OCTOBER 2016

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 6.1 EURO iSTOXX EQUAL RISK index
» July 2014: Addition of chapter 6.4 iSTOXX EUROPE NEXT DIVIDEND LOW
» July 2014: Addition of chapter 13 iSTOXX QUALITY and chapter 3 GENERAL PRINCIPLES
» August 2014: Amendment of chapter 6.4 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 15 iSTOXX MUTB INDICES
» August 2015: Addition of chapter 17 iSTOXX Centenary indices
» August 2015: Addition of chapter 17 iSTOXX DEMOGRAPHY
» August 2015: Addition of chapter 18.1 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 18.1.EURO iSTOXX ex Financials High Dividend 50
» January 2016: Addition of iSTOXX MUTB Global Quality indices to section 15 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 15 iSTOXX MUTB INDICES
» April 2016 (3): Modification to STOXX SD-KPI indices

2. CHANGES TO THE GUIDE BOOK

» April 2016 (4): Addition of EURO iSTOXX 60 Equal Weight and EURO iSTOXX 70 Equal Weight indices
» 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

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:

$$Index_t = \frac{\sum_{i=1}^{M} P_t^i q_{T\,prev}^i C_t}{D_t}$$

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

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

T = Estimation date
V_t^j = adjusted volume in number of shares of index component i at time t
P_t^j = 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: $w_i \leq w_{max}, \text{where } w_s = \sum_{i \in I} w_i \text{ is the net exposure to the Industry}$

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:

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

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 a 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.

4. iSTOXX MINIMUM VARIANCE INDICES

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. iSTOXX WORLD SELECT INDEX

5.1. iSTOXX WORLD SELECT INDEX

5.1.1. OVERVIEW

The iSTOXX World Select Index is a blue-chip representation of the EURO STOXX 50 countries, Japan and the USA.

Universe: The universe is defined as the EURO STOXX 50, STOXX Japan 50 and STOXX USA 50 Index ("the underlying indices").

Weighting scheme: The index weighted according to free float market capitalization.

Base values and date: 1,000 on December 28, 2001.

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

5.1.2. INDEX REVIEW

Component selection: The index combines all stocks of the underlying indices at any time.

Review frequency: The underlying indices are reviewed according to their defined index methodology.

Weighting cap factors:
The underlying indices are equally each quarter by assigning a cap factor to each constituents.

Cap factor for companies of the underlying index (i) =sum (FF MCap of underlying index(i)) / sum (EURO STOXX 50, STOXX Japan 50, STOXX USA 50) /3

i= (EURO STOXX 50, STOXX Japan 50, STOXX USA 50)

Derived indices: Not applicable.

5.1.3. ONGOING MAINTENANCE

Corporate action adjustments are done on the level of the underlying indices.

6. RISK BASED INDICES

6.1. EURO iSTOXX EQUAL RISK INDEX

6.1.1. **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.

6.1.2. **INDEX REVIEW**

Component selection: All companies of EURO STOXX 50 are re-weighted.

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

6. RISK BASED INDICES

$\sum$ = Covariance matrix of the Equal Risk Index Constituents

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.

6. RISK BASED INDICES

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:

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

The covariance matrix □ 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 □$_{ij}$ 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: Weights are defined by the solution of the sequential quadratic programming problem as defined in the previous paragraph.

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

Derived indices: Not applicable.

6.1.3. 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.

6. RISK BASED INDICES

6.2. iSTOXX LOW VARIANCE 120 INDEX

6.2.1. **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

6.2.2. **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.

6. RISK BASED INDICES

6.2.3. 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.

6. RISK BASED INDICES

6.3. iSTOXX EUROPE LOW VARIANCE ADJUSTED BETA INDEX

6.3.1. **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), 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

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

6. RISK BASED INDICES

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.

6.3.2. **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)):

6. RISK BASED INDICES

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

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

t-1 is the trading day immediately preceding t.

6.3.3. **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.

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

where,

$SXLABR_{t*}$ = 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:

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

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 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*.

6. RISK BASED INDICES

6.4. iSTOXX EUROPE NEXT DIVIDEND LOW RISK 50 INDEX

6.4.1. **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 January 23, 2009.

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

6.4.2. **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

6. RISK BASED INDICES

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

6.4.3. 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

6. RISK BASED INDICES

6.5. iSTOXX EUROPE SELECT HIGH BETA 50 INDEX

6.5.1. **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.

6.5.2. **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.

6.5.3. **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.

6. RISK BASED INDICES

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.

7. DYNAMIC VSTOXX INDEX

7.1. DYNAMIC VSTOXX INDEX

7.1.1. **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.

Index value formula:

1. A Trading Signal is calculated as follow:

$$TS_d = \frac{IndexA_d}{IndexB_d}$$

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

7. DYNAMIC VSTOXX INDEX

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

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

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:

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

7. DYNAMIC VSTOXX INDEX

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

7. DYNAMIC VSTOXX INDEX

$103\% \leq TS_{d-1} < 110\%$	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.

8. DYNAMIC VSTOXX NET OF COSTS INDEX

8.1. DYNAMIC VSTOXX NET OF COSTS INDEX

8.1.1. **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.

Index value formula

1. A Trading Signal is calculated as follow:

$$TS_d = \frac{IndexA_d}{IndexB_d}$$

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

8. DYNAMIC VSTOXX NET OF COSTS INDEX

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}):

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

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

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

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

8. DYNAMIC VSTOXX NET OF COSTS INDEX

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 $\frac{I^{ER}_{d-1}}{I^{ER}_{R}} < 0.5$
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:

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

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:

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

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), $I^{ER}_0 = 100.00$.

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
2. Long-Only version:

8. DYNAMIC VSTOXX NET OF COSTS INDEX

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.

9. iSTOXX SD-KPI INDICES

9.1. iSTOXX SD-KPI INDICES

9.1.1. **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 21.09.2007for the EURO iSTOXX 50 SD-KPI and iSTOXX Europe 50 SD-KPI and 100 on 31.01.2011 for the iSTOXX Europe 600 SD-KPI

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

9.1.2. **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

9. iSTOXX SD-KPI INDICES

60.01%-80%	+5%	1.05	+25%	1.25
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)

9.1.3. **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.

10. iSTOXX TURKEY STRONG QUALITY INDEX

10.1. iSTOXX TURKEY STRONG QUALITY INDEX

10.1.1. OVERVIEW

The iSTOXX Turkey Strong Quality indices select the best companies based on an average ranking of three fundamentals factors (Return on Equity, Price/Earnings ratio and Total Assets/Total Equity ratio) and fulfilling minimum liquidity criteria.

Universe: The investible universe is derived from the STOXX Turkey TM Index

Base values and dates: 100 on June 20, 2008
Weighting scheme: Weighted according to the free-float market capitalization.
Index types and currencies: Price, net return, gross return, all available in EUR, USD and TRY.

10.1.2. INDEX REVIEW

Selection list: All stocks in the universe must fulfill the following criteria to be eligible for the selection list:

- Minimum liquidity criteria: 3 months Average Daily Traded Value (ADTV) of 2 mln EUR
- Stocks must have a positive Return on Equity (ROE) for the past three years, including the current year
- Stocks must have a positive Price/Earnings (PE)
- Stocks must have a Total Assets/Total Equity (TATE) greater than 0. For stocks belonging to bank sector (ICB code: 8300), the TATE ratio is divided by a factor of three.

The eligible stocks are ranked by ROE (in descending order), PE (in ascending order) and TATE (in ascending order) and a final rank is calculated as the average of the three rankings. All stocks are sorted by their final rank in ascending order. If two of more stocks have the same rank, they are sorted by ROE (descending order) first, followed by TATE (ascending order) and then PE (ascending order).

Composition list: The first 20 stocks in the ranking are selected from the selection list for the index composition. No buffer rules apply.
If less than the required number of stocks can be selected, the index will be calculated with the stocks available on the selection list and will have less constituents until the next periodic index review.

Review frequency: The indices are reviewed annually in June. The cut-off date is the last business day of month preceding the review month.

Weighting cap factors: Components are capped at a maximum weight of 10% quarterly. The weighting cap factors are published on the second Friday of the review month using Thursday's closing prices.

10.1.3. ONGOING MAINTENANCE

10. iSTOXX TURKEY STRONG QUALITY INDEX

Replacements A deleted stock is replaced immediately to maintain the fixed number of stocks. The replacement is based on the latest selection list that is updated quarterly.

Fast exit: Not applicable.

Fast entry: Not applicable.

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

11. iSTOXX ESG SELECT INDICES

11.1. ISTOXX GLOBAL ESG SELECT 100 INDEX

11.1.1. **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 20/09/2004

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

11.1.2. **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 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 at a maximum weight of 10%

Derived indices: not applicable

11.1.3. **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.

11. iSTOXX ESG SELECT INDICES

Fast entry: Not applicable.

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

11. iSTOXX ESG SELECT INDICES

11.2. iSTOXX EUROPE ESG SELECT 30 INDEX

11.2.1. 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 20/09/2004

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

11.2.2. 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 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 at a maximum weight of 10%

Derived indices: not applicable

11.2.3. 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.

11. iSTOXX ESG SELECT INDICES

Fast entry: Not applicable.

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

11. iSTOXX ESG SELECT INDICES

11.3. iSTOXX NORTH AMERICA ESG SELECT 30 INDEX

11.3.1. 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[1]. Customized solutions can be provided upon request.

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

11.3.2. 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.

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

11. 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%.

11.3.3. **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.

11. iSTOXX ESG SELECT INDICES

11.4. iSTOXX GLOBAL ESG SELECT 50 INDEX

11.4.1. **OVERVIEW**

The index selects, among the Global ESG Leaders index, the top dividend payers of each regions (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[2]. Customized solutions can be provided upon request.

11.4.2. **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:

$$Gross\ Dividend\ Yield_{Region} = 1\ Year\ Gross\ Return\ performance_{benchmark\ index} - 1\ Year\ Price\ performance_{benchmark\ index}$$

With the following parameters:

Region	Benchmark index
Asia/Pacific	STOXX Asia/Pacific 600

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

11. 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%.

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

11. iSTOXX ESG SELECT INDICES

11.4.3. **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.

12. iSTOXX OPTIMISED TURKEY RISK CONTROL RV INDEX

12.1. iSTOXX OPTIMISED TURKEY RISK CONTROL RV INDEX

12.1.1. OVERVIEW

A target volatility concept is applied to the STOXX Risk Control Indices. Whereas the risk profile of the underlying index is the uncontrolled outcome of the existing market-cap weighted index concept, the Risk Control Indices controls for risk by aiming for a target volatility of 5% (10%, 15% and 20%). In order to control for risk, the index shifts between a risk free money market investment (measured via EONIA for Europe, USD Libor Overnight for America, Asia and Global, GBP Libor Overnight for Great Britain as well as AUD Libor Spot Next for Oceania) and a risky asset (measured by the respective underlying equity index).

12.1.2. BASIC DATA

Various versions of the STOXX Risk Control indices are available for a broad number of countries for target volatility of 5%, 10%, 15% and 20%. For more details please consult the Data Vendor Code sheet on the STOXX website[3].

12.1.3. CALCULATION

12.1.3.1. INDEX FORMULA

$$STOXXRC_t = STOXXRC_{t-1} \times \left(1 - IR_{t-1}\frac{Diff(t-1,t)}{360}\right) \times \left[1 + w_{t-1}\left(\frac{STOXX_t}{STOXX_{t-1}} - 1\right) + (1 - w_{t-1})\left((IR_{t-1})\frac{Diff(t-1,t)}{360}\right)\right]$$

where:

$STOXXRC_t$	Level of the STOXX Risk Control Index on Index Level
$STOXXRC_{t-1}$	Level of the STOXX Risk Control Index on Index Level Determination Date t -1
w_{t-1}	Equity Weight on Index Level Determination Date t
STOXXt	Level of the underlying Blue Chip Index on Index Level Determination Date t
STOXXt-1	Level of the underlying Blue Chip Index on Index Level Determination Date t -1
IR_{t-1}	Interest rate on the Index Level Determination Date t-1 (according to above given allocation)
Diff(t-1,t)	Difference between t-1 and t measured in calendar days

Region / Country	Interest rate (currency)
Turkey	TRY -BID

12.1.4. DETERMINATION OF THE TARGET WEIGHT

On any Index Level Determination Date t, the Target Weight shall be determined as follows:

[3] http://www.stoxx.com/

12. iSTOXX OPTIMISED TURKEY RISK CONTROL RV INDEX

$$Tgtw_t = \frac{TgtVol}{MaxRealizedVol_{t,(20,60)}}$$

where:

TgtVol = 10%

$MaxRealizedVol_{20,60}$ is the maximum of the realized volatilities measured over 20 days and 60 days

$$\text{Realized Vol}_{t,n} = \sqrt{\frac{252}{n} \cdot \sum_s \left[\ln\left(\frac{STOXX_s}{STOXX_{s-1}} \right) \right]^2}$$

where:

n	19 (59)
s	ranging from t-18 to t (t-58 to t)

12.1.5. **DETERMINATION OF THE EQUITY WEIGHT AND INDEX REBALANCING DAYS**

The Equity Weight on the Index Start Date shall be equal to the Target Weight at the Index Start Date,

$$w_0 = Min(Cap, \max(Floor, Tgtw_0))$$

On any Index Level Determination Date t subsequent to the Index Start Date, the Equity Weight shall be determined as follows:

(i) If $abs\left\{1 - \frac{w_{t-1}}{Tgtw_{t-1}}\right\} > Tolerance$

then the Index Level Determination Date t will be an Index Rebalancing Day and

$$w_t = Min(Cap, \max(Floor, Tgtw_{t-1}))$$

(ii) Otherwise, Index Level Determination Date t will not be an Index Rebalancing Day and

$$w_t = w_{t-1}$$

where:

Tolerance	allows a predefined deviation from the target weight
$w_{t/t-1}$	Equity Weight on Index Level Determination Date t / t – 1
$Tgtw_{t-1}$	Target Weight on Index Level Determination Date t-1
Cap	the maximum portion that can be given to the risky asset
Floor	the minimum portion that must be given to the risky asset

Index	Tolerance	Floor	Cap
iSTOXX Optimised Turkey Risk Control RV Index	5%	20%	100%

13. iSTOXX QUALITY INCOME INDICES

13.1. iSTOXX EUROPE QUALITY INCOME UH INDEX

13.1.1. **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 31/12/2004

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

13.1.2. **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

$$ROA_{t_0} = \frac{net\ income\ before\ extraordinary\ items_{t_0}}{total\ assets_{t_0}}$$

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

$$CFO\ Ratio_{t_0} = \frac{cash\ flow\ from\ operation_{t_0}}{total\ assets_{t_0}}$$

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

$$Accruals_{t_0} = ROA_{t_0} - CFO\ Ratio_{t_0}$$

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

$$1Y\Delta ROA_{t_0} = ROA_{t_0} - ROA_{t_{-1}}$$

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

$$Leverage_{t_0} = \frac{long\ term\ debts_{t_0}}{0.5 \times total\ assets_{t_0} + 0.5 \times total\ assets_{t_{-1}}}$$

$$1Y\Delta Lev_{t_0} = Leverage_{t_0} - Leverage_{t_{-1}}$$

13. 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)

$$1Y\Delta LR_{t_0} = current\ ratio_{t_0} - current\ ratio_{t_{-1}}$$

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

$$1Y\Delta NBO_{t_0} = \frac{number\ of\ shares\ outstanding_{t_0}}{number\ of\ shares\ outstanding_{t_{-1}}} - 1$$

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

$$GOM_{t_0} = \frac{gross\ income_{t_0}}{sales_{t_0}}$$

$$1Y\Delta GOM_{t_0} = GOM_{t_0} - GOM_{t_{-1}}$$

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

$$AT_{t_0} = \frac{sales_{t_0}}{total\ assets_{t_0}}$$

$$1Y\Delta AT_{t_0} = AT_{t_0} - AT_{t_{-1}}$$

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:

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

or

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

with

$$E = A \times N(d_1) - e^{-rT} \times F \times N(d_2)$$

$$\sigma_E = \frac{A}{E} \times N(d_1) \times \sigma_A$$

$$d_1 = \frac{\ln\left(\frac{A}{F}\right) + \left(r - \frac{\sigma_A^2}{2}\right) \times T}{\sigma_A \times \sqrt{T}}\ and\ d_2 = d_1 - \sigma_A \times \sqrt{T}$$

$$F = CL + 0.5 \times LTL$$

13. iSTOXX QUALITY INCOME INDICES

where,

- A market value of assets,
- F default point,
- r interest rate, i.e. six month interbank rate,
- T time 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

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 Bln,
- 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

13. 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:

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

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.

13.1.3. **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.

13. iSTOXX QUALITY INCOME INDICES

13.2. iSTOXX EUROPE QUALITY INCOME INDEX

13.2.1. 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.

13.2.2. CALCULATION FORMULA

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

$$H\_IDX_t = H\_IDX_0 \cdot \left(\underbrace{\frac{UH\_IDX_t}{UH\_IDX_0}}_{\text{Performance of unhedged index}} + \sum_{c=1}^{C} HR^c \cdot \left(\underbrace{\frac{FX_0^c}{FF_0^c}}_{\text{Cost to hedge on the forward contract}} - \underbrace{\frac{FX_0^c}{IFF_t^c}}_{\text{Estimated gain or loss}} \right) \right)$$

$$IFF_t^c = FX_t^c + \left(1 - \frac{t}{T}\right) \cdot \left(FF_t^c - FX_t^c\right)$$

where:

H_IDX	= Hedged index
UH_IDX	= Unhedged reference index (in hedged currency)
t=0	= last calculation day of preceding month
t	= day of index calculation / number of calendar days since t=0
T	= number of calendar days in current month
C	= number of different currencies to be hedged
HR	= currency hedge ratio
FX	= Spot Rate (hedged currency / currency c)
FF	= Forward Rate (hedged currency / currency c)

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

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

14.1. EURO iSTOXX CONSTANT & INCREMENT INDICES

14.1.1. **OVERVIEW**

The EURO iSTOXX Equal Weighted Constant 50 index replicates the returns of an investment into the base 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.
The base index is the EURO STOXX 50 Equal Weight Gross Return Index in EUR.

Universe: The index universe is the EURO STOXX 50 Equal Weight EUR Gross Return index.

Base values and dates: 1000 on Nov 19, 2014

Index types and currencies: Price EUR

14.1.2. **INDEX FORMULA AND INTERMEDIATE CALCULATION STEPS**

EURO iSTOXX Equal Weight Constant 50 index:

$$IV_t = IV_{t-1}\frac{U_t}{U_{t-1}} - 50\frac{ACT(t-1,t)}{365}$$

where:

IV_t	= Index value on day *t*
IV_0	= Index value on base date (1000)
U_t	= Index value of underlying (EURO STOXX 50 Equal Weight EUR GR) on day t
$ACT(t-1,t)$	= number of actual calendar day between *t-1* and *t* (usually 1, after weekends 3)

The parameter 50 reflects a dividend yield of 5% at the base date. The parameter has a smaller impact on the return of the index when the index value is higher and a larger impact on the index return when the index value is lower compared to value at the base date.

EURO iSTOXX Equal Weight Increment 7% index:

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

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)

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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).

14.1.3. **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.

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

14.2. iSTOXX EUROPE MAXIMUM DIVIDEND 8% DECREMENT

14.2.1. OVERVIEW

The iSTOXX Europe Maximum Dividend 8% Decrement replicates the return of an investment into the base 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 base index is the STOXX Europe Maximum Dividend Net Return Index in EUR.

Index types and currencies: Price EUR

Base values and dates: 100 on March 20, 2000

14.2.2. INDEX FORMULA AND INTERMEDIATE CALCULATION STEPS

$$IV_t = IV_{t-1} \times \left(\frac{U_t}{U_{t-1}} - C\frac{ACT(t-1,t)}{365}\right)$$

where:

IV_t	= Index value on day *t*
IV_0	= Index value on launch date (100)
U_t	= Index value of underlying on day t
$ACT(t-1,t)$	= number of actual calendar day between *t-1* and *t* (usually 1, after weekends 3)
C	= constant number of percentage subtracted (8%)

14.2.3. ONGOING MAINTENANCE

All index changes and adjustments of the underlying STOXX Europe Maximum Dividend index are reflected in the iSTOXX Europe Maximum Dividend 8% Decrement Index.

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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

14.3.1. **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. Its derived index, the EURO iSTOXX 50 Style Weighted Decrement replicates the return of an investment into the net return version 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 is underperforming the standard EURO iSTOXX 50 Style Weighted Net Return index that include a net dividend investment. The index performs better than the standard price index that do not consider dividend investments as long as the overall net dividend yield of the base indices is greater than the index points being subtracted.

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

14.3.2. **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

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

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

If $s_i(t) > 0$	Else

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

$$S_i(t) = 1 + s_i(t) \qquad S_i(t) = \frac{1}{1 - s_i(t)}$$

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

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

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

If $v_i(t) > 0$	Else
$V_i(t) = 1 + v_i(t)$	$V_i(t) = \frac{1}{1 - v_i(t)}$

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

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

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

If $q_i(t) > 0$	Else
$Q_i(t) = 1 + q_i(t)$	$Q_i(t) = \frac{1}{1 - q_i(t)}$

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

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.

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%

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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.

Derived indices: The EURO iSTOXX 50 Style Weighted Index serves as input for the EURO iSTOXX 50 Style Weighted Decrement Index which is calculated as following:

$$IV_t = IV_{t-1} \times \left(\frac{U_t}{U_{t-1}} - C\frac{ACT(t-1,t)}{365}\right)$$

where,

IV_t	Index value on day *t*
IV_0	Index value on base date (100)
U_t	Index value of underlying index on day t
$ACT(t-1,t)$	number of actual calendar day between *t-1* and *t* (usually 1, after weekends 3)
C	constant number of percentage subtracted (5.5%)

14.3.3. **ONGOING MAINTENANCE**

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

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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

14.4.1. **OVERVIEW**

The Decrement Index (see table below) replicates the return of an investment into the Base 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 Base Index is greater than the value being subtracted.

Base Index, Decrement Index, base value and date:

Base Index	Decrement Index	Constant % subtracted (C)	Base value	Base date
EURO STOXX 50 Net Return Index	EURO iSTOXX 50 Decrement 4.75%	4.75%	1000	31 Dec 1986
EURO STOXX 50 Gross Return Index	EURO iSTOXX 50 Decrement 5%	5.00%	1000	2 Jan 2001
EURO STOXX 50 Equal Weighted Net Return Index	EURO iSTOXX 50 Equal Weighted Decrement 4.75%	4.75%	1000	30 Dec 1999
EURO STOXX 50 Equal Weighted Gross Return Index	EURO iSTOXX 50 Equal Weighted Decrement 5%	5.00%	1000	29 Dec 2000
EURO STOXX 50 Low Carbon Net Return Index	EURO iSTOXX 50 Low Carbon Decrement 4.75%	4.75%	1000	19 Dec 2011
EURO STOXX 50 Low Carbon Gross Return Index	EURO iSTOXX 50 Low Carbon Decrement 5%	5.00%	1000	19 Dec 2011

All indices are in EUR.

Index type and currency:
Price in EUR

14.4.2. **INDEX FORMULA AND INTERMEDIATE CALCULATION STEPS**

$$IV_t = IV_{t-1} \times \left(\frac{U_t}{U_{t-1}} - C\frac{ACT(t-1,t)}{365}\right)$$

where:

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

IV_t	= Index value on day *t*
IV_0	= Index value on launch date (1000)
U_t	= Index value of underlying on day t
$ACT(t-1,t)$	= number of actual calendar day between *t-1* and *t* (usually 1, after weekends 3)
C	= constant percentage subtracted (see table above)

14.4.3. **ONGOING MAINTENANCE**

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

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

14.5. iSTOXX TRANSATLANTIC 100 EQUAL WEIGHT DECREMENT 50

14.5.1. 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 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

14.5.2. ISTOXX TRANSATLANTIC EU 70

14.5.2.1. OVERVIEW

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

Weighting scheme: equal-weighted

Base value and date: 1000 on 20.11.2015

Index types and currencies: Gross Return in EUR

14.5.2.2. 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.

14.5.2.3. ONGOING MAINTENANCE

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

Replacements: Deleted companies are not replaced

Fast exit: Not applicable

Fast entry: Not applicable

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

14.5.3. ISTOXX TRANSATLANTIC US 30

14.5.3.1. OVERVIEW

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

Weighting scheme: equal-weighted

Base values and dates: 1000 on 20.11.2015

Index types and currencies: Gross Return in EUR, USD

14.5.3.2. 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

14.5.3.3. 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

14.5.4. ISTOXX TRANSATLANTIC 100 EQUAL WEIGHT

14.5.4.1. 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.

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

14.5.4.2. **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

14.5.5. **ISTOXX TRANSATLANTIC 100 EQUAL WEIGHT DECREMENT**

14.5.5.1. **OVERVIEW**

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

14.5.5.2. **INDEX FORMULA**

$$IV_t = IV_{t-1} \cdot \frac{U_t}{U_{t-1}} - D \cdot \frac{Act(t-1, t)}{365}$$

IV_t = value of iSTOXX Transatlantic 100 Equal Weight Decrement EUR (P) on day t ($IV_{31.12.2004}$ = 818.97)
U_t = value of iSTOXX Transatlantic 100 Equal Weight EUR (GR) index on day t
D = annual decrement in index points (50)
Act (t-1, t) = number of calendar days between day t-1 and t

Base value and date: 1000 on 20.11.2015

Index types and currencies: Price in EUR

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

14.6. 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

14.6.1. **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.

14.6.2. **ISTOXX SMART QUALITY MOMENTUM VALUE**

14.6.2.1. **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.

14.6.2.2. **INDEX REVIEW**

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

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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

$FinalRank_i = MomentumRank_i + QualityRank_i + ValueRank_i$

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:

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

$$QualityScore_i = PiotroskiScore_i + 2 \cdot MertonScore_i$$

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:

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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

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:

14. 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

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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

iv. EBITDA to Enterprise Value
$$EBITDAEV_i = EBITDAEVBP_{i,t_0} - median_{ICB=ICB_i}(EBITDAEV_{ICB,t_0})$$

v. Free Cash Flow to Price
$$FCFP_i = FCFP_{i,t_0} - median_{ICB=ICB_i}(FCFP_{ICB,t_0})$$

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:

14. 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.

14.6.2.3. 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.

14.6.3. ISTOXX SMART QUALITY MOMENTUM VALUE DECREMENT 50

14.6.3.1. 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 The iSTOXX Smart Quality Momentum Value index.

14.6.3.2. INDEX FORMULA

$$IV_t = IV_{t-1} \cdot \frac{U_t}{U_{t-1}} - D \cdot \frac{Act(t-1, t)}{365}$$

IV_t = value of iSTOXX Smart Quality Momentum Value Decrement 50 EUR (P) on day t ($IV_{20.01.2003}$ = 625.79)
U_t = value of iSTOXX Smart Quality Momentum Value EUR (GR) index on day t
D = annual decrement in index points (50)
Act (t-1, t) = number of calendar days between day t-1 and t

Base value and date: 1,000 on 19.11.2014

Index types and currencies: Price in EUR

14. DECREMENT INDICES (PERFORMANCE DEDUCTIONS)

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

14.7.1. **OVERVIEW**

The Decrement Index (see table below) replicates the return of an investment into the Base 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 Base Index is greater than the value being subtracted.

Base Index, Decrement Index, base value and date:

Base Index	Decrement Index	Constant % subtracted (C)	Base value	Base date
EURO iSTOXX 60 Equal Weight Net Return Index	EURO iSTOXX 60 Equal Weight Decrement 4.5%	4.5%	1000	19 Nov 2014
EURO iSTOXX 70 Equal Weight Net Return Index	EURO iSTOXX 70 Equal Weight Decrement 5%	5.0%	1000	19 Nov 2014

All indices are in EUR.

Index type and currency:
Price in EUR

14.7.2. **INDEX FORMULA AND INTERMEDIATE CALCULATION STEPS**

$$IV_t = IV_{t-1} \times \left(\frac{U_t}{U_{t-1}} - C\frac{ACT(t-1,t)}{365}\right)$$

where:

IV_t = Index value on day *t*
IV_0 = Index value on launch date (1000)
U_t = Index value of underlying on day t
$ACT(t-1,t)$ = number of actual calendar day between *t-1* and *t* (usually 1, after weekends 3)
C = constant percentage subtracted (see table above)

14.7.3. **ONGOING MAINTENANCE**

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

15. iSTOXX MUTB INDICES

15.1. iSTOXX MUTB QUALITY 150 INDICES

15.1.1. **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

15.1.2. **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 remain 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 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

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(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:

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

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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 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.

15.1.3. **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

15.2. iSTOXX MUTB JAPAN PROACTIVE LEADERS 200 INDEX

15. iSTOXX MUTB INDICES

15.2.1. 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

15.2.2. 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

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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:

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

$$EXCAPEX_{i,t} = CAPEX_{i,t} - Depreciation_{i,t}$$

$$CAPEX_{i,t}: capital\ expenditures\ item\ of\ company\ i\ at\ t$$

$$Depreciation_{i,t}: depreciation\ item\ of\ company\ i\ at\ t$$

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.

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

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

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

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.

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

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As long as one year CAPEX is available, the average of the existing values shall be calculated.

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

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

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

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.

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

$$R\&D_{i,t}: research\ and\ development\ item\ of\ company\ i\ at\ t$$

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

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

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

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

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

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

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

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

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

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

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

- 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 work hours program. If exists, then 1, else zero

15. iSTOXX MUTB INDICES

- 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

15. iSTOXX MUTB INDICES

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:

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

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

3. 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
4. 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
5. 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

15. iSTOXX MUTB INDICES

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

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.

15.2.3. 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.

16. iSTOXX CENTENARY INDICES

16.1. iSTOXX EUROPE CENTENARY INDEX

16.1.1. **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 December 23, 2002

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

16.1.2. **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%.

16.1.3. **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

16. iSTOXX CENTENARY INDICES

16.2. iSTOXX EUROPE CENTENARY SELECT 30 INDEX

16.2.1. **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 December 23, 2002.

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

16.2.2. **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.

16. iSTOXX CENTENARY INDICES

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 weight 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.

16.2.3. **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.

17. iSTOXX DEMOGRAPHY INDICES

17.1. iSTOXX BROAD DEMOGRAPHY INDICES

17.1.1. **OVERVIEW**

The iSTOXX Global Broad Demography Index and iSTOXX Europe Broad Demography Index aim to select among respectively the STOXX Europe 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

17. iSTOXX DEMOGRAPHY INDICES

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: The following base value and date apply: 100 as of March 22, 2004.

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

17.1.2. **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.

17.1.3. **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

17. iSTOXX DEMOGRAPHY INDICES

17.2. iSTOXX EUROPE DEMOGRAPHY 50 INDEX

17.2.1. **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

17. iSTOXX DEMOGRAPHY INDICES

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: The following base value and date apply: 100 as of March 22, 2004.
Index types and currencies: Price, net and gross return in EUR and USD.

17.2.2. **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.

17. iSTOXX DEMOGRAPHY INDICES

17.2.3. **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

17. iSTOXX DEMOGRAPHY INDICES

17.3. iSTOXX GLOBAL DEMOGRAPHY SELECT 50 INDEX

17.3.1. **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

17. 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: The following base value and date apply: 100 as of March 22, 2004.

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

17.3.2. **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.

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

17. iSTOXX DEMOGRAPHY INDICES

wi weight of component (i)
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%.

17.3.3. 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

18. iSTOXX HIGH DIVIDEND INDICES

18.1. EURO iSTOXX EX FINANCIALS HIGH DIVIDEND 50 INDEX

18.1.1. **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 dividend yield with a 10% constituent cap

Base values and dates: The following base value and date apply: 100 as of 22.03.2004.

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

18.1.2. **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 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:

18. iSTOXX HIGH DIVIDEND INDICES

$$w_i = \frac{\frac{D_i}{p_i}}{\sum_{j=1}^{N} \frac{D_j}{p_j}}$$

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

$Weighting\ factor = \frac{weight\ in\ percentage \times 1000000000}{price\ in\ EUR}$, 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.

18.1.3. **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.

18. iSTOXX HIGH DIVIDEND INDICES

18.2. EURO iSTOXX HIGH DIVIDEND LOW VOLATILITY 50 INDEX

18.2.1. **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 dividend yield

Base values and dates: The following base value and date apply: 100 as of 22.03.2004.

For a complete list please consult the data vendor code sheet on the website[4]. 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.

18.2.2. **INDEX REVIEW**

Selection list:

- All companies of the EURO STOXX index are screened for their 12 months historical volatility and 12 months historical 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 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 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%.

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

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The factors are calculated based on gross-dividend yield.

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.

18.2.3. **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.

19. iSTOXX EUROPE FACTORS INDICES

19.1.1. **OVERVIEW**

The iSTOXX Europe Factors indices are based on the STOXX Europe Total Market Index and 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. The Index Family contains indices based on the following single factors: carry, low risk, momentum, quality, size and value. An additional multi-factor index gathers all stocks with a high overall composition tilt to the single factors.

Universe: The index universe is defined by the parent index, the STOXX Europe TMI as of two days before the last Friday of each month which is the cut-off date.

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.

Base values and dates: The following base values and dates apply: 100 as of April 1, 2016.

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

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

19.1.2. **INDEX REVIEW**

Selection list: Components are selected from the STOXX Europe Total Market Index following an optimization based factor exposure and a set of constrains.

19.1.3. **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

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

19. iSTOXX EUROPE FACTORS INDICES

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).

19.1.4. FACTORS CALCULATION

The factor calculation happens one trading day before the review with data from one trading day before the review.

19.1.4.1. 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- $\text{Shares out Reduction} = \frac{\text{Historical common shares decrease over last 24 months}}{\text{Common shares out}}$

19.1.4.2. 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- $\text{12M Semi Volatility} = \text{Semi deviation of returns over 12 months}$

19.1.4.3. 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

19.1.4.4. QUALITY

The Quality factor is a composite of 5 subfactors:

19. iSTOXX EUROPE FACTORS INDICES

1- $\text{Operating Income to Common Equity} = \frac{\text{Operating income}}{\text{Common equity}}$; $\text{which becomes} \frac{\text{Operating income}}{\text{Total assets}}$ $\text{if Common Equity} \leq 0$

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,

$\text{Net Operating Assets} = \text{Total assets} - \text{Cash} - \text{Total liabitilities} + \text{Short debt} + \text{Long debt}$

19.1.4.5. SIZE

The Size factor is a composite of 2 subfactors:

1- $\text{Inverse MCAP} = -1 * \text{Market capitalization}$
2- $\text{Inverse enterprise value} = -1 *$
(Market capitalization at end of fiscal year + Preferred stocks + Minority interest + Total debt - Cash)

19.1.4.6. VALUE

The Value factor is a composite of 2 subfactors:

19. iSTOXX EUROPE FACTORS INDICES

1- Forward 12M Earnings Yield; replaced with $\frac{\text{Cash flows from operations}}{\text{Total sssets}}$ if negative

2- Cash Flow Yield; replaced with $\frac{\text{Cash flows from operations}}{\text{Total assets}}$ if negative

19.1.5. 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.

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%).

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 index size between 50 and 120 constituents,
- industry weights,
- liquidity,
- turnover (target: 25% one way).
- Components are capped at a maximum weight of 10% two days before implementation date based on the prices from three days before the implementation date.

If no solution is found with the initial set of constraints, a heuristic process is run to loosen constraints.

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

Derived indices: none

19. iSTOXX EUROPE FACTORS INDICES

19.1.6. **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

20. EURO iSTOXX 60 EQUAL WEIGHT INDEX AND EURO iSTOXX 70 EQUAL WEIGHT INDEX

20.1. EURO iSTOXX 60 EQUAL WEIGHT INDEX AND EURO iSTOXX 70 EQUAL WEIGHT INDEX

20.1.1. **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 19 December 2005.

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

20.1.2. **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.

20.1.3. **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.

20. EURO iSTOXX 60 EQUAL WEIGHT INDEX AND EURO iSTOXX 70 EQUAL WEIGHT INDEX

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

21. EURO iSTOXX 50 FX NEUTRAL INDEX

21.1. EURO iSTOXX 50 FX NEUTRAL INDEX

21.1.1. **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: P, NR, GR in GBP, USD, SEK.

Base value and date: 1000 on 04 January 2016.

21.1.2. **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.

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 19 September 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.

22. iSTOXX USA WEAK BALANCE SHEET EX UTILITIES AND FINANCIALS INDEX

Review frequency: The reviews are conducted on an annual basis in September. Shares, Free Float and Cap Factors are reviewed quarterly.

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 20 June 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 average daily trading value (ADTV) 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).

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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	All Apparel Retail (Internet Retail)
03	General Factory Automation Makers	Household Appliance Stores (Internet Retail)
04	Industrial Robots and Robotic Assembly Line Makers	Retail Industry Software
05	Lasers and Optical Instrument Manufacturing	General Merchandise Retailers (Internet Retail)
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		Multiple Industry-Specific Software
37		Network Administration Software
38		Network Security Software
39		Other Classifieds and Directories Media and Sites

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40		Other Hosting Services
41		Other Network Software
42		Real Estate Classifieds and Directories Sites
43		Security and Identification Semiconductors
44		Security and Management Consulting
45		Web Navigation Sites and Software
46		Web Portal Sites and Software
47		Web Search Sites and Software

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
18	Diverse Institutional/High-Net Advisory Finance	Genetic Molecular Diagnostic Test Kits
19	Diversified Life and Health Insurance	Healthcare Management Software
20	Health Insurance	Home Testing Clinical Diagnostics Devices
21	Healthcare and Life Sciences Equity REITs	Immune Deficiency Disorders Biopharmaceuticals
22	Insurance Brokerage	Immunoassays Clinical Diagnostics Devices
23	Life and Health Reinsurance	Multi-Type Drug Discovery Services
24	Life Insurance	Neurology Biopharmaceuticals
25	Other Supplemental Health Insurance	Neurology Devices
26	Private Wealth Managers	Oncology Devices
27	Retail Advisory and Brokerage Services	Other Biopharmaceutical OEMs
28	Retail Advisory Services	Other Chemistry Clinical Diagnostics Devices
29	Retail Brokerage Services	Other Healthcare and Pharma Industry Software
30	Assisted Living	Other Oncology Biopharmaceuticals
31	Cardiology Surgical Devices	Patient Data Management Software
32	Cardiovascular System Biopharmaceuticals	Point of Care Testing Kits
33	Diversified Patient Care	
34	Drug Lead Discovery Validation and Optimization	

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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

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:

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.

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Weighting cap factors:

$$wf_{s_i} = \frac{\frac{1/N}{n_i}}{p_{s_i}} \cdot 10{,}000{,}000{,}000$$

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.