGHT

11.5.4.1. OVERVIEW

The iSTOXX Transatlantic 100 Equal Weight EUR (GR) is a composite index obtained by rebalancing the iSTOXX Transatlantic EU 70 EUR (GR) and iSTOXX Transatlantic US 30 EUR (GR) indices respectively to 70% and 30% on a daily basis.

Dissemination calendar: intersection of the dissemination calendars of the STOXX Europe calendar and the STOXX US Country calendar.

11.5.4.2. INDEX FORMULA

$$IV_t = IV_{t-1} \cdot \sum_{i=1}^{2} w_i \cdot \frac{U_{t,i}}{U_{t-1,i}}$$

w_i = target weight of sub-index i
$U_{t,i}$ = close value of sub-index i on day t
IV_t = value of iSTOXX Transatlantic 100 EUR (GR) index on day t ($IV_{31.12.2004}$ = 413.03)

i	Sub-index name	w_i
1	iSTOXX Transatlantic EU 70 EUR (GR)	0.7
2	iSTOXX Transatlantic US 30 EUR (GR)	0.3

11.5.5. iSTOXX TRANSATLANTIC 100 EQUAL WEIGHT DECREMENT

11.5.5.1. OVERVIEW

The iSTOXX Transatlantic 100 Equal Weight Decrement EUR (P) is obtained by applying a constant decrement of 50 index points p.a. to the iSTOXX Transatlantic 100 Equal Weight EUR (GR) index.

11.5.5.2. DEFINITIONS

Base value: 100
Base date: 20 November 2015
Underlying Index: iSTOXX Transatlantic 100 Equal Weight EUR (GR) Index
Decrement Amount (in index points): 50
Dissemination calendar: intersection of the dissemination calendars of the STOXX Europe calendar and the STOXX US Country calendar
Index Type: Price
Index Currency: EUR

11.5.5.3. INDEX CALCULATION

The iSTOXX Transatlantic 100 Equal Weight Decrement EUR (P) is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.6. iSTOXX SMART QUALITY MOMENTUM VALUE DECREMENT 50

Index name	Symbol	Bloomberg ticker
iSTOXX Quality Momentum Value EUR (Gross Return)	IXQMVG	IXQMVG
iSTOXX Quality Momentum Value EUR (Net Return)	IXQMVT	IXQMVT
iSTOXX Quality Momentum Value EUR (Price)	IXQMVE	IXQMVE
iSTOXX Quality Momentum Value USD (Gross Return)	IXQMVS	IXQMVS
iSTOXX Quality Momentum Value USD (Net Return)	IXQMVU	IXQMVU
iSTOXX Quality Momentum Value USD (Price)	IXQMVK	IXQMVK
iSTOXX Quality Momentum Value Decrement 50 EUR (Price)	IXQMVD50	IXQMVD50

11.6.1. OVERVIEW

The iSTOXX Smart Quality Momentum Value Decrement 50 index aims to replicate an investment the iSTOXX Smart Quality Momentum Value with a decrement of 50 index points p.a., accruing on a daily basis.

11.6.2. iSTOXX SMART QUALITY MOMENTUM VALUE

11.6.2.1. OVERVIEW

The index replicates an investment in a subset of the EURO STOXX 50 index constituents. The stocks are screened based on the basis of a combined value-momentum-quality metric. The eligible stocks are ordered by their combined metric and divided into three equally-sized groups. The stocks in the first group will be equally-weighted to reach a total weight of 66.66%, those in the second group will be equally-weighted to reach a total weight of 33.33%, while those in the third group will not be part of the index.

Universe: The index universe is defined by the parent index EURO STOXX 50 as of the cut-off date.

Weighting scheme: the index is price-weighted with weighting factors.

Base values and dates: The following base values and dates apply: 1,000 on 19 Nov 2014.

Index types and currencies: Price, Net return, Gross return in EUR and USD.

11.6.2.2. INDEX REVIEW

Selection list:
Stocks in the reference universe undergo three screenings and accordingly receive three ranks: Momentum Rank, Value Rank, Quality Rank.

For each stock i, a Final Rank is computed as sum of the three ranks:

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

$FinalRank_i = MomentumRank_i + QualityRank_i + ValueRank_i$

The selection list is composed of the stocks for which a Final Rank can be calculated, as described in the following procedure.

For all three Screenings the following apply:

a. Any missing score is set to 0
b. Any missing rank is set to 50

The three screenings are performed as follows:

1. Momentum Screening

For each i^{th} stock, a 6-month momentum metric is calculated as:

$$Momentum_{i,t_0} = \frac{Return_{i,t_0}}{Volatility_{i,t_0}}$$

$$Return_{i,t_0} = \frac{p_{i,t_0-6m}}{p_{i,t_0-12m}} - 1$$

$$Volatility_{i,t_0} = \sqrt{\frac{252}{n-1} \sum_{\tau=t_0-6m}^{t_0} \left(r_{i,\tau} - \bar{r}_{i,[t_0-6m,\ t_0]}\right)^2}$$

where:

t_0	cut-off date
$p_{i,t-m}$	price of stock i observed m months before t
$r_{i,t}$	$\frac{p_{i,t}}{p_{i,t-1}} - 1$
$\bar{r}_{i,[t_1,t_2]}$	$\frac{1}{t_2-t_1} \cdot \sum_{\tau=t_1}^{t_2} r_{i,t}$

All stocks are sorted by their $Momentum_{i,t}$ in descending order: the resulting rank of each i^{th} stock is defined as its $MomentumRank_i$.

2. Quality Screening

For each stock i, a Piotroski score and a Merton score are calculated. The Quality score is then calculated as:

$QualityScore_i = PiotroskiScore_i + 2 \cdot MertonScore_i$

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

a. Piotroski Score

Stocks are assessed against nine metrics and are assigned one point for each criterion they meet with respect to those metrics. The Piotroski Score of a stock is the aggregated number of attained points: it can thus range from 0 (no criterion met) to 9 (all criteria met).

The criteria are:

i. Return on Asset must be non-negative:

$$RoA_{i,t_0} = \frac{\text{Net Income before Extraordinary Items}_{i,t_0}}{\text{Total Assets}_{i,t_0}}$$

ii. Cash-flows from Operations to Total Asset ratio must be non-negative:

$$CFOTA_{i,t_0} = \frac{\text{Cash-flows from Operations}_{i,t_0}}{\text{Total Assets}_{i,t_0}}$$

iii. Accruals must be non-positive:

$$Acc_{i,t_0} = RoA_{i,t_0} - CFOTA_{i,t_0}$$

iv. One-year growth in Return on Asset must be non-negative:

$$1Y\Delta ROA_{i,t_0} = ROA_{i,t_0} - ROA_{i,t_0-12m}$$

v. One-year growth in Leverage must be non-positive:

$$1Y\Delta Lev_{i,t_0} = Lev_{i,t_0} - Lev_{i,t_0-12m}$$

where:

$$Lev_{i,t} = \frac{2 \cdot \text{Long Term Debt}_{i,t}}{\text{Total Assets}_{i,t} + \text{Total Assets}_{i,t-12m}}$$

vi. One-year growth in Liquidity Ratio must be non-negative:

$$1Y\Delta LR_{i,t_0} = CR_{i,t_0} - CR_{i,t_0-12m}$$

where:

$$CR_{i,t} = \frac{\text{Current Assets}_{i,t}}{\text{Current Liabilities}_{i,t}}$$

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

vii. One-year growth in Number of Shares Outstanding must not exceed 5%:

$$1Y\Delta NBO_{i,t_0} = \frac{\text{Number of Shares Outstanding}_{i,t_0}}{\text{Number of Shares Outstanding}_{i,t_0\text{-}12m}} - 1$$

viii. One-year growth in Gross Operating Margin must be non-negative:

$$1Y\Delta GOM_{i,t_0} = GOM_{i,t_0} - GOM_{i,t_0\text{-}12m}$$

where:

$$GOM_{i,t} = \frac{\text{Gross Income}_{i,t}}{\text{Sales}_{i,t}}$$

ix. One-year growth in Asset Turnover must be non-negative:

$$1Y\Delta AT_{i,t_0} = AT_{i,t_0} - AT_{i,t_0\text{-}12m}$$

where:

$$AT_{i,t} = \frac{\text{Sales}_{i,t}}{\text{Total Assets}_{i,t}}$$

b. Merton Score

The Distance to Default of each stock is calculated and the stocks are grouped in quintiles. Each stock is assigned a score (the Merton Score) based on its quintile, ranging from a score of 0 for the quintile with the lowest Distance to Default to a score of 4 for the quintile with the highest distance to default.

According to Merton's Distance to Default model, the market value of a firm's stock is equivalent to the value of a European Call on the firm's assets struck at the firm's debt level:

$$E_{i,t_0} = A_{i,t_0} \cdot N(d_1) - D_{i,t_0} \cdot e^{-r\tau} \cdot N(d_2)$$

The volatility $\sigma_{A_{i,t_0}}$ of the firm's total assets value can be obtained from its relationship with the volatility $\sigma_{E_{i,t_0}}$ of firm's stock:

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

$$\sigma_{E_{i,t_0}} \cdot E_{i,t_0} = \frac{\partial E}{\partial A} \cdot \sigma_{A_{i,t_0}} \cdot A_{i,t_0} = N(d_1) \cdot \sigma_{A_{i,t_0}} \cdot A_{i,t_0}$$

The Distance to Default is then $DtD_{i,t_0} = d_2$ (with associated default probability $\pi_{i,t_0} = N(-DtD_{i,t_0})$),

where:

t_0	cut-off date
τ	period of time over which the Distance to Default is estimated, expressed as year fraction (1)
r	discount rate (6m EURIBOR)
$A_{i,t}$	total value of firm's assets i on day t
$D_{i,t}$	face value of firm's debt on day t: $D_{i,t} = \text{Current Liabilities}_{i,t} + \frac{1}{2} \cdot \text{LT Liabilities}_{i,t}$
$\sigma_{x_{i,t}}$	volatility of variable x over the six-month period [t-6, t]
N(x)	cumulative standard normal distribution of x
d_1	$\frac{\ln\left(\frac{A_{i,t_0}}{D_{i,t_0}}\right) + \left(r_{t_0} + \frac{1}{2} \cdot \sigma^2_{A_{i,t_0}}\right) \cdot \tau}{\sigma_{A_{i,t_0}} \cdot \sqrt{\tau}}$
d_2	$d_1 - \sigma_{A_{i,t_0}} \cdot \sqrt{\tau}$

All stocks are sorted by their $QualityScore_{i,t}$ in descending order: the resulting rank of each stock i is defined as its $QualityRank_i$.

3. Value Screening

For each stock i, a value metric is calculated as:

$$ValueRank_i = \frac{5}{7} \cdot RawValueRank_i + \frac{2}{7} \cdot ModifiedQualityRank_i$$

The $RawValueRank_i$ is calculated as the average of a stock's available rankings in the following five pure value factors:

i. Book to Price
$BP_i = BP_{i,t_0} - median_{ICB=ICB_i}(BP_{ICB,t_0})$

ii. Earnings to Price
$EP_i = EP_{i,t_0} - median_{ICB=ICB_i}(EP_{ICB,t_0})$

iii. 12 month forward Earnings to Price

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

$$FEP_i = FEP_{i,t_0} - median_{ICB=ICB_i}\left(FEP_{ICB,t_0}\right)$$

iv. EBITDA to Enterprise Value

$$EBITDAEV_i = EBITDAEVBP_{i,t_0} - median_{ICB=ICB_i}\left(EBITDAEV_{ICB,t_0}\right)$$

v. Free Cash Flow to Price

$$FCFP_i = FCFP_{i,t_0} - median_{ICB=ICB_i}\left(FCFP_{ICB,t_0}\right)$$

where:

$median_{ICB=ICB_i}(x_t)$ median value of factor x on day t within the ICB Industry of stock i.

Factors (iv) and (v) are not taken into account for Financials (ICB=8000).

All stocks are sorted in descending order according to their pure factor metrics.

The $ModifiedQualityRank_i$ is obtained by ranking the stocks in descending order according to their $ModifiedQualityScore_i$:

$$ModifiedQualityScore_i = \begin{cases} 4 \cdot LowVolScore_i \text{ if } ICB_i = 8000 \\ QualityScore_i \text{ otherwise} \end{cases}$$

The $LowVolScore_i$ of a stock is represented by the quintile it belongs to, ranging from a score of 0 for the quintile with the highest volatility to a score of 4 for the quintile with the lowest volatility, where a stock's volatility is given by its $Volatility_{i,t_0}$.

Composition list: The stocks in the selection list are divided in three groups, based on their Final Rank resulting from the selection process:

Group 1: the 17 stocks with best (i.e.lowest) Final Rank (if more stocks have the same rank as the stock with the highest rank selected, they will all be included).

Group 2: the 17 stocks with lowest Final Rank after those in Group 1 (if more stocks have the same rank as the stock with the highest rank selected, they will all be included).

Group 3: any remaining stock not included in Group 1 or Group 2. These stocks are excluded from the index.

Review frequency: The reviews are conducted on a monthly basis, implemented on the third Friday of the month and effective on the following Monday. The cut-off date is defined as the Friday prior the index review date.

Weighting factors: Constituents are weighted according to the Group they have been assigned to:

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

Group 1: The stocks within Group 1 are equal-weighted to achieve an aggregated weight of 2/3.

Group 2: The stocks within Group 2 are equal-weighted to achieve an aggregated weight of 1/3.

11.6.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Standard STOXX rules apply.

Mergers and takeovers: Standard STOXX rules apply.

Corporate Actions: Standard STOXX rules apply.

11.6.3. iSTOXX SMART QUALITY MOMENTUM VALUE DECREMENT 50

11.6.3.1. OVERVIEW

The iSTOXX Smart Quality Momentum Value Decrement 50 index applies a decrement of 50 index points per annum, accruing on a daily basis, to the iSTOXX Smart Quality Momentum Value index.

11.6.3.2. DEFINITIONS

Base value: 1000
Base date: 19 November 2014
Underlying Index: iSTOXX Smart Quality Momentum Value EUR (GR) index
Decrement Amount (in index points): 50
Dissemination calendar: STOXX Europe calendar
Index Type: Price
Index Currency: EUR

11.6.3.3. CALCULATION

The iSTOXX Smart Quality Momentum Value Decrement 50 Index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.7. EURO iSTOXX 60 EQUAL WEIGHT DECREMENT 4.5% AND EURO iSTOXX 70 EQUAL WEIGHT DECREMENT 5% INDICES

11.7.1. OVERVIEW

The Decrement Index (see table below) replicates the return of an investment into the Underlying Index (see table below) with a constant dividend markdown expressed in percentage of the index performance that is subtracted on an accrued basis. Consequently, due to the percentage of performance being subtracted, the Decrement Index is underperforming the standard net / gross return index that include a net / gross dividend investment. The Decrement Index may perform better than the standard price index that does not consider dividend investments if the overall net / gross dividend yield of the Underlying Index is greater than the value being subtracted.

11.7.2. DEFINITIONS

Index Name	Underlying Index	Decrement Amount (in percentage points)	Base value	Calendar	Base date	Index Type	Index Currency
EURO iSTOXX 60 Equal Weight Decrement 4.5%	EURO iSTOXX 60 Equal Weight Net Return Index	4.50%	1000	STOXX Europe Calendar	19 Nov 2014	Price	EUR
EURO iSTOXX 70 Equal Weight Decrement 5%	EURO iSTOXX 70 Equal Weight Net Return Index	5.00%	1000	STOXX Europe Calendar	19 Nov 2014	Price	EUR

11.7.3. CALCULATION

The EURO iSTOXX 60 Equal Weight Decrement 4.5% and EURO iSTOXX 70 Equal Weight Decrement 5% indices are calculated according to the STOXX Decrement Section of the STOXX Strategy Guide.

11.7.4. ONGOING MAINTENANCE

All index changes and adjustments of the Underlying Index is reflected in the Decrement Index.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.8. iSTOXX NORDIC ESG DECREMENT 4.5%

11.8.1. OVERVIEW

The iSTOXX Nordic ESG DW Decrement 4.5% index replicates the performance of the iSTOXX Nordic ESG DW Gross Return SEK index assuming a constant 4.5% performance deduction per annum. The performance deduction accrues constantly on a daily basis.
Consequently, due to the percentage of performance being subtracted, the decrement index is underperforming the standard gross return index. The decrement index may perform better than the standard price index that does not consider dividend investments as long as the overall gross dividend yield of the Underlying Index is greater than the value being subtracted.

11.8.2. iSTOXX NORDIC ESG DW

11.8.2.1. OVERVIEW

The iSTOXX Nordic ESG DW index aims to select Nordic companies that qualify as global sustainability leaders and do not engage in controversial business activities. The components are weighted according to their 12-month historical dividend yield.

Universe: The index universe is defined by all Nordic stocks from the Global ESG Leaders index.

Weighting scheme: The indices are price-weighted with a weighting factor based on the historical 12-month dividend yield

Base values and dates: The following base values and dates apply: 100 on 22 March 2004

For a complete list please consult the data vendor code sheet on the website[5]. Customized solutions can be provided upon request.

11.8.2.2. INDEX REVIEW

Selection list:
The review cut-off date is the last trading day of the month preceding the review month of the index.

All stocks from Nordic countries (Denmark, Finland, Norway and Sweden) that are components of the STOXX Global ESG Leaders Index compose the base universe.

The STOXX Global ESG Leaders Index is based on the STOXX Global 1800 and comprises all components that are part of at least one of the ESG specialized indices (STOXX Global ESG Environmental Leaders, STOXX Global ESG Social Leaders and STOXX Global ESG Governance Leaders). In the ESG approach, each company has a rating for environmental,

[5] http://www.STOXX.com/download/indices/vendor_codes.xls

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

social and governance sustainability; these ESG-criteria are normalized using a percent ranking. To be a member of one of the ESG specialized index, an eligible company must belong to the best 25% in one of the ESG-criteria and in the best 50% in the two other ESG-criteria. Thus, components of the STOXX Global ESG Leaders index belong to the best 25th percentile in at least one criterion and to the top 50% in all three criteria.

If there are less than 10 Nordic stocks in the STOXX Global ESG Leaders, the base universe is completed with the stocks from the STOXX Global 1800 eligible for at least one of the ESG specialized indices with the best overall ESG Rating until it reaches 10 constituents, exclusion steps 1 and 2 are then omitted. The overall ESG Rating is defined as:

$$R_i = \frac{1}{n}\sum_{j=1}^{n} NormScore_{i,j}$$

Where:
$NormScore_{i,j}$ percentilized rating of company i in criteria j (j=E, S or G)
n Number of criteria (n=3)

For more information on the ESG approach, please consult the STOXX ESG Index Methodology guide on the website[6].

Exclusion step 1: companies engaged in controversial business activities according to Bank J. Safra Sarasin's classification (AGTAFA) are excluded. According to this criterion, a company is classified as AGTAFA if it generates more than 5% of its revenues from activities related to Alcohol, Gambling, Tobacco, Armaments & Firepower and Adult entertainment. If less than 10 companies fulfil this criterion, exclusion steps 1 and 2 are omitted.

Exclusion step 2: companies that have not paid dividends in the last 12 months, in addition to companies for which dividend information is not available at the review cut-off date, are excluded. If less than 10 companies fulfil these criteria, exclusion step 2 is omitted.

Composition list: All remaining stocks are selected for inclusion.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting cap factors: The weighting factors are calculated based on their 12-month trailing dividend yield.
The weights are based on the prices of the Thursday prior to the second Friday of the review month:

$$w_i = \frac{dy_i}{\sum_{j=1}^{N} dy_j}$$

w_i target weight of component (i)

[6] https://www.stoxx.com/document/Indices/Common/Indexguide/stoxx_esg_guide.pdf

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

N number of constituents

dy_i trailing 12-month gross dividend yield of component (i) as of review cut-off date. If a company has a dividend yield of 0 or missing, it is attributed the lowest non-zero dividend yield among all selected components in order to calculate its weight

Weighting cap factor = (1,000,000,000 x target weight / closing price of the stock in EUR), rounded to integers

Additionally, components are capped at a maximum weight of 15%.

11.8.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.
Fast entry: Not applicable.
Spin-offs: Spin-off stocks are not added permanently.
Corporate Actions: All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

11.8.3. iSTOXX NORDIC ESG DW DECREMENT 4.5%

11.8.3.1. OVERVIEW

The iSTOXX Nordic ESG DW Decrement 4.5% index replicates the performance of the iSTOXX Nordic ESG DW Gross Return SEK index assuming a constant 4.5% performance deduction per annum. The performance deduction accrues constantly on a daily basis.

11.8.3.2. DEFINITIONS

Base value: 100
Base date: 22 March 2004
Underlying Index: The iSTOXX Nordic ESG DW SEK GR Index
Decrement Amount (in percentage points): 4.5%
Dissemination calendar: STOXX Europe calendar
Index Type: Price
Index Currency: SEK

11.8.3.3. CALCULATION

The iSTOXX Nordic ESG DW Decrement 4.5% index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.9. iSTOXX EUROPE ORIGIN 100 EQUAL WEIGHT DECREMENT 5%

11.9.1. OVERVIEW

The iStoxx Europe Origin 100 Equal Weight Decrement 5% index replicates the performance of the iStoxx Europe Origin 100 Equal Weight Net Return index assuming a constant 5% performance deduction per annum. The performance deduction accrues constantly on a daily basis.
Consequently, due to the percentage of performance being subtracted, the decrement index is underperforming the standard net return index.
The Underlying Index is the iStoxx Europe Origin 100 Equal Weight Net Return Index.

11.9.2. DEFINITIONS

Base value: 100
Base date: 24 September 2007
Underlying Index: iStoxx Europe Origin 100 Equal Weight Net Return index
Decrement Amount (in percentage points): 5%
Dissemination calendar: STOXX Europe calendar
Index Type: Price
Index Currency: EUR

11.9.3. CALCULATION

The iStoxx Europe Origin 100 Equal Weight Decrement 5% index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.9.4. MARKET DISRUPTION EVENTS

As per Stoxx standards

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.10. iSTOXX WORLD TOP 200 EQUAL WEIGHT DECREMENT 50 INDEX

11.10.1. OVERVIEW

The iSTOXX World Top 200 Equal Weight Decrement 50 index replicates the returns of an investment into the underlying index with a constant dividend markdown expressed in index points that are subtracted on an accrued basis.
Consequently, due to the index points being subtracted, the iSTOXX World Top 200 Equal Weight Decrement 50 index is underperforming the standard gross return indices that include a full dividend investment.

Dissemination calendar: Intersection of the following dissemination calendars: STOXX Europe Regional calendar, STOXX Japan Country calendar, STOXX US Country calendar, STOXX Hong Kong Country calendar, STOXX Switzerland Country calendar and STOXX UK Country calendar.

11.10.2. DEFINITIONS

Base value: 1120
Base date: 24 November 2017
Underlying Index: iSTOXX World Top 200 Equal Weight Gross Return Index in EUR
Decrement Amount (in index points): 50
Dissemination calendar: Intersection of the following dissemination calendars: STOXX Europe Regional calendar, STOXX Japan Country calendar, STOXX US Country calendar, STOXX Hong Kong Country calendar, STOXX Switzerland Country calendar and STOXX UK Country calendar.
Index Type: Price
Index Currency: EUR

11.10.3. CALCULATION

The iSTOXX World Top 200 Equal Weight Decrement 50 index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.11. EURO iSTOXX BANKS GR DECREMENT 50 INDEX

11.11.1. OVERVIEW

The EURO iSTOXX Banks GR Decrement 50 index replicates the returns of an investment into the underlying index with a constant dividend markdown expressed in index points that are subtracted on an accrued basis.
Consequently, due to the index points being subtracted, the EURO iSTOXX Banks GR Decrement 50 index is underperforming the standard gross return indices that include a full dividend investment.

11.11.2. DEFINITIONS

Base value: 1000
Base date: 1 February 2018
Underlying Index: EURO STOXX Banks Gross Return Index in EUR
Decrement Amount (in index points): 50
Dissemination calendar: STOXX Europe calendar
Index Type: Price
Index Currency: EUR

11.11.3. CALCULATION

The iSTOXX World Top 200 Equal Weight Decrement 50 index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.12. iSTOXX DIVERSITY IMPACT SELECT 30 NR DECREMENT 5% INDICES

11.12.1. OVERVIEW

The iSTOXX Diversity Impact Select 30 NR Decrement 5% indices replicate the performance of the iSTOXX Diversity Impact Select 30 indices assuming a constant 5% performance deduction per annum. The performance deduction accrues constantly on a daily basis.

Consequently, due to the percentage of performance being subtracted, the decrement index is underperforming the standard net return index.

11.12.1. DEFINITIONS

Index Name	Underlying Index	Decrement Amount (in percentage points)	Base value	Calendar	Base date	Index Type	Index Currency
iSTOXX Europe Diversity Impact Select 30 NR Decrement 5%	iSTOXX Europe Diversity Impact Select 30 Net Return Index	5.0%	100	STOXX Europe Calendar	21 Sep 2009	Price	EUR
iSTOXX Global Diversity Impact Select 30 NR Decrement 5%	iSTOXX Global Diversity Impact Select 30 Net Return Index	5.0%	100	STOXX Europe Calendar	21 Sep 2009	Price	EUR

11.12.2. CALCULATION

The iSTOXX Global Diversity Impact Select 30 NR Decrement 5% Index and the iSTOXX Europe Diversity Impact Select 30 NR Decrement 5% Index are calculated according to the STOXX Decrement Section of the STOXX Strategy Guide.

11.12.3. ONGOING MAINTENANCE

All index changes and adjustments of the Underlying Index are reflected in the Decrement Index.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.13. EURO iSTOXX 50 ESG FOCUS DECREMENT 5% INDICES

11.13.1. OVERVIEW

The Decrement Index (see table below) replicates the return of an investment into the Underlying Index (see table below) assuming a constant 5% performance deduction per annum. The performance deduction accrues constantly on a daily basis. Consequently, due to the percentage of performance being subtracted, the Decrement Index underperforms the standard net/ gross return version of the Underlying index that includes net/ gross dividend investments. The Decrement Index may perform better than the standard price version of the Underlying Index, which does not consider dividend investments, if the overall net/ gross dividend yield of the Underlying index is greater than the value being subtracted.

11.13.2. DEFINITIONS

Index Name	Underlying Index	Decrement Amount (in percentage points)	Base value	Calendar	Base date	Index Type	Index Currency
EURO iSTOXX 50 ESG Focus NR Decrement 5%	EURO iSTOXX 50 ESG Focus Net Return Index	5.0%	100	STOXX Europe Calendar	19 Mar 2012	Price	EUR
EURO iSTOXX 50 ESG Focus GR Decrement 5%	EURO iSTOXX 50 ESG Focus Gross Return Index	5.0%	100	STOXX Europe Calendar	19 Mar 2012	Price	EUR

11.13.3. CALCULATION

The Index Values for the EURO iSTOXX 50 ESG Focus Decrement 5% Indices are calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.13.4. ONGOING MAINTENANCE

All index changes and adjustments of the Underlying Index are reflected in the Decrement Index.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.14. EURO ISTOXX 25 CHALLENGERS EQUAL WEIGHT NR DECREMENT 5.5% INDEX

11.14.1. OVERVIEW

The EURO iSTOXX 25 Challengers Equal Weight NR Decrement 5.5% Index replicates the performance of the EUR net return version of the EURO iSTOXX 25 Challengers Equal Weight Index assuming a constant 5.5% performance deduction per annum. The performance deduction accrues constantly on a daily basis

Consequently, due to the percentage of performance being subtracted, the EURO iSTOXX 25 Challengers Equal Weight NR Decrement 5.5% Index is underperforming the standard EURO iSTOXX 25 Challengers Equal Weight Net Return index that includes a net dividend investment.

11.14.2. DEFINITIONS

Base value: 100
Base date: 17 Mar 2006
Underlying Index: EURO iSTOXX 25 Challengers Equal Weight Net Return Index
Decrement amount (in percentage points): 5.5%
Index type: Price
Index Currency: EUR

Dissemination calendar: STOXX Europe calendar

11.14.3. CALCULATION

The Index Value for the EURO iSTOXX 25 Challengers Equal Weight NR Decrement 5.5% Index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.15. EURO ISTOXX NEXT 30 NR DECREMENT 5% INDEX

11.15.1. OVERVIEW

The EURO iSTOXX Next 30 NR Decrement 5% index replicates the performance of the EURO iSTOXX Next 30 Net Return index assuming a constant 5% performance deduction per annum. The performance deduction accrues constantly on a daily basis.

Consequently, due to the percentage of performance being subtracted, the decrement index is underperforming the standard net return index.

11.15.2. DEFINITIONS

Base value: 1000
Base date: 20 Sep 2002
Underlying Index: EURO iSTOXX Next 30 Net Return Index
Decrement amount (in percentage points): 5%
Index type: Price
Index Currency: EUR

Dissemination calendar: STOXX Europe calendar

11.15.3. CALCULATION

The Index Value for the EURO iSTOXX Next 30 NR Decrement 5% Index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.16. ISTOXX EUROPEAN 100 GR DECREMENT 50 INDEX

11.16.1. OVERVIEW

The iSTOXX European 100 GR Decrement 50 index replicates the returns of an investment into the underlying index with a constant dividend markdown expressed in index points that are subtracted on an accrued basis.

Consequently, due to the index points being subtracted, the iSTOXX® European 100 GR Decrement 50 index is underperforming the standard gross return indices that include a full dividend investment.

11.16.2. DEFINITIONS

Base value: 1000
Base date: 19 November 2014
Underlying Index: iSTOXX European 100 Gross Return Index in EUR
Decrement Amount (in index points): 50
Index Type: Price
Index Currency: EUR

Dissemination calendar:
Intersection of the following dissemination calendars: STOXX Europe Regional calendar, STOXX UK Country calendar, STOXX Switzerland Country calendar

11.16.3. CALCULATION

The iSTOXX European 100 GR Decrement 50 index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.17. ISTOXX EUROPE 600 ENERGY EX COAL GR DECREMENT 50 INDEX

11.17.1. OVERVIEW

The iSTOXX Europe 600 Energy ex Coal GR Decrement 50 Index replicates the performance of the STOXX Europe 600 Oil & Gas Gross Return Index assuming a constant dividend markdown expressed in index points that are deducted on an accrued basis. Consequently, due to the index points deduction, the iSTOXX Europe 600 Energy ex Coal GR Decrement 50 Index underperforms the STOXX Europe 600 Oil & Gas Gross Return Index, which includes the gross dividend investments.

11.17.2. DEFINITIONS

Base value: 1000
Base date: 13 September 2018
Underlying Index: STOXX Europe 600 Oil & Gas Gross Return Index in EUR
Decrement Amount (in index points): 50
Index Type: Price
Index Currency: EUR

Dissemination calendar: STOXX Europe calendar

11.17.3. CALCULATION

The iSTOXX Europe 600 Energy ex Coal GR Decrement 50 Index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.17.4. ONGOING MAINTENANCE

All index changes and adjustments of the STOXX Europe 600 Oil & Gas Index are reflected in the iSTOXX Europe 600 Energy ex Coal GR Decrement 50 Index.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.18. ISTOXX EUROPE 600 REAL ESTATE GR DECREMENT 50 INDEX

11.18.1. OVERVIEW

The iSTOXX Europe 600 Real Estate GR Decrement 50 Index replicates the performance of the STOXX Europe 600 Real Estate Gross Return Index assuming a constant dividend markdown expressed in index points that are deducted on an accrued basis. Consequently, due to the index points deduction, the iSTOXX Europe 600 Real Estate GR Decrement 50 Index underperforms the STOXX Europe 600 Real Estate Gross Return Index, which includes the gross dividend investments.

11.18.2. DEFINITIONS

Base value: 1000
Base date: 19 November 2014
Underlying Index: STOXX Europe 600 Real Estate Gross Return Index in EUR
Decrement Amount (in index points): 50
Index Type: Price
Index Currency: EUR

Dissemination calendar: STOXX Europe calendar

11.18.3. CALCULATION

The iSTOXX Europe 600 Real Estate GR Decrement 50 Index is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.18.4. ONGOING MAINTENANCE

All index changes and adjustments of the STOXX Europe 600 Real Estate Index are reflected in the iSTOXX Europe 600 Real Estate GR Decrement 50 Index.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.19. iSTOXX EUROPE CLIMATE IMPACT EX GC CW & TOBACCO GR DECREMENT 5% INDEX

11.19.1. OVERVIEW

The iSTOXX Europe Climate Impact Ex GC CW & Tobacco GR Decrement 5% Index replicates the performance of the STOXX Europe Climate Impact Ex Global Compact Controversial Weapons & Tobacco Gross Return Index assuming a constant 5% performance deduction per annum. The performance deduction accrues constantly on a daily basis.

Consequently, due to the percentage performance deduction, the iSTOXX Europe Climate Impact Ex GC CW & Tobacco GR Decrement 5% Index underperforms the standard STOXX Europe Climate Impact Ex Global Compact Controversial Weapons & Tobacco Gross Return index that includes the gross dividend investments.

11.19.2. DEFINITIONS

Base value: 1000
Base date: 24 December 2012
Underlying Index: STOXX Europe Climate Impact Ex Global Compact Controversial Weapons & Tobacco Gross Return Index in EUR
Decrement amount (in percentage points): 5%
Index Type: Price
Index Currency: EUR

Dissemination calendar: STOXX Europe calendar

11.19.3. CALCULATION

The Index Value for the iSTOXX Europe Climate Impact Ex GC CW & Tobacco GR Decrement 5% is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.19.4. ONGOING MAINTENANCE

All index changes and adjustments of the Underlying Index are reflected in the Decrement Index.

11. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

11.20. iSTOXX EUROPE CLIMATE IMPACT EX GC CW & TOBACCO NR DECREMENT 4.75% INDEX

11.20.1. OVERVIEW

The iSTOXX Europe Climate Impact Ex GC CW & Tobacco NR Decrement 4.75% Index replicates the performance of the STOXX Europe Climate Impact Ex Global Compact Controversial Weapons & Tobacco Net Return index assuming a constant 4.75% performance deduction per annum. The performance deduction accrues constantly on a daily basis.

Consequently, due to the percentage performance deduction, the iSTOXX Europe Climate Impact Ex GC CW & Tobacco NR Decrement 4.75% Index underperforms the standard STOXX Europe Climate Impact Ex Global Compact Controversial Weapons & Tobacco Net Return index that includes the net dividend investments.

11.20.2. DEFINITIONS

Base value: 1000
Base date: 24 December 2012
Underlying Index: STOXX Europe Climate Impact Ex Global Compact Controversial Weapons & Tobacco Net Return Index in EUR
Decrement amount (in percentage points): 4.75%
Index Type: Price
Index Currency: EUR

Dissemination calendar: STOXX Europe calendar

11.20.3. CALCULATION

The Index Value for the iSTOXX Europe Climate Impact Ex GC CW & Tobacco NR Decrement 4.75% is calculated according to the STOXX Decrement Indices section of the STOXX Strategy Guide.

11.20.4. ONGOING MAINTENANCE

All index changes and adjustments of the Underlying Index are reflected in the Decrement Index.

12. iSTOXX MUTB INDICES

12.1. iSTOXX MUTB QUALITY 150 INDICES

12.1.1. OVERVIEW

The iSTOXX MUTB Quality 150 indices select the best companies based on a combined ranking of four fundamentals ratios (return on equity, debt-to-asset, cash flow generation ability and business stability). Stocks need to fulfill minimum liquidity criteria before being added to the index.

Universe: The indices are derived from their benchmark index as follows. REITs, identified by ICB Sector 8670, and stocks classified as Japan on the STOXX Total Market index but incorporated outside of Japan are excluded from the universes:

Index	Universe
iSTOXX MUTB Japan Quality 150	STOXX Japan 600 ex-REITs
iSTOXX MUTB Global Quality 150	STOXX Global 1800 ex-REITs
iSTOXX MUTB Global ex Japan Quality 150	STOXX Global 1800 ex Japan ex-REITs
iSTOXX MUTB Global ex Australia Quality 150	STOXX Global 1800 ex Australia ex-REITs

Weighting scheme: The indices are weighted according to free-float market capitalization with a 2% maximum capping per constituent

Index types, currencies, base values and dates:

Index	Versions	Currencies	Base values and dates
iSTOXX MUTB Japan Quality 150	Price, gross and net return	EUR, USD, JPY	100 on June 18, 2001
iSTOXX MUTB Global Quality 150	Price, gross and net return	EUR, USD, JPY, AUD	100 on December 20, 2002
iSTOXX MUTB Global ex Japan Quality 150	Price, gross and net return	EUR, USD, JPY	100 on December 20, 2002
iSTOXX MUTB Global ex Australia Quality 150	Price, gross and net return	EUR, USD, AUD	100 on December 20, 2002

Dissemination calendar: STOXX Asia calendar

12.1.2. INDEX REVIEW

Selection list: For the three iSTOXX MUTB Global 150 indices, the universe is divided into three regions: North America, Europe and Asia/Pacific. For iSTOXX MUTB Japan Quality 150, the universe remains untouched. For all stocks in each respective universe subdivision, percentile ranks are assigned to the following four ratios, where rank 0 is the worst and rank 1 the best. For the three iSTOXX MUTB Global 150 indices also regional ranks are calculated based on the same ratios, where the respective global universe is divided into three regions: North America, Europe and Asia/Pacific. An additional percentile rank is assigned to liquidity for all stocks in the universe, without applying universe division into regions for any index. Only stocks with positive

12. iSTOXX MUTB INDICES

Shareholder's Equity, Total Assets and Net Cash Flow from Operating Activities and non-missing current Total Debt and Net Income data are eligible. Industrial stocks (all stocks excluding Financials) need to have a positive sum of Net Property, Plant and Equipment, Inventories and Accounts Receivables to be eligible.

- Liquidity: calculated as the three month Average Daily Traded Value (ADTV). The higher the liquidity, the higher the rank to be assigned.

- Return on Equity (ROE): calculated as Net Income divided by Shareholder's Equity. The higher the value of the ratio, the higher the rank to be assigned.

- Financial Health: calculated as Total Debt divided by the sum of Shareholder's Equity and Total Debt. The lower the value of the ratio, the higher the rank to be assigned.

- Cash-Flow Generation Ability:
  - For Financial stocks (identified by ICB Industry Code 8000): calculated as Net Cash-Flows from Operating Activities divided by Total Assets. The higher the value of the ratio, the higher the rank.
  - For industrial stocks (all stocks excluding Financials): calculated as Net Cash-Flows from Operating Activities divided by the sum of Net Property, Plant and Equipment, Inventories and Accounts Receivables. The higher the value of the ratio, the higher the rank
    The percentile ranks from each group (financials / non-financials) form the final Cash-Flow Generation Ability rank.

- Business Stability: calculated as the standard deviation of Net Income over the last five years divided by Shareholder's Equity. The lower the value of the ratio, the higher the rank assigned. In order to calculate this ratio, Net Income data for at least three out of five periods should be available.

For non-components a liquidity screening applies. Companies need to ranked within the top 80% by liquidity to be eligible.

The stocks fulfilling the following screening criteria will compose the selection list. For the iSTOXX MUTB Global 150 indices, the screening is applied using the regional rankings:

- All companies ranked by ROE between 0.5 and 1
- All companies ranked by Financial Health, Cash-Flow Generation Ability and Business Stability between 0.05 and 1

A composite quality score is calculated for all the stocks in the selection list using the previously calculated percentile ranks as follows. The full universe based ranks are used for the calculation, both for iSTOXX MUTB Japan 150 and iSTOXX MUTB Global 150 indices:

$$0.4 \times \text{ROE Ranking} + 0.2 \times (\text{Financial Health ranking} + \text{Cash Flow Generation Ability ranking} + \text{Business Stability ranking})$$

Component selection:
All eligible companies are ranked by the composite quality score in descending order.
For iSTOXX MUTB Japan Quality 150 index, the top 150 stocks are selected as index components.
For the three iSTOXX MUTB Global Quality 150 indices the following rules apply:

1. For current components of the index, if its quality score is more than 95% of the quality score of the 150th stock, then it will remain in the index.
2. When the number of stocks selected above is less than 150, the remaining constituents are selected in descending order by quality score from current non-components

If the composite score is the same for two stocks at the 150th threshold, the stock with higher ROE ranking will be selected for the index. If the ROE ranking is the same, the stock with the highest free-float market capitalization will be selected.

Review frequency: The reviews are conducted on a semi-annual basis in June and December. The review cut-off date for the underlying data is the last trading day of the month preceding the review month. The new composition of the corresponding universe effective on the Monday following the third Friday of the review month (June and December) is used as base universe.

Weighting cap factors: Components are capped at a maximum weight of 2% on a quarterly basis in March, June, September and December based on the close prices from the second Thursday of the rebalancing month.

12.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the corresponding universe, which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off are not added permanently to the index

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

12. iSTOXX MUTB INDICES

12.2. iSTOXX MUTB GLOBAL EX AUSTRALIA QUALITY LEADERS 150 INDICES

12.2.1. OVERVIEW

The iSTOXX MUTB Global ex-Australia Quality Leaders 150 index selects the best companies from the components of the STOXX Global 1800 ex Australia index, based on a combined screening and ranking of four fundamental indicators. The indicators used are profitability, leverage, cash flow generation ability and business stability. Stocks need to fulfill minimum liquidity criteria before being added to the index.

The component selection is conducted on a semi-annual basis in June and December

Universe: The index is derived from the STOXX Global 1800 ex Australia Index.

Weighting scheme: The indices are weighted according to free-float market capitalization with a 2% maximum capping per constituent

Base values and dates: The following base values and dates apply:

Index	Versions	Currencies	Base values and dates
iSTOXX MUTB Global ex Australia Quality Leaders 150	Price, gross and net return	EUR	100 on December 20, 2002
		USD	102.69 on December 20, 2002
		AUD	183.02 on December 20, 2002

For a complete list please consult the data vendor code sheet on the website[7]. Customized solutions can be provided upon request.

Index types and currencies: Price, net and gross return in EUR, USD and AUD are calculated.

Dissemination calendar: STOXX Asia calendar

12.2.2. INDEX REVIEW

Selection list: The universe is divided into three regions: North America, Europe and Asia/Pacific. For all stocks in each respective universe subdivision, percentile ranks are assigned to the following four ratios, where rank 0 is the worst and rank 1 the best. In addition, percentile ranks for the same four ratios are calculated on the full universe as well.
Only stocks with positive Shareholder's Equity, Total Assets and Net Cash Flow from Operating Activities and non-missing current Total Debt and Net Income data are eligible. Industrial stocks

[7] http://www.STOXX.com/download/indices/vendor_codes.xls

(all stocks excluding Financials) need to have a positive sum of Net Property, Plant and Equipment, Inventories and Accounts Receivables to be eligible for ranking.

» Return on Equity (ROE): calculated as Net Income divided by Shareholder's Equity. The higher the value of the ratio, the higher the rank to be assigned.

» Financial Health: calculated as Total Debt divided by the sum of Shareholder's Equity and Total Debt. The lower the value of the ratio, the higher the rank to be assigned.

» Cash-Flow Generation Ability:
  - For Financial stocks (identified by ICB Industry Code 8000): calculated as Net Cash-Flows from Operating Activities divided by Total Assets. The higher the value of the ratio, the higher the rank.
  - For industrial stocks (all stocks excluding Financials): calculated as Net Cash-Flows from Operating Activities divided by the sum of Net Property, Plant and Equipment, Inventories and Accounts Receivables. The higher the value of the ratio, the higher the rank
    The percentile ranks from each group (financials / non-financials) form the final Cash-Flow Generation Ability rank.

» Business Stability: calculated as the standard deviation of Net Income over the last five years divided by Shareholder's Equity. The lower the value of the ratio, the higher the rank assigned. In order to calculate this ratio, Net Income data for at least three out of five periods should be available.

An additional percentile rank is assigned to liquidity (defined below) for all stocks in the universe, without applying universe division into regions for any index.

» Liquidity: calculated as the three-month Average Daily Traded Value (ADTV). The higher the liquidity, the higher the rank to be assigned.

For non-components a liquidity screening applies. Companies need to ranked within the top 80% by liquidity rank to be eligible.

The stocks fulfilling the following screening criteria, using the regional ranking calculated above will compose the selection list:

» All companies ranked by ROE between 0.5 and 1
» All companies ranked by Financial Health, Cash-Flow Generation Ability and Business Stability between 0.05 and 1

A composite quality score is calculated for all the stocks in the selection list using the percentile ranks calculated on the full universe as follows.

$$0.4 \times \text{ROE Ranking} + 0.2 \times (\text{Financial Health ranking} + \text{Cash Flow Generation Ability ranking} + \text{Business Stability ranking})$$

Composition list: All eligible companies are ranked by the composite quality score in descending order. The top 150 components based on the composite quality score will be considered for index composition. Additionally, the following rules will apply:

1. For current components of the index, if its quality score is more than 95% of the quality score of the 150th stock, then it will remain in the index.
2. When the number of stocks selected above is less than 150, the remaining constituents are selected in descending order by quality score from current non-components

If the composite score is the same for two stocks at the 150^{h} threshold, the stock with higher ROE ranking will be selected for the index. If the ROE ranking is the same, the stock with the highest free-float market capitalization will be selected.

Review frequency: The reviews are conducted on a semi-annual basis in June and December. The review cut-off date for the underlying data is the last trading day of the month preceding the review month. The new composition of the corresponding universe effective on the Monday following the third Friday of the review month (June and December) is used as base universe.

Weighting cap factors: Components are capped at a maximum weight of 2% on a quarterly basis in March, June, September and December based on the close prices from the second Thursday of the rebalancing month.

12.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the corresponding universe, which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is not added permanently to the index.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

12. iSTOXX MUTB INDICES

12.3. iSTOXX MUTB JAPAN QUALITY 150 DAILY HEDGED INDEX

12.3.1. OVERVIEW

A currency-hedged index is designed to represent returns for global index investment strategies that involve hedging currency risk, but not the underlying constituent risk. The currency-hedged strategy indices eliminate the risk of currency fluctuations at the cost of potential currency gains.

The iSTOXX MUTB Japan Quality 150 Daily Hedged index is available in the following types and currencies: price, net and gross return, in EUR.

Base values and dates: 100 on June 29, 2001

Dissemination calendar: STOXX Asia calendar

12.3.2. CALCULATIONS

In the iSTOXX MUTB Japan Quality 150 Daily Hedged index the hedging trade is entered at the end of each calendar month. From that day onwards, the returns of the underlying, unhedged index are integrated by the returns from hedging. The notional amount being hedged is reset on a daily basis.

The full calculation methodology is covered on chapter 16 of the STOXX Strategy Guide.

12. iSTOXX MUTB INDICES

12.4. iSTOXX MUTB JAPAN PROACTIVE LEADERS 200 INDEX

12.4.1. OVERVIEW

The iSTOXX MUTB Japan Proactive Leaders 200 indices select the best companies based on a combined ranking of four fundamentals indicators (profitability, leverage, cash flow generation ability and business stability) and two capital investment factors (physical and human). Stocks need to fulfill minimum liquidity, and credit risk criteria before being added to the index. The number of companies from one ICB sector is constrained to ensure diversification.

Universe: The indices are derived from their benchmark, the STOXX Japan 600 index. REITs, identified by ICB Sector 8670, and stocks classified as Japan in the STOXX Total Market index, but incorporated outside of Japan are excluded from the universes.

Weighting scheme: The indices are weighted according to free-float market capitalization with a 2% capping per constituent.

Base values and dates: The following base values and dates apply: 100 on Dec 22, 2008

Index types and currencies: Price, net return, gross return in JPY, EUR and USD

Dissemination calendar: STOXX Asia calendar

12.4.2. INDEX REVIEW

Selection list:
On a semi-annual basis in June and December, for all stocks in the universe, two sets of percentile ranks are assigned to the following four indicators, where rank 0 is the worst and rank 1 the best. In the cases where the indicator is the same for two stocks, the larger stock by free-float market capitalization shall have the higher score. One set of ranks is calculated for the purpose of screening and a second one for the final composite score calculation. An additional percentile rank used only for screening purposes is assigned to liquidity.

- Liquidity: calculated as the three month Average Daily Traded Value (ADTV). The higher the liquidity, the higher the rank to be assigned.

- Return on Equity (ROE): calculated as Net Income divided by Shareholder's Equity. The higher the value of the ratio, the higher the rank to be assigned.

- Financial Health: calculated as Total Debt divided by the sum of Shareholder's Equity and Total Debt. The lower the value of the ratio, the higher the rank to be assigned.

- Cash-Flow Generation Ability:

- For Financial stocks (identified by ICB Industry Code 8000): calculated as Net Cash-Flows from Operating Activities divided by Total Assets. The higher the value of the ratio, the higher the rank.
- For industrial stocks (all stocks excluding Financials): calculated as Net Cash-Flows from Operating Activities divided by the sum of Net Property, Plant and Equipment, Inventories and Accounts Receivables. The higher the value of the ratio, the higher the rank
  The percentile ranks from each group (financials / non-financials) form the final Cash-Flow Generation Ability rank.

» Business Stability: calculated as the standard deviation of Net Income over the last five years divided by Shareholder's Equity. The lower the value of the ratio, the higher the rank assigned. In order to calculate this ratio, Net Income data for at least three out of five periods should be available.

When assigning ranks that will be used for the composite score calculation, ROE indicator for stocks with negative shareholders' equity or negative net income is assigned zero. In the same way, stocks with negative shareholders' equity are assigned a Financial Health ranking of zero.

Additionally, for all stocks in the universe physical and human capital investment factors are calculated as follows:

» Physical capital investment factor, consisting of three sub-factors:

- Change in EX-CAPEX of the last three years (t). Calculated as follows:

$$\mathrm{EXCAPEX}_{i,t} = \mathrm{CAPEX}_{i,t} - \mathrm{Depreciation}_{i,t}$$

$\mathrm{CAPEX}_{i,t}$: capital expenditures item of company i at t

$\mathrm{Depreciation}_{i,t}$: depreciation item of company i at t

If either "CAPEX" or "depreciation" is missing, EX-CAPEX shall not be calculated. As long as one year EX-CAPEX is available, the average of the existing values shall be calculated.

$$\overline{\mathrm{EXCAPEX}_{i,t}} = \sum_{j=0}^{2} \mathrm{EXCAPEX}_{i,t-j} \div n$$

n: number of observation with available data in the last three years

$$\Delta\mathrm{EXCAPEX}_{i,t}^{C} = \mathrm{IF}(\overline{\mathrm{EXCAPEX}_{i,t}} > 0,1,0)$$

Companies with on average higher CAPEX than Depreciation over three years are assigned a score of 1, otherwise 0. Stocks with a missing value are scored at 0.

- Change in CAPEX of the last three years (t). Calculated as follows:
  As long as one year CAPEX is available, the average of the existing values shall be calculated.

$$\overline{\mathrm{CAPEX}_{\imath,t}} = \sum_{j=0}^{2} \mathrm{CAPEX}_{i,t-j} \div n$$

n: number of observation with available data in the last three years

$$\Delta\mathrm{CAPEX}_{i,t} = \mathrm{IF}(\mathrm{CAPEX}_{i,t} > \overline{\mathrm{CAPEX}_{\imath,t}}, 1,0)$$

Companies with the last year's CAPEX greater than the average over three years are assigned a score of 1, otherwise 0. Stocks with a missing value are scored at 0

- Change in Research and Development (R&D). Calculated as follows:
  As long as one year R&D is available, the average of the existing values shall be calculated.

$$\overline{\mathrm{R\&D}_{\imath,t}} = \sum_{j=0}^{2} \mathrm{R\&D}_{i,t-j} \div n$$

$\mathrm{R\&D}_{i,t}$: research and development item of company i at t
n: number of observation with available data in the last three years

$$\Delta\mathrm{R\&D}_{i,t} = \mathrm{IF}(\mathrm{R\&D}_{i,t} > \overline{\mathrm{R\&D}_{\imath,t}}, 1, 0)$$

Companies with the last year's R&D greater than the average over three years are assigned a score of 1, otherwise 0. Stocks with a missing value are scored at 0

The physical capital investment factor is calculated as the average of the three sub-factors: Change in EX-CAPEX, Change in CAPEX and Change in Research and Development

» Human capital investment factor, consisting of five sub-factors. This information is sourced from Toyo Keizai.

- Change in number of employees of the last three years (t). Calculated as follows:

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As long as the latest year's (t) observation is available, the average of the existing values shall be calculated

$$\overline{E^{C}_{i,t}} = \sum_{j=0}^{2} E^{C}_{i,t-j} \div n$$

$$\overline{E^{P}_{i,t}} = \sum_{j=0}^{2} E^{P}_{i,t-j} \div n$$

$E^{C}_{i,t}$: the number of employee of company i, consolidated, at t

$E^{P}_{i,t}$: the number of employee of company i, parent, at t

$$\Delta E^{C}_{i,t} = IF(E^{C}_{i,t} > \overline{E^{C}_{i,t}}, 1,0)$$

$$\Delta E^{P}_{i,t} = IF(E^{P}_{i,t} > \overline{E^{P}_{i,t}}, 1,0)$$

If the number of employees of the company in the latest year is not available, the sub-factor's value will correspond to the change in number of employees of the parent company. Companies with the last year's number of employees greater than the average over three years are assigned a score of 1, otherwise 0

$$\Delta E_{i,t} = IF\left(E^{c}_{i,t} \neq \text{null}, \Delta E^{c}_{i,t}, \Delta E^{P}_{i,t}\right)$$

- Change in average wage of the last three years (t). Calculated as follows:
  As long as one year of wage information is available, the average of the existing values shall be calculated

$$\overline{W_{i,t}} = \sum_{j=0}^{2} W_{i,t-j} \div n$$

$W_{i,t}$: the average wage of company i at t

n: number of observation with available data in the last three years

$$\Delta W_{i,t} = IF(W_{i,t} > \overline{W_{i,t}}, 1,0)$$

Stocks with a missing value are scored at 0

- Working environment/system, consisting of five sub-items. Calculated as follows:
  - Flextime program. If exists, then 1, else zero

- Reduced working hours program. If exists, then 1, else zero
- Home-working program. If exists, then 1, else zero
- Discretionary work program. If exists, then 1, else zero
- Change in number of paid vacation days
  As long as one year observation is available, the average of the existing number of paid vacation values shall be calculated. If the sub-item could not be calculated due to missing data, the value of the sub-item will be zero

$$\overline{PV_{i,t}} = \sum_{j=0}^{2} PV_{i,t-j} \div n$$

$PV_{i,t}$: the average number of paid vacation days of company i at t

n: number of observation with available data in the last three years

$$\Delta PV_{i,t} = IF(PV_{i,t} > \overline{PV_{i,t}}, 1,0)$$

Companies with the last years Paid Vacation Days greater than the average over three years are assigned a score of 1, otherwise 0.

The working environment/system score is calculated as the average of the five sub-items

- Skill and motivation program, consisting of five sub-items. Calculated as follows:
  - Incentive for obtaining certifications. If exists, then 1, else zero
  - Study program in Japan. If exists, then 1, else zero
  - Study program abroad. If exists, then 1, else zero
  - Career advancement support program. If exists, then 1, else zero
  - Stock option plan. If exists, then 1, else zero

  The skill and motivation program score is calculated as the average of the five sub-items

- Empowering women, consisting of three sub-items. Calculated as follows:
  - Ratio of management positions (women). If ratio is 30 or above, then 1, else if the ratio is 15 or below 30, then 0.5, else zero
  - Day care facility or allowance. If exists, then 1, else zero
  - Re-employment plan. If exists, then 1, else zero

  The empowering women score is calculated as the average of the three sub-items

The human capital investment factor is calculated as the average of the five sub-factors: Change in number of employees, Change in average wage, Working environment/system, Skill and motivation program and Empowering women

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Using the set of percentile ranks calculated for screening purposes, a liquidity screening applies for non-components only. Companies need to ranked within the top 80% by liquidity to be eligible.

The stocks fulfilling the following criteria will compose the selection list. The screening is applied using the rankings calculated for screening.

» All stocks ranked by ROE between 0.2 and 1
» All stocks ranked by Financial Health, Cash-Flow Generation Ability and Business Stability between 0.05 and 1
» All stocks should have a positive value for either physical or human capital investment factor

Stocks that meet one of the following conditions are considered of high credit risk and removed from the selection list.

» Shareholder's equity is negative at least one of the recent three fiscal years
» Either of operating income or net income is negative during all the recent three fiscal years

Stocks that meet one of the following conditions are considered of low liquidity and removed from the selection list.

» Stocks were traded on the eligible stock exchange less than 200 days in the last year
» The total traded value of the stock was below 100 billion yen in the last year

A composite factor is calculated for all remaining stocks in the selection list using the percentile ranks assigned for the purpose of final composite score calculation and the physical and human capital investment factors as follows:

$$0.6 \times [0.4 \times \text{ROE Ranking} + 0.2 \times (\text{Financial Health ranking} + \text{Cash Flow Generation Ability ranking} + \text{Business Stability ranking})] + 0.2 \times (\text{Physical investment factor} + \text{Human investment factor})$$

Component selection:
All stocks in the selection list are ranked by the composite factor in descending order. The following selection rules apply:

1) For current components of the index, if its composite score is more than 95% of the composite score of the 200th stock, then it will remain in the index
2) When the number of stocks selected above is less than 200, the remaining constituents are selected in descending order by composite score from current non-components
3) If 40 stocks classified in the same sector (according to the ICB sector classification) are selected no more stocks from that sector could be added

If the composite score is the same for two stocks, the stock with the larger free-float market capitalization will be assigned the higher rank.

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Review frequency: The reviews are conducted on a semi-annual basis in June and December. The review cut-off date for the underlying data is last trading day of the month preceding the review month. The new composition of the STOXX Japan 600 Index effective on the Monday following the third Friday of the month (June and December) is used as base universe.

Weighting cap factors: Components are capped at a maximum weight of 2% on a semiannual basis in June and December based on the close prices of the second Thursday of the rebalancing month.

12.4.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the parent index, STOXX Japan 600, which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spun-off companies are not added permanently to the index.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com. Index components are deleted from all STOXX indices in case of official delisting from the eligible stock exchange or ongoing bankruptcy proceeding.

12. iSTOXX MUTB INDICES

12.5. iSTOXX MUTB QUALITY DIVIDEND INDICES

12.5.1. OVERVIEW

The iSTOXX MUTB Quality Dividend indices select stocks form their respective benchmark index that comply with dividend quality, fundamental and price stability criteria. When selecting additions to the index during the periodical rebalancing, priority is given to high dividend yielding stocks. The component selection is conducted on a semi-annually basis in June and December.

Universe: The indices are derived from their parent indices as described below. REITs, identified by ICB Sector 8670, and stocks classified as Japanese in the STOXX Total Market index but incorporated outside of Japan are excluded from the universes.

Index	Universe
iSTOXX MUTB Asia/Pacific Quality Dividend 100	STOXX Asia/Pacific 600 ex-REIT
iSTOXX MUTB Japan Quality Dividend 100	STOXX Japan 600 ex-REITs
iSTOXX MUTB Japan ex-Banks Quality Dividend 100	STOXX Japan 600 ex-Banks (excluding ICB 8300) ex-REITs
iSTOXX MUTB Global Quality Dividend 300	STOXX Global 1800 ex-REITs
iSTOXX MUTB Global ex Japan Quality Dividend 250	STOXX Global 1800 ex Japan ex-REITs
iSTOXX MUTB Global ex Australia Quality Dividend 300	STOXX Global 1800 ex Australia ex-REITs

Weighting scheme: The indices are price weighted based on a combined factor of the inverse of each stock's standard deviation and the dividend amount with a capping per constituent.

Base values and dates: 100 on Dec 16, 2005 for iSTOXX MUTB Asia/Pacific Quality Dividend 100; 100 on Dec 20, 2002 for all other indices

Index types and currencies: All index versions are calculated as price, net and gross return in EUR, USD, JPY, with exception of iSTOXX MUTB Global ex Australia Quality Dividend 300 which is calculated in AUD but not in JPY. The iSTOXX MUTB Asia/Pacific Quality Dividend 100 is also calculated in TWD

Dissemination calendar: STOXX Asia calendar

12.5.2. INDEX REVIEW

Selection list:
On a semi-annual basis in June and December, for all stocks in the universe with a valid gross dividend yield figure (zero or higher), assign percentile ranks based on the gross dividend yield where rank 0 is the worst and rank 1 the best. In the cases where the indicator is the same for two stocks, the larger stock by free-float market capitalization shall have the higher score.
Pre-select all the stocks with dividend yield percentile ranks between 0.5 and 1.

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For the pre-selected stocks, calculate the following indicators and assign percentile ranks using the same logic:

» Liquidity: calculated as the three-month Average Daily Traded Value (ADTV). The higher the liquidity, the higher the rank to be assigned.

» Price Stability: calculated as the standard deviation of the latest 60 monthly returns in the stock's local currency. The lower the standard deviation, the higher the rank to be assigned. Stocks with less than 24 monthly returns are not ranked and are assigned a zero value.

» Historical Return: cumulative return in the stock's local currency. for the latest 12 months. The higher the Historical Return, the higher the rank to be assigned. Stocks with less than 12 month returns are not ranked and are assigned a zero value.

» Financial Health: calculated as Total Debt divided by the sum of Shareholder's Equity and Total Debt. The lower the value of the ratio, the higher the rank to be assigned. Stocks with negative shareholders' equity are not ranked and are assigned a 0.5 value.

» Business Stability: calculated as the standard deviation of Net Income over the last five years' dividend by Shareholder's Equity. Data in local currency is used. The lower the value of the ratio, the higher the rank assigned. In order to calculate this ratio, Net Income data for at least three out of five periods should be available. Stocks for which the ratio cannot be calculated are not ranked and are assigned a 0.5 value.

The stocks fulfilling the following dividend quality criteria will compose the selection list.

» All stocks ranked by Price Stability between 0.2 and 1
» All stocks with no missing Historical Return, having an Historical Return ranking between 0.1 and 1 or having their Historical Return indicator equal or above minus 30%
» All stocks having a combined rank of Financial Health rank (FHR) and Business Stability rank (BSR) between 0.2 and 1. The combined rank is calculated as: (FHR + BSR) / 2
» All stocks having a gross dividend yield of 30% or below
» All stocks having the inverse of the payout ratio of 1 or above. The inverse of the payout ratio is calculated as earnings per share (EPS) divided by gross dividend per share (DPS gross). Stocks with zero or no dividend are regarded as 0.000001 dividend. Stocks with missing EPS value are assigned inverse payout ratio of 1 and are kept in the universe.
» All stocks ranked by Liquidity between 0.05 and 1. This screening does not apply to the iSTOXX MUTB Asia/Pacific Quality Dividend 100

Composition list: All current constituents that are part of the universe after screening criteria are applied remain in the index. If the number of selected constituents is less than the target count for each index version, the highest stocks ranked by gross dividend yield are selected until the target count is reached.

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For all indices, except of the iSTOXX MUTB Asia/Pacific Quality Dividend 100, the following rules apply in addition: If the selection count is still below the target, the remaining constituents will be selected from the highest gross dividend yield ranked which are compliant with all the dividend quality criteria except of the payout ratio screening rule, giving priority to current components over non-components. If after this the target count is yet not reach, no further additions will be performed and the index selection will remain below the target count. Stocks that are non-components of the index at the time of the selection need to be ranked within the top 80% by liquidity in order to be selected into the index.

Review frequency: The reviews are conducted on a semi-annual basis in June and December. The review cut-off date for the underlying data is last trading day of the month preceding the review month. The new composition of the universe indices effective on the Monday following the third Friday of the month (June and December) is used as base universe.

Weighting factors: a weighting factor is calculated for each stock as follows

$$w^{PS}{}_i = \frac{\frac{1}{\text{Price Stability}_i}}{\sum_{j=1}^{N} \frac{1}{\text{Price Stability}_j}}$$

$w^{PS}{}_i$ = weight of stock i based on Price Stability.

Price Stability $_I$ = Price Stability of stock i calculated as the standard deviation of the latest 60 monthly returns

N = number of index components

$$w^{DA}{}_i = \frac{\text{Dividend Amount}_i}{\sum_{j=1}^{N} \text{Dividend Amount}_j} = \frac{DPS_i \cdot \text{Outstanding Shares}_i}{\sum_{j=1}^{N} DPS_j \cdot \text{Outstanding Shares}_j}$$

$w^{DA}{}_i$ = weight of stock i based on Dividend Amount

Dividend amount $_i$ = Dividend amount stock i

DPS_i = Gross dividend per share of stock i in index currency

Outstanding Shares $_i$ = Outstanding shares of stock i on the last trading day of the month prior to the review month

N = number of index components

12. iSTOXX MUTB INDICES

$$w_i = \frac{w^{PS}{}_i + w^{DA}{}_i}{2}$$ for the iSTOXX MUTB Asia/Pacific Quality Dividend 100 index

$$w_i = \frac{w^{PS}{}_i + 2 \cdot w^{DA}{}_i}{3}$$ for the rest of the indices

w_i = weight of stock i

Weighting factor = (1,000,000,000 x weight / closing price of the stock in EUR), rounded to integers.
The weighting factors are calculated on the second Friday of the review month, one week prior to semiannual review implementation using Thursday's closing prices.

An additional capping factor of 3% for the two Japan and the Asia/Pacific versions, and 1.5% for the three Global versions apply at the semiannual rebalancing.

12.5.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the parent index which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spun-off companies are not added permanently to the index.

12. iSTOXX MUTB INDICES

12.6. iSTOXX MUTB CHINA A QUALITY AM 150 INDEX

12.6.1. OVERVIEW

The iSTOXX MUTB China A Quality AM 150 Index selects the best companies based on a combined ranking of four fundamentals ratios (return on equity, debt-to-asset, cash flow generation ability and business stability). Stocks need to fulfill minimum liquidity criteria and additionally must be tradable on Shanghai or Shenzhen Stock Exchange before being added to the index.

Universe: The index is derived from its benchmark index, the STOXX China A 900 Index including only shares available to foreign investors through Northbound Trading segments of the Shanghai-Hong Kong Stock Connect or Shenzhen-Hong Kong Stock Connect programs of its parent index STOXX China A 900.

Weighting scheme: The indices are weighted according to free-float market capitalization with a 2% maximum capping per constituent.

Base values and dates: 100 on Dec 16, 2011

Index types and currencies: Price, gross and net return in EUR, USD and RMB are calculated

Dissemination calendar: STOXX Asia calendar

12.6.2. INDEX REVIEW

Selection list:
For all stocks in the universe, percentile ranks are assigned to the following four ratios and liquidity, where rank 0 is the worst and rank 1 the best. In the cases where the ratio is the same for two stocks the larger stock by free-float market capitalization shall have the higher score. Only stocks with positive Shareholder's Equity, Total Assets and Net Cash Flow from Operating Activities and non-missing current Total Debt and Net Income data are eligible. Industrial stocks (all stocks excluding Financials) need to have a positive sum of Net Property, Plant and Equipment, Inventories and Accounts Receivables to be eligible.

- Liquidity: calculated as the three-month Average Daily Traded Value (ADTV). The higher the liquidity, the higher the rank to be assigned.
- Return on Equity (ROE): calculated as Net Income divided by Shareholder's Equity. The higher the value of the ratio, the higher the rank to be assigned.
- Financial Health: calculated as Total Debt dividend by the sum of Shareholder's Equity and Total Debt. The lower the value of the ratio, the higher the rank to be assigned.
- Cash-Flow Generation Ability:

- For Financial stocks (identified by ICB Industry Code 8000): calculated as Net Cash-Flows from Operating Activities divided by Total Assets. The higher the value of the ratio, the higher the rank.
- For industrial stocks (all stocks excluding Financials): calculated as Net Cash-Flows from Operating Activities dividend by the sum of Net Property, Plant and Equipment, Inventories and Accounts Receivables. The higher the value of the ratio, the higher the rank

The percentile ranks from each group (financials / non-financials) form the final Cash-Flow Generation Ability rank.

» Business Stability: calculated as the standard deviation of Net Income over the last five years divided by Shareholder's Equity. The lower the value of the ratio, the higher the rank assigned. In order to calculate this ratio, Net Income data for at least three out of five periods should be available.

For non-components a liquidity screening applies. Companies need to rank within the top 80% by liquidity to be eligible.

The stocks fulfilling the following screening criteria will compose the selection list:

» All companies ranked by ROE between 0.5 and 1
» All companies ranked by Financial Health, Cash-Flow Generation Ability and Business Stability between 0.05 and 1

A composite score is calculated for all the stocks in the selection list using the previously calculated percentile ranks as follows:

$$0.4 \times \text{ROE Ranking} + 0.2 \times (\text{Financial Health ranking} + \text{Cash Flow Generation Ability ranking} + \text{Business Stability ranking})$$

Composition list: All eligible companies are ranked by the composite quality score in descending order.
The following selection rules apply:
1. For a current component of the index, if its quality score is more than 95% of the quality score of the 150th stock, then it will remain in the index.
2. If the number of stocks selected above is less than 150, the remaining constituents are selected by quality score, considered in descending order, from current non-components

If the composite score is the same for two stocks at the 150th threshold, the stock with higher ROE ranking will be selected for the index. If the ROE ranking is the same, the stock with the highest free-float market capitalization will be selected.

Review frequency: The reviews are conducted on a semi-annual basis in June and December. The review cut-off date for the underlying data is the last trading day of the month preceding the review month. The new composition of the STOXX China A 900 Index effective on the Monday following the third Friday of the review month (June and December) is used as base universe.

12. iSTOXX MUTB INDICES

Weighting cap factors: Components are capped at a maximum weight of 2% on a quarterly basis in March, June, September and December based on the close prices from the second Thursday of the rebalancing month.

12.6.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the parent index, STOXX China A 900, which remain in the STOXX China A Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off are not added permanently to the index

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

12. iSTOXX MUTB INDICES

12.7. iSTOXX MUTB VALUE INDICES

12.7.1. OVERVIEW

The iSTOXX MUTB Value indices select companies based on a normalized value factor which is adjusted to account for regional and industry specific biases. The value factor is captured by the ratios: book to price, earnings to price and cash-flow from operations to price. High volatility and high accruals companies are screened out.

Universe: The indices are derived from their parent indices as described below. REITs, identified by ICB Sector 8670, and stocks classified as Japanese in the STOXX Total Market index but incorporated outside of Japan are excluded from the universes.

Index	Universe
iSTOXX MUTB Japan Value 300	STOXX Japan 600 ex-REITs
iSTOXX MUTB Global Value 600	STOXX Global 1800 ex-REITs
iSTOXX MUTB Global ex Japan Value 600	STOXX Global 1800 ex Japan ex-REITs

Weighting scheme: The indices are price weighted based on a calculated value score and fundamental indicators.

Base values and dates: 100 on Dec 20, 2002

For a complete list please consult the data vendor code sheet on the website[8]. Customized solutions can be provided upon request.

Index types and currencies: Price, net and gross return in EUR, USD and JPY. iSTOXX MUTB Global Value 600 is also available in AUD.

Dissemination calendar: STOXX Asia calendar

12.7.2. INDEX REVIEW

Selection list:
On a semi-annual basis, in June and December, percentile ranks are assigned to all stocks in each respective universe, based on the following two indicators. In the cases where the indicator takes the same value for two stocks, the larger stock by free-float market capitalization shall have the higher rank.

» Liquidity: calculated as the three-month Average Daily Traded Value (ADTV). The higher the liquidity, the higher the rank to be assigned.

[8] http://www.STOXX.com/download/indices/vendor_codes.xls

12. iSTOXX MUTB INDICES

» Price Stability: calculated as the standard deviation of the latest 60 monthly returns in the stock's local currency. The lower the standard deviation, the higher the percentile rank assigned. Stocks with less than 24 monthly returns are not ranked and are assigned a value of 0.5.

» Accruals: for each stock i, calculated as:
$\text{Accruals}_i = \frac{\text{Net Income}_i - \text{Net Cash Flow from Operating Activities}_i}{\text{Total Asset}_i}$
The lower the accruals, the higher the percentile rank assigned. Stocks with no available accruals data are not ranked and are assigned a value of 0.5.

All stocks fulfilling the following criteria will compose the selection list:

Stocks ranked by Price Stability between 0.1 and 1
Stocks ranked by Accruals between 0.1 and 1
Stocks ranked by Liquidity between 0.05 and 1

For the stocks in the selection list, the following fundamental ratios are calculated:

» Book to Price ratio (BPR)
» Earnings to Price ratio (EPR)
» Cash Flow to Price ratio (CFPR)

Normalized ratio values are then calculated for each of the three ratios and for each stock applying the following stepwise standardization procedure:

Exclude stocks with values above 10 or below -10 in any fundamental ratio.

For the remaining stocks, for each fundamental ratio (R) and based only on the fundamental data of the remaining stocks after the previous exclusion, calculate:

- $\text{Upper Bound}(z_{i\in A}) = \text{median}(z_{i\in A}) + 4 \times \sigma(z_{i\in A})$
- $\text{Lower Bound}(z_{i\in A}) = \text{median}(z_{i\in A}) - 4 \times \sigma(z_{i\in A})$

where:
set of stocks A: $\{i: -10 \leq z_i \leq 10\}$
$z_{i\in A}$: fundamental ratio values for stocks in set A
σ: standard deviation of values of ratio R for all stocks included in set A

In a second step, exclude stocks with fundamental ratio values above Upper Bound (UB) or below Lower Bound (LB).

For the remaining stocks, for each fundamental ratio (R) and based only on the fundamental data of the remaining stocks after the previous exclusion, calculate:

12. iSTOXX MUTB INDICES

$$\text{Normalized ratio,} \quad \widehat{R}_i = \max\left(\min\left(\frac{(z_{i\in B} - \text{median}(z_{i\in B}))}{\sigma(z_{i\in B})}, 4\right), -4\right)$$

where:
set of stocks B: A \ {i: $z_i < LB$ or $z_i > UB$}
$z_{i\in B}$: fundamental ratio values for stocks in set B
The following adjustments are applied to the calculated normalized ratios for stocks:

- with fundamental ratio values above 10 or above the Upper Bound, the normalized ratio is set to 4
- with fundamental ratio values below -10 or below the Lower Bound, the normalized ratio is set to -4
- with fundamental ratios not available, the normalized ratio is set to -4

After normalization, for each stock i, a composite value factor is calculated as an average of the three normalized fundamental ratio as follows:

$$\text{Composite value factor}_i = \frac{\left(\widehat{BPR}_i + \widehat{EPR}_i + \widehat{CFPR}_i\right)}{3}$$

After applying the screening, a region and industry adjusted composite value factor is calculated for each stock (i) as follows:

$$\hat{\alpha}_i = \text{Composite value factor}_i - \text{ave}_{k,j}$$

where:
$\hat{\alpha}_i$: Adjusted composite value factor for stock i
$\text{Composite value factor}_i$: composite value factor for stock i
$\text{ave}_{k,j}$: average of the composite factor values of the stocks within a region k and an industry j. The three regions are Europe, North America and Asia-Pacific. The 10 industries are derived from the ICB Industry level. For iSTOXX MUTB Japan Value 300, no regional split is applied.

Composition list:
At each semi-annual rebalancing, for all stocks in the selection list, calculate the value score as follows:

$$\text{value score} = \frac{1}{1 + \exp(-\hat{\alpha}_i)}$$

Stocks are ranked by value score in descending order and, in case of same ranking, priority is given to the larger stock in terms of free float. iSTOXX MUTB Japan Value 300 will include the highest ranked 300 stocks, while iSTOXX MUTB Global Value 600 and iSTOXX MUTB Global ex Japan Value 600 will include the 600 highest ranked stocks. Stocks that are non-components of the index at the time of the selection need to be ranked within the top 80% by liquidity in order to be selected into the index.

Review frequency: The reviews are conducted on a semi-annual basis in June and December. The review cut-off date for the underlying data is the last trading day of the previous month.

12. iSTOXX MUTB INDICES

Weighting factors: The weighting factors are calculated on a semi-annual basis in June and December using the calculated weights of each stock calculated as described below and the close prices in EUR from the Thursday prior to the third Friday of the review month as follows:

$$w_{bv,i} = \frac{\sqrt{\text{shareholder's equity}_i} * \text{value score}_i}{\sum_{i=1}^{N} \sqrt{\text{shareholder'sequity}_i} * \text{value score}_i}$$

where:
$w_{bv,i}$: weight of stock i based on the value score and its book value
$\text{shareholder's equity}_i$: $BPR_i * \text{full market cap}_{EUR}$

$$w_{e,i} = \frac{\sqrt{\text{net income}_i} * \text{value score}_i}{\sum_{i=1}^{N} \sqrt{\text{net income}_i} * \text{value score}_i}$$

where:
$w_{e,i}$: weight of stock i based on the value score and its earnings
net income_i: $EPR_i * \text{full market cap}_{EUR}$

$$w_{cf,i} = \frac{\sqrt{\text{cashflow}_i} * \text{value score}_i}{\sum_{i=1}^{N} \sqrt{\text{cashflow}_i} * \text{value score}_i}$$

where:
$w_{cf,i}$: weight of stock i based on the value score and its cash flow
cashflow_i: $CFPR_i * \text{full market cap}_{EUR}$

Each of the three weights are calculated only if the respective ratios (BPR, EPR, CFPR) have a positive value. In case the ratios are zero or negative, the weight assigned is zero.
A capping of 2% applies to each of the three weights for a stock.

The final weights and weightfactors for each stock i are calculated as follows:

$$w_i = \frac{w_{bv,i} + w_{e,i} + w_{cf,i}}{3}$$

Weighting cap factor $_i$ = (1,000,000,000 x w_i / closing price $_i$), rounded to integers.

12.7.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the respective parent indices, but which remain in the STOXX Total Market Index, are not deleted from the index.

Fast exit: Not applicable.

12. iSTOXX MUTB INDICES

Fast entry: Not applicable.

Spin-offs: Spin-off companies are not added permanently to the index.

Corporate Actions: All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com. Index components are deleted from all STOXX indices in case of official delisting from the eligible stock exchange or ongoing bankruptcy proceedings.

12. iSTOXX MUTB INDICES

12.8. iSTOXX MUTB MINIMUM VARIANCE INDICES

12.8.1. OVERVIEW

Universe: The index universe of the iSTOXX MUTB Japan (Global ex Japan, Global) Minimum Variance index is defined by the parent index STOXX Japan 600 (Global 1800 ex Japan, Global 1800).

Weighting scheme: The indices are price weighted according to a minimum variance optimization.

Base values and dates: 100 on Dec 20, 2002

Index types and currencies: Price, net return, gross return in EUR, USD, JPY.

Dissemination calendar: STOXX Asia calendar

12.8.2. INDEX REVIEW

The indices are derived from the STOXX regional benchmark indices. Axioma's second-order cone with Branch-andbound optimization process is used. The model aims to optimize the portfolio with respect to variance, while not modifying other attributes too much.

Selection list: STOXX Japan 600 index, STOXX Global 1800 ex Japan, and STOXX Global 1800 respectively.

Composition list: The Minimum Variance portfolio of the corresponding universe is derived based on the Axioma optimization model. The composition list ("selection list") is published on the Monday after the second Friday.

Review frequency: The reviews are conducted on a quarterly basis, in sync with the parent index.

Weighting cap factors: See below for detailed optimization constraints. The weighting factors are calculated using closing prices from the second Friday of the respective review month.

Constraints:
Exclusion: REITs (ICB code 8670), current non-constituents in the bottom 20% of 3-month median daily traded value (MDV) (percentile rank calculated based on full universe), stocks with 20-day MDV below JPY 50 million.
Current constituents' weights that are in the bottom 20% of 3-month MDV cannot be increased.

Single component caps (percentile ranks are calculated based on the full universe):

Group	Weight cap
0-30% (low volatility)	2%
31-40%	1.5%
41-80%	0.5%
81-100% (high volatility)	0%

with volatility calculated using 60-month monthly month-end returns in local currency, at least 36 months required.

Group	Weight cap
0-30% (high liquidity)	2%
31-40%	1.5%
41-80%	0.8%
81-100% (low liquidity)	0.5%

with liquidity defined by 3-months MDV.

Minimum holding weight: 1bp (enforced in post-processing of optimization results).

Risk factor constraints w.r.t. universe using Axioma's corresponding regional mid-horizon fundamental risk model:

- Size: +/- 1 sigma
- Value: +/- 0.1 sigma
- Short-term momentum: +/- 0.1 sigma
- Mid-term momentum: +/- 0.25 sigma
- Currency: +/- 5%

Turnover: 15% (one way)

12.8.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast entry: Not applicable.

Spin-offs: Spin-off stocks are not added permanently.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All index components are adjusted for corporate actions. Any event is treated in the same way in all indices. Please consult to the STOXX Calculation guide for the detailed treatments.

12. iSTOXX MUTB INDICES

12.9. iSTOXX MUTB MOMENTUM INDICES

12.9.1. OVERVIEW

The iSTOXX MUTB Momentum Indices select companies based on a momentum score factor which is adjusted to account for market beta, size and book-to-price biases. Momentum is defined as the price movement over the prior 12 months.

Universe: The indices are derived from their parent indices as described below. REITs, identified by ICB Sector 8670, and stocks classified as Japanese in the STOXX Total Market index but incorporated outside of Japan are excluded from the universes.

Index	Universe
iSTOXX MUTB Momentum Value 300	STOXX Japan 600 ex-REITs
iSTOXX MUTB Global Momentum 600	STOXX Global 1800 ex-REITs
iSTOXX MUTB Global ex Japan Momentum 600	STOXX Global 1800 ex Japan ex-REITs

Weighting scheme: The indices are price-weighted based on a calculated momentum score.

Base values and dates: 100 on Dec 20, 2002 for iSTOXX MUTB Japan Momentum 300 and 100 on Dec 19, 2003 for iSTOXX MUTB Global Momentum 600 and iSTOXX MUTB Global ex Japan Momentum 600.

For a complete list please consult the data vendor code sheet on the website[9]. Customized solutions can be provided upon request.

Index types and currencies: Price, net and gross return in EUR, USD and JPY.

Dissemination calendar: STOXX Asia calendar

12.9.2. INDEX REVIEW

Selection list:
On a quarterly basis, the momentum factor is calculated for each stock after adjusting for market beta, size and book-to-price ratio.

First, the beta and alpha of each stock is calculated using the formula below:

$$\begin{pmatrix} R_{i.t=-2} \\ \vdots \\ R_{i,t=-13} \end{pmatrix} = \beta_i \begin{pmatrix} Rm_{t=-2} \\ \vdots \\ Rm_{t=-13} \end{pmatrix} + \alpha_i + \begin{pmatrix} \varepsilon_{i,t=-2} \\ \vdots \\ \varepsilon_{i,t=-13} \end{pmatrix}$$

[9] http://www.STOXX.com/download/indices/vendor_codes.xls

where
R_i: the monthly local return of stock i
R_m: the monthly local return of the parent index (defined as the STOXX Japan 600 JPY Gross Return, STOXX Global 1800 Local Currency Gross Return, STOXX Global 1800 ex Japan Local Currency Gross Return respectively)
ε_i: the market beta residual return

The monthly return is determined over the 12 months period ending one month prior to the last business day before the review month. The local return of parent index is defined as the hypothetical return of the parent index ignoring any impact from currency movements.

The 12-month momentum adjusted with market beta is defined as:

$$\beta_{adj}Mom_i = 12 * \alpha_i$$

If there are missing values, the 12-month momentum adjusted with market beta is defined as NA.

The size and price-to-book factors are calculated as:
$size_i$: the natural logarithm of the total market capitalization of stock i in EUR
BPR_i: the book value per share to price of stock i

These 3 factors (12-month momentum adjusted with market beta, size and BPR) are each standardized in three iterations. At each iteration, the standardized factor is calculated as:

$$standardized\ factor \quad \hat{f}_i = \frac{(f_i - ave)}{\sigma}$$

where
f_i: factor value of stock i
ave: factor average weighted by the stocks' weights in the parent index
σ : factor standard deviation

At each iteration, if the standardized factor is over 4 or under -4, the value is truncated at 4 or -4 respectively. If the factor for size and BPR is NA, the standardized factor is set to zero. For the 12-month momentum adjusted with market beta, the standardized factor remains as NA.

The standardized 12-month momentum adjusted with market beta factor is then regressed against the standardized size factor and standardized BPR factor, and the residual error of this regression is calculated.

$$\begin{pmatrix} \widehat{\beta adjMom}_{i=1} \\ \vdots \\ \widehat{\beta adjMom}_{i=N} \end{pmatrix} = \beta_{size} \begin{pmatrix} \widehat{size}_{i=1} \\ \vdots \\ \widehat{size}_{i=N} \end{pmatrix} + \beta_{BPR} \begin{pmatrix} \widehat{BPR}_{i=1} \\ \vdots \\ \widehat{BPR}_{i=N} \end{pmatrix} + \alpha^* + \begin{pmatrix} \varepsilon_{i=1} \\ \vdots \\ \varepsilon_{i=N} \end{pmatrix}$$

where
$\widehat{\beta_{adj}Mom_i}$: standardized 12-month momentum adjusted with market beta factor of stock i

12. iSTOXX MUTB INDICES

$\widehat{size_i}$: standardized size factor of stock i
$\widehat{BPR_i}$: standardized BPR of stock i
ε_i : residual error
α^* : alpha
N : number of stocks in the parent index

The risk-factor adjusted momentum factor is defined as the residual error from the above equation:

$$adjMom_i = \varepsilon_i$$

The risk-factor adjusted momentum factor is then standardized in three iterations. At each iteration, a standardized factor is calculated as:

$$standardized\ factor \quad \widehat{adjMom_i} = \frac{(adjMom_i - ave)}{\sigma}$$

where
$adjMom_i$: the risk-factor adjusted momentum factor of stock i
ave: factor average weighted by the stocks' weights in the parent index
σ : factor standard deviation

At each iteration, if the standardized factor is over 4 or under -4, the value is truncated at 4 or -4 respectively.

The momentum score of each stock is calculated using the following formula:

$$Momentum\ Score_i = \frac{1}{1 + exp\left(-2\widehat{adjMom_i}\right)}$$

Composition list:
The top 300 (Japan) and 600 (Global/Global ex Japan) stocks with the highest momentum score are selected for the respective index.

In order to reduce turnover, the following buffer rules are applied.

	Targeted number of constituents	Upper buffer bound	Lower buffer bound
Japan	300	210	390
Global, Global ex-Japan	600	420	780

The top stocks up to the Upper buffer bound included in terms of momentum score are added to the respective iSTOXX MUTB Momentum index. Then, any current constituents that have a momentum score ranking from the Upper buffer bound to the Lower buffer bound included are successively added until the number of components reaches the targeted number of constituents.

If the number of stocks is still below the required number, the remaining stocks with higher momentum scores are added until the targeted number of components is reached.

The weights of the constituents are calculated based on their momentum score:

$$weight_i = \frac{Momentum\ Score_i}{\sum Momentum\ Score}$$

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December. The review cut-off date for the underlying data is the last trading day of the previous month.

Weighting factors: weight * (100,000,000,000 / closing price of the stock), rounded to integers based on the closing prices in EUR on the Thursday prior to the second Friday of the review month.

12.9.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-off companies are not added permanently to the index.

Corporate Actions: All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com. Index components are deleted from all STOXX indices in case of official delisting from the eligible stock exchange or ongoing bankruptcy proceedings.

13. iSTOXX CENTENARY INDICES

13.1. iSTOXX EUROPE CENTENARY INDEX

13.1.1. OVERVIEW

The iSTOXX Europe Centenary Index selects companies from the STOXX Europe 600 Index that have been founded more than 100 years ago.

Universe: The index is derived from its benchmark index, the STOXX Europe 600 Index

Weighting scheme: The indices are weighted according to free-float market capitalization with a 10% maximum capping per constituent

Base values and dates: 100 on Dec 23, 2002

Index types and currencies: Price, Net and Gross return in EUR and USD

13.1.2. INDEX REVIEW

Selection list: All stocks from the STOXX Europe 600 that have been founded more than 100 years ago are selected to compose the iSTOXX Europe Centenary Index.

Review frequency: The reviews are conducted on a monthly basis. New compositions and underlying data are announced on the second Friday and implemented after the third Friday of each month. Cut-off date: 2nd Friday of the month.

Weighting cap factors: Components are capped at a maximum weight of 10%.

13.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the parent index, STOXX Europe 600, which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off are not added permanently to the index

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

13. iSTOXX CENTENARY INDICES

13.2. iSTOXX EUROPE CENTENARY SELECT 30 INDEX

13.2.1. OVERVIEW

The iSTOXX Europe Centenary Select 30 Index selects companies from the STOXX Europe 600 Index and weights them by liquidity. Companies must be founded more than 100 years ago, have a dividend ex-date within the next month and/or enough sensitivity in terms of beta to the EURO STOXX 50 Index. The number of companies from one industry is limited to ensure diversification.

Universe: The index is derived from its benchmark index, the STOXX Europe 600 Index

Weighting scheme: Constituents are ranked into three groups according to their 3 months average daily traded value (ADTV), with each group having the same weight, with a cap of 10%.

Base values and dates: 100 on Dec 23, 2002

Index types and currencies: Price, Net and Gross return in EUR and USD.

13.2.2. INDEX REVIEW

Selection List
All stocks fulfilling the following criteria will compose the selection list:

- Company was founded at least 100 years ago
- Country of incorporation of a company, as defined in the STOXX indices, represents more than 0.5% in terms of Free-Float market capitalization of the STOXX Europe 600 Index
- At least 3-month average daily traded value (ADTV) of 15 Mln EUR
- Maximum 6-month Beta to the EURO STOXX 50 of 1.5
- Both, companies with an ex-dividend date in the next month, as well as all companies without dividend ex-dates in the next month, are grouped and separately ranked top down by beta values per group. A company is eligible if it is among the 20 largest companies by beta with a dividend ex-date in the next month or is a company without dividend ex-date in the next month.

Component selection

- Starting at the top with the companies with a dividend ex-date in the next month and without changing the order, all companies are removed from the list, if their inclusion to the index would lead to more than seven companies within one of the ten ICB Industries
- The highest ranked 30 companies are selected for the index

Review frequency: The reviews are conducted on a monthly basis. New compositions are implemented after the third Friday of each month. The new compositions are announced on the second Friday with the underlying data (weighting factors) being calculated using previous Thursday's prices.

Weighting cap factors:
All companies are weighted according to their 3-month average daily traded value (ADTV).

ADTV level	Assigned weight
Below 30 mln EUR	1%
Between 30 and 60 mln EUR	2%
Above 60 mln EUR	All companies are assigned the same weight that has not yet been distributed.

All constituents weights are capped at 10% afterwards. If there is no constituent whose ADTV reaches 60 mln EUR, all weights are multiplied by 1 divided by the sum of all weights.

13.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the parent index, STOXX Europe 600, which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off are not added permanently to the index.

14. iSTOXX DEMOGRAPHY INDICES

14.1. iSTOXX BROAD DEMOGRAPHY INDICES

14.1.1. OVERVIEW

The iSTOXX Global Broad Demography Index and iSTOXX Europe Broad Demography Index aim to select among respectively the STOXX Global 1800 and STOXX Europe 600, constituents that will be impacted by demographic changes.

Universe: All stocks from the STOXX Europe 600 and STOXX Global 1800 whose Industry Classification as defined by ICB falls into one of the following groups are eligible.

Industry	ICB Sector	ICB Code
Finance	Banks	8350
Finance	Nonlife Insurance	8530
Finance	Life Insurance	8570
Finance	Financial Services	8770
Infrastructure	Construction & Materials	2350
Infrastructure	Aerospace & Defense	2710
Infrastructure	Electronic & Electrical Equipment	2730
Infrastructure	Industrial Engineering	2750
Infrastructure	Industrial Transportation	2770
Infrastructure	Electricity	7530
Infrastructure	Gas, Water & Multiutilities	7570
Leisure & Luxury	Automobiles & Parts	3350
Leisure & Luxury	Leisure Goods	3740
Leisure & Luxury	Travel & Leisure	5750
Pharmaceuticals	Health Care Equipment & Services	4530
Pharmaceuticals	Pharmaceuticals & Biotechnology	4570
Resources	Oil & Gas Producers	0530
Resources	Oil Equipment, Services & Distribution	0570
Resources	Alternative Energy	0580
Resources	Chemicals	1350
Resources	Forestry & Paper	1730
Resources	Industrial Metals & Mining	1750
Resources	Mining	1770
Real Estate	Real Estate Investment & Services	8630
Real Estate	Real Estate Investment Trusts	8670
Telecom, Media & Tech	Media	5550
Telecom, Media & Tech	Fixed Line Telecommunications	6530
Telecom, Media & Tech	Mobile Telecommunications	6570
Telecom, Media & Tech	Software & Computer Services	9530
Telecom, Media & Tech	Technology Hardware & Equipment	9570

All constituents linked to one ICB sector not mentioned in this table will be excluded from the base universe.

Weighting scheme: free-float market capitalization with weighting cap limit of 10% per constituent

Base value and date: 100 as of Mar 22, 2004

Index types and currencies: Price, net and gross return in EUR and USD.

14.1.2. INDEX REVIEW

Component selection
All constituents whose ICB code falls into one of the categories mentioned above are selected.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

14.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the Index

14. iSTOXX DEMOGRAPHY INDICES

14.2. iSTOXX EUROPE DEMOGRAPHY 50 INDEX

14.2.1. OVERVIEW

The iSTOXX Europe Demography 50 index aims to select 50 stocks among diversified industries from the STOXX Europe 600 index to weight them by the inverse of the volatility. The companies are chosen from sectors that are positively affected by demographic change. Further the companies need to have high dividend yield and low volatility.

Universe: All stocks from the STOXX Europe 600 whose Industry Classification as defined by ICB falls into one of the following groups are eligible.

Industry	ICB Sector	ICB Code
Finance	Banks	8350
Finance	Nonlife Insurance	8530
Finance	Life Insurance	8570
Finance	Financial Services	8770
Infrastructure	Construction & Materials	2350
Infrastructure	Aerospace & Defense	2710
Infrastructure	Electronic & Electrical Equipment	2730
Infrastructure	Industrial Engineering	2750
Infrastructure	Industrial Transportation	2770
Infrastructure	Electricity	7530
Infrastructure	Gas, Water & Multiutilities	7570
Leisure & Luxury	Automobiles & Parts	3350
Leisure & Luxury	Leisure Goods	3740
Leisure & Luxury	Travel & Leisure	5750
Pharmaceuticals	Health Care Equipment & Services	4530
Pharmaceuticals	Pharmaceuticals & Biotechnology	4570
Resources	Oil & Gas Producers	0530
Resources	Oil Equipment, Services & Distribution	0570
Resources	Alternative Energy	0580
Resources	Chemicals	1350
Resources	Forestry & Paper	1730
Resources	Industrial Metals & Mining	1750
Resources	Mining	1770
Real Estate	Real Estate Investment & Services	8630
Real Estate	Real Estate Investment Trusts	8670
Telecom, Media & Tech	Media	5550
Telecom, Media & Tech	Fixed Line Telecommunications	6530
Telecom, Media & Tech	Mobile Telecommunications	6570
Telecom, Media & Tech	Software & Computer Services	9530
Telecom, Media & Tech	Technology Hardware & Equipment	9570

Weighting scheme: Price-weighted with a weighting factor according to the inverse of the 12-months historical volatility and additionally with weighting cap limit of 10% per constituent

Base value and date: 100 as of Mar 22, 2004
Index types and currencies: Price, net and gross return in EUR and USD.

14.2.2. INDEX REVIEW

Selection list
The review cut-off date is the last trading day of the month preceding the review of the index.

- » All stocks in the relevant base universe are screened for 12-months historical volatility and 12-months historical dividend yield. If one or both values are not available for a stock, the company is removed from the base universe.
- » The remaining constituents – composing the selection universe - are grouped into 7 industry clusters following the ICB matching table provided above (Finance, Infrastructure, Leisure & Luxury, Pharmaceuticals, Resources, Real Estate and Telecom & Media & Tech).
- » In each group, all constituents are ranked according to the historical dividend yield in descending order and the top x% is selected for the next step, where x is calculated as following:

$x = \sqrt{\frac{50}{N}}$ with N being the total number of stocks in the Selection Universe

To create the selection list all remaining stocks are then ranked according to their historical volatility (based on EUR prices) in ascending order and given a rank (with rank 1 being for the lowest volatile stocks).

Component selection

- » The highest ranked 40 stocks of the selection list are selected
- » The remaining 10 stocks are selected from the highest ranked current stocks (already in the index before the review) ranked between 41 and 60
- » If the number of stocks selected is still below 50, the highest ranked remaining stocks (not in the index before the review) are selected until there are 50 stocks in the final index
- » A maximum of 15 constituents per industry group can be selected (with no minimum numbers of constituents per industry). If one industry group reaches the limit of 15 members, no further companies from that group are eligible for the index inclusion.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

14.2.3. ONGOING MAINTENANCE

14. iSTOXX DEMOGRAPHY INDICES

Replacements: Deleted companies are not replaced in the index. Deletions from the parent index, STOXX Europe 600, which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off are not added permanently to the index

14. iSTOXX DEMOGRAPHY INDICES

14.3. iSTOXX GLOBAL DEMOGRAPHY SELECT 50 INDEX

14.3.1. OVERVIEW

The iSTOXX Global Demography Select 50 index aims to select, among the STOXX Global 1800 filtered by sectors, 50 constituents with high dividend and low volatility. The components are weighted by the inverse of the volatility.

Universe: All stocks from the STOXX Global 1800 whose Industry Classification as defined by ICB falls into one of the following groups are eligible.

Industry	ICB Sector	ICB Code
Finance	Banks	8350
Finance	Nonlife Insurance	8530
Finance	Life Insurance	8570
Finance	Financial Services	8770
Infrastructure	Construction & Materials	2350
Infrastructure	Aerospace & Defense	2710
Infrastructure	Electronic & Electrical Equipment	2730
Infrastructure	Industrial Engineering	2750
Infrastructure	Industrial Transportation	2770
Infrastructure	Electricity	7530
Infrastructure	Gas, Water & Multiutilities	7570
Leisure & Luxury	Automobiles & Parts	3350
Leisure & Luxury	Leisure Goods	3740
Leisure & Luxury	Travel & Leisure	5750
Pharmaceuticals	Health Care Equipment & Services	4530
Pharmaceuticals	Pharmaceuticals & Biotechnology	4570
Resources	Oil & Gas Producers	0530
Resources	Oil Equipment, Services & Distribution	0570
Resources	Alternative Energy	0580
Resources	Chemicals	1350
Resources	Forestry & Paper	1730
Resources	Industrial Metals & Mining	1750
Resources	Mining	1770
Real Estate	Real Estate Investment & Services	8630
Real Estate	Real Estate Investment Trusts	8670
Telecom, Media & Tech	Media	5550
Telecom, Media & Tech	Fixed Line Telecommunications	6530
Telecom, Media & Tech	Mobile Telecommunications	6570
Telecom, Media & Tech	Software & Computer Services	9530
Telecom, Media & Tech	Technology Hardware & Equipment	9570

14. iSTOXX DEMOGRAPHY INDICES

Weighting scheme: The indices are price-weighted with a weighting factor based on the inverse of their historical volatility (maximum between their 3-month and 12-month historical volatility)

Base value and date: 100 as of Mar 22, 2004

Index types and currencies: Price, net and gross return in EUR

14.3.2. INDEX REVIEW

Selection list

The review cut-off date is the last trading day of the month preceding the review month of the index.

All stocks in the relevant base universe are screened for 12-month historical daily pricing data and 12-month historical dividend yield. If one or both values are not available for a stock, the company is removed from the base universe.

Composition list:

The following Equal Strength Ratio is calculated

$$\mathrm{ESR} = \sqrt{\frac{50}{\mathrm{N}}}$$

where,
N Number of stocks in the Eligible Universe

All stocks from the Eligible Universe are sorted in ascending order in terms of volatility (maximum between the 3-month and 12-month historical volatility in EUR) and companies are selected based on the ESR.

$$\text{number of companies to select (Volatility screen)} = \text{round down of } (\mathrm{ESR} \times \mathrm{N})$$

All selected stocks are ranked in descending order in terms of dividend yield and the highest ranked 50 stocks are selected for the final index.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting and capping factors: The weighting factors are calculated based on the inverse of their historical volatility. The prices based on the Thursday prior to the second Friday of the month.

$$w_i = \frac{\frac{1}{\sigma_i}}{\sum_{j=1}^{N} \frac{1}{\sigma_j}}$$

wi weight of component (i)

14. iSTOXX DEMOGRAPHY INDICES

σi Maximum between the historical 12-months and 3-months volatility of component (i)

Weighting cap factor = (1,000,000,000 x initial weight / closing price of the stock in EUR), rounded to integers. Additionally components are capped at a maximum weight of 10%.

14.3.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the Index

15. iSTOXX GLOBAL TRANSITIONS INDICES

15.1. iSTOXX GLOBAL TRANSITIONS SELECT 30

15.1.1. OVERVIEW

The iSTOXX Global Transitions Select 30 Index defines three major channels of global changes - Social Evolutions, Resources Scarcity and Infrastructure – and selects out of the three universes low volatility, high dividend and high liquidity stocks.

Universe: The index universe is defined by all stocks from the STOXX Global 3000, STOXX Global Broad Infrastructure, STOXX Global Extended Infrastructure 100 and STOXX Global Infrastructure Suppliers 50 indices

Weighting scheme: The indices are price-weighted with a weighting factor based on the inverse of the historical volatility (maximum between 3-month and 12-month historical volatility in EUR) of the constituents.

Base values and dates: 100 on Mar 22, 2004
Index types and currencies: Price, net and gross return in EUR and USD
For a complete list, please consult the data vendor code sheet on the website[10].

15.1.2. INDEX REVIEW

Selection list:

The review cut-off date is the last trading day of the month preceding the review month of the index.

The Selection list is obtained by selecting from the Universe the stocks that fulfil the following conditions:

1. Availability of both 12-month historical dividend yield and 3-month ADTV in EUR
2. 3-month ADTV in EUR above EUR 8 million
3. Suspension from trading for not more than 10% of the STOXX calendar trading days:

$$\text{Min Number of Price Observations}_{\text{Period}} = \text{Number of Trading Days}_{\text{Period}} \times 0.9$$

The remaining stocks are grouped as follows to form the Selection list:

Group	Universe
Social Evolutions	All stocks from the STOXX Global 3000 Index with the following ICB code: 2730 – Electronic & Electrical Equipment 2757 – Industrial Machinery 2795 – Financial Administration 3740 – Leisure Goods 4000 – Health Care

[10] http://www.STOXX.com/download/indices/vendor_codes.xls

15. iSTOXX GLOBAL TRANSITIONS INDICES

	5333 – Drug retailers 5377 – Specialized Consumer Services 5700 – Travel & Leisure 6575 – Mobile Telecommunications 8500 – Insurance 8700 – Financial Services 9500 – Technology
Resources Scarcity	All stocks from the STOXX Global 3000 Index with the following ICB code: 0580 – Alternative Energy 1700 – Basic Resources 3500 – Food 7500 – Utilities
Infrastructure	All stocks from STOXX Global Broad Infrastructure Index, the STOXX Global Extended Infrastructure 100 Index and the STOXX Global Infrastructure Suppliers 50 Index indices. All stocks from the STOXX Global 3000 Index with the following ICB code: 2300 – Construction & materials 2770 – Industrial Transportation 3300 – Automobile and parts

Composition list:

The following Equal Strength Ratios are calculated for each group.

$$\mathrm{ESR_G} = \sqrt{\frac{7}{\mathrm{N_G}}}$$

Where,
G Each of the three Social Evolutions, Resources Scarcity and Infrastructure groups
ESR_G Equal Strength Ratio of group G
N_G Number of stocks from group G in the Selection List.

All stocks in the Selection list are sorted in ascending order in terms of volatility (maximum between the 3-month and 12-month historical volatility in EUR) and, within each of the three groups, companies are selected based on their ESR:

$$\text{number of companies to select from group G (Volatility screen)} = \text{round down of } (\mathrm{ESR_G} \times \mathrm{N_G})$$

However, in the case that a company belongs to more than one group, it is sufficient that its volatility ranks in the top ESR_G% of one group in order to be eligible in all of them.

All selected stocks are ranked in descending order in terms of dividend yield and the final Composition list is comprised of the 30 highest ranked stocks, with minimum of 7 stocks from each group. If a group is comprised of less than 7 stocks, all stocks from that group are selected. In

15. iSTOXX GLOBAL TRANSITIONS INDICES

case of identical dividend yields, priority goes to the stock with the lowest volatility from the volatility screen.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting and capping factors: Target weights are calculated based on the inverse of the historical volatility of the selected components (using the same volatility as defined in the Selection process).

$$w_i = \frac{\frac{1}{\sigma_i}}{\sum_{j=1}^{N} \frac{1}{\sigma_j}}$$

w_i target weight of component i
σ_i maximum between the historical 12-months and 3-months volatility of component i as of review cut-off date, based on prices in EUR
N number of constituents in the final index (30)

Weighting cap factor are based on the closing prices in EUR (p_i) of the Thursday prior to the second Friday of the review month:

Weighting cap factor$_i$ = (1,000,000,000 x w_i / p_i), rounded to integers

Additionally, components are capped at a maximum weight of 10%.

15.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.
Fast exit: Not applicable.
Fast entry: Not applicable.
Spin-offs: Spun-off stocks are not added permanently to the index.
Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

16. iSTOXX ECONOMIC GROWTH SELECT INDICES

16.1. iSTOXX EUROPE ECONOMIC GROWTH SELECT 50

16.1.1. OVERVIEW

The iSTOXX Europe Economic Growth Select 50 Index captures the performance of stocks from the STOXX Europe 600 Index with low volatility, high dividends and high liquidity.

The component selection process first excludes all stocks with 3-month ADTV below EUR 3Mln and highest historical volatility. Among the remaining stocks, the 50 stocks with the highest 12-month historical dividend yields are selected to be included in the index.

The constituents are weighted according to a normalized GDP Score whereby companies with the highest exposure to countries with the highest estimated Economic growth receive the largest weight.

Universe: The index universe is defined by the constituents of the STOXX Europe 600 index as observed on the review effective date.

Weighting scheme: The indices are price-weighted with a weighting factor based on their normalized GDP Score.

Base values and dates: 100 on Apr 2, 2007

Index types and currencies: Price, net and gross return in EUR and USD

For a complete list please consult the data vendor code sheet on the website[11]. Customized solutions can be provided upon request.

16.1.2. INDEX REVIEW

Selection list:
The review cut-off date is the last trading day of the month preceding the review month of the index.

The Selection list is obtained by selecting from the Universe the stocks that fulfil the following conditions:

1. Availability of both 12-month historical dividend yield and 3-month ADTV in EUR
2. 3-month ADTV in EUR above EUR 3 million
3. Suspension from trading not exceeding 10% of the STOXX calendar trading days:

$$\text{Min Number of Price Observations}_{\text{Period}} = \text{Number of Trading Days}_{\text{Period}} \times 0.9$$

The remaining stocks compose the Eligible Universe.
Composition list:

[11] http://www.STOXX.com/download/indices/vendor_codes.xls

16. iSTOXX ECONOMIC GROWTH SELECT INDICES

The following Equal Strength Ratio is calculated for all stocks in the Eligible Universe:

$$\mathrm{ESR} = \sqrt{\frac{\mathrm{x}}{\mathrm{N}}}$$

where:

N Number of stocks in the Eligible Universe
x Number of stocks in the final index (50)

All stocks in the Eligible Universe are sorted in ascending order in terms of volatility (maximum between the 3-month and 12-month historical volatility in EUR) and a number of companies with lowest volatility is selected based on the ESR:

$$\text{number of companies to select (Volatility screen)} = \text{round down of } (\mathrm{ESR} \times \mathrm{N})$$

All selected stocks are ranked in descending order in terms of dividend yield and the highest ranked 50 stocks are selected for the final index. In case of identical dividend yields, priority goes to the stock with the lowest volatility from the volatility screen.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting and capping factors: The weighting factors are calculated based on the normalized GDP Score.
For the 50 selected companies, a GDP-growth score ("GDP Score") is computed as:

$$\mathrm{GDP\ Score_i} = \sum \mathrm{X_{i,c}} * \mathrm{GDP_c} + \left(1 - \sum \mathrm{X_{i,c}}\right) * \mathrm{GDP_{G7}}$$

Where

i company i
c country c
$X_{i,c}$ percentage of total revenue of company i coming from country c as of end of August. Details about exposure parameter calculation can be found in chapter 17.1.4 of the STOXX index guide[12].
GDP_c 1-year GDP growth estimation of country c for the following year as reported by the IMF in their October World Economic Outlook Databases[13] (set to zero if not reported)
$1-\sum x_{i,c}$ percentage of total revenues of company i that cannot be linked to a particular country due to insufficient reporting on company's level
GDP_{G7} estimated GDP growth of country group G7 "Major advanced economies" for the following year as reported by the IMF in their October World Economic Outlook Databases[3] (set to zero if not reported),used as an estimation of the Global GDP Growth

The GDP Score are then normalized between 1 and 10:

12 https://www.stoxx.com/documents/stoxxnet/Documents/Indices/Common/Indexguide/stoxx_index_guide.pdf
13 http://www.imf.org/external/ns/cs.aspx?id=28

16. iSTOXX ECONOMIC GROWTH SELECT INDICES

$$\text{Normalized GDP Score}_i = 1 + \frac{(\text{GDP Score}_i - \text{Min}) * 9}{\text{Max} - \text{Min}}$$

i	company i
Min	the minimum GDP Score value among the 50 constituents
Max	the maximum GDP Score value among the 50 constituents

The target weights are then calculated by using the Normalized GDP Scores:

$$w_i = \frac{\text{Normalized GDP Score}_i}{\sum_{j=1}^{50} \text{Normalized GDP Score}_j}$$

The weight cap factors are calculated on the basis of the stocks' closing prices in EUR of the Thursday prior to the second Friday of the review month:

Weighting cap factor = (1,000,000,000 x w_i / closing price$_i$), rounded to integers. Additionally, components are capped at a maximum weight of 5%.

16.1.3. ONGOING MAINTENANCE

Replacements: Not applicable.
Fast exit: Not applicable.
Fast entry: Not applicable.
Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index
Mergers and takeovers: Standard STOXX process.
Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

16. iSTOXX ECONOMIC GROWTH SELECT INDICES

16.2. iSTOXX GLOBAL ECONOMIC GROWTH SELECT 50

16.2.1. OVERVIEW

The iSTOXX Global Economic Growth Select 50 Index captures the performance of stocks from the STOXX Global 1800 Index with low volatility, high dividends and high liquidity.

The component selection process first filters out all companies that are in contravention of UN Global Compact Principles or are involved in Controversial Weapons activities, as identified by Sustainalytics. Next, all stocks with 3-month ADTV below USD 3Mln and with the highest historical volatility are excluded. Among the remaining stocks, the 50 stocks with the highest 12-month historical dividend yields are selected to be included in the index.

The constituents are weighted according to a normalized GDP Score whereby companies with the highest exposure to countries with the highest estimated Economic growth receive the largest weight.

Universe: The index universe is defined by the constituents of the STOXX Global 1800 index as observed on the review effective date.

Weighting scheme: The indices are price-weighted with a weighting factor based on their normalized GDP Score.

Base values and dates: 100 on Apr 2, 2007

Index types and currencies: Price, net and gross return in EUR and USD

For a complete list please consult the data vendor code sheet on the website[14]. Customized solutions can be provided upon request.

16.2.2. INDEX REVIEW

Selection list:
The review cut-off date is the last trading day of the month preceding the review month of the index.

The Selection list is obtained by selecting from the Universe the stocks that fulfil the following conditions:

1. Companies that are not in contravention of UN Global Compact Principles and are not involved in Controversial Weapons activities, as identified by Sustainalytics
2. Availability of both 12-month historical dividend yield and 3-month ADTV in USD
3. 3-month ADTV in USD above USD 3 million

[14] http://www.STOXX.com/download/indices/vendor_codes.xls

16. iSTOXX ECONOMIC GROWTH SELECT INDICES

4. Suspension from trading not exceeding 10% of the STOXX calendar trading days:

$$\text{Min Number of Price Observations}_{\text{Period}} = \text{Number of Trading Days}_{\text{Period}} \times 0.9$$

The remaining stocks compose the Eligible Universe.

Composition list:
The following Equal Strength Ratio is calculated for all stocks in the Eligible Universe:

$$\text{ESR} = \sqrt{\frac{\text{x}}{\text{N}}}$$

where:

N	Number of stocks in the Eligible Universe
x	Number of stocks in the final index (50)

All stocks in the Eligible Universe are sorted in ascending order in terms of volatility (maximum between the 3-month and 12-month historical volatility in USD) and a number of companies with lowest volatility is selected based on the ESR:

$$\text{number of companies to select (Volatility screen)} = \text{round down of (ESR} \times \text{N)}$$

All selected stocks are ranked in descending order in terms of dividend yield and the highest ranked 50 stocks are selected for the final index. In case of identical dividend yields, priority goes to the stock with the lowest volatility from the volatility screen.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting and capping factors: The weighting factors are calculated based on the normalized GDP Score. The GDP Score is re-calculated on the review data in December.

For the 50 selected companies, a GDP-growth score ("GDP Score") is computed as:

$$\text{GDP Score}_{\text{i}} = \sum \text{X}_{\text{i,c}} * \text{GDP}_{\text{c}} + \left(1 - \sum \text{X}_{\text{i,c}}\right) * \text{GDP}_{\text{G7}}$$

Where

i	company i
c	country c
$X_{i,c}$	percentage of total revenue of company i coming from country c as of end of August. Details about exposure parameter calculation can be found in chapter 17.1.4 of the STOXX index guide[15].
GDP_c	1-year GDP growth estimation of country c for the following year as reported by the IMF in their October World Economic Outlook Databases[16] (set to zero if not reported)
$1-\sum x_{i,c}$	percentage of total revenues of company i that cannot be linked to a particular country due to insufficient reporting on company's level

15 https://www.stoxx.com/documents/stoxxnet/Documents/Indices/Common/Indexguide/stoxx_index_guide.pdf

16 http://www.imf.org/external/ns/cs.aspx?id=28

16. iSTOXX ECONOMIC GROWTH SELECT INDICES

GDP_{G7} estimated GDP growth of country group G7 “Major advanced economies” for the following year as reported by the IMF in their October World Economic Outlook Databases[3] (set to zero if not reported),used as an estimation of the Global GDP Growth

The GDP Score are then normalized between 1 and 10:

$$\text{Normalized GDP Score}_i = 1 + \frac{(\text{GDP Score}_i - \text{Min}) * 9}{\text{Max} - \text{Min}}$$

i company i
Min the minimum GDP Score value among the 50 constituents
Max the maximum GDP Score value among the 50 constituents

The target weights are then calculated by using the Normalized GDP Scores:

$$w_i = \frac{\text{Normalized GDP Score}_i}{\sum_{j=1}^{50} \text{Normalized GDP Score}_j}$$

The weight cap factors are calculated on the basis of the stocks’ closing prices in EUR of the Thursday prior to the second Friday of the review month:

Weighting cap factor = (1,000,000,000 x wi / closing pricei), rounded to integers. Additionally, the stocks’ weights are first subjected to a country cap of the maximum of (10%, 2 x country weighting in the Universe) and then an individual cap at a maximum weight of 5%. In the case where after applying the country cap and the individual cap, the sum of the weights does not equal to 100%, these weights will be rescaled proportionally and the country cap relaxed to bring the sum of the weights to 100% while keeping the individual cap at 5%.

16.2.3. ONGOING MAINTENANCE

Replacements: Not applicable.
Fast exit: Not applicable.
Fast entry: Not applicable.
Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index
Mergers and takeovers: Standard STOXX process.
Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

17. iSTOXX HIGH DIVIDEND INDICES

17.1. EURO iSTOXX EX FINANCIALS HIGH DIVIDEND 50 INDEX

17.1.1. OVERVIEW

The EURO iSTOXX ex Financials High Dividend 50 Index aims to select from the EURO STOXX ex Financials universe, 50 stocks with high dividend yields, while applying a maximum weight cap of 10% per company. Companies are weighted by dividend yield.

Universe: The index universe is defined by the parent index EURO STOXX ex Financials index.

Weighting scheme: The constituents from the indices are weighted according to their 12 months historical gross dividend yield with a 10% constituent cap

Base values and dates: 100 as of Mar 22, 2004

Index types and currencies: Price, net and gross return in EUR and USD. Price versions in Realtime, others end of day.

17.1.2. INDEX REVIEW

The review cut-off date is the last trading day of the month preceding the review of the index.

Selection list: All companies of the EURO STOXX ex Financials Index are screened for their
- » 12 Months historical gross dividend yield
- » Free-float market capitalization in EUR
- » 3 Months Average Daily Traded Volume in EUR (ADTV)

If a value is not available for a security, the security is removed from the base universe. All remaining securities whose free-float market capitalization or 3 Month ADTV is not ranked among the top 75% are excluded from the universe of selection. All eligible companies are ranked according to their 12 months historical gross dividend yield in descending order.

Component selection: The highest ranked 50 companies by gross dividend yield are selected

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting cap factors:

Weight determination:

$$w_i = \frac{\frac{D_i}{p_i}}{\sum_{j=1}^{N} \frac{D_j}{p_j}}$$

17. iSTOXX HIGH DIVIDEND INDICES

w_i = weight
D_i = gross dividend of company i
p_i = closing price of company i
D_j = gross dividend of company j
p_j = closing price of company j
N = number of index components

$$\text{Weighting factor} = \frac{\text{weight in percentage} \times 1000000000}{\text{price in EUR}}$$, rounded to integers.

Components are capped at a maximum weight of 10% per security.

The weighting factors are published on the second Friday in March, June, September and December, one week prior to quarterly review implementation using Thursday's closing prices.

17.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced in the index. Deletions from the parent index, EURO STOXX ex Financials, which remain in the STOXX Total Market Index are not deleted from the index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.

17. iSTOXX HIGH DIVIDEND INDICES

17.2. EURO iSTOXX HIGH DIVIDEND LOW VOLATILITY 50 INDEX

17.2.1. OVERVIEW

The EURO iSTOXX High Dividend Low Volatility 50 Index aims to select from the EURO STOXX universe, 50 stocks with high dividend yields and low volatility, while applying a maximum cap of 10 constituents per country and a maximum weight cap of 3% per security.

Universe: The index universe is defined by the parent index EURO STOXX index

Weighting scheme: Price-weighted with a weighting factor according to their 12 months historical gross dividend yield

Base values and dates: 100 as of Mar 22, 2004

For a complete list please consult the data vendor code sheet on the website[17]. Customized solutions can be provided upon request.

Index types and currencies: Price, net and gross return in EUR and USD. Realtime for the price versions, end of day for the others.

17.2.2. INDEX REVIEW

The review cut-off date is the last trading day of the month preceding the review of the index.

Selection list:

- All companies of the EURO STOXX index are screened for their 12 months historical volatility (in EUR) and 12 months historical gross dividend yield and companies are removed from the list if one of the two values is not available
- The remaining companies are ranked according to their 12 months historical gross dividend yield in descending order
- The highest ranked 75 stocks are eligible for the further selection process under the constraint that a maximum of 10 companies per country can be chosen
- All eligible companies are ranked according to their 12 months historical volatility (in EUR) in ascending order

Component selection: The highest ranked 50 securities are selected

Review frequency: The index is reviewed on a quarterly basis in March, June, September and December

Weighting cap factors: Components are capped at 3%.

[17] http://www.STOXX.com/download/indices/vendor_codes.xls

17. iSTOXX HIGH DIVIDEND INDICES

Weight determination:

$$w_i = \frac{\frac{D_i}{p_i}}{\sum_{j=1}^{N} \frac{D_j}{p_j}}$$

w_i = weight
D_i = gross dividend of company i
p_i = closing price of company i
D_j = gross dividend of company j
p_j = closing price of company j
N = number of index components

$\text{Weighting factor} = \frac{\text{weight in percentage} \times 1000000000}{\text{price in EUR}}$, rounded to integers.

The weighting factors are published on the second Friday in March, June, September and December, one week prior to quarterly review implementation using Thursday's closing prices.

17.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced. If a company is deleted from the EURO STOXX but remains in the Global TMI, this stock will not be excluded from this index.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.

18. iSTOXX FACTOR INDICES

18.1. iSTOXX EUROPE/USA SINGLE & MULTI FACTOR

18.1.1. OVERVIEW

The iSTOXX Factor indices aim to extract factor risk premia on equities while controlling risks and keeping focus on tradability. These indices differ from each other by the factor or risk premia they are exploiting. Index families are provided for Europe and USA, and they contain indices based on the following single factors: carry, low risk, momentum, quality, size and value. The iSTOXX Europe Multi Factor Index and the iSTOXX USA Multi Factor Index gather all stocks with a high overall composition tilt to all the single factors. The iSTOXX Europe Multi Factor XC Index gathers all stocks with a high overall composition tilt to all the single factors except for the carry factor.

Index name	Symbol	Bloomberg ticker	Reuters RIC
iSTOXX Europe Carry Factor EUR (Price)	ISECFEP		.ISECFEP
iSTOXX Europe Carry Factor EUR (Net Return)	ISECFER	ISECFER Index	.ISECFER
iSTOXX Europe Carry Factor EUR (Gross Return)	ISECFEGR		.ISECFEGR
iSTOXX Europe Low Risk Factor EUR (Price)	ISERFEP		.ISERFEP
iSTOXX Europe Low Risk Factor EUR (Net Return)	ISERRER	ISERRER Index	.ISERRER
iSTOXX Europe Low Risk Factor EUR (Gross Return)	ISERFEGR		.ISERFEGR
iSTOXX Europe Momentum Factor EUR (Price)	ISEMFEP		.ISEMFEP
iSTOXX Europe Momentum Factor EUR (Net Return)	ISEMFER	ISEMFER Index	.ISEMFER
iSTOXX Europe Momentum Factor EUR (Gross Return)	ISEMFEGR		.ISEMFEGR
iSTOXX Europe Quality Factor EUR (Price)	ISEQFEP		.ISEQFEP
iSTOXX Europe Quality Factor EUR (Net Return)	ISEQFER	ISEQFER Index	.ISEQFER
iSTOXX Europe Quality Factor EUR (Gross Return)	ISEQFEGR		.ISEQFEGR
iSTOXX Europe Size Factor EUR (Price)	ISEZFEP		.ISEZFEP
iSTOXX Europe Size Factor EUR (Net Return)	ISEZFER	ISEZFER Index	.ISEZFER
iSTOXX Europe Size Factor EUR (Gross Return)	ISEZFEGR		.ISEZFEGR
iSTOXX Europe Value Factor EUR (Price)	ISEVFEP		.ISEVFEP
iSTOXX Europe Value Factor EUR (Net Return)	ISEVFER	ISEVFER Index	.ISEVFER
iSTOXX Europe Value Factor EUR (Gross Return)	ISEVFEGR		.ISEVFEGR
iSTOXX Europe Multi-Factor EUR (Price)	ISEXFEP		.ISEXFEP
iSTOXX Europe Multi-Factor EUR (Net Return)	ISEXFER	ISEXFER Index	.ISEXFER
iSTOXX Europe Multi-Factor EUR (Gross Return)	ISEXFEGR		.ISEXFEGR
iSTOXX Europe Multi-Factor XC EUR (Price)	ISEXFCP		.ISEXFCP
iSTOXX Europe Multi-Factor XC EUR (Net Return)	ISEXFCR	ISEXFCR Index	.ISEXFCR
iSTOXX Europe Multi-Factor XC EUR (Gross Return)	ISEXFCGR		.ISEXFCGR
iSTOXX USA Carry Factor EUR (Price)	ISUCFUP		.ISUCFUP
iSTOXX USA Carry Factor EUR (Net Return)	ISUCFUR	ISUCFUR Index	.ISUCFUR
iSTOXX USA Carry Factor EUR (Gross Return)	ISUCFUGR		.ISUCFUGR
iSTOXX USA Low Risk Factor EUR (Price)	ISURFUP		.ISURFUP
iSTOXX USA Low Risk Factor EUR (Net Return)	ISURFUR	ISURFUR Index	.ISURFUR

iSTOXX USA Low Risk Factor EUR (Gross Return)	ISURFUGR		.ISURFUGR
iSTOXX USA Momentum Factor EUR (Price)	ISUMFUP		.ISUMFUP
iSTOXX USA Momentum Factor EUR (Net Return)	ISUMFUR	ISUMFUR Index	.ISUMFUR
iSTOXX USA Momentum Factor EUR (Gross Return)	ISUMFUGR		.ISUMFUGR
iSTOXX USA Quality Factor EUR (Price)	ISUQFUP		.ISUQFUP
iSTOXX USA Quality Factor EUR (Net Return)	ISUQFUR	ISUQFUR Index	.ISUQFUR
iSTOXX USA Quality Factor EUR (Gross Return)	ISUQFUGR		.ISUQFUGR
iSTOXX USA Size Factor EUR (Price)	ISUZFUP		.ISUZFUP
iSTOXX USA Size Factor EUR (Net Return)	ISUZFUR	ISUZFUR Index	.ISUZFUR
iSTOXX USA Size Factor EUR (Gross Return)	ISUZFUGR		.ISUZFUGR
iSTOXX USA Value Factor EUR (Price)	ISUVFUP		.ISUVFUP
iSTOXX USA Value Factor EUR (Net Return)	ISUVFUR	ISUVFUR Index	.ISUVFUR
iSTOXX USA Value Factor EUR (Gross Return)	ISUVFUGR		.ISUVFUGR
iSTOXX USA Multi-Factor EUR (Price)	ISUXFUP		.ISUXFUP
iSTOXX USA Multi-Factor EUR (Net Return)	ISUXFUR	ISUXFUR Index	.ISUXFUR
iSTOXX USA Multi-Factor EUR (Gross Return)	ISUXFUGR		.ISUXFUGR

Universe: The index universe for the iSTOXX Europe Factor indices is defined by the STOXX Europe Total Market Index as of two days before the last Friday of each month, while the corresponding universe for the iSTOXX USA Factor indices is the STOXX USA 900 Index.

Weighting scheme: The final index weights are the result of an optimization process. The optimizer task is to create an index portfolio with maximum possible factor exposure that satisfies specific constraints with respect to systematic risk beyond the factor tilt. If no solution is possible, constraints are loosened following a heuristic process until an index portfolio is found.

Individual capping: Constraints are applied such that the weight of each component cannot exceed 8% and that the aggregated weight of all components whose individual weight is at least 4.5% cannot exceed 35%. Those constraints are not loosened during the optimization process.

Base values and dates: 100 as of April 1, 2016

For a complete list, please consult the data vendor code sheet on the website[18]. Customized solutions can be provided upon request.

Index types and currencies: Price, net return and gross return in EUR for the iSTOXX Europe Factor indices, USA for the iSTOXX USA Factor Indices.

18.1.2. INDEX REVIEW

Selection list: Components are selected from the Universe following an optimization based factor exposure and a set of constrains.

[18] http://www.STOXX.com/download/indices/vendor_codes.xls

18.1.3. COMBINATION AND NORMALIZATION

Each factor, as input for the index optimization, consists of several base or subfactors. Those subfactors consist of different ratios calculated from base data (balance sheet, income statement, price or estimates for instance) or from other subfactors. Those are grouped by topic or style and each group combined creates the final factor. The multi-factor derives its final factor value from the composite of all single factors of the index family.

The combinations of factors are done as following:

- normalization of subfactors on supersector level (ICB classification),
- calculation of the final factor as the equal weighted composite of all normalized subfactors in the factor group.

In general, calculations and rankings are neutralized on a supersector level. To combine subfactors to a final factor, a normalization process on subfactors is executed before adding up the values to the final factor or factor score. This normalization is the mapping of each assets relative factor rank to the corresponding normal distribution quantile (Gaussing).

18.1.4. FACTOR CALCULATION

The factor calculation happens one trading day before the review with data from one trading day before the review.

18.1.4.1. CARRY

The carry factor is a composite of 4 subfactors:

1- $$\text{Price to Dividend} = \frac{\text{Price}}{\text{Dividend per share over the last 12 months}}$$

2- $$\text{Internal Growth} = \text{Return on equity} \times \text{Payout ratio} = \frac{\text{Earnings}}{\text{Book value}} \times \left(1 - \frac{\text{Dividend per share}}{\text{Earnings per Share over the last 12m}}\right)$$

3- $$\text{Earnings Dispersion} = \text{Standard deviation of Earnings; timeweighted forward 12 month}$$

4- $$\text{Shares out Reduction} = \frac{\text{Historical common shares decrease over last 24 months}}{\text{Common shares out}}$$

18.1.4.2. LOW RISK

The Low Risk factor is a composite of 3 subfactors:

1- $\text{3M Volatility} = \text{Standard deviation of returns over 3 months}$
2- $\text{12M Volatility} = \text{Standard deviation of returns over 12 months}$

3- 12M Semi Volatility = Semi deviation of returns over 12 months

18.1.4.3. MOMENTUM

The Momentum factor is a composite of 2 subfactors:

1- 1 month Reversal $= -T\ Value$ of return index over 1 month
2- 12 month Momentum $= T\ Value$ of return index over 12 months

18.1.4.4. QUALITY

The Quality factor is a composite of 5 subfactors:

1- $\text{Operating Income to Common Equity} = \frac{\text{Operating income}}{\text{Common equity}}$; which becomes $\frac{\text{Operating income}}{\text{Total assets}}$ if $\text{Common Equity} \leq 0$

2- $\text{Cash to current liabilities} = -1 \times \frac{\text{Cash and equivalent}}{\text{Current liabilities}}$

3- $\text{Net external financing 12 month} = -1 \times \frac{12\text{M}\Delta\text{ShOut} \times 12\text{MAveragePrice} + 12\text{M}\Delta\text{LongDebt} + 12\text{M}\Delta\text{ShortDebt} + 12\text{M}\Delta\text{PrefStocks}}{12\text{MAverageTotalAssets}}$

Where,

$12\text{M}\Delta\text{ShOut} = \text{Shares outstanding}_{t_0} - \text{Shares outstanding}_{t_0-12\text{month}}$
$12\text{M}\Delta\text{LongDebt} = \text{Long debt}_{t_0} - \text{Long debt}_{t_0-12\text{month}}$
$12\text{M}\Delta\text{ShortDebt} = \text{Short debt}_{t_0} - \text{Short debt}_{t_0-12\text{month}}$
$12\text{M}\Delta\text{PrefStocks} = \text{Preferred stocks}_{t_0} - \text{Preferred stocks}_{t_0-12\text{month}}$
$12\text{MAveragePrice} = \text{Average price in local currency with monthly observations}$
$12\text{MAverageTotalAssets} = \text{Average Total Assets in local currency with quarterly observations}$

4- $\text{Coverage} = \text{Composite}\left(\frac{\text{EBIT}}{\text{Interest payments}}; \frac{\text{EBIT}}{\text{Total debt}}; \frac{\text{CFO}}{\text{Interest payments}}; \frac{\text{CFO}}{\text{Total debt}}\right)$

5- $\text{Accruals Quality} = \frac{12\text{M}\Delta\text{NetOperatingAssets}}{\text{Total Assets}}$

Where,

$12\text{M}\Delta\text{NetOperatingAssets} = \text{Net operating assets}_{t_0} - \text{Net operating assets}_{t_0-12\text{month}}$

Where,

$\text{Net Operating Assets} = \text{Total assets} - \text{Cash} - \text{Total liabitilities} + \text{Short debt} + \text{Long debt}$

18.1.4.5. SIZE

The Size factor is a composite of 2 subfactors:

1- Inverse MCAP $= -1 *$ Market capitalization
2- Inverse enterprise value $= -1 *$
(Market capitalization at end of fiscal year + Preferred stocks + Minority interest + Total debt - Cash)

18.1.4.6. VALUE

The Value factor is a composite of 2 subfactors:

1- $\text{Forward 12M Earnings Yield; replaced with } \frac{\text{Cash flows from operations}}{\text{Total sssets}} \text{ if negative}$
2- $\text{Cash Flow Yield; replaced with } \frac{\text{Cash flows from operations}}{\text{Total assets}} \text{ if negative}$

18.1.5. OPTIMIZATION

Benchmark: The benchmark index for the optimization is defined as the STOXX Europe 600 Index as of two days before the last Friday of each month which is the cut-off date, in the case of the iSTOXX Europe Factor indices. The corresponding benchmark for the iSTOXX USA Factor indices is the STOXX USA 500 Index.

The optimizer uses the following inputs:

- vector with tilt values for every single stock,
- most current SunGard APT Risk Engine Risk Model,
- weight of every single stock in the benchmark index (if the stock belongs to the STOXX Europe Total Market Index but not to the STOXX Europe 600 Index, it gets a weight of 0%; similar in the case of iSTOXX USA Factor indices).

The actual weighting is calculated under the main target to maximize the index factor exposure while still satisfying constraints.

- maximum tracking error to the benchmark index (target: 3%),
- maximum systematic risk contribution to tracking error (target: 10% of 3% equals 0.3% tracking error points),
- target beta of 1 to the benchmark index with allowed maximum deviation of 0.025 (target: 0.975 < beta < 1.025),
- target number of components between 50 and 120,
- maximum absolute deviation of industry weights relative to those of the benchmark index (target: 1.5 percentage points),
- maximum absolute deviation of component weights relative to those of the benchmark index (target: 1.5 percentage points),

- liquidity constraint: 100 mn EUR times weight of single component needs to be at most 15% of the 20-day average daily traded value
- maximum turnover (target: 25% one way),
- Component capping: The weight of no single component can exceed 8%. Further, the aggregate of all components with a weight of more than 4.5% cannot exceed 35%.

If no solution under the above constraints is found, a heuristic process is run which successively relaxes the constraints until a solution is found.
The first four relaxations hereby loosen the systematic risk contribution constraint (12%, 14.4%, 17.28%, 20%). Next, the target beta and industry allocation constraints are relaxed to penalty constraints which allow minor violations. The sixth relaxation increases the maximum tracking error to 3.3%. Relaxations seven to ten loosen the turnover constraint (35%, 45%, 55%, 65%). If still no solution is found the original beta and industry allocation constraints are removed. Relaxations twelve to fifteen loosen the turnover constraint further (75%, 85%, 95%, 100%).
Constraints regarding number of components, liquidity, single stock weight deviation, and component capping are never relaxed.
Valid from 21.12.2018: A second wider beta constraint is added that is not relaxable (target: 0.95 < beta < 1.05). If after all relaxations no solution is found the review is omitted in this month.

Composition list: Variable number of constituents depending on the optimization process.

Review frequency: The reviews are conducted on a monthly basis. The review cut-off date for the underlying data is two days before the last Friday of the month. The new composition is effective the next trading day after the first Friday of the month.

Weighting cap factors: Weighting factor = weight * (1,000,000,000 / closing price of the stock), rounded to integers and calculated based on closing prices three days prior to the implementation date.

Derived indices: none

18.1.6. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: A spin-off is not added permanently to the index

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

18. iSTOXX FACTOR INDICES

18.2. iSTOXX EUROPE SINGLE & MULTI FACTOR MARKET NEUTRAL

18.2.1. OVERVIEW

The iSTOXX Europe Single Factor Market Neutral indices replicate a long position into one iSTOXX Europe Single Factor index and a short position into the STOXX Europe 600 Futures Roll index.
Additionally, the iSTOXX Europe Multi-Factor Market Neutral index replicates a long position into the iSTOXX Europe Multi-Factor Index and a short position into the STOXX Europe 600 Futures Roll index.

Index name	Symbol	Bloomberg ticker	Reuters RIC
iSTOXX Europe Carry Factor Market Neutral EUR (Total Return - NR)	ISECMETN		.ISECMETN
iSTOXX Europe Carry Factor Market Neutral EUR (Excess Return - NR)	ISECMEEN	ISECMEEN Index	.ISECMEEN
iSTOXX Europe Low Risk Factor Market Neutral EUR (Total Return - NR)	ISERMETN		.ISERMETN
iSTOXX Europe Low Risk Factor Market Neutral EUR (Excess Return - NR)	ISERMEEN	ISERMEEN Index	.ISERMEEN
iSTOXX Europe Momentum Factor Market Neutral EUR (Total Return - NR)	ISEMMETN		.ISEMMETN
iSTOXX Europe Momentum Factor Market Neutral EUR (Excess Return - NR)	ISEMMEEN	ISEMMEEN Index	.ISEMMEEN
iSTOXX Europe Quality Factor Market Neutral EUR (Total Return - NR)	ISEQMETN		.ISEQMETN
iSTOXX Europe Quality Factor Market Neutral EUR (Excess Return - NR)	ISEQMEEN	ISEQMEEN Index	.ISEQMEEN
iSTOXX Europe Size Factor Market Neutral EUR (Total Return - NR)	ISEZMETN		.ISEZMETN
iSTOXX Europe Size Factor Market Neutral EUR (Excess Return - NR)	ISEZMEEN	ISEZMEEN Index	.ISEZMEEN
iSTOXX Europe Value Factor Market Neutral EUR (Total Return - NR)	ISEVMETN		.ISEVMETN
iSTOXX Europe Value Factor Market Neutral EUR (Excess Return - NR)	ISEVMEEN	ISEVMEEN Index	.ISEVMEEN
iSTOXX Europe Multi-Factor Market Neutral EUR (Total Return - NR)	ISEXMETN	ISEXMETN Index	.ISEXMETN
iSTOXX Europe Multi-Factor Market Neutral EUR (Excess Return - NR)	ISEXMEEN	ISEXMEEN Index	.ISEXMEEN

Index types and currencies: Total Return Net Return and Excess Return Net Return in EUR

18. iSTOXX FACTOR INDICES

Base values and dates: 100 on Mar 1, 2016

18.2.2. CALCULATIONS

The indices formula is:

$$IV_t = IV_{reb} \times \left[\frac{FI_t}{FI_{reb}} - \beta \times \left(\frac{RF_t}{RF_{reb}} - 1\right)\right]$$

Where,

IV	Market Neutral Index value
FI	Single/Multi Factor Equity index
RF	Rolling Future index (the iSTOXX Europe Market Neutral Net Return Total Return indices use the STOXX Europe 600 Futures Roll Excess Return as RF while the iSTOXX Europe Market Neutral Net Return Excess Return indices use the STOXX Europe 600 Futures Roll Total Return as RF)
β	Beta of FI to the STOXX Europe 600 (180 weekly returns)
Reb	Rebalancing day (index close as of Friday)

18.2.3. REBALANCING

The rebalancing happens once a week. The betas are calculated on Thursday and effective on Monday morning.

19. EURO iSTOXX 60 EQUAL WEIGHT INDEX AND EURO iSTOXX 70 EQUAL WEIGHT INDEX

19.1. EURO iSTOXX 60 EQUAL WEIGHT INDEX AND EURO iSTOXX 70 EQUAL WEIGHT INDEX

19.1.1. OVERVIEW

The constituents for the EURO iSTOXX 60 Equal Weight and EURO iSTOXX 70 Equal Weight indices are selected from the EURO STOXX universe. The 60, and 70, largest constituents in terms of free-float market capitalization are selected respectively. The constituents of the indices are equal weighted.

Universe: All securities from the EURO STOXX index.

Weighting scheme: Equal Weighted

Base value and date: 100 on Dec 19, 2005

Index types and currencies: Price, net and gross return in EUR and USD.

19.1.2. INDEX REVIEW

Selection list: All securities from the EURO STOXX index.

Composition list: The 60, and 70, largest constituents in terms of free-float market capitalization are selected respectively. The constituents of the indices are equal weighted. The component selection list will be produced on a quarterly basis.

Weighting cap factors: No capping is applied.

Review frequency: The components are reviewed quarterly. The review cut-off date for the underlying data is the last trading day of the month preceding the review.

19.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

20. EURO iSTOXX 50 FX NEUTRAL INDEX

20.1. EURO iSTOXX 50 FX NEUTRAL INDEX

20.1.1. OVERVIEW

The EURO iSTOXX FX Neutral index aims to neutralize the impact of daily currency returns while replicating the returns of the underlying EURO STOXX 50 in different currencies.

Index types and currencies: Price, Net and Gross Return in GBP, USD and SEK.

Base value and date: 1000 on Jan 4, 2016

20.1.2. CALCULATION

Index formula:

$$I_t = I_{t-1} \cdot \left[\frac{UI_t}{UI_{t-1}} \cdot \frac{FX_t}{FX_{t-1}} - \left(\frac{FX_t}{FX_{t-1}} - 1\right)\right]$$

Where:

I_t EURO iSTOXX 50 FX Neutral index on day t

UI_t Underlying index on day t (SX5E, SX5T, SX5GT)

FX_t FX rate on day t to convert one unit of currency of index UI into currency of index I. Standard Reuters rates used for intraday calculations and WM fixing for end-of-day calculations.

21. EURO iSTOXX 50 FUTURES LEVERAGED INDEX

21.1. EURO iSTOXX 50 FUTURES LEVERAGED INDEX

21.1.1. OVERVIEW

The EURO iSTOXX 50 Futures Leveraged Index is tracking the performance of a 100% position in the EURO STOXX 50® Index combined with 50% exposure in the EURO STOXX 50® Traded Futures Roll Index.

Rebalancing: The index is rebalanced on a quarterly basis after the close of the 3rd Friday of March, June, September and December.

Index types and currencies: Total Return – Price, Total Return - Net Return, Total Return – Gross Return, Excess Return – Price, Excess Return – Net Return and Excess Return – Gross Return in EUR.

Dissemination calendar: STOXX Eurex Calendar

Base values and dates: 1000 on Feb 28, 2003

21.1.2. CALCULATION

The EURO iSTOXX 50 Futures Leveraged Index is calculated as follows:

$$\mathrm{IV_t} = \mathrm{IV_{reb}} \times \left[1 + \mathrm{w_1} * \left(\frac{\mathrm{UI_t^1}}{\mathrm{UI_{reb}^1}} - 1\right) + \mathrm{w_2} * \left(\frac{\mathrm{UI_t^2}}{\mathrm{UI_{reb}^2}} - 1\right)\right]$$

Where,

IV	EURO iSTOXX 50 Futures Leveraged Index
UI^1	EURO STOXX 50® Index (Price, Net or Gross Return)
UI^2	EURO STOXX 50® Traded Futures Roll Index (Total or Excess Return)
w_1	100%, the exposure to the EURO STOXX 50® Index
w_2	50%, the exposure to the EURO STOXX 50® Traded Futures Roll Index
reb	Rebalancing day (index close value as of 3rd Friday of rebalancing month)

22. iSTOXX USA WEAK BALANCE SHEET EX UTILITIES AND FINANCIALS INDEX

22.1. iSTOXX USA WEAK BALANCE SHEET EX UTILITIES AND FINANCIALS INDEX

22.1.1. OVERVIEW

The index represents US companies from the STOXX Global 1800 Index with an Altman-Z Score below 2.4 over the last three years. Additional liquidity screenings and sector exclusions (Utilities and Financials) are applied. All constituents are weighted by free-float market capitalization.

Universe: All US securities from the STOXX Global 1800 Index excluding ICB industries Utilities and Financials.

Weighting scheme: The index is weighted according to free-float market capitalization with a 5% cap per constituent.

Base value and date: 100 on Sep 19, 2011

Index types and currencies: Price, Net and Gross in EUR and USD.

22.1.2. INDEX REVIEW

Selection list: All US securities from the STOXX Global 1800 Index excluding ICB industries Utilities and Financials.

Composition list: All stocks from the selection list must fulfill the following criteria at the cut-off date to be eligible for the selection list. The cut-off date is the last trading day of the month preceding the review month.

Liquidity criteria: Only stocks with a 3-month average daily traded volume (ADTV) above the threshold are eligible for the selection list. The threshold is chosen as the maximum of the 5% percentile of ADTVs of all stocks in the universe and of a fixed floor defined by USD 5 million.

For all stocks in the selection list, the Altman Z-score is observed on the current cut-off date and on the cut-off dates one and two years before. Companies without an Altman Z-score for any of the dates are excluded from the selection list. All companies with an Altman Z-score of less than 2.4 for the past three consecutive years are selected for the final index composition.

$$\text{Altman Zscore} = 1.2\left(\frac{\text{Working Capital}}{\text{Tangible Assets}}\right) + 1.4\left(\frac{\text{Retained Earnings}}{\text{Tangible Assets}}\right) + 3.3\left(\frac{\text{EBIT}}{\text{Tangible Assets}}\right)$$

$$+ 0.6\left(\frac{\text{Market Value of Equity}}{\text{Total Liabilities}}\right) + \left(\frac{\text{Sales}}{\text{Tangible Assets}}\right)$$

Weighting cap factors: All components are subject to a 5% cap.

Review frequency: The reviews are conducted on an annual basis in September. Shares, Free Float and Cap Factors are reviewed quarterly.

22. iSTOXX USA WEAK BALANCE SHEET EX UTILITIES AND FINANCIALS INDEX

22.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

23. iSTOXX FACTSET THEMATIC INDICES

23.1. iSTOXX FACTSET THEMATIC INDICES

23.1.1. OVERVIEW

The iSTOXX FactSet Thematic indices are indices comprised of companies from selected countries exposed to a defined set of themes: Ageing Population, Automation & Robotics, Digitalisation, Breakthrough Healthcare. These companies, or components of their business lines, are positioned to long-term structural trends driving social, economic and environmental change which, in the future, will have a substantial impact on their performance.

For further versions, please refer to the index vendor code sheet.

Universe: The index universe is defined as all stocks from the STOXX Global Total Market index that derive more than 50% of their most recent total annual revenues from Ageing Population, Automation & Robotics, Digitalisation, Breakthrough Healthcare sectors and which are classified as belonging to a defined set of Developed and Emerging countries.

Weighting scheme: The indices are equal-weighted. In case a company is present with multiple listings in an index, the weight of that company is shared equally among its different share lines. Weight factors are published on the second Friday of the Review month and based on the stocks' prices of the preceding Thursday.

Base value and date: 1000 on June 20, 2011

Index types and currencies: Price, Net and Gross in EUR and USD.

23.1.2. INDEX REVIEW

For each iSTOXX FactSet Thematic index, the companies in the index universe are screened for all of the following criteria:

- **Country classification:** stocks classified as belonging to the eligible countries list (as shown below)
- **Minimum liquidity:** 3-month median daily trading value (MDTV) greater than one million EUR
- **Minimum size:** free-float market capitalization greater than 200 million EUR
- **Revenues:** more than 50% of revenues generated within the sectors associated with the relevant index theme. Within each individual index, the threshold is lowered to 45% for current components.

Each iSTOXX FactSet Thematic index aims to have a minimum number of 80 constituents at each review: if the screening process above described results to be too restrictive for an index, the revenue filter is progressively lowered in steps of 5% for that particular index, until the number of constituents is equal to or greater than 80 (i.e. all stocks which pass the lowered threshold are added to the index).

23. iSTOXX FACTSET THEMATIC INDICES

In February of each year, STOXX will conduct a review of FactSet Level 6 RBICS sectors. In the event that additional sectors relevant to the theme of an Index are identified, those will be added to the index description and announced no later than 90 days prior to the Review Day of that year.

Ageing Population, Automation & Robotics, Digitalisation, Breakthrough Healthcare sectors are based on a proprietary industry classification of our Research Partner FactSet and are defined as follows:

Nr.	Automation & Robotics	Digitalisation
01	3D Modeling/Rapid Prototyping Automation Providers	Online Marketing and Advertising Support Services
02	Food Production Machinery Manufacturing	Internet Apparel Retail
03	General Factory Automation Makers	Internet Electronics Retail
04	Industrial Robots and Robotic Assembly Line Makers	Retail Industry Software
05	Lasers and Optical Instrument Manufacturing	Internet Department Stores
06	Machine Vision and Quality Control Manufacturing	Travel Publishers
07	Manufacturing Industry Software	Commercial Bank and Credit Union Software
08	Material Handling/Conveyor Equipment Manufacturing	Electronic Payment Processing
09	Mixed Industrial Machinery Parts/Equipment Makers	Insurance Software
10	Monitoring and Control Sensor/Instrument Products	Investment Management/Brokerage Software
11	Motion Control and Precision Motors Manufacturing	Mixed Electronic Transaction Processing
12	Multi-Industry-Specific Factory Machinery Makers	Other Finance Industry Software
13	Other Automation Support Product Manufacturing	Payment Processing Software
14	Other Electric Motors and Motion Control Products	Trading Software
15	Paper and Textile Automation Providers	Express Couriers
16	Plastics and Rubber Automation Providers	General Delivery and Logistics Providers
17	Welding and Joining Tool Manufacturing	Automotive Classifieds and Directories Media/Sites
18	Automotive Industry Software	Career Classifieds and Directories Media and Sites
19	Business Intelligence Software	Carrier Edge Network Management Equipment
20	Computer Aided Design (CAD) Software	City Guides Content Providers and Sites
21	Diversified Content Management Software	Colocation and Data Center Services
22	Diversified Semiconductors	Communication and Collaboration Content Sites
23	General Enterprise Management Software	Customer Premises Network Security Equipment
24	Global Positioning Systems (GPS) Manufacturing	Disk Storage Systems
25	Microprocessor (MPU) Semiconductors	Diversified Electronic Security Equipment
26	Mobile Platform Applications Software	E-Commerce Service Providers
27	Networking Semiconductors	Electronic Security Identification Equipment
28	Other Communications Semiconductors	Enterprise Middleware Software
29	Other Handheld and Smart Phone Software	Enterprise Security Management Software
30	Other Processor Semiconductors	General Carrier Edge (Access) Equipment
31	Other Programmable Logic and ASIC Semiconductors	General Consumer Content Providers
32	Programmable Logic Device Semiconductors	General Customer Premises Equipment (CPE)
33	Smart Phone Manufacturing	General Entertainment Content Providers and Sites
34	Test, Measurement and Metrology Equipment Makers	Managed Hosting Services
35	Video Multimedia Semiconductors	Media Download and Streaming Digital Content Sites
36	Vehicle Autonomous Control Software	Multiple Industry-Specific Software

23. iSTOXX FACTSET THEMATIC INDICES

37	Vehicle Autonomous Control Electronics Makers	Network Administration Software
38	Surgical Robotic Systems	Network Security Software
39	Drone Manufacturers	Other Classifieds and Directories Media and Sites
40	Drone Parts Manufacturers	Other Hosting Services
41	Autonomous Control Transit Production	Other Network Software
42	Autonomous Control Truck Production	Real Estate Classifieds and Directories Sites
43	Autonomous Control Ship Builders	Security and Identification Semiconductors
44	Autonomous Control Software	Security and Management Consulting
45	Household Robots	Web Navigation Sites and Software
46		Web Portal Sites and Software
47		Web Search Sites and Software
48		Internet Motor Vehicle Sales
49		Internet Automotive Parts Sales
50		Internet Office Supplies Retail
51		Internet Pet and Pet Supply Retail
52		Internet Accessories Retail
53		Internet Footwear Retail
54		Internet Entertainment Retail
55		Internet Building Materials / Garden Supply Retail
56		Internet Furniture and Home Furnishings Retail
57		Internet Discount Stores
58		Internet Off-Price Retail
59		Internet Warehouse / Superstore Retail
60		Other Internet Health and Personal Care Retail
61		Internet Pharmacies and Drug Retail

Nr.	**Ageing Population**	**Breakthrough Healthcare**
01	Boat Makers	Active and Intermediate Chemicals OEMs
02	Golf Equipment	Autoimmune Disorders Biopharmaceuticals
03	Motor Homes and Campers (RVs) Manufacturing	Bioanalytical Consumables
04	Other Building Materials and Garden Supply Stores	Biological Specimen Storage
05	Personal Recreation Vehicle Manufacturing	Biologics OEMs
06	Funeral and Cemetery Services	Cardiology Surgical Devices
07	General Death Care Services	Cardiovascular System Biopharmaceuticals
08	Pharmacies and Drug Stores	Clinical Limited Service CROs
09	Golf Courses and Country Clubs	Diversified Bioanalytical Instruments
10	Mixed Usage Travel Arrangement and Reservation	Diversified Contract Manufacturing Organizations
11	Ocean-Going Cruise Lines	Diversified Contract Research Organizations
12	Tour Operators	Diversified Development and Manufacturing Services
13	Travel Agencies	Diversified Healthcare Business Management
14	Travel Publishers	Drug Delivery Technology Development
15	Vacation Ownership Operators	Drug Lead Discovery, Validation and Optimization
16	Annuities	General Clinical Diagnostics Devices
17	Credit Life	General Surgical Devices

23. iSTOXX FACTSET THEMATIC INDICES

18 Diverse Institutional/High-Net Advisory Finance
19 Diversified Life and Health Insurance
20 Health Insurance
21 Healthcare and Life Sciences Equity REITs
22 Insurance Brokerage
23 Life and Health Reinsurance
24 Life Insurance
25 Other Supplemental Health Insurance
26 Private Wealth Managers
27 Retail Advisory and Brokerage Services
28 Retail Advisory Services
29 Retail Brokerage Services
30 Assisted Living
31 Cardiology Surgical Devices
32 Cardiovascular System Biopharmaceuticals
33 Diversified Patient Care
34 Drug Lead Discovery Validation and Optimization
35 General and Acute Hospitals
36 General Clinical Laboratories
37 Healthcare Staffing and Recruiting
38 Home Healthcare
39 Imaging Laboratories
40 Joint Replacement and Reconstruction Devices
41 Medicare Managed Care
42 Neurology Biopharmaceuticals
43 Neurology Devices
44 Oncology Devices
45 Ophthalmology Biopharmaceuticals
46 Ophthalmology Devices
47 Other Hospitals
48 Other Long-Term Care Facilities
49 Other Oncology Biopharmaceuticals
50 Other Orthopedics Devices
51 Pharmacy Benefit Management (PBM)
52 Plastic and Reconstructive Surgery Devices
53 Skilled Nursing Facility (Nursing Home)
54 Specialized Patient Care
55 Hematological Oncology Biopharmaceuticals
Genetic Molecular Diagnostic Test Kits
Healthcare Management Software
Home Testing Clinical Diagnostics Devices
Immune Deficiency Disorders Biopharmaceuticals
Immunoassays Clinical Diagnostics Devices
Multi-Type Drug Discovery Services
Neurology Biopharmaceuticals
Neurology Devices
Oncology Devices
Other Biopharmaceutical OEMs
Other Chemistry Clinical Diagnostics Devices
Other Healthcare and Pharma Industry Software
Other Oncology Biopharmaceuticals
Patient Data Management Software
Point of Care Testing Kits
Surgical Robotic Systems
Hematological Oncology Biopharmaceuticals

STOXX uses FactSet Research Systems granular analysis to determine a company's position within the subsectors of its FactSet Revere Business Industry Classification System (FactSet RBICS). FactSet Revere is a sector, supply chain, and geographic risk taxonomy expert.

The eligible countries are defined as follows:

23. iSTOXX FACTSET THEMATIC INDICES

Australia	Japan	Brazil	Peru
Austria	Netherlands	Chile	Philippines
Belgium	New Zealand	China (B, H shares, Red Chips)	Poland
Canada	Norway	Colombia	South Africa
Denmark	Portugal	Czech Republic	Taiwan
Finland	Singapore	Egypt	Thailand
France	Spain	Greece	Turkey
Germany	Sweden	Hungary	
Hong Kong	Switzerland	India	
Ireland	United Kingdom	Indonesia	
Israel	United States	Korea	
Italy		Malaysia	
		Mexico	

Review frequency: Each index is reviewed annually in June. The review cut-off date for the observation of the parent index, liquidity, size and revenues is the last index dissemination day in May. No further capping applies between reviews.

Weighting cap factors:

$$wf_{s_i} = \frac{1/N}{\frac{n_i}{p_{s_i}}} \cdot 10{,}000{,}000{,}000$$

rounded to the closest integer and where:

N = number of companies in the index
ni = number of share lines of company i in index
p_{s_i} = close price of share line si of company i on the Thursday preceding the second Friday of the review month
wf_{s_i} = weight factor of share line si of company i.

23.1.3. ONGOING MAINTENANCE

Replacements: Stocks deleted from the STOXX Global Total Market index are deleted from the STOXX Thematic indices. A deleted stock is not replaced.

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: Spin-off companies are not added permanently.

23. iSTOXX FACTSET THEMATIC INDICES

23.2. iSTOXX FACTSET AUTOMATION & ROBOTICS (TTM) JPY INDEX

23.2.1. OVERVIEW

The iSTOXX FactSet Automation & Robotics (TTM) (Telegraphic Transfer Middle rate) JPY index tracks the performance of the iSTOXX FactSet Automation & Robotics index (USD Version) converted to Japanese Yen utilizing the TTM JPY exchange rate.
The TTM JPY rate is published end of day Japan time, hence it's available in the morning CET time and it refers to the previous day. For this reason, the previous day's index value is used in the calculation.

The base index is iSTOXX FactSet Automation & Robotics index (USD version).

Index types and currencies: Price, Net Return, Gross Return in JPY TTM FOREX

Base values and dates: The following base values and dates apply: 1000 on June 21, 2011

23.2.2. CALCULATIONS

The index value is calculated as follows:

$$I_t = I_{t_0} \cdot \frac{U_{t-1}}{U_{t_0-1}} \cdot \frac{FX_t}{FX_{t_0}}$$

Where,

I_t	The index value at day *t*
FX_t	The Reuters TTM rate at day *t*, defined as "$\mathrm{USDTTM} = \mathrm{BTMJ}"(t)$
U_{t-1}	The index value of the underlying index on day t-1, as defined in the table below.
t_0	The index base date
I_{t_0}	The index base value
U_{t_0-1}	The underlying index value on the day before the base date, set to the value of 1000
FX_{t_0}	The Reuters TTM rate at base date, set to the value of 80.19

Longname	ISIN	Symbol
iSTOXX FactSet Automation & Robotics USD Gross Return	CH0325904370	IXAROBS
iSTOXX FactSet Automation & Robotics USD Net Return	CH0325904388	IXAROBU
iSTOXX FactSet Automation & Robotics USD Price	CH0325904396	IXAROBK

24. iSTOXX GLOBAL WOMEN LEADERSHIP SELECT 30 INDEX

24.1. iSTOXX GLOBAL WOMEN LEADERSHIP SELECT 30 INDEX

24.1.1. OVERVIEW

The iSTOXX Global Women Leadership Select 30 Index aims to select, among the STOXX Global 1800, 30 constituents that display a relatively high proportion of women at board level, in addition to high dividend and low volatility. The components are weighted according to the inverse of volatility.

Universe:
The index universe is defined by the STOXX Global 1800 Index

The universe is as observed on the review effective date, i.e. future composition.

Weighting scheme: The index components are weighted according to the inverse of their volatility.

Base values and dates: The following base values and dates apply: 100 on Mar 22, 2004

For a complete list please consult the data vendor code sheet on the website[19]. Customized solutions can be provided upon request.

Index types and currencies:
Price, net return and gross return in EUR and USD.

24.1.2. INDEX REVIEW

Selection list:
All stocks in the base universe are first screened for the following indicators:

i) Women Leadership score as determined by the proportion of women on the management board of the company
ii) 12-month historical dividend yield (DY)
iii) 3-month and 12-month historical volatility in EUR

All values above are observed as of the cut-off date.

If both 3-month and 12-month historical volatility of a stock has missing information, then the company is removed from the base universe. If the Women Leadership score or the DY of a stock has missing information, then zero is substituted for that indicator.

Composition list:
All eligible stocks are first sorted in descending order based on the Women Leadership score, and the top 50% (highest Women Leadership score) stocks are selected. In case two companies for a

[19] http://www.STOXX.com/download/indices/vendor_codes.xls

24. iSTOXX GLOBAL WOMEN LEADERSHIP SELECT 30 INDEX

given cut-off date have identical Women Leadership scores, priority goes to the stock with the highest dividend yield.

Next, stocks are sorted in ascending order in terms of volatility (maximum between the 3-month and 12-month historical volatility) and the top 300 (lowest volatility) stocks are selected for the next step of the selection process.

The final index composition is obtained by sorting the remaining stocks in descending order in terms of 12-month historical dividend yield and selecting the top 30 (highest dividend yield) stocks.

Review frequency:
The reviews are conducted on a quarterly basis in March, June, September and December. The review cut-off date for the underlying data is the last calculation day of February, May, August and November respectively.

Weighting cap factors:
All components in the final index composition are subject to a weighting factor based on the inverse of their historical volatility on a quarterly basis as follows:

$$w_i = \frac{\frac{1}{\sigma_i}}{\sum_{j=1}^{N} \frac{1}{\sigma_j}}$$

where:

w_i weight of component i
σ_i Maximum between the 3-month and 12-month historical volatility of component i

Weighting cap factor = (1,000,000,000 x initial weight / closing price of the stock in EUR) and rounded to the nearest integer value.

Components are capped at a maximum weight of 10%.

24.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-off stocks are not added permanently.

Corporate Actions:
All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

25. EURO iSTOXX BANKS CAP 5% INDEX

25.1. EURO iSTOXX BANKS CAP 5% INDEX

25.1.1. OVERVIEW

The EURO iSTOXX Banks Cap 5% index replicates the returns of a more strictly capped version of the EURO STOXX Banks index. Components are capped to a maximum of 5%.

Universe: EURO STOXX Banks.

Weighting scheme: The index is weighted according to free-float market capitalization with a capping at 5%.

Base values and dates: 100 on Jan 2, 2001

Index types and currencies: Price, net return, gross return in EUR and USD.

25.1.2. INDEX REVIEW

Composition list: The components of the parent index, EURO STOXX Banks, build up the composition list.

Review frequency: The index is reviewed quarterly in line with its parent index.

Weighting cap factors: Components are capped quarterly at a maximum weight of 5%. The weighting cap factors are published on the second Friday of the quarter, one week prior to quarterly review implementation, and calculated using Thursday's closing prices.

25.1.3. ONGOING MAINTENANCE

Replacements: All changes affecting the EURO STOXX Banks also apply for the EURO iSTOXX Banks Cap 5%.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs, mergers and takeovers: All changes affecting the EURO STOXX Banks also apply for EURO iSTOXX Banks Cap 5%.

26. iSTOXX BöRSEN-ZEITUNG GLOBAL 600

26.1. iSTOXX BöRSEN-ZEITUNG GLOBAL 600 INDEX

26.1.1. OVERVIEW

The iSTOXX Börsen-Zeitung Global 600 Index aims to select the 200 largest companies from the three regions North America, Asia Pacific and Europe. The largest 200 components from each region are aggregated, so that each region contributes an equal number of companies. The components are weighted according to free-float market capitalization.

Universe: The index universe is defined by the STOXX Global 1800 Index.

Weighting scheme: Free Float Market Cap weighted without capping.

Base values and dates: 100 on Sep 17, 2010

For a complete list please consult the data vendor code sheet on the website[20].

Index types and currencies: Price, net return and gross return in EUR.

26.1.2. INDEX REVIEW

The largest components of the three regions are derived from their respective STOXX <Region> Benchmark index. E.g. the STOXX Europe 600 serves as basis for the STOXX Europe Large 200 Index.

For the iSTOXX Börsen-Zeitung Global 600 Index the three "<Regional> Large 200" indices are aggregated (North America, Asia/Pacific, Europe).

Selection list: After the review of the STOXX regional Benchmark Index has been conducted according to chapters 7.1 and 7.2 in the STOXX Index Methodology Guide[21], all components are ranked by the free-float market capitalization to produce the review selection list for the "<Regional> Large 200" indices.

Composition list: **Large-Size indices (28 ⅓ % - 38 ⅓ % buffer rule)**
Target coverage: Largest ⅓ (33 ⅓%) of the companies from the relevant fixed component index:

1. The largest 28 ⅓% stocks on the selection list are selected.
2. The remaining 5% stocks are selected from the largest remaining current components of the ac-cording fixed component index, ranked between 28⅓% and 38⅓%.
3. If the number of stocks selected is still below 33⅓%, the largest remaining stocks are selected until there are sufficient stocks in the index.

[20]http://www.stoxx.com/download/indices/vendor_codes.xls
[21]https://www.stoxx.com/documents/stoxxnet/Documents/Indices/Common/Indexguide/stoxx_index_guide.pdf

26. iSTOXX BöRSEN-ZEITUNG GLOBAL 600

Size /Buffer	STOXX Europe Large 200	STOXX North America Large 200	STOXX Asia/Pacific Large 200
Target coverage per Size Index	200	200	200
Large (upper buffer)	170	170	170
Large (lower buffer)	230	230	230

Review frequency: The indices are reviewed on a quarterly basis together with the fixed component benchmark indices.

Weighting cap factors: No capping applicable.

26.1.3. ONGOING MAINTENANCE

Replacements: To maintain the number of components, a deleted stock is replaced with the highest-ranked non-component on the selection list. The selection list is updated on a monthly basis according to the review component selection process.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: All changes affecting the parent index also apply for the size indices.

Corporate Actions: All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

27. iSTOXX INFRASTRUCTURE TRUE EXPOSURE USA 75% DW INDEX

27.1. ISTOXX INFRASTRUCTURE TRUE EXPOSURE USA 75% DW INDEX

27.1.1. OVERVIEW

The iSTOXX Infrastructure True Exposure USA 75% DW Index aims at selecting liquid US stocks with high revenue exposure in the USA, from a pool of infrastructure stocks defined as a blend of three STOXX infrastructure indices: the STOXX Global Broad Infrastructure, the STOXX Global Extended Infrastructure 100 and the STOXX Global Infrastructure Suppliers 50 indices. The components are weighted according to their 12-month historical dividend yield.

Universe: The index universe is defined by the US stocks from the three following indices: STOXX Global Broad Infrastructure, the STOXX Global Extended Infrastructure 100 and the STOXX Global Infrastructure Suppliers 50 indices.

Weighting scheme: The indices are price-weighted with a weighting factor based on the historical 12-month dividend yield.

Base values and dates: 100 on Sep 24, 2007

For a complete list please consult the data vendor code sheet on the website[22]. Customized solutions can be provided upon request.

Index types and currencies: Price, net and gross return in EUR and USD.

27.1.2. INDEX REVIEW

Selection list:
The review cut-off date is the last trading day of the month preceding the review month of the index.

The stocks in the universe that fulfil the following conditions constitute the Selection List:

1. Availability of:
    a. 12-month historical dividend yield
    b. 3-month ADTV in USD
    c. True revenue exposure information
2. 3-month ADTV above USD 10 million
3. True revenue exposure to the USA above 75% for the corresponding year[23]
4. Strictly positive 12-month historical gross dividend yield
5. Suspension from trading not exceeding 10% of the STOXX calendar trading days:

[22] http://www.STOXX.com/download/indices/vendor_codes.xls
[23] For additional information, please refer to the STOXX True Exposure indices section: https://www.stoxx.com/document/Indices/Common/Indexguide/stoxx_index_guide.pdf

27. iSTOXX INFRASTRUCTURE TRUE EXPOSURE USA 75% DW INDEX

$$\text{Min Number of Price Observations}_{\text{Period}} = \text{Number of Trading Days}_{\text{Period}} \times 0.9$$

The remaining stocks compose the Eligible Universe.

Composition list: All stocks in the Eligible Universe are selected for inclusion in the index.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December.

Weighting cap factors: The weighting factors are calculated based on their 12-month trailing gross dividend yield.
The weights are based on the closing prices of the Thursday prior to the second Friday of the review month:

$$w_i = \frac{dy_i}{\sum_{j=1}^{N} dy_j}$$

w_i target weight of component (i)
N number of constituents
dy_i trailing 12-month gross dividend yield of component (i) as of review cut-off date.

Weighting cap factor = (1,000,000,000 x target weight / closing price of the stock in EUR), rounded to integers

Additionally, components are capped at a maximum weight of 10%.

27.1.3. ONGOING MAINTENANCE

Replacements: To maintain the number of components, a deleted stock is replaced with the highest-ranked non-component on the selection list. The selection list is updated on a monthly basis according to the review component selection process.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: All changes affecting the parent index also apply for the size indices.

Corporate Actions: All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

28. iSTOXX DIVERSITY IMPACT SELECT INDICES

28.1. ISTOXX DIVERSITY IMPACT SELECT INDICES

28.1.1. OVERVIEW

The iSTOXX Diversity Impact Select 30 Indices focus on a pool of leading companies in terms of Worforce Diversity and Discrimination Policies and select 30 stocks out of them with low volatility, high dividend yield and high liquidity.

Index name	Symbol	Bloomberg ticker	Reuters RIC
iSTOXX Europe Diversity Impact Select 30 EUR (Price)	SXEDISP	SXEDISP Index	.SXEDISP
iSTOXX Europe Diversity Impact Select 30 EUR (Net Return)	SXEDISR		.SXEDISR
iSTOXX Europe Diversity Impact Select 30 EUR (Gross Return)	SXEDISGR		.SXEDISGR
iSTOXX Europe Diversity Impact Select 30 USD (Price)	SXEDISL	SXEDISL Index	.SXEDISL
iSTOXX Europe Diversity Impact Select 30 USD (Net Return)	SXEDISV		.SXEDISV
iSTOXX Europe Diversity Impact Select 30 USD (Gross Return)	SXEDISGV		.SXEDISGV
iSTOXX Global Diversity Impact Select 30 EUR (Price)	SXGDISP	SXGDISP Index	.SXGDISP
iSTOXX Global Diversity Impact Select 30 EUR (Net Return)	SXGDISR		.SXGDISR
iSTOXX Global Diversity Impact Select 30 EUR (Gross Return)	SXGDISGR		.SXGDISGR
iSTOXX Global Diversity Impact Select 30 USD (Price)	SXGDISL	SXGDISL Index	.SXGDISL
iSTOXX Global Diversity Impact Select 30 USD (Net Return)	SXGDISV		.SXGDISV
iSTOXX Global Diversity Impact Select 30 USD (Gross Return)	SXGDISGV		.SXGDISGV

Universe: The index universe is defined by all the stocks included in the STOXX Global 1800 Index for the Global version, STOXX Europe 600 for the Europe version.

Weighting scheme: The indices are price-weighted with a weighting factor based on the inverse of the historical volatility (maximum between 3-month and 12-month historical volatility in EUR) of the constituents.

Base values and dates: 100 on Sep 21, 2009

Index types and currencies: Price, Net and Gross return in EUR and USD

Dissemination calendar: STOXX Europe calendar

For a complete list please consult the data vendor code sheet on the website[24]. Customized solutions can be provided upon request.

28.1.2. INDEX REVIEW

Selection list:

[24] http://www.STOXX.com/download/indices/vendor_codes.xls

28. iSTOXX DIVERSITY IMPACT SELECT INDICES

The review cut-off date is the last trading day of the month preceding the review month of the index, and upon this date all stocks in the base universe are screened for the following indicators:

i) "Diversity Impact" score, calculated as the average of the "Discrimination" and "Diversity" scores for each company. These 2 scores come from a transparent ESG performance rating model provided by Sustainalytics. In specific, those two Social indicators range from 0 to 100 for each company and are defined as follows:
   a. S.1.2 Discrimination Policy: an assessment of the quality of the company's policy to eliminate discrimination and ensure equal opportunity
   b. S.1.3 Diversity Programmes: an assessment of the strength of the company's initiatives to increase the diversity of its workforce.

ii) 12-month historical dividend yield

iii) 3-month and 12-month historical volatility in EUR

iv) 3-month Average Daily Traded Volume (ADTV) in EUR

If any of the fields ii) to iv) above have missing information for a stock, then that company is removed from the base universe. If the Discrimination (i.a) or the Diversity (i.b) indicators for a company have missing information, then a score of zero (0) is assigned to them instead.

Finally, the Selection list constitutes of all the stocks in the base universe that fulfill the conditions above, have a 3-month ADTV equal to or exceeding 5 million EUR, and additionally, have not been suspended from trading for more than 10% of the total trading days in the STOXX calendar in the previous 12 months:

$$\text{Min Number of Price Observations}_{\text{Period}} = \text{Number of Trading Days}_{\text{Period}} \times 0.9$$

Composition list:
All eligible stocks are first sorted in descending order based on the Diversity Impact score, and the top 50% (highest score) stocks are selected. In case two companies for a given cut-off date have the same score, priority is given to the one with the highest dividend yield. In the case where two companies are tied in both Diversity Impact score and dividend yield (e.g. no dividend has been paid in the last 12 months by any of the companies, and both display a Diversity Impact score of 50), priority is given to the one with the lowest volatility (maximum between the 3-month and 12-month historical volatility in EUR).

Consequently, stocks are sorted in ascending order in terms of volatility (as defined above). For the Global version, the top 300 (lowest volatility stocks) are selected for the next step of the selection process, while for the Europe version, the top 100 stocks are selected instead.

Finally, the stocks are ranked in descending order in terms of 12-month historical dividend yield and the top 30 (highest dividend yield) stocks are selected in the index.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December. The review cut-off date for the underlying data is the last calculation day of February, May, August and November respectively.

Weighting and capping factors: Target weights are calculated based on the inverse of the historical volatility of the selected components (using the same volatility as in the Selection process):

28. iSTOXX DIVERSITY IMPACT SELECT INDICES

$$w_i = \frac{\frac{1}{\sigma_i}}{\sum_{j=1}^{N} \frac{1}{\sigma_j}}$$

where:

w_i target weight of component *i*
σ_i Maximum between the 3-month and 12-month historical volatility of component *i*, as of review cut-off date, based on prices in EUR
N Number of constituents in the index

Weighting factors are based on the closing prices in EUR (p_i) of the Thursday prior to the second Friday of the review month:

Weighting factor = (1,000,000,000 x w_i / p_i), rounded to the nearest integer value.

Additionally, components are capped at a maximum weight of 10%.

Derived Indices: The iSTOXX Europe Diversity Impact Select 30 Net Return Index serves as input for the iSTOXX Europe Diversity Impact Select 30 NR Decrement 5% Index, while the iSTOXX Global Diversity Impact Select 30 Net Return Index serves as input for the iSTOXX Global Diversity Impact Select 30 NR Decrement 5% Index (section 11.1)

28.1.3. ONGOING MAINTENANCE

Replacements: A deleted company will not be replaced.

Fast exit: In case a company which is an index constituent increases in its ESG-risk level to level 5 the respective constituent will be deleted from the index. The deletion will take place two trading days after the announcement. The constituent's weight will be distributed among the remaining constituents. This is in line with the STOXX ESG Indices.

Fast entry: Not applicable.

Spin-offs: Spin-offs are not added permanently

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

29. iSTOXX EUROPE ORIGIN 100 EQUAL WEIGHT INDICES

29.1. ISTOXX EUROPE ORIGIN 100 EQUAL WEIGHT INDICES

29.1.1. OVERVIEW

The iSTOXX Europe Origin 100 Equal Weight index selects the biggest companies of France and Germany by free-float market cap from the Stoxx Europe 600 benchmark and assigns them an equal weight. The component selection and rebalance is conducted on a quarterly basis in March, June, September and December.

Universe: The index universe is defined by STOXX Europe 600 index.

Weighting scheme: The index is price-weighted with weighting factors to achieve equal-weight.

Base values and dates: 100 on Sep 24, 2007

For a complete list please consult the data vendor code sheet on the website[25]. Customized solutions can be provided upon request.

Index types and currencies: Price, net and gross return in EUR and USD.

29.1.2. INDEX REVIEW

Selection list:
From the universe only the stocks from France and Germany are selected.

Composition list: All stocks in the selection list are ranked by their free-float market cap. Then the union of the 60 best ranked stocks in France and the 40 best ranked stocks in Germany are selected to be part of the index.
Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December in line with the parent index. The review cut-off date for the underlying data is the last trading day of the month preceding the review month. The new composition of the Stoxx Europe 600 effective on Monday following the third Friday of the month (March, June, September, December) is used as base universe.

Weighting cap factors: All components are equal-weighted on a quarterly basis. The weightings are published on the second Friday of each quarter, one week prior to quarterly review implementation using Thursday's closing prices. Weighting cap factor = (1,000,000,000 * weight in percentage / closing price of the stock in EUR) and rounded to integers.

29.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced. Stocks deleted from the parent index, which remain in the STOXX Total Market Index are not deleted from the index.
Fast exit: Not applicable.
Fast entry: Not applicable.

[25] http://www.STOXX.com/download/indices/vendor_codes.xls

29. iSTOXX EUROPE ORIGIN 100 EQUAL WEIGHT INDICES

Spin-offs: Spun-off companies are not added permanently to the index.
Mergers and takeovers: Standard STOXX process.
Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

30. iSTOXX WORLD TOP 200 INDICES

30.1. ISTOXX WORLD EQUAL WEIGHT REGIONAL SUB-INDICES

30.1.1. OVERVIEW

The constituents for the iSTOXX Regional Equal Weight indices are selected from the corresponding STOXX Total Market Index. The largest companies in terms of free-float market capitalization are selected in order to achieve the targeted fixed number of components. The constituents of the indices are equal weighted.

Universe: The universe is defined by the Total Market indices of the specific region or country.

Weighting scheme: Price-weighted indices with weighting factor to achieve equal weighting

Base values and dates: 100 on Mar 19, 2007. For the following 6 indices[26]:

Index	Currency	Base Date	Price	Net Return	Gross Return
iSTOXX Switzerland 10 Equal Weight	CHF	Mar 19, 2007	99.81	100.22	100.03
iSTOXX China H 20 Equal Weight	HKD	Mar 19, 2007	100.02	100.01	100.02

For a complete list please consult the data vendor code sheet on the website[27]. Customized solutions can be provided upon request.

Index types and currencies: Price, Net return and Gross return in EUR, USD and Native currency

Dissemination calendar: STOXX Europe calendar for EURO iSTOXX 65 Equal Weight, iSTOXX UK 25 Equal Weight and iSTOXX Switzerland 10 Equal Weight indices; STOXX Americas for iSTOXX USA 60 Equal Weight index; STOXX Asia for iSTOXX Japan 20 Equal Weight and iSTOXX China H 20 Equal Weight Indices

[26] The base value of these indices has been restated following a change in their history that occurred in Jan, 2018

[27] http://www.STOXX.com/download/indices/vendor_codes.xls

30. iSTOXX WORLD TOP 200 INDICES

30.1.2. INDEX REVIEW

Composition list: The largest companies in terms of Free-Float Market capitalization in their respective Total Market index.

Region	Index name	Universe	Targeted number of components	Native Currency
Eurozone	EURO iSTOXX 65 Equal Weight	EURO STOXX Total Market	65	EUR
UK	iSTOXX UK 25 Equal Weight	STOXX UK Total Market	25	GBP
Switzerland	iSTOXX Switzerland 10 Equal Weight	STOXX Switzerland Total Market	10	CHF
USA	iSTOXX USA 60 Equal Weight	STOXX USA Total Market	60	USD
Japan	iSTOXX Japan 20 Equal Weight	STOXX Japan Total Market	20	JPY
China H-Shares	iSTOXX China H 20 Equal Weight	STOXX China H Total Market	20	HKD

Weighting cap factors: The constituents of the indices are equal weighted. The component selection list and weightings of the constituents (w_i) will be produced on a quarterly basis.

Weighting factors are based on the closing prices in EUR (p_i) of the Thursday prior to the second Friday of the review month:

Weighting factor = (100,000,000,000 x w_i / p_i), rounded to the nearest integer value.

Review frequency: The indices are reviewed quarterly, on the 3rd Friday of March, June, September and December. The review cut-off date for the underlying data is the last trading day of the month preceding the review.

Derived Indices: The six regional indices serve as inputs for the iSTOXX World Top 200 Equal Weight Index (section 30.2)

30.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spun-off companies are not added permanently to the indices.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

30. iSTOXX WORLD TOP 200 INDICES

30.2. ISTOXX WORLD TOP 200 EQUAL WEIGHT INDEX

30.2.1. INDEX CONCEPT

The iSTOXX World Top 200 Equal Weight Index allocates weights to six iSTOXX Regional Equal Weight indices that are covering separate regions across the globe, such that all their underlying components are equally weighted.

Rebalancing: The index is rebalanced on a quarterly basis, after the closing of the 3rd Friday of March, June, September and December.

Index types and currencies: Price, Net Return and Gross Return, in EUR and USD

Dissemination calendar: Intersection of the following dissemination calendars: STOXX Europe Regional calendar, STOXX Japan Country calendar, STOXX US Country calendar, STOXX Hong Kong Country calendar, STOXX Switzerland Country calendar and STOXX UK Country calendar.

Base values and dates: 100 as of Mar 19, 2007

30.2.2. CALCULATIONS

The index values are calculated as following:

$$IV_t = IV_{reb} \times \sum_{i=1}^{6} w_{reb,i} \times \frac{U_{t,i}}{U_{reb,i}}$$

With

$w_{reb,i}$	Target weight of sub-index i at rebalancing date
$U_{reb,i}$	Close value of sub-index i at rebalancing date
$U_{t,i}$	Value of sub-index i today at time t
IV_t	Index value today at time t
IV_{reb}	Index close value at rebalancing date
Reb	Rebalancing date

On each rebalancing date, specific weights are allocated to each underlying index according to the scheme displayed below, such that an equal weight is allocated to the 200 underlying components:

i	Sub-Index name	Dissemination Calendar	Weight ($w_{reb,i}$)
1	EURO iSTOXX 65 Equal Weight Index	STOXX Europe	32.5%
2	iSTOXX UK 25 Equal Weight Index	STOXX Europe	12.5%
3	iSTOXX Switzerland 10 Equal Weight Index	STOXX Europe	5%
4	iSTOXX USA 60 Equal Weight Index	STOXX Americas	30%
5	iSTOXX Japan 20 Equal Weight Index	STOXX Asia	10%
6	iSTOXX China H 20 Equal Weight Index	STOXX Asia	10%

Derived Indices: The iSTOXX World Top 200 Equal Weight Index serves as input for the iSTOXX World Top 200 Equal Weight Decrement 50 Index (section 11.10)

31. EURO iSTOXX 80 EQUAL WEIGHT INDEX AND EURO iSTOXX 100 EQUAL WEIGHT INDEX

31.1. EURO iSTOXX 80 EQUAL WEIGHT INDEX AND EURO iSTOXX 100 EQUAL WEIGHT INDEX

31.1.1. OVERVIEW

The constituents for the EURO iSTOXX 80 Equal Weight and EURO iSTOXX 100 Equal Weight indices are selected from the EURO STOXX universe. The 80, and 100, largest constituents in terms of free-float market capitalization are selected respectively. The constituents of the indices are equal weighted.

Universe: All securities from the EURO STOXX index.

Weighting scheme: Equal Weighted

Base value and date: 100 on Dec 19, 2005

Index types and currencies: Price, net and gross return in EUR and USD.

31.1.2. INDEX REVIEW

Selection list: All securities from the EURO STOXX index with a 3m ADTV of EUR 10.000.000 or more.

Composition list: The 80, and 100, largest constituents in terms of free-float market capitalization are selected respectively. The constituents of the indices are equal weighted. The component selection list will be produced on a quarterly basis.

Weighting cap factors: No capping is applied.

Review frequency: The components are reviewed quarterly. The review cut-off date for the underlying data is the last trading day of the month preceding the review.

31.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: A spin-off is added temporarily for one trading day and is then removed from the index.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com.

32. iSTOXX AMERICAN CENTURY INDICES

32.1. iSTOXX AMERICAN CENTURY USA QUALITY VALUE INDEX

The objective of the iSTOXX American Century USA Quality Value Index is to invest in high quality companies in the STOXX USA 900 Index that have sound fundamentals and attractive valuation and in companies with sustainable income that are high dividend payers respectively. The index is constructed by first building the value strategy, iSTOXX A.C.I. USA Value, and the income strategy, iSTOXX A.C.I. USA Income, and then dynamically allocating between them.

32.1.1. iSTOXX A.C.I. USA VALUE

32.1.1.1. OVERVIEW

The objective of the iSTOXX A.C.I. USA Value Index is to invest in high quality companies in the STOXX USA 900 Index that have sound fundamentals and attractive valuation.

Universe: The index universe is defined by the parent index, the STOXX USA 900.

Weighting scheme: The final index weights are price-weighted based on the result of an optimisation process.

Base values and dates: 100 on Feb 21, 2005

Index types and currencies: Price, net and gross return in USD.

Dissemination calendar: STOXX US calendar.

For a complete list please consult the data vendor code sheet on the website[28]. Customized solutions can be provided upon request.

32.1.1.2. INDEX REVIEW

Selection List:
Companies are selected from the STOXX USA 900. Initially, quality metrics are used to identify companies which do not meet certain criteria in terms of fundamentals. Fundamental data is used to calculate the raw quality components (e.g. FCF/Assets). The raw quality components are then aggregated to arrive at the Quality Factor Scores respectively (i.e. Profitability, Earnings Quality, Management Quality, Earnings Revision and Leverage). The Value Quality Score is calculated from the Quality Factor Scores.

The raw quality components which contribute to a quality factor are first discretized in 25 equal sized buckets based on their universe ranking. Discrete scores range from -12 to 12.

[28] http://www.STOXX.com/download/indices/vendor_codes.xls

32. iSTOXX AMERICAN CENTURY INDICES

The discrete scores for the raw quality components are then aggregated[29] to calculate the Quality Factor Score (e.g. Profitability Score, Earnings Quality Score etc.) and the Quality Factor Scores are then averaged to arrive at a final Value Quality Score.

- Profitability
  - Free Cash Flow/Assets
  - Return On Assets
  - Return On Equity
  - Gross Profitability (Gross Profit / Assets)
  - Gross Margin
  - Asset Turnover
- Earnings Quality
  - Balance sheet accruals
  - Cash-Flow accruals
  - Variability in Sales
  - Variability in Operating Income
  - Variability in Earnings
  - Variability in Cash-Flows
  - Variability in Analyst EPS FY1 Estimates to Price
  - Variability in Analyst Sales FY1 Estimates to Price
- Management Quality
  - Asset Growth
  - Issuance Growth
  - Capital Expenditure Growth
  - Capital Expenditure
- Earnings Revision
  - 3-month lookback FY1 earnings revision factor
  - 3-month lookback FY2 earnings revision factor
  - 3-month price momentum
- Leverage
  - Net Debt/EBITDA
  - Market Leverage
  - Book Leverage
  - Debt to Asset Ratio

Composition list:
The selection of stocks and the calculation of the weights are determined from an optimisation approach based on the calculated Value Score of the stocks.

The Value Score is calculated from the 3 Value Factors below:

- Pure/Deep value (B/P and Fwd S/P)

[29] The weightings are available on request based on license agreement

32. iSTOXX AMERICAN CENTURY INDICES

  - B/P
  - Fwd S/P (left out for Financials)
- Earnings Yield (Fwd E/P and Fwd EBITDA/EV)
  - Fwd E/P
  - Fwd EBITDA/EV (left out for Financials)
- CF Yield (OCF/P and FCF/P)
  - OCF/P
  - FCF/P

All raw valuation components (i.e. B/P, Fwd S/P, Fwd E/P, Fwd EBITDA/EV, OCF/P and FCF/P) are discretized in 25 equal sized buckets based on their ICB supersector classification. Discrete scores range from -12 to 12. Scores are then averaged to arrive at a final Value Score.

Any companies that meet the following conditions are then excluded from the Value universe before the optimization process:

- Value Quality Score is in the bottom 20% of the universe
- Value Quality Score is in the bottom 20% of its ICB supersector

The Value Scores of the remaining companies are converted into a market capitalization weighted cross-sectional z-scores by subtracting the market capitalization weighted mean of the Value Scores from the non-weighted Value Score and dividing by the market capitalization weighted standard deviation of the Value Scores.

The Value optimization portfolio is derived based on the Axioma optimization model. The objective function is to maximize the alpha where alpha is the value score converted to expected returns (SpecificRisk * IC * Value Z-Score; IC = .05) based on Grinold (1994)[30]. The information coefficient, IC, is a measure of the correlation between the Value Z-Score and realized returns.

The portfolio is limited to having between 200-300 components. Its active exposure to any ICB supersector can be at most 150 bps more than the weight of the ICB supersector in the STOXX USA 900 index. The optimizer is penalized for tilting the portfolio towards smaller cap stocks or stocks with poor earnings quality and targets a beta of 1.

In addition, the portfolio is also subject to security level constraints. The universe of stocks is classified into nine tiers according to volatility and market cap where stocks with low volatility and large market capitalization are grouped in the top tier. The maximum position in any stock in the top tier is 250 bps and this upper limit is reduced in step by 25bps in the next tier until the bottom tier would have an upper limit of 50bps. The minimum position in any stock is 25 bps. The one-way turnover limit is 20% per rebalance.

[30] Grinold, Richard C. (1994) “Alpha is Volatility Times IC Times Score, or Real Alphas Don’t Get Eaten.” Journal of Portfolio Management, vol. 20, no. 4 (Summer) 9-16

32. iSTOXX AMERICAN CENTURY INDICES

Review frequency: The reviews are conducted on a quarterly basis on the last dissemination day in February, May, August and November. The data cut-off date is eight dissemination days before the review date.

Weighting cap factors: (1,000,000,000 x w_i / closing price$_i$), rounded to integers. The weight cap factors are calculated on the basis of the stocks' closing prices in USD from four dissemination days before the review date.

32.1.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-offs stocks are not added permanently

Mergers and takeovers: Standard STOXX process

Corporate Actions: All index components are adjusted for corporate actions. Any event is treated in the same way in all indices. Please consult to the STOXX Calculation guide for the detailed treatments.

32.1.2. iSTOXX A.C.I. USA INCOME

32.1.2.1. OVERVIEW

The objective of the iSTOXX A.C.I. USA Income Index is to invest in high quality companies in the STOXX USA 900 Index with sustainable income that are high dividend payers.

Universe: The index universe is defined by the parent index, the STOXX USA 900.

Weighting scheme: The final index weights are price-weighted based on the result of an optimisation process.

Base values and dates: 100 on Feb 21, 2005

Index types and currencies: Price, net and gross return in USD.

Dissemination calendar: STOXX Americas Calendar.

For a complete list please consult the data vendor code sheet on the website[31]. Customized solutions can be provided upon request.

[31] http://www.STOXX.com/download/indices/vendor_codes.xls

32. iSTOXX AMERICAN CENTURY INDICES

32.1.2.2. **INDEX REVIEW**

Selection List:
Companies are selected from the STOXX USA 900. Initially, quality metrics are used to identify companies which do not meet certain criteria in terms of fundamentals. Fundamental data is used to calculate the raw quality components (e.g. FCF/Assets). The raw quality components are then aggregated to arrive at the Quality Factor Scores respectively (i.e. Profitability, Earnings Quality, Management Quality, Earnings Revision and Leverage). The Income Quality Score is calculated from the Quality Factor Scores.

The raw quality components which contribute to a quality factor are first discretized in 25 equal sized buckets based on their universe ranking. Discrete scores range from -12 to 12.

The discrete scores for the raw quality components are then aggregated[32] to calculate the Quality Factor Score (e.g. Profitability Score, Earnings Quality Score etc) and the Quality Factor Scores are then averaged to arrive at a final Income Quality Score.

- Profitability
  - Free Cash Flow/Assets
  - Return On Assets
  - Return On Equity
  - Gross Profitability (Gross Profit / Assets)
  - Gross Margin
  - Asset Turnover
- Earnings Quality
  - Balance sheet accruals
  - Cash-Flow accruals
  - Variability in Sales
  - Variability in Operating Income
  - Variability in Earnings
  - Variability in Cash-Flows
  - Variability in Analyst EPS FY1 Estimates to Price
  - Variability in Analyst Sales FY1 Estimates to Price
- Management Quality
  - Asset Growth
  - Issuance Growth
  - Capital Expenditure Growth
  - Capital Expenditure
- Earnings Revision
  - 3-month lookback FY1 earnings revision factor
  - 3-month lookback FY2 earnings revision factor
  - 3-month price momentum

[32] The weightings are available on request based on license agreement

32. iSTOXX AMERICAN CENTURY INDICES

Composition list:

The selection of stocks and the calculation of the weights of the iSTOXX A.C.I. USA Income Index are determined from an optimisation approach based on the calculated Income Score of the stocks.

The Income Score is calculated from the dividend yield:

> Dividend yield = Most recently reported quarterly Dividend Per Share (annualised) / current price

In addition, the following are calculated to use in filtering the universe before the Income optimization.

- Dividend Growth
  - YoY percent change of most recently reported DPS
- Volatility
  - 6-month volatility of daily price returns
- Dividend Payout (only positive values considered)
  - Category: Banks and Utilities
    - Annualized DPS / LTM EPS
  - Category: REITs
    - Annualized DPS / LTM AFFO per share
  - Category: All others
    - Annualized DPS / LTM Free Cash Flow per share
- Income Leverage
  - Category: Banks
    - Tangible Common Equity / Tangible Assets
  - Category: All others
    - Net Debt / EBITDA

A company is also removed from the universe before Income optimization if any of the following conditions are met:

- Dividend Yield is in the top 3% of the dividend-paying universe
- Dividend Payout is in the top 5% within its dividend-paying category
- Dividend Growth is negative
- Volatility is in the top 20% of the universe
- Income Leverage is in the top 20% of its ICB supersector (excluding banks)
- Income Leverage is in the bottom 20% of its ICB supersector (banks only)
- Income Quality Score is in the bottom 20% of the universe
- Income Quality Score is in the bottom 20% of its ICB supersector

The selection of stocks and the determining of the weights are determined from an optimisation approach based on the Income Z-Score of the stocks. The Income Score is converted into a

32. iSTOXX AMERICAN CENTURY INDICES

standard cross-sectional z-score by subtracting the mean of the Income Scores from the Income Score and dividing by the standard deviation of the Income Scores after the above selection criteria for the remaining companies.

The Value optimization portfolio is derived based on the Axioma optimization model. The objective function is to maximize the alpha where alpha is the income score converted to expected returns (SpecificRisk * IC * Income Z-Score; IC = .05) based on Grinold (1994)[33]. The information coefficient, IC, is a measure of the correlation between the Income Z-Score and realized returns.

The portfolio is limited to having between 75-100 components. The portfolio exposure to any ICB industry (with the exception of financials which is further decomposed into Real Estate supersector and non-Real Estate supersectors) is no greater than 20%, or no more than 15% higher than the weight of the industry in the STOXX USA 900 index. The optimizer targets a beta of 0.8.

In addition, the portfolio is also subject to security level constraints. The universe of stocks is classified into six tiers according to volatility and market cap where stocks with low volatility and large market capitalization are grouped together. The maximum position in any stock in the top tier is 300 bps and this upper limit is reduced in step by 50bps in the next tier until the bottom tier would have an upper limit of 50bps. The minimum position in any stock is 25bps. The one-way turnover limit is 20% per rebalance.

Review frequency: The reviews are conducted on a quarterly basis on the last dissemination day in February, May, August and November. The data cut-off date is eight dissemination days before the review date.

Weighting cap factors: (1,000,000,000 x w_i / closing price$_i$), rounded to integers. The weight cap factors are calculated on the basis of the stocks' closing prices in USD from four dissemination days before the review date.

32.1.2.1. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-offs stocks are not added permanently

Mergers and takeovers: Standard STOXX process

Corporate Actions: All index components are adjusted for corporate actions. Any event is treated in the same way in all indices. Please consult to the STOXX Calculation guide for the detailed treatments.

[33] Grinold, Richard C. (1994) "Alpha is Volatility Times IC Times Score, or Real Alphas Don't Get Eaten." Journal of Portfolio Management, vol. 20, no. 4 (Summer) 9-16

32. iSTOXX AMERICAN CENTURY INDICES

32.1.3. iSTOXX AMERICAN CENTURY USA QUALITY VALUE

32.1.3.1. OVERVIEW

The iSTOXX American Century USA Quality Value Index represents a dynamic allocation to the above high quality value strategy and sustainable income strategy. The weightings of the strategies within the index are governed by a volatility adjusted trend signal. The allocation to the value strategy can range from a minimum of 35% to a maximum of 80%. The portfolio is rebalanced monthly. At each rebalance, depending on the signal, the allocation to value and income may change in steps of 15%.

Universe: The index universe is defined by the iSTOXX A.C.I. USA Value Index and the iSTOXX A.C.I. USA Income Index.

Weighting scheme: The index is weighted according to a dynamic allocation between the two universes with relative weighting in each universe left unchanged.

Base values and dates: 100 on May 31, 2005

Dissemination calendar: STOXX Americas Calendar

Index types and currencies: Price, net return, gross return in USD

32.1.3.2. INDEX REVIEW

Calculation of target allocation

1) Calculate 20-, 40-, and 60-day Sharpe ratios for both the Value and Income index using gross returns:

$$SR^{x}_{cutoff} = \frac{\overline{R_U} \cdot 260}{\sqrt{\frac{1}{x-1}\sum_{t=cutoff-x+1}^{cutoff}\left(\frac{U_t}{U_{t-1}} - 1 - \overline{R_U}\right)^2 \cdot 260}}$$

$$\overline{R_U} = \frac{1}{x}\sum_{t=cutoff-x+1}^{cutoff}\left(\frac{U_t}{U_{t-1}} - 1\right)$$

where

x = number of daily returns (20, 40, 60)

U_t = index value on day t

$cutoff$ = data cut-off date (four dissemination days before review date)

2) Calculate the average Sharpe ratio for both the Value and Income index.
3) If the average Sharpe ratio for the Value index is greater than the average Sharpe ratio of the Income index add 15 percentage points to the previous month's Value target

32. iSTOXX AMERICAN CENTURY INDICES

allocation, otherwise subtract. The minimum and maximum allocations for the Value Index are 35% and 80% respectively (Income target allocation = 100% - Value target allocation).

Composition list: All stocks in the universe build up the index composition. The component weights are calculated by aggregating the respective Value index and Income index weight using the target allocation weight.

$$w_i = ta_V \cdot w_{i,V} + ta_I \cdot w_{i,I}$$

where

ta_V = Value target allocation
ta_I = Income target allocation
$w_{i,V}$ = weight of stock *i* in the Value index (0% if not in the index) as of the data cut-off date
$w_{i,I}$ = weight of stock *i* in the Income index (0% if not in the index) as of the data cut-off date

In review months of the universe indices (February, May, August, November) the Value and Income weights to be implemented are used.

Review frequency: The reviews are conducted on a monthly basis on the last dissemination day of the month. The review cut-off date for the underlying data is four dissemination days before the review date.

Weighting cap factors: $1{,}000{,}000{,}000 \cdot w_i / closing\ price_i$, rounded to integers. The weighting cap factors are calculated on the basis of the stocks' closing prices from the data cut-off date.

32.1.3.1. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-off stocks are not added permanently.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All index components are adjusted for corporate actions. Any event is treated in the same way in all indices. Please consult the STOXX Calculation guide for detailed treatment.

32. iSTOXX AMERICAN CENTURY INDICES

32.2. iSTOXX AMERICAN CENTURY USA QUALITY GROWTH INDEX

The objective of the iSTOXX American Century USA Quality Growth index is to invest in high growth companies as well as in companies with sustainable growth prospects with attractive valuations.

The index is a blend of the iSTOXX A.C.I. USA Pure Growth Index and the iSTOXX A.C.I. USA Stable Growth Index.

32.2.1. iSTOXX A.C.I. PURE GROWTH INDEX & iSTOXX A.C.I. STABLE GROWTH INDEX

32.2.1.1. OVERVIEW

Universe: The index universes are defined by the parent index, the STOXX USA 900.

Weighting scheme: The indices are price-weighted based on the result of an optimisation process.

Base values and dates: 100 on February 28, 2005

For a complete list please consult the data vendor code sheet on the website[34].

Index types and currencies: Price, net return, gross return in USD.

Dissemination calendar: STOXX Americas calendar.

32.2.1.2. INDEX REVIEW

Selection list: Companies are selected from the STOXX USA 900. Initially, quality metrics are used to identify companies which do not meet certain criteria in terms of fundamentals. The fundamental data used is shown below and used to calculate the raw quality metrics (e.g. FCF/Assets).

The raw quality metrics which contribute to a quality factor are transformed to scores between 0 and 100 (the less companies in the group the further the minimum and maximum from the boundaries) before aggregation:

$$score = 100 - rank(metric) \cdot \frac{100}{count(metric)} + \frac{100}{2 \cdot count(metric)}$$

Depending on if the factor goes long a company when the component value is high (low), the discrete score will be high when the value is high (low). If a metric is not available, the default value is the bottom score.

[34] http://www.STOXX.com/download/indices/vendor_codes.xls

32. iSTOXX AMERICAN CENTURY INDICES

The scores for the raw quality metrics are aggregated using the weights in brackets to calculate the Quality Factor Scores (e.g. Profitability Score, Earnings Quality Score, etc.) and the Quality Factor Scores are finally aggregated using the weights in brackets below to arrive at the final Quality Score.

- Profitability
  - Free Cash Flow/Assets
  - Return On Assets
  - Return On Equity
  - Gross Profitability (Gross Profit / Assets)
  - Gross Margin
  - Asset Turnover
- Earnings Quality
  - Balance sheet accruals
  - Cash-Flow accruals
  - Variability in Sales
  - Variability in Operating Income
  - Variability in Earnings
  - Variability in Cash-Flows
  - Variability in Analyst EPS FY1 Estimates to Price
  - Variability in Analyst Sales FY1 Estimates to Price
- Earnings Momentum
  - 1-month lookback FY1 earnings revision factor
  - 1-month lookback FY2 earnings revision factor
  - 3-month price momentum
- Leverage
  - Net Debt/EBITDA
  - Market Leverage
  - Book Leverage
  - Debt to Asset Ratio

For each company a Size Score is calculated as the z-score of the natural log of free-float market caps (whereby the values are centered by a weighted average using parent index weights).

Composition list: iSTOXX A.C.I. USA PURE GROWTH INDEX

The selection of stocks and the calculation of the weights of the iSTOXX A.C.I. USA Pure Growth Index are determined based on an optimisation approach using the calculated Growth Score of the stocks.

The Growth Score is calculated using the following metrics:

- Historical Growth
  - 3-year average EPS growth
  - 5-year average EPS growth
  - 3-year average FCFPS growth

32. iSTOXX AMERICAN CENTURY INDICES

    - 5-year average FCFPS growth
- Expected Growth
    - EPS long term growth forecast
    - EPS FY2 vs FY0 growth forecast
- Implied Growth
    - PE NTM
    - PB

All raw growth metrics (e.g. 3-year average EPS growth) are transformed to ranks before aggregation using the previous formula. Depending on if the factor goes long a company when the component value is high (low), the discrete score will be high when the value is high (low). If the metric is not available, the default value is the bottom score.

Scores for the raw growth metrics are aggregated to arrive at a final Growth Score.

Any companies that meet the following conditions are then excluded from the Pure Growth universe before the optimization process:

- Growth Score is in the bottom 40% of all companies in the parent index
- Quality Score is in the bottom 20% of all companies in the parent index
- Quality Score is in the bottom 20% of the respective ICB Supersector in the parent index

The Pure Growth composition is based on an optimization that maximizes the portfolio Growth Score.

The optimization constraints are as follows:

1. Portfolio level constraints:
    a. Maximum one-way turnover is 25% per quarter
    b. ICB Industry active exposure limits to be between 0.5 and 2 times the corresponding STOXX USA 900 ICB Industry weight whereby ICB Technology and Telecommunication are combined
    c. Number of names in the portfolio between 125 and 200
    d. Beta from 0.8 to 1.2
    e. Portfolio Growth Score at least 1.3 times the parent index Growth Score
    f. Portfolio Size Score at least -2
2. Asset level constraints:
    a. Weights in portfolio >= 25 bps
    b. The companies are grouped based on the sum of their large Size (measured by free-float market cap) and low Volatility (measured by 6-months volatility) percentage rank into seven equally-filled bins. Companies that fall in the top bin (large size and low volatility) would have an upper weight of 350 bps and the upper weight is reduced by 50 bps down the bins until the last bin would have an upper limit of 50 bps.

32. iSTOXX AMERICAN CENTURY INDICES

Composition list: iSTOXX A.C.I. USA STABLE GROWTH INDEX
The selection of stocks and the calculation of the weights of the iSTOXX A.C.I. USA Stable Growth Index are determined based on an optimisation approach using a Value and Profitability Composite Score.

The Value Score is calculated from the following value metrics:

- Pure/Deep value (B/P and Fwd S/P)
    - B/P
    - Fwd S/P
- Earnings Yield (Fwd E/P and Fwd EBITDA/EV)
    - Fwd E/P
    - Fwd EBITDA/EV
- CF Yield (OCF/P and FCF/P)
    - OCF/P
    - FCF/P

All raw value metrics (e.g. B/P) are transformed to ranks before aggregation whereby the rank is calculated within the respective ICB Supersector. Depending on if the factor goes long a company when the component value is high (low), the discrete score will be high when the value is high (low). If a metric is not available, the default value is the bottom score. Scores are then aggregated using the weights mentioned in brackets above to arrive at a final Value Score.

Any companies that meet the following conditions are then excluded from the Stable Growth universe before the optimization process:

- Growth Score is in the bottom 40% of all companies in the parent index
- Quality Score is in the bottom 20% of all companies in the parent index
- Quality Score is in the bottom 20% of the respective ICB Supersector in the parent index

The Stable Growth composition is based on an optimization that maximizes the composite of the Value and Profitability Score of the portfolio.

The constraints are as follows:

1. Portfolio level constraints:
    a. Maximum one-way turnover is 25% per quarter
    b. ICB Industry active exposure limits to be between 0.3 and 1.5 times the corresponding STOXX USA 900 ICB Industry weight whereby ICB Technology and Telecommunication are combined
    c. Number of names in the portfolio between 125 and 200
    d. Beta from 0.9 to 1.1
    e. Portfolio Growth Score at least 1.3 times the parent index Growth Score
    f. Portfolio Size Score at least -2
2. Asset level constraints:
    a. Weights in portfolio >= 25 bps
    b. The companies are grouped based on the sum of their large Size (measured by free-float market cap) and low Volatility (measured by 6-months volatility)

32. iSTOXX AMERICAN CENTURY INDICES

percentage rank into seven equally-filled bins. Companies that fall in the top bin (large size and low volatility) would have an upper weight of 350 bps and the upper weight is reduced by 50 bps down the bins until the last bin would have an upper limit of 50 bps.

Review frequency: The reviews are conducted on a quarterly basis on the last dissemination day in February, May, August and November. The data cut-off date is eight dissemination days before the review date.

Weighting cap factors: (1,000,000,000 x wi / closing pricei), rounded to integers. The weight cap factors are calculated on the basis of the stocks' closing prices in USD from four dissemination days before the review date.

32.2.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast entry: Not applicable.

Spin-offs: Spin-offs are not added permanently.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All index components are adjusted for corporate actions. Any event is treated
in the same way in all indices. Please consult to the STOXX Calculation guide for the detailed treatments.

32.2.2. iSTOXX AMERICAN CENTURY USA QUALITY GROWTH INDEX

32.2.2.1. OVERVIEW

The iSTOXX American Century USA Quality Growth Index represents a dynamic allocation to the above Pure and Stable Growth strategies. The weightings of the strategies within the index are governed by a volatility adjusted trend signal. The allocation to the Pure Growth strategy can range from a minimum of 35% to a maximum of 65%. The portfolio is rebalanced monthly. At each rebalance, depending on the signal, the allocation to Pure and Stable Growth may change in steps of 15%.

Universe: The index universe is defined by the iSTOXX A.C.I. USA Pure Growth Index and the iSTOXX A.C.I. USA Stable Growth Index.

Weighting scheme: The index is weighted according to a dynamic allocation between the two universes with relative weighting in each universe left unchanged.

Base values and dates: 100 on May 31, 2005

Dissemination calendar: STOXX Americas Calendar

32. iSTOXX AMERICAN CENTURY INDICES

Index types and currencies: Price, net return, gross return in USD

32.2.2.2. **INDEX REVIEW**

Calculation of target allocation

4) Calculate 20-, 40-, and 60-day Sharpe ratios for both the Pure and Stable Growth index using gross returns:

$$SR^{x}_{cutoff} = \frac{\overline{R_U} \cdot 260}{\sqrt{\frac{1}{x-1}\sum_{t=cutoff-x+1}^{cutoff}\left(\frac{U_t}{U_{t-1}} - 1 - \overline{R_U}\right)^2 \cdot 260}}$$

$$\overline{R_U} = \frac{1}{x}\sum_{t=cutoff-x+1}^{cutoff}\left(\frac{U_t}{U_{t-1}} - 1\right)$$

where

x = number of daily returns (20, 40, 60)

U_t = index value on day t

$cutoff$ = data cut-off date (four dissemination days before review date)

5) Calculate the average Sharpe ratio for both the Pure Growth and Stable Growth index.
6) If the average Sharpe ratio for the Pure Growth index is greater than the average Sharpe ratio of the Stable Growth index add 15 percentage points to the previous month's Pure Growth target allocation, otherwise subtract. The minimum and maximum allocations for the Pure Growth Index are 35% and 65% respectively (Stable Growth target allocation = 100% - Pure Growth target allocation).

Composition list: All stocks in the universe build up the index composition. The component weights are calculated by aggregating the respective Pure Growth index and Stable Growth index weight using the target allocation weight.

$$w_i = ta_P \cdot w_{i,P} + ta_S \cdot w_{i,S}$$

where

ta_P = Pure Growth target allocation

ta_S = Stable Growth target allocation

$w_{i,P}$ = weight of stock *i* in the Pure Growth index (0% if not in the index) as of the data cut-off date

$w_{i,S}$ = weight of stock *i* in the Stable Growth index (0% if not in the index) as of the data cut-off date

In review months of the universe indices (February, May, August, November) the Value and Income weights to be implemented are used.

32. iSTOXX AMERICAN CENTURY INDICES

Review frequency: The reviews are conducted on a monthly basis on the last dissemination day of the month. The review cut-off date for the underlying data is four dissemination days before the review date.

Weighting cap factors: $1{,}000{,}000{,}000 \cdot w_i / closing\ price_i$, rounded to integers. The weighting cap factors are calculated on the basis of the stocks' closing prices from the data cut-off date.

32.2.2.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-off stocks are not added permanently.

Mergers and takeovers: Standard STOXX process.

Corporate Actions: All index components are adjusted for corporate actions. Any event is treated in the same way in all indices. Please consult the STOXX Calculation guide for detailed treatment.

33. EURO iSTOXX 50 COLLAR HEDGED INDEX

33.1. EURO iSTOXX 50 COLLAR HEDGED INDEX

33.1.1. OVERVIEW

The EURO iSTOXX 50 Collar Hedged index aims to replicate a hedging strategy on the EURO STOXX 50 using an Option Collar. The Collar consists of purchasing two Put Options in order to hedge the downside risk on the Euro Stoxx 50, plus two Call Options in order to finance the Put purchase, while going long on the Euro Stoxx 50 itself.
The Options are out-of-the-money and have the same expiration pairwise (Call-Put). Put Options are chosen with long term expiry date at 4 quarters and next quarter afterwards, in order to ensure a long term downside protection. The strike level is fixed at 90% of Euro Stoxx 50 level.
While Put Options protect from large losses, Cal Options prevent from having large gains, in case the Euro Stoxx 50 grows substantially. Considering weekly Call Options with expiry in 2 and 3 weeks allows to minimize the potential missed profit, while fixing the strike level at 102% of Euro Stoxx 50 level ensures a high Option settlement price.

Index types and currencies: Price EUR

Base values and dates: 100 on Jan 4, 2016

Index dissemination calendar: STOXX Eurex calendar

33.1.2. INPUT DATA

During the calculation of the Euro iStoxx 50 Collar Hedged Index, the following end of day data is used via snapshots:

Code	Description
SX5E	Euro Stoxx 50 EUR Price index
SX5T	Euro Stoxx 50 EUR Net Return index
OESX	Settlement price of quarterly EURO STOXX 50 options
OES1	Settlement price of the 1st Friday weekly EURO STOXX 50 options
OES2	Settlement price of the 2nd Friday weekly EURO STOXX 50 options
OES4	Settlement price of the 4th Friday weekly EURO STOXX 50 options
OES5	Settlement price of the 5th Friday weekly EURO STOXX 50 options

33.1.3. PORTFOLIO DEFINITION

On each index dissemination day exactly four Options are identified: one Call-Put pair shorter-dated and one Call-Put pair longer-dated, having expiries and strikes defined in the table above. All four Options must be available for inclusion in the portfolio on each index dissemination day.

In order to avoid selling a Call Option with zero or negative premium after the transaction costs are applied, if the VSTOXX level for a specific date is below 10%, then no Call Options are added to the portfolio on that date.

33. EURO iSTOXX 50 COLLAR HEDGED INDEX

Notional Option Table

Option Position	Option Type	Option Strike Percentage	Option Expiry Date	Option Divisor	Option Expiry Frequency
1 (Buy)	European Put	90%	Shorter Dated – Options with Expiry Date on March, June, September, December falling on or immediately preceding 12 months from Entry Date	4	Quarterly
1 (Buy)	European Put	90%	Longer Dated – Options with Expiry Date on March, June, September, December falling immediately after 12 months from Entry Date	4	Quarterly
-1 (Sell)	European Call	102%	Shorter Dated – Options with Expiry Date on each Friday of the month falling on the 2nd Friday from Entry Date	2	Weekly
-1 (Sell)	European Call	102%	Longer Dated – Options with Expiry Date on each Friday of the month falling on the 3rd Friday from Entry Date	2	Weekly

Out of these four Options, if one or more Options are not part of the portfolio, then they're added to it with their respective Option Quantity value. If one or more Options are already part of the portfolio, then the Option Quantity for those Options is incremented in order to fulfil the daily strategy. This would happen if the EURO STOXX 50 value fluctuates around the same range of values in a short period of time.

The four Options are chosen based on the definitions given in the table above:

- Quarterly Put Options and Weekly Call Options in pairs;
- The Option can be Shorter Dated or Longer Dated, with the respective definition above;
- For each Option Type and Option Expiry Date, the Option which strike is closest to the Reference Option Strike is selected (no preferred side). If two Listed Options Strikes are equally close to the Reference Option Strike, then the Strike which is closer to the close value of the EURO STOXX 50 on that index dissemination day will be selected. There is no outer boundary on the Option Strike to be selected, as long as it is the closest to the Reference Option Strike.

33. EURO iSTOXX 50 COLLAR HEDGED INDEX

All Options will remain part of the portfolio until Expiry or till they are delisted. Attached below an Excel file with an estimate of the number of Options in the portfolio over time:

For example, if we are on October 2017, the 4th nearby quarterly options expiry date would be September 2018 (1st on Dec 2017, 2nd on Mar 2018, 3rd on Jun 2018).
Since Weekly Options expiring on the 3rd Friday of the month don't exist, the monthly options with same expiry will be used.

Let's define:

- Entry Date: Each index dissemination day from and including the Option Inception Date.

Three baskets of Options are created:

- $\mathrm{Entry_t}$ is the Entry Universe with respect to the index dissemination day t: all Options for which the Entry Date is on day t.
- $\mathrm{Expiry_t}$ is the Expiry Universe with respect to the index dissemination day t: all Options for which the Expiry Date is on t.
- $\mathrm{Hold_t}$ is the Hold Universe with respect to the index dissemination day t: all Options for which both the following are valid:
    - The Entry Date is strictly before *t*,
    - The Exit Date is strictly after *t*

33.1.4. CALCULATIONS

The index value is calculated as:

$$\begin{cases} \mathrm{I_0 = 100} \\ \mathrm{I_t = I_{t-1} * \left(\frac{S_t + \Delta OPL_t}{S_{t-1}} + Div_t\right)} \end{cases}$$

Where:

- S_t is the index close value of Euro Stoxx 50 EUR Price– SX5E – at time *t*
- Div_t represents the net dividend yield earned on day *t* and it's calculated as:

$$\mathrm{Div_t = \frac{SX5T_t}{SX5T_{t-1}} - \frac{SX5E_t}{SX5E_{t-1}}}$$

  where $\mathrm{SX5T_t}$ is the Euro Stoxx 50 EUR Net Return index value.
- $\mathrm{\Delta OPL_t = OPL_t - OPL_{t-1}}$ is the variation in the Option Portfolio Level.

The Option Portfolio Level is defined as:

$$\mathrm{OPL_t = OPL_t^{MTM} + OPL_t^{EXP}}$$

Having:

$$\mathrm{OPL_t^{MTM} = \sum_{i \in Entry_t \cup Hold_t} q_i * O_{i,t}}$$

$$\mathrm{OPL_t^{EXP} = \sum_{i \in Entry_t} q_i * \left(-O_i^{Entry}\right) + \sum_{i \in Expiry_t} q_i * \left(+O_i^{Expiry}\right)}$$

Where:

- $\mathrm{q_i}$ is the Option quantity for Option i.

33. EURO iSTOXX 50 COLLAR HEDGED INDEX

- $O_{i,t}$ is the value of the Option i at time t. With respect to an Option and an index dissemination day before its Expiry Date, it is the Option Settlement Value. With respect to an Option on or after its Expiry Date, the Option Value is equal to the Option Expiry Value.
- O_i^{Entry} is the Entry value for Option i, defined as:

$$O_i^{Entry} = O_{i,T_i^{Entry}} + OP_i * OTCR_i * S_{Entry}$$

where
  - $OTCR_i$ is the Option Transaction Cost for Option i (as defined below).
  - S_{Entry} is the Euro Stoxx 50 close value at Entry Date.
  - T_i^{Entry} is the Option Entry Date.
- O_i^{Expiry} is the Expiry value for Option *i*, defined as the Options Settlement Value on Expiry Date.

The Option quantity is a cumulative value for each Option defined at Entry Date as:

$$q_i = \begin{cases} OP_i * \frac{RIDD_i}{NIDD_i} * \frac{1}{OD_i * NIDD_i}, & \text{Shorter Dated} \\ OP_i * \left(1 - \frac{RIDD_i}{NIDD_i}\right) * \frac{1}{OD_i * NIDD_i}, & \text{Longer Dated} \end{cases}$$

In case the same Option is used on multiple days, the Option Quantity of every day is added to the total Option Quantity.
Where, accordingly to the Notional Option Table above:

- OP_i is the Option Position for Option *i*.
- OD_i is the Option Divisor for Option *i*.
- $RIDD_i$ is the Remaining Number of Index Dissemination Days till next expiry excluded:

$$RIDD_i = [T_i^{Entry}, T_i^{Expiry})$$

- $NIDD_i$ is the Number of Index Dissemination Days:

$$NIDD_i = [T_i^{PrevExpiry}, T_i^{Expiry})$$

Where:

- $T_i^{Expiry} =$
$\begin{cases} \text{Immediately following Friday,} & \text{for Weekly Options} \\ \text{Immediately following 3rd Friday of March, June, Sep, Dec,} & \text{for Quarterly Options} \end{cases}$
- $T_i^{PrevExpiry}$ is the immediately preceding expiry strictly before the current index dissemination day

The Option Quantity is defined to evaluate the number of index dissemination days remaining in the strategy for a single rebalancing period, rescaled to the total number of index dissemination days constituting the horizon of the Options life. In this light, the factor $RIDD_{i,t}/NIDD_i$ represents the percentage of the index dissemination days remaining before the end of the current period (i.e. end of the quarter or end of the week), rescaled then by $OD_i * NIDD_i$ which counts the remaining number of days before the Option expiry.

33.1.5. TRANSACTION COSTS

For Call Options:

- 2 bps if VSTOXX < 12.5

33. EURO iSTOXX 50 COLLAR HEDGED INDEX

- 4 bps if 12.5 ≤ VSTOXX < 20
- 6 bps if 20 ≤ VSTOXX < 30
- 9 bps if VSTOXX ≥ 30

For Put Options:

- 15 bps if VSTOXX < 12.5
- 22.5 bps if 12.5 ≤ VSTOXX < 20
- 32.5 bps if 20 ≤ VSTOXX < 30
- 47.5 bps if VSTOXX ≥ 30

33.1.6. MARKET DISRUPTION EVENTS

STOXX will exclude from their indices all options as soon as their delisting becomes known to STOXX (e.g. direct notification from the market, or unavailability of a settlement price)

34. iSTOXX GLOBAL INDUSTRY NEUTRAL ESG 600 INDEX

34.1. iSTOXX GLOBAL INDUSTRY NEUTRAL ESG 600 INDEX

34.1.1. OVERVIEW

The iSTOXX Global Industry Neutral ESG 600 index tracks the performance of the leading companies with regard to Environmental, Social and Governance criteria, based on ESG indicators based on a transparent rating model as provided by Sustainalytics.

Universe:
All securities from the STOXX Global 1800 index. Companies without a rating will not be included in the index. Only companies that are a constituent of STOXX Global 1800 as of July 15th are considered for the annual review in September.

Weighting scheme:
Free Float Market Cap with a capping algorithm to calculate component weights so that the ICB Industry weight of the index is similar to the ICB Industry weight of the Benchmark.

Base values and dates: 100 on Sep 24, 2012

Index types and currencies: Price, Net and Gross in EUR and USD.

34.1.2. INDEX REVIEW

Selection list:
All securities from the STOXX Global 1800 index. Companies without a rating will not be included in the index. Only companies that are a constituent of STOXX Global 1800 as of July 15th are considered for the September review.

Before starting with the selection process a set of exclusion criteria is applied. The criteria follow the UN Global Compact Compliance Principles as well as a set of definitions for controversial weapons.

Global Compact Compliance:
STOXX will exclude the companies that Sustainalytics considers are non-compliant with the global compact principles. Sustainalytics has defined five ESG-risk levels which range from 1 (low risk) to 5 (very high risk). Level 5 companies are considered non-compliant with the global compact principles.

Controversial Weapons:
STOXX will exclude the companies identified to be involved with controversial weapons. The following weapons are considered controversial: anti-personnel landmines, cluster weapons, chemical and biological weapons, depleted uranium munitions and nuclear weapons.
The criteria for involvement are:
» Activity: A company is involved with the development, production, maintenance or trade of controversial weapons or key components of these weapons.
» Ownership: A company is involved with controversial weapons if:
» it owns ≥20% of the company involved with controversial weapons

34. iSTOXX GLOBAL INDUSTRY NEUTRAL ESG 600 INDEX

» it is owned ≥20% by the company involved with controversial weapons

Composition list:
The constituents for the iSTOXX Global Industry Neutral ESG 600 index are selected from the STOXX Global 1800 universe. The index is created by selecting companies with an Environmental (E), Social (S) and Governance (G) score >= 50, by selecting the 600 companies with the highest Total Rating Score, as provided by Sustainalytics.

From the universe, rank the companies in descending order in terms of the Total Rating Score, i.e. from the highest to the lowest Total Rating Score. In the event where the 600th constituents have identical Total Rating Scores, the constituent with the highest free-float market capitalization is selected.

Review frequency:
The components are reviewed annually in September. Shares, Free Float, and Capping are reviewed quarterly. For the capping procedure, the benchmark is defined as the new composition of the STOXX Global 1800 which becomes effective on the review date on the 3rd Friday of March, June, September and December.

Weighting scheme:

All components are free float market cap weighted with a capping algorithm which delivers an ICB Industry Neutral weighting compared to the benchmark, on a quarterly basis. The weightings are published on the second Friday of each quarter, one week prior to quarterly review implementation using Thursday's closing prices.

Determination of free-float market capitalization weights:

$$w_{it} = \frac{p_{it} \cdot n_{it} \cdot ff_{it}}{\sum_{i=1}^{n} p_{it} \cdot n_{it} \cdot ff_{it}}$$

wit = Free-Float Market Capitalization weight of company (i) at time (t)
pit = Price of company (i) at time (t)
nit = Number of shares of company (i) at time (t)
ffit = Free-float factor of company (i) at time (t)
nit = Number of shares

Weighting cap factors:
A capping algorithm is applied to calculate component weights so that the ICB Industry weight of the index is similar to the ICB Industry weight of the Benchmark.

34.1.3. ONGOING MAINTENANCE

Replacements:

34. iSTOXX GLOBAL INDUSTRY NEUTRAL ESG 600 INDEX

Deleted companies are not replaced. If a company is deleted from the STOXX Global 1800 index, but remains in the STOXX Global Total Market index, the stock will not be excluded from the index. If a constituent is deleted, it's weight will be distributed among the remaining constituents.

Fast exit:
In case a company which is an index constituent increases in its ESG-risk level to level 5, the respective constituent will be deleted from the index. The deletion will take place two trading days after the announcement, i.e. at the open of the 3rd trading day. The constituent's weight will be distributed among the remaining constituents.

Fast entry:
Not applicable.

Spin-offs:
A spin-off is added temporarily for one trading day and is then removed from the index.

Mergers and takeovers:
Standard STOXX process.

Corporate Actions:
All components are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

35. EURO iSTOXX 50 DAILY LEVERAGE AND SHORT INDICES

35.1. EURO iSTOXX 50 DAILY LEVERAGE AND SHORT INDICES

35.1.1. OVERVIEW

The EURO iSTOXX 50 Daily Leverage/Short indices are innovative index tools that replicate a leverage investment strategy based on the EURO STOXX 50® Index.

Leveraged indices are linked to the changes in the underlying index, applying a leverage factor to movements in the underlying index. Therefore, a positive change of the EURO STOXX 50® Index will result in the corresponding leveraged performance of the EURO iSTOXX 50 Daily Leverage Index compared to the closing level from the last rebalancing.

Short indices are linked inversely to the changes in the underlying index, applying a negative leverage factor to movements in the underlying index. Therefore, investing in the EURO iSTOXX 50 Daily Short Index yields the reverse performance of the EURO STOXX 50® Index, compared to the closing level from the last rebalancing.

Index types and currencies:

Index	Return Versions	Currency	Leverage (L)
EURO iSTOXX 50 Daily Leverage	Price, Net Return, Gross Return	EUR, USD	2
EURO iSTOXX 50 Daily Short	Price, Net Return, Gross Return	EUR, USD	-1

Base values and dates: 100,000 as of Jan 31, 2011

Dissemination calendar: STOXX Europe calendar

35.1.2. CALCULATIONS

The EURO iSTOXX 50 Daily Leverage/Short Indices are calculated as follows:

$$IV_t = IV_T \times \left[1 + L * \left(\frac{UI_t}{UI_T} - 1\right)\right]$$

Where,

IV	EURO iSTOXX 50 Daily Leverage/Short Index
UI	EURO STOXX 50® Index (Price, Net and Gross Return)
L	Leverage factor (2 for the EURO iSTOXX 50 Daily Leverage Index, -1 for the EURO iSTOXX 50 Daily Short Index)
t	Time of calculation
T	Time of last rebalancing day prior to t (previous trading day)

35.1.3. ADJUSTMENTS DUE TO EXTREME MARKET MOVEMENTS

35. EURO iSTOXX 50 DAILY LEVERAGE AND SHORT INDICES

The rebalancing is based on the calculation of average index values over a time window of 10 minutes. The time window to calculate the average starts 5 minutes after and ends 15 minutes after the trigger event occurs. The rebalancing is triggered when the underlying index loses more than x% (leverage index) or appreciates by more than x% (short index) compared to its previous day's close. The breach of the trigger is checked on a tick-by-tick basis. During this time window, the average of both the underlying index (UI) and the Leveraged / Short (IV) index are calculated. The two averages then substitute respectively UI_T and IV_T in the index calculation formula.

The respective trigger values (x) are:

Index	Trigger value
EURO iSTOXX 50 Daily Leverage	x = -25,00%
EURO iSTOXX 50 Daily Short	x = 50,00%

Over the course of the 10 minute period in which the average is determined, the index is not disseminated. The index dissemination ends 5 minutes after the trigger event and is resumed with an index level equal to the determined average 15 minutes after the trigger event.
Should the intraday rebalancing be triggered less than 15 minutes prior to the end of the index calculation day, the regular overnight rebalancing is carried out.
If the strategy index reaches a value of 0 or below over the course of the 15 minutes, the index is set to a value of 0 and its calculation / dissemination is discontinued

35.1.4. REVERSE SPLIT

If the closing value of a daily leverage or daily short index drops below 100 index points, a reverse split is carried out. The affected leverage or short index is multiplied with a factor of 1000.
The reverse split is carried out based on the index close ten trading days after the index initially dropped below a closing value of 100 points, notwithstanding whether the index rises above a level of 100 points in the meantime.

35.1.5. TRADING SUSPENSION

The EURO iSTOXX 50 Daily Leverage and Short indices are calculated on the same days and during the same time as the underlying EURO STOXX 50® Index is calculated.

If there is suspension of the underlying index, the leveraged and short indices will be calculated with the latest prices available.

36. EURO iSTOXX 50 ESG FOCUS INDEX

36.1. EURO iSTOXX 50 ESG FOCUS INDEX

36.1.1. OVERVIEW

The EURO iSTOXX 50 ESG Focus Index tracks the composition of the EURO STOXX 50® Index and reweights its constituents according to a pre-defined weighting scheme that allocates a higher weight to companies that rank highest in Environmental, Social and Governance areas, based on ESG indicators provided by Sustainalytics.

Universe: The index universe is defined by the EURO STOXX 50® Index.

Weighting scheme: The index is price-weighted with a weighting factor determined according to the ESG Overall Score rank.

Base values and dates: 100 on Mar 19, 2012

Index types and currencies: Price, net and gross return in EUR and USD

Dissemination calendar: STOXX Europe calendar

36.1.2. INDEX REVIEW

Composition list: The review cutoff date of the index is the last dissemination day of the month preceding the review date. The index is reviewed in line with the EURO STOXX 50®, i.e. the components of the EURO STOXX 50® Index, effective on the following review date, constitute the EURO iSTOXX 50 ESG Focus Index's composition list.

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December. The review effective date is the dissemination day following the third Friday of each review month.

Weighting cap factors: At each cutoff date, the components of the index are sorted in descending order according to their ESG Overall Score and they are divided into 5 groups of 10 stocks, according to their ranking order. If a company is in violation of the United Nations Global Compact Principles, or associated with activities involving Controversial Weapons, it is attributed an ESG overall score of 0 instead, in line with the STOXX ESG Leaders Index methodology. In case two companies have identical ESG Overall Scores, priority is given to the one whose free-float market capitalization is the highest. For more information on the ESG approach, please consult the STOXX ESG Index Methodology guide[35].

[35] https://www.stoxx.com/document/Indices/Common/Indexguide/stoxx_esg_guide.pdf

36. EURO iSTOXX 50 ESG FOCUS INDEX

Each constituent is assigned a specific weight as described in the following table:

From rank	To rank	Weight
1	10	3.5%
11	20	2.5%
21	30	2.0%
31	40	1.5%
41	50	0.5%

Weighting factor = weight * (1,000,000,000 / closing price of the stock in EUR), rounded to integers.

The weighting factors are calculated based on the closing prices of the Thursday prior to the second Friday of the review month.

Derived indices: The EURO iSTOXX 50 ESG Focus Gross Return Index serves as input for the EURO iSTOXX 50 ESG Focus GR Decrement 5% Index (section 11.13)

36.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: Spun-off stocks are not added permanently to the index.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX Calculation Guide available on stoxx.com.

37. iSTOXX ASIA

37.1. iSTOXX ASIA

37.1.1. OVERVIEW

The iSTOXX Asia Index replicates the performance of 40 companies from the ten most important Asian countries. Each country is represented according to its economic performance. The number of companies for each country is determined in a two-stage process. At first the gross domestic product of all countries is taken into consideration to determine each country's weight in the index. At this stage, the weight of any country may not exceed 30 percent. Thereafter, the weights are multiplied by the number of companies in the index to determine the number of companies per country. The index constituents representing India are based on ADRs, China is replicated via so-called Red-Chips and H-Shares, whereas South Korea, Taiwan, Indonesia, Hong Kong, Thailand, Malaysia, Singapore and the Philippines are covered by the shares, listed on the respective primary exchanges.

Universe: The universe of the index includes all stocks from the following countries:
India, China, South Korea, Taiwan, Indonesia, Hong Kong, Thailand, Malaysia, Singapore, Philippines.

Weighting scheme: The index constituents are weighted with respect to their 6-month Average Daily Trading Volume, where the sum of the companies' weights from one country has to be equal to the targeted weight of the respective country.

Base values and dates:

Index	Versions	Currencies	Base values and dates
iSTOXX Asia	Price and Net Return	EUR	100 on September 21, 2001

Selection list:
The index constituents representing India are based on ADRs. China is replicated via so-called Red-Chips and H-Shares, whereas South Korea, Taiwan, Indonesia, Hong Kong, Thailand, Malaysia, Singapore and the Philippines are covered by the shares listed on the respective primary exchanges.

A liquidity screening is applied and the stocks with a 6-month ADTV below US$1 million are excluded from the Universe.

The number of companies for each country is determined in a two-stage process:

- The relative weight of each country is determined based on its GDP. The weight of a country cannot exceed 30%. Should a country exceed this threshold, the excess weight will be redistributed to the other countries proportionally to their GDP.
- The country weights are then multiplied by the number of companies in the index to determine the number of companies per country, where the number of companies per country may not fall below a minimum of one.

37. iSTOXX ASIA

The eligible stocks for each country are then ranked based on their 20-day average market capitalisation.

37.1.2. INDEX REVIEW

Composition list: The largest stocks on each country's selection list are added to the index, in order to achieve the targeted number of companies per country.

Review frequency: The index composition is reviewed on an annual basis in September.

Weighting cap factors: The index weights are rebalanced on a quarterly basis in March, June, September and December.
The index is weighted by ADTV and subject to a double capping of 30% on the country level and 10% on the component level.

The weighting of the index constituents can be described as a two-step process:

Step A):

$$w_c = \frac{GDP_c}{\sum_{c=1}^{C} GDP_c}$$

where:

w_c	=	Weight of country c
GDP_c	=	GDP of country c
C	=	Number of countries represented in the index

On the date of the index recomposition, the weight for each single country is determined according to its GDP[36] ranking. In case one or more countries exceed the limit of 30% percent of the aggregated GDP of all countries, the countries with the weight of more than 30% percent are capped to 30% percent and the difference is allocated to the remaining countries, proportionally to their GDP. The capping procedure and the proportioned allocation take place until all countries' weights are equal or below 30% percent of the aggregated GDP. The weights determined above are then kept constant until the next index recomposition.

Step B):

$$w_{ic} = \frac{ADTV_{ic}}{\sum_{ic=1}^{IC} ADTV_{ic}} w_c$$

where:

w_{ic}	=	Weight of company i from country c

[36] GDP data is taken from the last trading day of the previous year.

$ADTV_{ic}$	=	6-month ADTV of company i from country c
IC	=	Number of companies from country c
w_c	=	Weight of country c

On the basis of the fixed weights according to Step A) the number of companies per country is calculated by multiplying the fixed weights and the total number of constituents in the index portfolio and applying the truncation rules. This procedure is not always possible to determine exactly 40 companies. Contrary to the common rounding rules the number of companies per country is rounded up or down subject to the minimization of the violation of those rules. Furthermore, the number of companies per country may not fall below a minimum of one. The weight per company is then given by the 6-month ADTV[37] share of the total ADTV of all companies from all countries, taking into account that the sum of the companies' weights from one country has to be equal to the respective country weight. In case one or more companies exceed the limit of 10% percent of the entire ADTV, the companies with the weight of more than 10% percent are capped to 10% percent and the difference is allocated to the remaining companies of the respective country, proportionally to the companies' ADTV. The capping procedure and the proportioned allocation take place until all companies are equal or below 10% percent of the total ADTV in the index portfolio.

The weighting factor of company i at time T can be then derived as follows:

$$q_{iT} = \frac{w_{ic} * \sum_{i=1}^{40} ADTV_i}{p_{iR}}$$

where:

w_{ic}	=	Weight of company i from country c at time T
$ADTV_i$	=	6-month ADTV of company i
p_{iR}	=	Price of company i at time R
R	=	Thursday prior to the second Friday of the rebalancing month

37.1.3. CALCULATIONS

37.1.3.1. INDEX FORMULA

The indices are calculated as follows:

$$Index_t = K_T * \frac{\sum_{i=1}^{n} p_{it} * q_{iT} * c_{it}}{\sum_{i=1}^{n} p_{i0} * q_{i0}} * Base$$

[37] 6-month ADTV data is calculated as of the last day of the month prior to the month in which the index review takes place.

where:

$p_{it} = p_{it}^{lc} * C_t$

and:

$p_{i0} = p_{i0}^{lc} * C_0$

and:

c_{it}	=	Adjustment factor of company i at time t
n	=	Number of constituents in the index
p_{i0}	=	Closing price of share/ADR/GDR of company i on the trading day before the first inclusion expressed in index currency
p_{it}	=	Price of share/ADR/GDR of company i at time t expressed in index currency
p_{it}^{lc}	=	Price of share/ADR/GDR of company i at time t expressed in local currency
p_{i0}^{lc}	=	Closing price of share/ADR/GDR of company i on the trading day before the first inclusion expressed in local currency
C_t	=	Currency conversion factor from local to index currency at time t
C_0	=	Currency conversion factor from local to index currency on the trading day before the first inclusion
q_{i0}	=	Weighting factor of company i on the trading day before the first inclusion
q_{iT}	=	Weighting factor of company i at time T
t	=	Calculation time of the index
K_T	=	Index-specific chaining factor valid as of chaining date T
T	=	Date of the last chaining

37.1.4. INDEX REBALANCING

The quarterly chaining procedure encompasses the following measures:

- The weighting-factor (e.g. representing the number of shares/ADRs/GDRs) is updated.[38]
- The accumulated income from distributions and capital changes is allocated to the index component issues according to the respective new weights. For this purpose, the individual c_{it} adjustment factors are set to 1.
- A chaining factor is calculated to avoid a gap in the respective index.

If the ordinary chaining coincides with the actualization of the index composition at the same time, a change of the composition takes place additionally.

These measures help to prevent the weighting scheme from "ageing" due to capital changes and the accumulation of income.

Chaining is carried out in three steps:

a) Calculation of the index value on the chaining date according to the current weighting scheme:

$$Index_t = K_T * \frac{\sum_{i=1}^{n} p_{it} * q_{iT} * c_{it}}{\sum_{i=1}^{n} p_{i0} * q_{i0}} * Base$$

This value corresponds to the closing index published on the date of chaining and is used with two decimal places (as published) for all subsequent calculations.

b) Computation of an interim value
The interim value is computed using the number of shares/ADRs/GDRs ($q_{i,T+1}$), which are determined based on the closing prices of Thursday of the week prior to the week in which the rebalancing takes place. The c_{it} adjustment factors are set to 1.

The following applies accordingly:

$$Interim\ value = \frac{\sum_{i=1}^{n} p_{it} * q_{i,T+1}}{\sum_{i=1}^{n} p_{i0} * q_{i0}} * Base$$

The interim value is used as an exact figure for subsequent calculations.

c) Calculation of the new chaining factor:

[38] The weighting-factors of the index constituents (q_{iT}) for the iSTOXX Asia Indices are determined based on the closing prices of Thursday of the week prior to the week in which the rebalancing takes place. These weighting factors will be fixed and kept constant during the entire chaining procedure.

$$K_{T+1} = \frac{Index_t}{Interim\ value}$$

After chaining, the index is computed on the basis of the new chaining factor (K_{T+1}).

After calculation of the chaining factor, capital changes and dividend payments due on the date of chaining are taken into account via the c_{it} factor.

Unscheduled Chaining:
In the event of a deletion of an index constituent, chaining is carried out in line with the procedure described in section above, however, usually without adjustment to the number of shares/ADRs/GDRs and the various c_{it} factors.
In case a new stock succeeds the stock leaving the index, the replacement will enter the index with the same weight the old stock had, based on the closing price of its last day in the index.

The weighting factor "q" of the successor "i" is then calculated as follows:

$$q_{i,S+1} = \frac{p_{jS} * q_{jT}}{p_{iS}}$$

where:

p_i	=	Price of new company expressed in index currency
p_j	=	Price of company leaving the index expressed in index currency
S	=	Last day of old company in the index
T	=	Date of the last chaining

In this case (replacement with the same weight) no chaining is necessary.

37.1.5. ONGOING MAINTENANCE

Replacements:

To account for the special economic situations of the countries represented in iSTOXX Asia indices, the following steps dealing with deletions and new listings of constituents can be taken if possible.

1. If a company is rejected from the index subject to extraordinary circumstances, such as deletion, composition proceedings, bankruptcy, etc., a replacing company is taken with respect to the ranking (if possible). The weight of the new constituents is adjusted according to the predecessors' weight.
2. Additionally, the right to make extraordinary modifications in the composition of the indices if the tradability of particular instruments is limited, e.g. due to a decrease in liquidity or a restriction of shares that can be owned by market participants, is retained.

3. For Indices that cover ex ante defined countries applies in particular the following: If extraordinary modifications become necessary, a replacing company of the same country as the leaving company is taken into the index. If this is not possible, for instance by virtue of limitations affecting the entire country (e.g. changes in economic and devise policy respectively extraordinary regulatory limitations), the affected companies are taken out of the index without determination of a replacing company. In this case, the weighting of the leaving company is automatically distributed among all countries.
4. Also in times of extreme economic cases, additional exceptions from this rulebook can be made, e.g. postponement of an ordinary review date. All such changes will be published within an appropriate notice period.

In case a stock is suspended from trading on the exchange, it will be removed from the index after a period of 10 trading days (initial period) with a price of zero, if

- trading does not resume within this time period
- within the initial period, trading is announced to resume later than 20 trading days after the end of the initial period
- during the initial period it is unclear when trading will resume.

In the event of a deletion of an index constituent, chaining is carried out in line with the procedure described in section 37.1.4. above, however, usually without adjustment to the number of shares/ADRs/GDRs and the various c_{it} factors.

In case a new stock succeeds the stock leaving the index, the replacement will enter the index with the same weight the old stock had, based on the closing price of its last day in the index.

The weighting factor “q” of the successor “i” is then calculated as follows:

$$q_{i,S+1} = \frac{p_{jS} * q_{jT}}{p_{iS}}$$

where:

p_i	=	Price of new company expressed in index currency
p_j	=	Price of company leaving the index expressed in index currency
S	=	Last day of old company in the index
T	=	Date of the last chaining

In case the replacement will inherit the weight from the leaving index constituent, no chaining is necessary.

Fast exit: Not applicable

Fast entry: Not applicable

37.1.6. CORPORATE ACTIONS

37.1.6.1. CASH DIVIDENDS AND OTHER DISTRIBUTIONS

37. iSTOXX ASIA

The c_{it} adjustment factors for cash dividends, bonuses and special distributions are calculated as follows:

$$c_{it} = \frac{p_{i,t-1}}{p_{i,t-1} - D_{i,t}(1-\tau)} * c_{i,t-1}$$

where:

$p_{i,t-1}$	=	Closing price of the relevant share on the day before the ex dividend date
$D_{i,t}$	=	Cash dividend, bonus or special distribution on day t
τ	=	Withholding tax, only for net return indices, otherwise τ =0

The withholding tax used to calculate the net return indices can be found on STOXX Digital | Withholding Taxes.

Within the framework of index calculation, the share price is thus modified by the amount of the respective cash distribution.

Cash dividends and bonus distributions are only corrected in performance and net return indices. Special distributions are taken account of in all performance, net return and price indices.

37.1.6.2. STOCK DIVIDENDS

The issue of shares instead of the distribution of cash to provide dividends is treated in the same way as bonus shares or nominal value changes and is accounted for in both performance and price indices. If the holder is granted the right to choose between cash dividends and stock dividends, it shall be assumed that cash dividends will be drawn.

37.1.6.3. DISTRIBUTIONS > 10 PERCENT OF MARKET CAPITALISATION

If the absolute amount of the accumulated distributions (dividends, bonus and special distributions, spin-offs or subscription rights on other share classes) between two regular chaining dates accounts for more than 10 percent of the market capitalisation of the distributing company on the day before the first distribution, the part of the distribution exceeding the 10 percent will not be reinvested in a single stock but in the overall index portfolio by means of unscheduled chaining.
In such a case, the ci adjustment factor for the expected markdown on 10 percent of the distribution will be calculated according to the formulas described in sections 37.1.6.1. and 37.1.6.2. The remaining expected markdown will be carried out at the same time as the adjustment of the chaining factor.

Example 1 – Dividend distribution of 25 percent
Company A, which is included in the index with a current share price of €100 and current adjustment factor of 1, pays a special dividend of €25 to shareholders on the ex dividend date t. An adjustment factor of 1.11111 will be calculated according to section 37.1.6.1. for the part of the distribution which accounts for 10 percent of the overall capital (€10). The remaining markdown of €15 will be adjusted on the chaining date.

Example 2 – Dividend distribution of 5 percent on day t, spin-off of 10 percent on the next day
Company B, which is included in the index with a current share price of €10 and current adjustment factor of 2, pays a special dividend of €0.50 on the ex dividend date t. The special dividend will be adjusted by the adjustment factor as described in section 37.1.6.1. The new adjustment factor is

correspondingly calculated as 2.105263. On the next day company C will be spun-off from company B. Firstly, company C will be included in the index and removed on the next day with a closing price of €1 as described in section 37.1.6.7., resulting in a markdown of €1 or 10 percent based on the capitalisation before the first distribution. The accumulated markdown is 15 percent of the market value. Up to and including 10 percent of the markdown - in this case €0.5 – will be adjusted by the ci factor in accordance with section 37.1.6.1. The remaining markdown of €0.5 will be adjusted on the chaining date.

37.1.6.4. CAPITAL INCREASES

The c_{it} adjustment factors for capital increases (against cash contributions, or using company reserves) are determined as follows:

$$c_{it} = \frac{p_{i,t-1}}{p_{i,t-1} - BR_{i,t-1}} * c_{i,t-1}$$

where:

$$BR_{i,t-1} = \frac{p_{i,t-1} - p_B - DN}{BV + 1}$$

and:

$p_{i,t-1}$	=	Closing price on the day before the ex dividend date
$BR_{i,t-1}$	=	Theoretical value of subscription rights
p_B	=	Subscription price
BV	=	Subscription ratio
DN	=	Dividend disadvantage

For capital increases using company reserves: p_B = 0
The dividend disadvantage is equivalent to the last dividend paid or the proposed dividend published by financial data providers. For issues on which options are traded at Eurex, this procedure is coordinated with Eurex, taking account of the respective rights markdown to adjust the basis prices of the various equity options.

37.1.6.5. CAPITAL REDUCTIONS

The following formula is used to calculate the c_{it} adjustment factor in the case of a simplified capital reduction:

$$c_{it} = \frac{1}{V_{i,t}} * c_{i,t-1}$$

where:

$V_{i,t}$	=	Reduction ratio of company i valid at time t

In the event of a capital reduction and subsequent capital increase against additional contributions, the introduction of a new class of shares is handled as follows:
The old classes are removed, and the new class is included with the corresponding computation of a chaining factor. In this context, two assumptions are made: firstly, that the last traded price could have been achieved, and secondly that the released capital will be invested in the new class

on the subsequent day. The new class is included in the index based on the respective opening price on the first day of the new quotation.

37.1.6.6. NOMINAL VALUE CHANGES AND SHARE SPLITS

In the case of nominal value changes (or share splits), it is assumed that the respective price changes occur in proportion to the related nominal value (or number of shares). The adjustment factor reflects this assumption accordingly:

$$c_{it} = \frac{N_{i,t-1}}{N_{i,t}} * c_{it-1}$$

where:

$N_{i,t-1}$	=	Previous nominal value of share class i (or new number of shares)
$N_{i,t}$	=	New nominal value of share class i (or previous number of shares)

37.1.6.7. SPIN-OFFS

Where a company ("class A") spins off one of its divisions into a new, independent company ("class B"), the adjustment is carried out as described below.
A theoretical markdown cannot be calculated on an ex-ante basis since there is no closing price for the shares of the new company B. "B" shares are additionally included in the index at a price of 0 on the ex dividend date so as to avoid any index tracking errors. On their first trading day, following the Xetra® closing auction, "B" shares are once again removed from the index. At the same time, the c_i factor of company A is adjusted as follows:

$$c_{it}^{A} = \left(1 + \frac{c_{i,t-1}^{B} * p_{i,t-1}^{B}}{c_{i,t-1}^{A} * p_{i,t-1}^{A} * BV}\right) * c_{i,t-1}^{A}$$

where:

$p_{i,t-1}^{A}$	=	Closing price of "A" shares on the first trading day of "B" shares
$p_{i,t-1}^{B}$	=	Closing price of "B" shares on their first trading day
BV	=	Subscription ratio
t	=	Ex dividend date

37.1.6.8. SUBSCRIPTION RIGHTS ON OTHER SHARE CLASSES

Where shareholders of a company (class A) are granted subscription rights to shares of another class (class B) of the same company, two different scenarios must be distinguished:

A) The shares to which a subscription right exists are already listed

The c_{it} adjustment factor is computed analogously to a capital increase of class A shares:

$$c_{it} = \frac{p_{i,t-1}^{A}}{p_{i,t-1}^{A} - BR_{i,t-1}}$$

where:

$$BR_{i,t-1} = \frac{p^B_{i,t-1} - p_B - DN}{BV + 1}$$

and:

$BR_{i,t-1}$	=	Theoretical value of subscription rights
$p^A_{i,t-1}$	=	Closing price of class A shares on the day before the ex dividend date
$p^B_{i,t-1}$	=	Closing price of class B shares on the day before the ex dividend date
p_B	=	Subscription price
BV	=	Subscription ratio
DN	=	Dividend disadvantage of class B

B) New issue of shares to which a subscription right exists

In this case, the exact theoretical value of subscription rights cannot be calculated on an ex-ante basis since there is no closing price for the new class. Therefore, the index is corrected as follows: The expected price for the new shares is determined on the basis of the price difference between ordinary and preference shares of comparable companies. This price is used in line with the procedure described above to compute the respective subscription right.

37.1.7. COMPUTATIONAL ACCURACY

The K_T chaining factors are used and published as figures rounded to seven decimal places.
The c_{it} adjustment factors are included in the index formula, expressed in six decimal places. In the event of several adjustment events coinciding, such as “ex-dividend” and “ex subscription right” markdowns on the same day, only one single adjustment factor (six decimal places) is computed using the total markdown. Where several adjustment events are required for a single share but at different times, the factors rounded in such a way are multiplied by each other, and the product is rounded to six decimal places again.
When determining the c_{it} adjustment factor for subscription rights, the rights value is used rounded to two decimal places. Only in the case of a capital increase using company reserves will such a rights value not be rounded. If a dividend disadvantage has to be prorated (e.g. for three months), the value of such a disadvantage used for index calculation is rounded to two decimal places.
The free float factors are used as figures rounded to four decimal places.
The indices are rounded to two decimal places and published accordingly.
If a dividend disadvantage has to be prorated, the value of such a disadvantage used for index calculation is rounded to two decimal places.

38. EURO iSTOXX 25 CHALLENGERS EQUAL WEIGHT

38.1. EURO iSTOXX 25 CHALLENGERS EQUAL WEIGHT INDEX

38.1.1. OVERVIEW

The EURO iSTOXX 25 Challengers Equal Weight Index represents the performance of the 25 smallest companies of the EURO STOXX 50 Index based on free-float market capitalization. The index is weighted equally and reviewed quarterly.

Universe:
The universe is defined by the parent index, the EURO STOXX 50 Index

Weighting scheme:
The index is price-weighted with weighting factors to achieve equal-weight

Base values and dates:
100 on March 17, 2006

Index types and currencies:
Price, net return and gross return in EUR and USD.

For a complete list please consult the data vendor code sheet on the website[39]. Customized solutions can be provided upon request.

38.1.2. INDEX REVIEW

Composition list:
The smallest 25 stocks from the final composition list of the EURO STOXX 50, based on free float market capitalization are selected for final index composition.

Review frequency:
The index is reviewed quarterly in March, June, September and December The implementation of the review is conducted after the close of the third Friday of the respective review month and becomes effective on the next index dissemination day following the implementation day. The review cut-off date for the underlying data is the last trading day of the month preceding the review month.

Weighting and capping factors:
All components are equal-weighted on a quarterly basis. The weightings are published on the second Friday of each quarter, one week prior to quarterly review implementation using Thursday's closing prices.

Weighting cap factor = (100,000,000,000 / closing price of the stock in EUR) and rounded to integers.

[39] http://www.STOXX.com/download/indices/vendor_codes.xls

38. EURO iSTOXX 25 CHALLENGERS EQUAL WEIGHT

38.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced

Fast entry: Not Applicable.

Fast Exit: Not Applicable.

Spin-offs:
Spin-off companies are not permanently added to the index.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

39. EURO iSTOXX NEXT 30

39.1. EURO iSTOXX NEXT 30 INDEX

39.1.1. OVERVIEW

The EURO iSTOXX Next 30 Index is a representation of liquid and large companies belonging to the Eurozone that are not part of the EURO STOXX 50. This index represents the performance of the next 30 components from the EURO STOXX universe based on free-float market capitalization, after the exclusion of the current components of the EURO STOXX 50.

Universe:
The universe is defined as the composition of the EURO STOXX Index on quarterly index review effective date.

Weighting scheme:
The index is price-weighted with weighting factors to achieve equal-weight.

Base values and dates:
The following base values and dates apply: 100 on September 20, 2002

For a complete list please consult the data vendor code sheet on the website[40]. Customized solutions can be provided upon request.

Index types and currencies:
Price, net and gross return in EUR and USD.

Dissemination calendar:
STOXX Europe calendar

39.1.1. INDEX REVIEW

Selection list:
The selection list is obtained by considering all stocks from the universe whose 3-month average daily trading value (ADTV) is at least EUR 35 million.
In case after applying the ADTV filter there are less than 30 securities available for selection, then all of them become part of the index. The remaining securities to reach the target of 30 components are selected by reducing the ADTV filter stepwise by 10% and ranking by free float market capitalisation the eligible securities.
In addition, all components of the EURO STOXX 50 Index that would become effective on the review effective date would also be eliminated.

Composition list:
The largest 30 stocks on the selection list, based on free float market capitalization are selected for final index composition.

[40] http://www.STOXX.com/download/indices/vendor_codes.xls

39. EURO iSTOXX NEXT 30

Review frequency:
The index is reviewed quarterly in March, June, September and December, in line with the parent index. The implementation of the review is conducted after the close of the third Friday of the respective review month and becomes effective on the next index dissemination day.
The review cut-off date for the underlying data is the last trading day of the month preceding the review month.

Weighting cap factors:
The components are weighted equally on a quarterly basis. The weightings are published on Wednesday two trading days prior to quarterly review implementation using Tuesday's closing prices.

39.1.2. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced

Fast exit: Not applicable.

Fast entry: Not applicable.

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

40. iSTOXX EUROPEAN 100 INDICES

40.1. iSTOXX EUROPEAN 100 COUNTRY SUBINDICES

40.1.1. OVERVIEW

The iSTOXX European 100 Country Subindices comprise the iSTOXX UK 35 and iSTOXX Switzerland 15 indices.
The constituents for the iSTOXX UK 35 and iSTOXX Switzerland 15 indices are selected from the STOXX Europe Total Market Index. The largest companies in terms of free float market capitalization are selected in order to achieve the targeted fixed number of components. The constituents of the indices are weighted accordingly to their free-float market capitalization.

Universe:
The index universe is the STOXX Europe Total Market Index. Secondary lines are excluded from the universe.

Weighting scheme:
The indices are weighted according to their free-float Market Capitalization

Base values and dates:
100 on March 16th, 2007

For a complete list please consult the data vendor code sheet on the website[41]. Customized solutions can be provided upon request.

Index types and currencies:
Price, net return and gross return in EUR, USD and native currency (GBP for the iSTOXX UK 35 and CHF for the iSTOXX Switzerland 15)

40.1.2. INDEX REVIEW

Composition list:
The largest companies in terms of Free-Float Market capitalization in the STOXX Europe Total Market index in the respective country are selected:

Index Name	Target number of components	Country	Native Currency
iSTOXX UK 35	35	UK	GBP
iSTOXX Switzerland 15	15	CH	CHF

Review frequency:
The indices are reviewed quarterly, on the 3rd Friday of March, June, September and December, in line with the parent index Europe Total Market and the new composition is effective on the following Monday. The review cut-off date for the underlying data is the last trading day of the month preceding the review.

Weighting cap factors:

[41] http://www.STOXX.com/download/indices/vendor_codes.xls

40. iSTOXX EUROPEAN 100 INDICES

The indices are free-float market capitalization weighted.

40.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spun-off companies are not added permanently to the indices.

Mergers and takeovers: Standard STOXX process

40. iSTOXX EUROPEAN 100 INDICES

40.2. iSTOXX EUROPEAN 100 INDEX

40.2.1. INDEX CONCEPT

The iSTOXX European 100 index allocates weights according to a pre-defined scheme to three underlying equity indices, which are covering the main economies of the European Continent.

Rebalancing:
The index is rebalanced on a quarterly basis, after the closing of the 3rd Friday of March, June, September and December.

Index types and currencies:
Price, Net Return and Gross Return in EUR and USD.

Base values and dates:
1000 on March 16th, 2007

Dissemination calendar:
Intersection of the following dissemination calendars: STOXX Europe Regional calendar, STOXX UK Country calendar, STOXX Switzerland Country calendar

40.2.2. CALCULATIONS

The index values are calculated as following:

$$IV_t = IV_{reb} \times \sum_{i=1}^{3} w_{reb,i} \times \frac{U_{t,i}}{U_{reb,i}}$$

Where

$w_{reb,i}$	Target weight of sub-index *i* at rebalancing date
$U_{reb,i}$	Close value of sub-index *i* at rebalancing date
$U_{t,i}$	Value of sub-index *i* today at time *t*
IV_t	Index value today at time *t*
IV_{reb}	Index close value at rebalancing date
Reb	Rebalancing date

In order to calculate a specific return and currency version of the index, the corresponding return and currency versions of the underlying indices are used.

On each rebalancing date, specific weights are allocated to each underlying index according to the scheme displayed below:

i	Sub-Index name	Weight ($w_{reb,i}$)
1	EURO STOXX 50 Index	50%
2	iSTOXX UK 35 Index	35%
3	iSTOXX Switzerland 15 Index	15%

40. iSTOXX EUROPEAN 100 INDICES

Derived Indices: The iSTOXX European 100 Index serves as input for the iSTOXX European 100 GR Decrement 50 Index (section 11.16)

41. iSTOXX DEVELOPED MARKETS B.R.AI.N. INDEX

41.1. iSTOXX DEVELOPED MARKETS B.R.AI.N. INDEX

41.1.1. OVERVIEW

Derived from the STOXX® Developed Markets Total Market Index, the iSTOXX Developed Markets B.R.AI.N. Index is comprised of companies that are exposed to four megatrends that are expected to change the world as we know it: Biotechnology (B), Robotics (R), Artificial Intelligence (AI) and Nanotechnology (N).

Revere (RBICS) data allow a detailed breakdown of the revenue sources of the eligible companies, helping this index to select companies with substantial positive exposure to the B.R.AI.N. themes.

Universe: The index universe is defined by the STOXX® Developed Markets Total Market index.

Weighting scheme: The index is price-weighted with a weighting factor proportional to free-float market capitalization and aggregate revenue exposure to the four B.R.AI.N. sectors.

Base values and dates: 100 on Jun 18, 2012

Index types and currencies: Price, Net Return and Gross Return; in EUR, USD and CAD

Dissemination calendar: STOXX Europe calendar

41.1.2. INDEX REVIEW

Selection list: For each of the four themes, the companies in the index universe are screened for all of the following criteria (applied in the order in which they are listed), and four separate clusters with eligible securities are created:

» Minimum liquidity: 3-month median daily trading value (MDTV) greater than 1,000,000 EUR
» Revenues: more than 50% revenues generated within the aggregate of the RBICS sectors associated to the specific theme (see table below).
» Multiple share lines: in case a company is present with multiple listings in a specific thematic cluster, only the most liquid share line will be retained.

Biotechnology, Robotics, Artificial Intelligence and Nanotechnology sectors, for the purposes of constituent clustering are defined as follows:

Nr.	Biotechnology
01	Allergies Biopharmaceuticals
02	Analytical and Bioanalytical Services
03	Anesthesia Biopharmaceuticals
04	Autoimmune Disorders Biopharmaceuticals
05	Bioanalytical Consumables
06	Biodiesel Fuel Manufacturing
07	Biological Specimen Storage
08	Biologics OEMs

Nr.	Robotics
01	3D Modeling/Rapid Prototyping Automation Providers
02	Autonomous Control Ship Builders
03	Autonomous Control Software
04	Autonomous Control Transit Production
05	Autonomous Control Truck Production
06	Computer Aided Design (CAD) Software
07	Diversified Semiconductors
08	Drone Manufacturers

41. iSTOXX DEVELOPED MARKETS B.R.AI.N. INDEX

09	Biotechnology and Genomics (GMO/Hybrids) Products
10	Breast Cancer Biopharmaceuticals
11	Cardiovascular System Biopharmaceuticals
12	Child Birth and Contraception Biopharmaceuticals
13	Clinical Limited Service CROs
14	Dermatology Biopharmaceuticals
15	Digestive System Biopharmaceuticals
16	Diversified Bioanalytical Instruments
17	Diversified Biopharmaceuticals
18	Diversified Contract Manufacturing Organizations
19	Diversified Development and Manufacturing Services
20	Drug Delivery Technology Development
21	Drug Lead Discovery, Validation and Optimization
22	Drug Target Discovery and Validation
23	Ethanol Fuel Manufacturing
24	Full Service CROs
25	Gastrointestinal Tract Biopharmaceuticals
26	General Infectious Diseases Biopharmaceuticals
27	General Support Activity Providers for Agriculture
28	Genetic Molecular Diagnostic Test Kits
29	Heart Disorders Biopharmaceuticals
30	Hematological Oncology Biopharmaceuticals
31	Hematology Biopharmaceuticals
32	Immune Deficiency Disorders Biopharmaceuticals
33	Intermediary Metabolism Biopharmaceuticals
34	Liver Disorders Biopharmaceuticals
35	Lower Respiratory Biopharmaceuticals
36	Multi-Type Drug Discovery Services
37	Musculoskeletal System Biopharmaceuticals
38	Narcotics Pain Management Biopharmaceuticals
39	Neurology Biopharmaceuticals
40	Non-Narcotics Pain Management Biopharmaceuticals
41	Ophthalmology Biopharmaceuticals
42	Other Alternative Fuel Manufacturers
43	Other Bacterial Infections Biopharmaceuticals
44	Other Biopharmaceutical OEMs
45	Other Endocrinology/Metabolism Biopharmaceuticals
46	Other Gynecology Biopharmaceuticals
47	Other Immunology Biopharmaceuticals
48	Other Oncology Biopharmaceuticals
49	Other Pain Management Biopharmaceuticals
50	Other Respiratory System Biopharmaceuticals
51	Pituitary Gland Disorders Biopharmaceuticals
52	Scientific Analytical Instruments
53	Surgical Biopharmaceuticals
54	Thermal and Chemical Processing Machinery Makers
55	Toxicology Biopharmaceuticals
56	Transplantation Biopharmaceuticals

09	Drone Parts Manufacturers
10	Global Positioning Systems (GPS) Manufacturing
11	Household Robots
12	Industrial Robots and Robotic Assembly Line Makers
13	Lasers and Optical Instrument Manufacturing
14	Machine Vision and Quality Control Manufacturing
15	Microprocessor (MPU) Semiconductors
16	Monitoring and Control Sensor/Instrument Products
17	Motion Control and Precision Motors Manufacturing
18	Networking Semiconductors
19	Other Communications Semiconductors
20	Other Electric Motors and Motion Control Products
21	Other Processor Semiconductors
22	Other Programmable Logic and ASIC Semiconductors
23	Programmable Logic Device Semiconductors
24	Surgical Robotic Systems
25	Vehicle Autonomous Control Electronics Makers
26	Vehicle Autonomous Control Software

Nr.	**Artificial Intelligence**
01	Autonomous Control Software
02	Business Intelligence Software
03	Colocation and Data Center Services
04	Communication and Collaboration Content Sites
05	Data Storage Drives and Peripherals
06	Data Storage Media
07	Data Transport Carrier Services
08	Disk Storage Systems
09	Flash Memory Semiconductors
10	Imaging Laboratories
11	Information Storage Systems
12	Machine Vision and Quality Control Manufacturing
13	Microprocessor (MPU) Semiconductors
14	Multi-Type Data Storage Hardware Makers
15	Networking Semiconductors
16	Other Memory Semiconductors
17	Other Nonvolatile Memory Semiconductors
18	Other Processor Semiconductors
19	Other Programmable Logic and ASIC Semiconductors
20	Programmable Logic Device Semiconductors
21	Vehicle Autonomous Control Software
22	Video Multimedia Semiconductors
23	Volatile Memory Semiconductors
24	Web Navigation Sites and Software
25	Web Search Sites and Software

Nr.	**Nanotechnology**
01	Diversified Bioanalytical Instruments

41. iSTOXX DEVELOPED MARKETS B.R.AI.N. INDEX

57	Type 1 Diabetes Biopharmaceuticals	02	Industrial and Construction Additive Manufacturing
58	Type 2 Diabetes Biopharmaceuticals	03	Microprocessor (MPU) Semiconductors
59	Urology Biopharmaceuticals	04	Nanotechnology Materials Manufacturing
60	Vascular Disorders Biopharmaceuticals	05	Other Programmable Logic and ASIC Semiconductors
61	Viral Biopharmaceuticals	06	Semiconductor Foundry Services
62	Weight Management Biopharmaceuticals	07	Water Treatment Agents Manufacturing

An iterative selection process takes place to calculate the aggregate exposure of each company to all four themes separately and ultimately create four separate theme-specific selection lists which include 20 securities each that display the highest revenue exposure to the sectors underlying the corresponding theme.

The aggregated exposure (ae) of a company i to a specific theme is calculated as:

$$ae_i^j = \sum_{k=1}^{n} exposure_{i,k}$$

Where:
j = theme (Biotechnology, Robotics, Artificial Intelligence or Nanotechnology)
n = sectors from table above corresponding to theme j
$exposure_{i,k}$ = revenue exposure of company i to sector k

Within each thematic cluster, all companies are ranked in descending order by their aggregate revenue exposure to the sectors linked to the corresponding theme, and the 20 companies with the highest aggregate exposure in each compose that theme's selection list. If two companies have the same revenue exposure to a specific theme, priority goes to the one with the highest free-float market capitalization. If there are less than 20 eligible companies for a theme, then no ranking process takes place for that thematic cluster, and all the companies compose that theme's selection list.

Finally, the four theme-specific selection lists are combined to derive the final index selection list, and the following condition applies: if a company falls in more than one theme-specific selection lists, that company is only considered once for selection in the final index, therefore reducing the total number of components accordingly (e.g. if 3 companies rank among the top 20 in both the Artificial Intelligence and the Robotics selection lists, then these companies are taken into account only once, and the total number of components in the index is reduced to 77).

Review frequency: The index composition is reviewed annually in June. The review cut-off date is the last trading day of the preceding May. The index Weighting Cap Factors are recalculated quarterly in March, June, September and December.

Weighting cap factors: Index weighting cap factors are recalculated quarterly in March, June, September and December. They are published on the second Friday of each of those months and based on the stocks' prices of the preceding Thursday.

Target weight calculation:

$$w_i = \frac{ae_i \cdot ffmcap_i}{\sum_{j \text{ in comp.list}}^{m} ae_j \cdot ffmcap_j}$$

41. iSTOXX DEVELOPED MARKETS B.R.AI.N. INDEX

ae_i = aggregate revenue exposure of company i to the B.R.AI.N. sectors
$ffmcap_i$ = free float market capitalization of company i, calculated using close price in EUR on the Thursday preceding the second Friday of the review month
m = number of companies in the final index

Where ae_i is calculated as:

$$ae_i^{B.R.AI.N.} = \sum_{k=1}^{n} exposure_{i,k}$$

And:
n = all sectors deriving from the union of the four separate sector lists of each of the B.R.AI.N themes
$exposure_{i,k}$ = revenue exposure of company i to sector k, as of the most recent review cut-off date

Capped weight calculation: The capped weights (cwi) are derived from the target weights via an iterative process that seeks to maintain the following conditions:

- The sum of all weights above 4.5% should not exceed 35%
- No single weight should exceed 8%

To that end, any excess weight is redistributed from a company to the rest of the components of the index that are not already subject to capping under the above rules, proportionally to their weight in the index.

In the event that 19 or fewer securities are included in the index, the capped weight calculation above will not hold and the weight for all securities will be set to 1/n, where n is the number of securities included in the index.

Weight factor calculation:

$$wcf_i = \frac{cw_i}{p_i} \times 10{,}000{,}000{,}000$$

rounded to the closest integer and where:
cw_i = capped weight of company i as described above
p_i= close price in EUR of company i on the Thursday preceding the second Friday of the review month
wcf_i= weighting cap factor of company i

41.1.3. ONGOING MAINTENANCE

Replacements: Deleted companies are not replaced.

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: Spun-off companies are not added permanently to the indices.

41. iSTOXX DEVELOPED MARKETS B.R.AI.N. INDEX

Mergers and takeovers: Standard STOXX proces

42. EURO iSTOXX 50 MONTHLY KRW HEDGED INDEX

42.1. EURO iSTOXX 50 MONTHLY KRW HEDGED

42.1.1. OVERVIEW

The EURO iSTOXX 50 Monthly KRW Hedged Price index replicates the returns of the EURO STOXX 50 index with a monthly currency hedge where the reset of the hedge notional occurs on a monthly basis. At each rebalancing date, the index will enter into a one-month forward contract to sell USDKRW and buy USDEUR at a predefined exchange rate.

Base values and dates:

- Base date: 30 September 2009
- Base value: 1000
- Underlying Index: EURO STOXX 50 Price EUR
- Index Type: Price
- Index Currency: KRW

42.1.2. CALCULATION

$$H\_IDX_t = H\_IDX_{t_r} \cdot \left[\frac{UH\_IDX_t}{UH\_IDX_{t_r}} + \frac{H\_IDX_{t_r-1}}{H\_IDX_{t_r}} \cdot HR_{t_r} \cdot \left(\frac{FX_{t_r-1}}{FF_{t_r}} - \frac{FX_{t_r-1}}{IFF_t} \right) \right]$$

Where

H_IDX	hedged index for day t
UH_IDX_t	unhedged reference index in KRW for day t, equivalent to the underlying index level for day t divided by FX_t
t_r	last calculation day of preceding month (reset date)
t	day of index calculation i.e. number of calendar days since t_r
T	number of calendar days in current month
HR	hedge ratio of currency hedge, $HR_{t_r} = 100\%$
FX_t	$1/(\mathrm{EURUSD}_t \cdot \mathrm{USDKRW}_t)$
FF_t	$1/(\mathrm{EURUSD\_1M\_Fwd}_t \cdot \mathrm{USDKRW\_1M\_Fwd}_t)$
IFF_t	the interpolated forward rate for day t, expressed as units of EUR per unit of KRW, $FX_t + (1 - {}^t/_T) \cdot (FF_t - FX_t)$
EURUSD_t	units of USD per unit EUR, obtained using WM Fixing of 6AM GMT
USDKRW_t	units of KRW per unit USD, obtained using WM Fixing of 6AM GMT

42. EURO iSTOXX 50 MONTHLY KRW HEDGED INDEX

$EURUSD\_1M\_Fwd_t$	1-month forward currency rate, expressed as units of USD per unit EUR, obtained using WM Fixing of 6AM GMT
$USDKRW\_1M\_Fwd_t$	1 month forward currency rate, expressed as units of KRW per unit USD, obtained using WM Fixing of 6AM GMT

43. iSTOXX YEWNO DEVELOPED MARKETS BLOCKCHAIN INDEX

43.1. iSTOXX YEWNO DEVELOPED MARKETS BLOCKCHAIN INDEX

43.1.1. OVERVIEW

The iSTOXX® Yewno Developed Markets Blockchain Index is comprised of companies from a wide range of industries that invest heavily in the development of technologies related to blockchain. These companies are therefore considered to be well-positioned to benefit from the increased adoption of blockchain.

STOXX teamed up with an award-winning AI company, Yewno, whose proprietary AI algorithms, which include machine learning, computational linguistics and knowledge graph techniques, are used to identify the index constituents from the universe of the STOXX® Developed Markets Total Market Index. The key criterion used in the selection process is patent filings related to Blockchain IP, thereby identifying blockchain innovators as well as blockchain adopters.

Universe: The STOXX Developed Total Market index, as observed on the review effective date defines the index universe.

Weighting scheme: The index is price-weighted with a weighting factor proportional to free-float market capitalization and Blockchain IP score.

Base values and dates: 100 on Mar 18, 2013

Index types and currencies: Price, Net Return, Gross Return; in EUR, USD and CAD

Dissemination calendar: STOXX Europe calendar

43.1.2. INDEX REVIEW

For the purposes of the iSTOXX Yewno Developed Markets Blockchain Index, Yewno Inc. calculates two metrics relevant to a company's involvement in the field of Blockchain:

Blockchain Intellectual Property Exposure is defined as the ratio of the number of Blockchain patents awarded to a company over the most recent 3-year period to the total number of patents awarded to that company over the same period. It provides an indication of the importance of Blockchain research and applications to the overall activities of each company.

Blockchain Contribution is defined as the ratio of the number of Blockchain patents awarded to a company over the most recent 3-year period to the total number of Blockchain patents awarded to all companies in the index Universe. It provides an indication of the importance of each company's Blockchain research and applications to the overall Blockchain-related activities of other companies in the index Universe.

The companies in the iSTOXX Yewno Developed Markets Blockchain Index universe are screened for all of the following criteria (in the order in which they are listed below):

43. iSTOXX YEWNO DEVELOPED MARKETS BLOCKCHAIN INDEX

» **Exposure:** Only companies with positive Blockchain Intellectual Property Exposure and Blockchain Contribution are considered as eligible for selection.
» **Minimum liquidity:** 3-month average daily trading value (ADTV) greater than 1,000,000 EUR
» **Multiple share lines:** in case a company is present with multiple listings in an index, only the most liquid share line will be retained.

All remaining companies constitute the eligible universe.

Selection List: A $\text{blockchain score}_i$ is calculated for each company i in the eligible universe, as follows:

$$\text{blockchain score}_i = \text{blockchain}_i^{\text{IPexposure}} * \text{blockchain}_i^{\text{contribution}}$$

Where:
IPexposure = Blockchain Intellectual Property Exposure for company i as defined above
contribution = Blockchain Contribution for company i as defined above

All companies are ranked in descending order based on their blockchain score, and the top 100 companies are selected for inclusion in the index. If two companies have the same blockchain score, priority goes to the one with the highest free-float market capitalization.

In the event that fewer than 100 securities constitute the eligible universe, then all of them are selected for inclusion in the index.

Review frequency: Each index is reviewed quarterly in March, June, September and December. No further capping applies between reviews.

Weighting cap factors: Index weighting cap factors are calculated quarterly in March, June, September and December. They are published on the second Friday of each of those months and based on the stocks' prices of the preceding Thursday.

Target weight calculation:

$$w_i = \frac{\text{blockchain score}_i \cdot \text{ffmcap}_i}{\sum_{j \text{ in comp.list}}^{m} \text{blockchain score}_j \cdot \text{ffmcap}_j}$$

$\text{blockchain score}_i$ = Blockchain IP score of company i
ffmcap_i = free float market capitalization of company i, calculated using close price in EUR on the Thursday preceding the second Friday of the review month
m = number of companies in the final index

Capped weight calculation: The capped weights (cw_i) derive from the target weights via an iterative process that seeks to maintain the following conditions:

- The sum of all weights above 4.5% should not exceed 35%
- No single weight should exceed 8%

To that end, any excess weight is redistributed from a company to the rest of the components of the index that are not already subject to capping under the above rules, proportionally to their weight in the index.

43. iSTOXX YEWNO DEVELOPED MARKETS BLOCKCHAIN INDEX

In the event that 19 or fewer securities are included in the index, the capped weight calculation above will not hold and the weight for all securities will be set according to the target weight calculation.

Weight factor calculation:

$$wcf_i = \frac{cw_i}{p_i} \times 10{,}000{,}000{,}000$$

rounded to the closest integer and where:
cw_i = capped weight of company i as described above
p_i = close price in EUR of company i on the Thursday preceding the second Friday of the review month
wcf_i = weighting cap factor of company i

43.1.3. ONGOING MAINTENANCE

Replacements: Stocks deleted from the STOXX Developed & Emerging TMI are not replaced.

Fast exit: Not applicable

Fast entry: Not applicable

Spin-offs: Spin-offs are not added permanently.

Mergers and takeovers: The original stock is replaced by the surviving stock.

44. iSTOXX EUROPE ESG CLIMATE AWARENESS SELECT 50 INDEX

44.1. iSTOXX EUROPE ESG CLIMATE AWARENESS SELECT 50 INDEX

44.1.1. OVERVIEW

The index tracks the performance of 50 liquid stocks with low volatility and high dividend yield. The components are selected from a pool of companies that have considered the implications of climate change for, and on, their businesses, are taking initiatives in their use of renewable energy and are classed as leading companies with regard to Environmental, Social and Governance criteria.

Universe:
The STOXX® Europe Climate Awareness Ex Global Compact Controversial Weapons & Tobacco Index, as observed on the review effective date defines the index universe.

Weighting scheme:
The index is price-weighted with a weighting factor based on the inverse of the historical volatility (maximum between 3-month and 12-month historical volatility in EUR) of the constituents.

Base values and dates: 100 on Dec 24, 2012

Index types and currencies: Price, Net and Gross return in EUR and USD

Dissemination calendar: STOXX Europe calendar

44.1.2. INDEX REVIEW

Selection list:
The review cut-off date is the last trading day of the month preceding the review month of the index, and upon this date, all stocks in the base universe are screened for the following indicators and a company must fulfil the following conditions in order to be included in the selection list:

i. Carbon Intensity[42] that does not fall in the top 10% (with the highest emissions) of the companies in the parent index
ii. 12-month historical dividend yield
iii. 3-month and 12-month historical volatility in EUR
iv. 3-month Average Daily Traded Volume (ADTV) in EUR equal to or exceeding 7 million EUR
v. Environmental (E), Social (S) and Governance (G) scores equal to or exceeding 50, as derived from Sustainalytics' transparent ESG performance rating model
vi. No suspension from trading for more than 10% of the total trading days in the STOXX calendar in the previous 12 months[43]

[42] Carbon Intensity = (Scope 1 + Scope 2 GHG emissions) / Revenue (USD million)

[43] Min Number of Price Observations$_{period}$ = Number of Trading Days$_{period}$ * 0.9

44. iSTOXX EUROPE ESG CLIMATE AWARENESS SELECT 50 INDEX

vii. Scores on 2 Environmental Key Performance Indicators from Sustainalytics' model that specifically relate to the commitment of companies to transition to renewable energy consumption, and their progress towards that goal. The two indicators are defined as follows:
   a. E.1.8 Renewable Energy Programmes: an assessment of whether the company has taken initiatives to increase the use of renewable energy.
   b. E.1.11 Renewable Energy Use: an assessment of the company's renewable energy consumption.
      - Either "Renewable Energy Programmes" must have a score exceeding 0[44], or "Renewable Energy Use" a score equal to or exceeding 75[45].

Should any of the above fields iii and iv have missing information for a stock, then that company is removed from the base universe. If the 12-month historical dividend-yield (ii), "Renewable Energy Programmes" (vii.a.) or the "Renewable Energy Use" (vii.b.) indicators for a company have missing information, then a score of zero (0) is assigned.

Companies fulfilling all of the above conditions constitute the selection list.

Composition list:

The following Equal Strength Ratio is calculated:

$$ESR = \sqrt{\frac{50}{N}}$$

where,

N	Number of stocks in the selection list

All stocks from the selection list are sorted in descending order in terms of dividend yield and companies are selected for the next step of the selection process based on the ESR:

$$\text{number of companies to select (Dividend screen)} = \text{round down of (ESR} * \text{N)}$$

In case of identical dividend yields, priority is assigned to the stock with the lowest volatility (maximum between the 3-month and 12-month historical volatility in EUR).

All remaining stocks are ranked in ascending order in terms of volatility, as defined above. The top 50 stocks (lowest volatility) are selected to compose the index, under the constraint of having a maximum of 8 companies coming from a single ICB industry. If the composition list cannot be completed with 50 names, the industry constraint is relaxed by allowing an additional company per industry until the point where the 50 components have been selected in the index.

[44] This translates to a company having at a least some activities or a formal programme that display commitment to increase the use of renewable energy

[45] Correspondingly, this means that at least 5% of the company's primary energy use comes from renewable energy sources

44. iSTOXX EUROPE ESG CLIMATE AWARENESS SELECT 50 INDEX

Review frequency: The reviews are conducted on a quarterly basis in March, June, September and December. The review cut-off date for the underlying data is the last dissemination day of February, May, August and November respectively.

Weighting and capping factors: Target weights are calculated based on the inverse of the historical volatility of the selected components:

$$w_i = \frac{\frac{1}{\sigma_i}}{\sum_{j=1}^{50} \frac{1}{\sigma_j}}$$

where,

w_i	target weight of component i
σ_i	maximum between the 3-month and 12-month historical volatility of component i as of review cut-off date, based on prices in EUR

Weighting factors are based on the closing prices in EUR (p_i) of the Thursday prior to the second Friday of the review month:

Weighting factor = (1,000,000,000 x w_i / p_i), rounded to the nearest integer value.

Additionally, components are capped at a maximum weight of 10%.

44.1.3. ONGOING MAINTENANCE

Replacements: A deleted company will not be replaced.

Fast exit: In case a company that is an index constituent increases in its ESG-risk level to level 5, the respective constituent will be deleted from the index. The deletion will take place two dissemination days after the announcement, i.e. at the open of the 3rd dissemination day. The constituent's weight will be distributed among the remaining constituents. This is in line with the STOXX ESG Indices[46].

Fast entry: Not applicable

Spin-offs: Spin-offs are not added permanently

Corporate Actions: All component are maintained for corporate actions as outlined in the STOXX calculation guide available on stoxx.com

46 https://www.stoxx.com/documents/stoxxnet/Documents/Indices/Common/Indexguide/stoxx_esg_guide.pdf

45. iSTOXX ASIA/PACIFIC AND SOUTH KOREA TOTAL MARKET

45.1. iSTOXX ASIA/PACIFIC AND SOUTH KOREA TOTAL MARKET INDEX

45.1.1. OVERVIEW

The iSTOXX Asia/Pacific and South Korea Total Market index is an aggregate of the respective STOXX Total Market country indices. The index aims to provide a broad representation of the targeted region.

Universe: The respective STOXX Total Market country indices.

Weighting scheme: The indices are weighted according to free-float market capitalization: No weighting cap factors are applied.

Base values and dates: 100 on January 31, 2011

Index types and currencies: Price, net return, gross return in EUR and USD.

Dissemination calendar: STOXX Asia calendar

45.1.2. INDEX REVIEW

Component selection: The indices consist of the components of the relevant Total Market Country indices.

Review frequency: The reviews are conducted on a quarterly basis together with the STOXX Total Market Country indices.

45.1.3. ONGOING MAINTENANCE

Replacements: In line with the STOXX Total Market country indices, deleted companies are not replaced.

Fast exit: Not applicable.

Fast entry: Not applicable.

Spin-offs: Spin-offs are added permanently if qualifying for the STOXX Total Market indices as of the latest quarterly review list in terms of free-float market capitalization.

46. EURO iSTOXX 50 COLLAR INDEX

46.1. EURO iSTOXX 50 COLLAR INDEX

46.1.1. INDEX CONCEPT

The EURO iSTOXX 50 Collar index aims to replicate a hedging strategy on the EURO STOXX 50 using an Option Collar. The strategy consists in purchasing daily a fraction of 2 Quarterly Put Options, with expiry in the next 12 months and next expiry date afterwards, and selling daily a fraction of 2 to 6 Monthly Call Options, with expiry in the next 1 and 2 months, while holding a long position in the underlying Euro Stoxx 50 index.
Each Option remains in the Option Portfolio till its expiry. The quantity of Options to be daily bought and sold is balanced in order to be in average long 1 Put and short 1 Call. All Options are out-of-the-money, with the strike level for Put Options set to 90% of the Euro Stoxx 50 level. The Call Options position is split between options with strike 102.5% and 104.5% of the Euro Stoxx 50 level.
This Option Collar aims to implement a defensive strategy to smooth down the Euro Stoxx 50 and reduce the volatility. It aims to provide a long term downside protection, thanks to the long position on Put Options, by forgoing large gains, due to the short position on Call Options.

Index types and currencies: Price EUR

Base values and dates: 100 on 04.01.2016

Initial Option Entry Date: 02.01.2015

Index dissemination calendar: STOXX Eurex calendar

46.1.2. INPUT DATA

During the calculation of the EURO iSTOXX 50 Collar Index, the following end of day data is used via snapshots:

Code	Description
SX5E	Euro Stoxx 50 EUR Price index
SX5T	Euro Stoxx 50 EUR Net Return index
OESX	Settlement price of quarterly EURO STOXX 50 options

46.1.3. PORTFOLIO DEFINITION

On each index dissemination day, a minimum of four and a maximum of 8 options are identified: 2 put options and between one and six call options:

- The first put option matures in one year time from the Entry Date, the second put option on the first quarterly expiry thereafter
- Call options mature in one and two months from the Entry Date. For each maturity, one to three options are chosen, depending on their strikes. Since the targeted percent call option strikes can be close to each other from one day to the other, the amount of an option may be increased to reflect the additional amount required for that day.

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The Notional Option Table in section 46.1.6. describes the logic according to which the options are picked.

Out of these options, if one or more are not part of the portfolio, then they're added to it with their respective Option Quantity value. If one or more options are already part of the portfolio, then the Option Quantity for those options is incremented in order to fulfil the daily strategy requirement. This can happen if the EURO STOXX 50 value fluctuates around the same range of values in a short period of time.

The Options which are going to compose the portfolio are chosen based on the definitions given in the Notional Option Table in section 46.1.6:

- Quarterly put options and monthly call options, with 1 to 3 call options for every put option;
- The put option can be Shorter Dated or Longer Dated;
- The call options can be 1-month or 2-month dated;
- For each Option Type and Option Expiry Date, the option whose strike is closest to the Reference Option Strike is selected (no preferred side). If two listed option strikes are equally close to the Reference Option Strike, then the strike which is closer to the close value of the EURO STOXX 50 on that index dissemination day will be selected. There is no constraint on the Option Strike to be selected, as long as it is the closest to the Reference Option Strike.

All Options will remain part of the portfolio until Expiry or they are delisted.

For example, on October 2017, the 4th nearby quarterly options expiry date would be September 2018 (1st on Dec 2017, 2nd on Mar 2018, 3rd on Jun 2018).

Let's define:

- *Entry Date*: Each index dissemination day from the Initial Option Entry Date on which there is at least one Option entering the portfolio.

Three baskets of options are created:

- $Entry_t$ is the Entry Universe with respect to the index dissemination day *t*: all options for which the Entry Date is on day *t*.
- $Expiry_t$ is the Expiry Universe with respect to the index dissemination day *t*: all options for which the Expiry Date is on *t*.
- $Hold_t$ is the Hold Universe with respect to the index dissemination day *t*: all options for which both the following are valid:
    - The Entry Date is strictly before *t*,
    - The Exit Date is strictly after *t*

46.1.4. CALCULATIONS

46.1.4.1. OPTION QUANTITY

First step in the index calculation is to calculate for every option entering the portfolio the corresponding Option Quantity.

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The Option Quantity represents the fraction of option which is part of the portfolio on any given day. It is a value defined at Entry Day, i.e. when the option first enters the portfolio. The Option Quantity for a specific option can be incremented on a daily basis, depending on whether that option is eligible to enter the portfolio on that day again. The value is calculated by rescaling the Option Position by the number of days in the time period of the option life. In this context, the factor $RIDD_{i,t}/NIDD_i$ represents the percentage of the index dissemination days remaining before the end of the current period (i.e. end of the quarter or end of the month), rescaled then by $OD_i * NIDD_i$ which counts the remaining number of days before the option expiry. The Option Quantity is thus defined as:

$$q_i = \begin{cases} OP_i * \frac{RIDD_i}{NIDD_i} * \frac{1}{OD_i * NIDD_i} & \text{for Shorter Dated options} \\ OP_i * \left(1 - \frac{RIDD_i}{NIDD_i}\right) * \frac{1}{OD_i * NIDD_i} & \text{for Longer Dated options} \\ OP_i * \frac{1}{OD_i * NIDD_i} & \text{for 1-month and 2-months options} \end{cases}$$

Where, according to the Notional Option Table in section 46.1.6:

- OP_i is the Option Position for option *i*.
- OD_i is the Option Divisor for option *i*.
- $RIDD_i$ is the Remaining Number of Index Dissemination Days till next expiry excluded:
$$RIDD_i = [T_i^{Entry}, T_i^{Expiry})$$
- $NIDD_i$ is the Number of Index Dissemination Days:
$$NIDD_i = [T_i^{PrevExpiry}, T_i^{Expiry})$$

Where:

- $T_i^{Expiry} =$
{Immediately following 3rd Friday, for Monthly Options
{Immediately following 3rd Friday of March, June, Sep, Dec, for Quarterly Options
strictly after the current index dissemination day
- $T_i^{PrevExpiry}$ is the immediately preceding expiry before or on the current index dissemination day

46.1.4.2. **OPTION ENTRY VALUE**

The value of each option entering the portfolio is calculated as the settlement value of the option adjusted by transaction costs. The Entry Value of call options should be lower than the option value, since they are sold, hence transaction costs should be negative. On the other hand, the Entry Value for put options should be higher that the option value, since they are bought, hence the transaction costs should be positive.
The transaction costs for all options are capped to 30% of the option premium. In order to avoid selling call options at a negative premium, the Option Entry value has a floor of 0.1 EUR, which is the minimum price tick as per Eurex contract specification.

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The Entry value in formula is thus defined as:

$$O_i^{Entry} = \begin{cases} O_{i,T_i^{Entry}} + \min\left(OTCR_i * S_{Entry}, 30\% * O_{i,T_i^{Entry}}\right) & \text{if } i \text{ is a Put Option} \\ \max\left[Tick\ Size, O_{i,T_i^{Entry}} - \min\left(OTCR_i * S_{Entry}, 30\% * O_{i,T_i^{Entry}}\right)\right] & \text{if } i \text{ is a Call Option} \end{cases}$$

where

- $OTCR_i$ is the Option Transaction Cost for Option *i* (as defined in section 46.1.5).
- S_{Entry} is the Euro Stoxx 50 close value at Entry Date.
- T_i^{Entry} is the Option Entry Date.
- $Tick\ Size$ is 0.10 EUR, the minimum tick size as specified by Eurex

46.1.4.3. **OPTION PORTFOLIO LEVEL**

The Option Portfolio Level is the current value of the Option portfolio and is defined as:

$$OPL_t = OPL_t^{MTM} + OPL_t^{DAILY\_VARIATION}$$

Having:

- OPL_t^{MTM} the Mark-to-market value of the portfolio, calculated on each day t by multiplying the Option Quantity by the option settlement on such day:

$$OPL_t^{MTM} = \sum_{i \in Entry_t \cup Hold_t} q_i * O_{i,t}$$

- $OPL_t^{DAILY\_VARIATION}$ is the daily variation in the option value and is calculated on each day t by considering all options entering the portfolio and all options expiring on such day, in a way similar to the Mark-to-market calculation. To be noted that by multiplying $q_i * \left(-O_i^{Entry}\right)$ the option transaction cost results always positive.

$$OPL_t^{DAILY\_VARIATION} = \begin{cases} \sum_{i \in Entry_0} q_i * \left(-O_i^{Entry}\right) & t = 0 \\ OPL_{t-1}^{DAILY\_VARIATION} + \sum_{i \in Entry_t} q_i * \left(-O_i^{Entry}\right) + \sum_{i \in Expiry_t} q_i * \left(+O_i^{Expiry}\right) & t > 0 \end{cases}$$

Where:

- $t = 0$ is the index base date, as defined in section 46.1.1
- q_i is the Option quantity for option *i*.
- $O_{i,t}$ is the value of the option *i* at time *t*. With respect to an option and an index dissemination day before its Expiry Date, it is the Option Settlement Value. With respect to an option on or after its Expiry Date, the Option Value is equal to the Option Expiry Value.

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- O_i^{Expiry} is the Expiry value for Option *i*, defined as the Options Settlement Value on Expiry Date

46.1.4.4. INDEX VALUE CALCULATION

The daily return of the index is calculated as the daily return of the underlying Euro Stoxx 50, plus the dividend yield, plus the daily variation in the value of the option portfolio
In formula:

$$I_t = \begin{cases} 100 & t = 0 \\ I_{t-1} * \left(\frac{S_t + \Delta OPL_t}{S_{t-1}} + Div_t\right) & t > 0 \end{cases}$$

Where:

- $t = 0$ is the index base date, as defined in section 46.1.1
- S_t is the closing index value of Euro Stoxx 50 EUR Price index (symbol SX5E) at time *t*
- Div_t represents the net dividend yield earned on day t and is calculated as:

  $$Div_t = \frac{SX5T_t}{SX5T_{t-1}} - \frac{SX5E_t}{SX5E_{t-1}}$$

  where $SX5T_t$ is the closing index value of Euro Stoxx 50 EUR Net Return index.

- ΔOPL_t is the variation in the Option Portfolio Level on day *t* minus the cost of borrowing the money to implement the Option strategy on such day. In fact, the entire cash position available in the portfolio on day *t-1* is invested to purchase the stock basket corresponding to the Euro Stoxx 50, which would provide a return of $I_{t-1} * \left(\frac{S_t}{S_{t-1}} + Div_t\right)$. In order to implement the Option strategy on that day and get exposure to the variation in the Option Portfolio Level, we need to borrow the cash amount corresponding to the current value of the Option Portfolio, which is equal to OPL_{t-1}^{MTM} times the de-annualized risk-free rate used for borrowing.
  In formula:

  $$\Delta OPL_t = OPL_t - OPL_{t-1} - OPL_{t-1}^{MTM} * \frac{SGCPON_{t-1}}{100} * \frac{Act(t-1,t)}{360}$$

  Where

  - $SGCPON_t$ is the STOXX GC Pooling EUR ON index value on day *t* as risk-free rate.
  - $Act(t-1,t)$ is the number of calendar days from but excluding date t-1 to and including date t.

46.1.5. TRANSACTION COSTS

Transaction costs depend on the implied volatility level as measured by the VSTOXX 30 day index:

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Cost (bps)							
	Call Leg						Put Leg
Expiry	1m			2m			12m
Strike (as percent of the SX5E level)	102.5	103	103.5	103.5	104	104.5	90
VSTOXX < 12.5	3.5	3	2.5	5.5	5	4	15
12.5 ≤ VSTOXX < 20	6.5	6	5.5	9.5	9	8	22.5
20 ≤ VSTOXX < 30	9	9	8.5	13	12.5	12	32.5
VSTOXX ≥ 30	13.5	13.5	13	19	19	18.5	47.5

46.1.6. NOTIONAL OPTION TABLE

The Option Strike Percentage described in the table below are defined with respect to the index closing value on day t of EURO STOXX 50 Index (SX5E). Options entering the portfolio on any day t produce returns between day t and day t+1, while the corresponding transaction costs are included in the index close of day t. Since the options on any day t have to be bought before close, using the close value of EURO STOXX 50 generates a small gap in the replicability, which is generally accepted in the market, but makes the strategy more precise in terms of options selection.

Option Position	Option Type	Option Strike Percentage	Option Expiry Date	Option Divisor	Option Expiry Frequency
1 (Buy)	European Put	90%	Shorter Dated – Options with Expiry Date on March, June, September, December falling on or immediately before the day 12 months after the Entry Date	4	Quarterly
1 (Buy)	European Put	90%	Longer Dated – Options with Expiry Date on March, June, September, December falling immediately after the day 12 months after the Entry Date	4	Quarterly
-1/6 (Sell)	European Call	102.5%	1-month – Options with Expiry Date on the 3rd Friday of each month falling strictly after 10 Index Dissemination Days from such Index Dissemination Day	1	Monthly
-1/6 (Sell)	European Call	103%	1-month – Options with Expiry Date on the 3rd Friday of each month falling strictly after 10 Index	1	Monthly

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			Dissemination Days from such Index Dissemination Day		
-1/6 (Sell)	European Call	103.5%	1-month – Options with Expiry Date on the 3rd Friday of each month falling strictly after 10 Index Dissemination Days from such Index Dissemination Day	1	Monthly
-1/6 (Sell)	European Call	103.5%	2-month – Options with Expiry Date on the 3rd Friday of each month falling strictly after the 1-month Expiry Date on such Index Dissemination Day	2	Monthly
-1/6 (Sell)	European Call	104%	2-month – Options with Expiry Date on the 3rd Friday of each month falling strictly after the 1-month Expiry Date on such Index Dissemination Day	2	Monthly
-1/6 (Sell)	European Call	104.5%	2-month – Options with Expiry Date on the 3rd Friday of each month falling strictly after the 1-month Expiry Date on such Index Dissemination Day	2	Monthly

46.1.7. MARKET DISRUPTION EVENTS

STOXX will exclude from their indices all options as soon as their delisting becomes known to STOXX (e.g. direct notification from the market, or unavailability of a settlement price)