INDEX GUIDELINE

Franklin Global Trends Index

VERSION 1.0

05 NOVEMBER 2021

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Version 1.0 – 05 November 2021

INTRODUCTION

This document (the "GUIDELINE") is to be used as a guideline with regard to the composition, calculation and maintenance of the Global Trend Index (the "INDEX"). The Index is calculated, administered and published by Solactive AG ("SOLACTIVE") assuming the role as index administrator (the "INDEX ADMINISTRATOR") under the Regulation (EU) 2016/1011 (the "BENCHMARK REGULATION" or "BMR") and CALCULATION AGENT. The name "Solactive" is trademarked. FRANKLIN TEMPLETON INVESTMENT SOLUTIONS assumes the role of the INDEX OWNER.

The GUIDELINE and the policies and methodology documents referenced herein contain the underlying principles and rules regarding the structure and operation of the INDEX. SOLACTIVE does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the INDEX nor the level of the INDEX at any certain point in time nor in any other respect. SOLACTIVE strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for SOLACTIVE – irrespective of possible obligations to issuers – to advise third parties, including investors and/or financial intermediaries, of any errors in the INDEX. The publication of the INDEX by SOLACTIVE does not constitute a recommendation for capital investment and does not contain any assurance or opinion of SOLACTIVE regarding a possible investment in a financial instrument based on this INDEX.

1. INDEX SPECIFICATIONS

1.1. SCOPE OF THE INDEX

The Franklin Global Trends INDEX is a USD (the "INDEX CURRENCY") denominated INDEX. The INDEX is a multi-asset, long only strategy built on a combination of cross-sectional momentum, time-series momentum, and various volatility measures across 10 asset classes with ETF proxies below. Using these signals, the strategy filters out the best performing asset classes and assigns risk budgets to each one using a combination of momentum and volatility measures.

The portfolio follows a systematic rebalancing ruleset with a 5-day trading implementation for each rebalancing cycle. The signals are computed using Bloomberg daily total returns as input, with a carefully designed risk-model that targets 5% ex-ante annualized volatility, achieve via cash and up to 50% notional leverage.

1.2. IDENTIFIERS AND PUBLICATION

The INDEX is published under the following identifiers:

Name	ISIN	Currency	Type	RIC	BBG ticker
Franklin Global Trends Index	DE000SL0EJS9	USD	ER*	.FTGTREND	FTGTREND Index

*ER means that the Index is calculated as Excess Return Index.

The INDEX is published via the price marketing services of Boerse Stuttgart GmbH and may be distributed to all of its affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute or display the Index via its information systems. In the event that data cannot be provided to the price marketing services of Boerse Stuttgart GmbH, the Index cannot be published.

Any publication in relation to the Index (e.g., notices, amendments to the Guideline will be available at the website of the Index Administrator: https://www.solactive.com/news/announcements/.

1.3. INITIAL LEVEL OF THE INDEX

The initial level of the INDEX on the 01/01/2004, the START DATE, is 100. Historical values from the 08/11/2021, the LIVE DATE, will be recorded in accordance with Article 8 of the BMR: Levels of the INDEX published for a period prior to the LIVE DATE have been back-tested.

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1.4. PRICES AND CALCULATION FREQUENCY

The level of the INDEX is calculated on each CALCULATION DAY from 9:00 a.m. to 10:50 p.m. CET based on the TRADING PRICES on the EXCHANGES on which the INDEX COMPONENTS are listed. TRADING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the current Intercontinental Exchange (ICE) spot foreign exchange rate. Should there be no current TRADING PRICE for an INDEX COMPONENT, the later of: (i) the most recent CLOSING PRICE; or (ii) the last available TRADING PRICE for the preceding TRADING DAY is used in the calculation.

In addition to the intraday calculation a closing level of the INDEX for each CALCULATION DAY is also calculated. This closing level is based on the CLOSING PRICES for the INDEX COMPONENTS on the respective EXCHANGES on which the INDEX COMPONENTS are listed. The CLOSING PRICES of INDEX COMPONENTS not listed in the INDEX CURRENCY are converted using the 04:00 p.m. London time WM Fixing quoted by Reuters. If there is no 04:00 p.m. London time WM Fixing for the relevant CALCULATION DAY, the last available 04:00 p.m. London time WM Fixing will be used for the closing level calculation.

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1.5. LICENSING

Licenses to use the INDEX as the underlying value for financial instruments, investment funds and financial contracts may be issued to stock exchanges, banks, financial services providers and investment houses by FRANKLIN TEMPLETON INVESTMENT SOLUTIONS.

2. INDEX SELECTION

2.1. INDEX CONSTITUENTS

The INDEX is composed of the following Assets (each of them an ASSET, together the ASSETS):

Asset	Name	RIC	BBG Ticker	Currency
1	iShares Core S&P 500 ETF	IVV.P	IVV UP Equity	USD
2	iShares MSCI EAFE ETF	EFA.P	EFA UP Equity	USD
3	iShares MSCI Emerging Markets ETF	EEM.P	EEM UP Equity	USD
4	iShares iBoxx $ Inv Grade Corporate Bond ETF	LQD.P	LQD UP Equity	USD
5	iShares Core US Aggregate Bond ETF	AGG.P	AGG UP Equity	USD
6	iShares iBoxx $ High Yield Corporate Bond ETF	HYG.P	HYG UP Equity	USD
7	iShares JPMorgan USD Emerging Markets Bond	EMB.OQ	EMB UQ Equity	USD
8	Vanguard Real Estate ETF	VNQ.P	VNQ UP Equity	USD
9	iShares Gold Trust	IAU.P	IAUUP Equity	USD
10 (*)	iShares 7-10 Year Treasury Bond ETF	IEF.OQ	IEF UQ Equity	USD
11 (**)	Effective Fed Funds Rate	USONFFE=	FEDL01 Index	USD

(*) it will be referred to as The SAFETY ASSET

(**) it will be referred to as The CASH ASSET

3. CALCULATION OF THE INDEX

3.1. INDEX FORMULA

The INDEX Level for any CALCULATION DAY t, denoted $Index_t$, is determined in accordance with the following formula:

$$Index_t = Index_{t-1} * \left(1 + E_{t-1} * \left(\frac{UBL_t}{UBL_{t-1}} - \frac{Cash_t}{Cash_{t-1}} \right) \right)$$

With:

$Index_{\text{START DATE}} = 100$

$t - 1$: The CALCULATION DAY immediately preceding The CALCULATION DAY t

E_{t-1} = Exposure as of CALCULATION DAY t-1

UBL_t = The UNDERLYING BASKET Level for CALCULATION DAY t

UBL_{t-1} = The UNDERLYING BASKET Level for CALCULATION DAY t-1

$Cash_t$: the level of the CASH ASSET and it's calculated according to the following formula:

$$Cash_t = Cash_{t-1} \times \left(1 + rate_{t-1} * \frac{DC_{t,t-1}}{360} \right)$$

With:

$Cash_{Index\ Start\ Date}$ = 100

$DC_{t,t-1}$ = Number of Calendar Days from (and excluding) CALCULATION DAY t-1 to (and including) CALCULATION DAY t

$rate_{t-1}$ = Level of the FEDL01 (ASSET 11) as of the CALCULATION DAY t-1. If no level is published for the FEDL01 for CALCULATION DAY t-1, the ESTR as of the previous CALCULATION DAY is used.

$Cash_{t-1}$: the level of the CASH ASSET as of t-1

Exposure Calculation:

$$E_t = min\left(maxLeverage, \frac{TargetVolatility}{realizedVolatility_t}\right)$$

With:

t: The CALCULATION DAY t

$TargetVolatility$ = 5%

$maxLeverage$ = 150%

$realizedVolatility_t$ = the UNDERLYING BASKET REALIZED VOLATILITY as of the t.

The Underlying Basket Realized Volatility Calculation:

The INDEX REALIZED VOLATILITY as of the CALCULATION DAY t is determined in accordance with the following formula:

$$realizedVolatility_t = \sqrt{252 * realizedVar_t}$$
$$realizedVar_t = max(Var_{fast,t}, Var_{slow,t})$$
$$Var_{fast,t} = \lambda_1 * Var_{fast_{t-1}} + (1 - \lambda_1) * \ln(R_{t,1} + 1)^2$$
$$Var_{slow,t} = \lambda_2 * Var_{slow_{t-1}} + (1 - \lambda_2) * \ln(R_{t,1} + 1)^2$$
$$R_{t,1} = \frac{UBL_t}{UBL_{t-1}} - 1$$

With:

$$Var_{fast,Index\ Start\ Date} = 0.01/252$$

$$Var_{slow,Index\ Start\ Date} = 0.01/252$$

Where:

λ_1: means the decay factor of 0.94 used in the exponentially weighted moving average volatility calculation.

λ_2: means the decay factor of 0.97 used in the exponentially weighted moving average volatility calculation.

t-1: The CALCULATION DAY immediately preceding the CALCULATION DAY t.

$Var_{fast,t}$: UNDERLYING BASKET REALIZED VOLATILITY as of t using decay factor λ_1.

$Var_{fast,t-1}$: UNDERLYING BASKET REALIZED VOLATILITY as of t using decay factor λ_1.

$Var_{slow,t}$: UNDERLYING BASKET REALIZED VOLATILITY as of t using decay factor λ_2.

$Var_{slow,t-1}$: UNDERLYING BASKET REALIZED VOLATILITY as of t using decay factor λ_2.

UBL_t = The Underlying Basket Level for Calculation Day t

UBL_{t-1} = The Underlying Basket Level for Calculation Day t-1.

3.2. ACCURACY

The level of the Index will be rounded to 2 decimal places. Trading Prices and foreign exchange rates will be rounded to six decimal places.

3.3. . ADJUSTMENTS

Under certain circumstances, an adjustment of the Index may be necessary between two regular Rebalance Days. Such adjustment has to be made if a corporate action (as specified in Section 4.4 below) in relation of an Index Component occurs. Such adjustment may have to be done in relation to an Index Component and/or may also affect the number of Index Components and/or the weighting of certain Index Components and will be made in compliance with the Solactive Equity Index Methodology, which is incorporated by reference and available on the Solactive website: https://www.solactive.com/documents/equity-index-methodology/.

Solactive will announce the Index adjustment giving a notice period of at least two Trading Days (with respect to the affected Index Component) on the Solactive website under the Section "Announcements", which is available at https://www.solactive.com/news/announcements/. The Index adjustments will be implemented on the effective day specified in the respective notice.

3.4. CORPORATE ACTIONS

As part of the Index maintenance Solactive will consider various events – also referred to as corporate actions – which result in an adjustment to the Index between two regular Rebalance Days. Such events have a material impact on the price, weighting or overall integrity of Index Components. Therefore, they need to be accounted for in the calculation of the Index. Corporate actions will be implemented from the cum-day to the ex-day of the corporate action, so that the adjustment to the Index coincides with the occurrence of the price effect of the respective corporate action.

Adjustments to the Index to account for corporate actions will be made in compliance with the Equity Index Methodology, which is available on the Solactive website: https://www.solactive.com/documents/equity-index-methodology/. This document contains for each corporate action a brief definition and specifies the relevant adjustment to the Index variables.

While Solactive aims at creating and maintaining its methodology for treatment of corporate actions as generic and transparent as possible and in line with regulatory requirements, it retains the right in accordance with the Equity Index Methodology to deviate from these standard procedures in case of any

unusual or complex corporate action or if such a deviation is made to preserve the comparability and representativeness of the INDEX over time.

SOLACTIVE considers following, but not conclusive, list of corporate actions as relevant for INDEX maintenance:

> Cash Distributions (e.g. payment of a dividend)

> Stock distributions (e.g. payment of a dividend in form of additional shares)

> Stock distributions of another company (e.g. payment of a dividend in form of additional shares of another company (e.g. of a subsidiary))

> Share splits (company's present shares are divided and therefore multiplied by a given factor)

> Reverse splits (company's present shares are effectively merged)

> Capital increases (such as issuing additional shares)

> Share repurchases (a company offer its shareholders the option to sell their shares to a fixed price)

> Spin-offs (the company splits its business activities into two or more entities and distributes new equity shares in the created entities to the shareholders of the former entity)

> Mergers & Acquisitions (transaction in which the ownership of a company (or other business organizations) are transferred or consolidated with other entities, e.g. fusion of two or more separate companies into one entity)

> Delistings (company's shares are no longer publicly traded at a stock exchange)

> Nationalization of a company (effective control of a legal entity is taken over by a state)

> Insolvency

3.5. RECALCULATION

SOLACTIVE makes the greatest possible efforts to accurately calculate and maintain its indices. However, errors in the determination process may occur from time to time for variety reasons (internal or external) and therefore, cannot be completely ruled out. SOLACTIVE endeavors to correct all errors that have been identified within a reasonable period of time. The understanding of "a reasonable period of time" as well as the general measures to be taken are generally depending on the underlying and is specified in the Solactive Correction Policy, which is incorporated by reference and available on the SOLACTIVE website: https://www.solactive.com/documents/correction-policy/.

3.6. MARKET DISRUPTION

In periods of market stress SOLACTIVE calculates its indices following predefined and exhaustive arrangements as described in the Solactive Disruption Policy, which is incorporated by reference and available on the SOLACTIVE website: https://www.solactive.com/documents/disruption-policy/. Such market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more INDEX COMPONENTS. The determination of the INDEX may be limited or impaired at times of illiquid or fragmented markets and market stress.

4. CALCULATION OF THE UNDERLYING BASKET LEVEL

The UNDERLYING BASKET Level for any CALCULATION DAY t, denoted UBL_t, is determined in accordance with the following formula:

$$UBL_t = UBL_{t-1} * \left(1 + \sum_{i=1}^{N=10\ \text{assets}} W_{i,t-1} * \left(\frac{TR_{i,t}}{TR_{i,t-1}} - 1 \right) \right)$$

$$UBL_{\text{START DATE}} = 100$$

Where:

$t\text{-}1$: The CALCULATION DAY immediately preceding the CALCULATION DAY t.

UBL_{t-1} = The UNDERLYING BASKET Level for CALCULATION DAY $t\text{-}1$.

$W_{i,t-1}$ = The WEIGHT of the ASSET i as of the CALCULATION DAY $t\text{-}1$.

$TR_{i,t}$ = The GROSS TOTAL RETURN level of the ASSET i as of the CALCULATION DAY t.

$TR_{i,t-1}$ = The GROSS TOTAL RETURN level of the ASSET i as of the CALCULATION DAY $t\text{-}1$.

5. CALCULATION OF THE TOTAL RETURNS

Each ASSET return is adjusted for regular cash dividend payments, special dividends, extraordinary dividends, and return on capital by reinvesting those distributions into the paying Asset. THE GROSS TOTAL RETURN level in respective of an ASSET i, and a CALCULATION DAY t denoted $TR_{i,t}$, is calculated in accordance with the following formula:

$$TR_{i,t} = TR_{i,t-1} * \frac{CCL_{i,t}}{CCL_{i,t-1}} * AF_{i,t}$$

With:

t-1 = The CALCULATION DAY immediately preceding The CALCULATION DAY t .

$CCL_{i,t}$ = The ASSET CLOSING LEVEL as of the CALCULATION DAY t.

$CCL_{i,t-1}$ = The ASSET CLOSING LEVEL as of the CALCULATION DAY $t-1$.

$AF_{i,t}$ = means the adjustment factor calculated following a corporate action of ASSET i as of t. (*)

(*) THE CALCULATION AGENT provides their current policies for the treatment of corporate actions, available on their website. https://www.solactive.com/documents/

6. CALCULATION OF THE ASSETS WEIGHTS

6.1. THE EXPONONETIAL ASSETS COVARIANCE MATRIX

<u>Decay Factors:</u>

The DECAY FACTORS for the variance calculations are defined as follows:

$$\lambda_{fast} = e^{\frac{\ln(0.5)}{22}}$$

$$\lambda_{slow} = e^{\frac{\ln(0.5)}{130}}$$

<u>Exponential Weights and Scaling Vectors:</u>

The EXPONENTIAL WEIGHTS are calculated using the exponential decay factors over 260 days then rescaled as follows:

$$w_{decay,i}^{exp} = \frac{\lambda_{decay}^{i}}{\sum_{k=0}^{259} \lambda_{decay}^{k}} \quad \text{for each } i \text{ in the interval } [0,259]$$

With:

$$decay = \text{fast or slow.}$$

Let W_{decay}^{exp} be the scaling vector of the EXPONENTIAL WEIGHT corresponding to a decay, the vector has 260x1 elements, denoted $w_{decay,i}^{exp}$

The Assets Exponential Returns:

The EXPONENTIAL RETURNS are calculated using the above scaling vectors according to the following formula, for each CALCULATION DAY t and for each ASSET k.

Let $R_{t,window}$ the matrix of the returns as of t corresponding to the window (daily or weekly) where the elements are:

$$R_{t,window,k} = \frac{TR_{k,t}}{TR_{k,t-Days(window)}} - 1$$

Wehre:

$$Days(window) = \begin{cases} 1 \ if \ \ window \ is \ daily \\ 5 \ \ if \ window \ is \ weekly \\ window \ \ if \ window \ is \ an \ integer \end{cases}$$

$t\text{-}i =$ means the ith CALCULATION DAY Preceding t.

$TR_{k,t} =$ The GROSS TOTAL RETURN LEVEL of the ASSET k as of CALCULATION DAY t.

$R_{t,window}$ is a 260x10 matrix (aka 260 returns x 10 assets), and let $R'_{t,window}$ be the transpose of $R_{t,window}$.

Let $M_{t,decay,window}$ the Vector of the exponential mean returns as of t corresponding to (decay, window), $M_{t,decay,window}$ is a 10x1 Vector, where the elements are obtained by multiplying the transpose of Returns matrix by the scaling vector.

$$M_{t,decay,window} = R'_{t,window} W_{decay}^{exp}$$

Then we define the matrix of de-meaned returns $R_{t,window} - I_{260,1}{}^* M'_{t,decay,window}$ obtained by subtracting the mean returns (calculated using the 260 returns) from the daily returns. It is a 260x10 matrix (aka 260 returns x 10 assets). $I_{260,1}$ is a vector of 260 ones.

The matrix of the exponentially weighted returns $R_{t,decay,window}^{exp}$, a 260x10 matrix (260 exponential returns x 10 assets) is calculated as follows:

$$R_{t,decay,window}^{exp} = \sqrt{W_{decay}^{exp} * I'_{260,1}} \left(R_{t,window} - I_{260,1} * M'_{t,decay,window} \right)$$

The Assets Covariance Matrix:

For each CALCULATION DAY t, the covariance matrix for the daily returns and the covariance matrix for the weekly returns are calculated according to the following formula:

$$S_{t,daily} = R^{exp}_{t,fast,daily} {}^* R^{exp\,\prime}_{t,fast,daily}$$

$$S_{t,weekly} = R^{exp}_{t,slow,weekly} {}^* R^{exp\,\prime}_{t,slow,weekly}$$

Let $S_{t,window,k,l}$ be the elements of the 260x260 matrix $S_{t,window}$

The Assets Volatility:

For each CALCULATION DAY t, and in respect of an ASSET k, and returns lookback *window* the ASSET VOLATILITY is calculated according to the following formula:

$$AssetVol_{t,k,window} = \sqrt{260 \times S_{t,window,k,k}}$$

The Annualized Covariance Matrix:

In respect of a CALCULATION DAY t, the correlation factor between an ASSET k *and* an ASSET l is computed from the off-diagonal entries of $S_{t,weekly}$ as follows:

$$Corr_{t,k,l} = \frac{S_{t,weekly,k,l}}{\sqrt{S_{t,weekly,k,k}}\sqrt{S_{t,weekly,l,l}}}$$

The final, annualized covariance matrix (or The "RISK MODEL") S_t as of t, is computed as the combination of exponentially weighted daily variance (22d half-life) and weekly correlations (130d half-life):

$$S_{t,k,l} = AssetVol_{t,k,daily} {}^* Corr_{t,k,l} {}^* AssetVol_{t,l,daily}$$

6.2. THE SIGNAL CALCULATION

The score for each ASSET in the Index depends on three signals: CROSS-SECTIONAL MOMENTUM, MULTI-PERIOD LOOKBACK MOMENTUM signal and the moving average cross-overs with a volatility penalty. The three signals are calculated as follows:

<u>Cross-sectional Momentum Signal:</u>

In respect of a CALCULATION DAY t, an ASSET k the CROSS-SECTIONAL MOMENTUM Signal is calculated as follows:

$$Mom_{t,k}^{cross\_sectional} = rank(R_{t,k}^{scaled})$$

Where:

$R_{t,k}^{scaled}$ = cross-sectional re-scaled cumulative past 260 weekday ASSET returns of the ASSET k as of CALCULATION DAY $\boldsymbol{t}$ calculated as follows:

$$R_{t,k}^{scaled} = \frac{(R_{t,window=260,k} - min(R_{t,window=260,k}))}{max(R_{t,window=260,k}) - min(R_{t,window=260,k})}$$

$max(R_{t,window,k})$ means the maximum returns of the ASSET k as of CALCULATION DAY t over a lookback $\boldsymbol{window}$.

$rank(X)$ means the cross sectional ranking of measure X as of CALCULATION DAY, take on integer values from 1 to N. if 2 Assets or more have the same rank 'x' , 'x+0.5' will be assigned to each ASSET.

<u>Multi-period lookback momentum Signal:</u>

In respect of a CALCULATION DAY t, an ASSET k, the momentum signal corresponding to the 3,6,9 and 12 months lookback is calculated as follows:

$$Mom_{3m,t,k} = rank(R_{t,window=65,k})$$

$$Mom_{6m,t,k} = rank(R_{t,window=130,k})$$

$$Mom_{9m,t,k} = rank(R_{t,window=195,k})$$

$$Mom_{12m,t,k} = rank(R_{t,window=260,k})$$

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The moving average cross-overs with a volatility penalty Signal:

The time series MOMENTUM CROSSOVER with volatility conditioner: this section computes the average of two moving average cross-overs with a volatility penalty. The signal is more positive when there is strong positive price trend, and is dampened by a volatility penalty using a sigmoid curve, captured by the logistic function below:

$$TS_{t,k}^{crossover} = \frac{\dfrac{Average_{5,t,k}}{Average_{200,t,k}} + \dfrac{Average_{5,t,k}}{Average_{20,t,k}}}{2}$$

Where:

$$Average_{window,t,k} = \frac{1}{window}\sum_{i=0}^{i=window-1} TR_{k,t-i}$$

The final conditioned time series momentum (The "CONDITIONED MOMENTUM") is calculated as follows:

$$TS_{t,k}^{crossover\_conditioner} = TS_{t,k}^{crossover} \times Vol_{t,k}^{conditioner} \quad \text{excluding SAFETY ASSET.}$$

Where:

$$Vol_{t,k}^{ratio} = \frac{AssetHistoVol_{t,k,window=22}}{AssetHistoVol_{t,k,window=260}}$$

$$Vol_{t,k}^{conditioner} = \frac{1}{1+0.02e^{30*(Vol_{t,k}^{ratio} - 1)}}$$

$$AssetHistoVol_{t,k,window} = \sqrt{\frac{252}{window}\sum_{i=1}^{i=window}\left(\frac{TR_{i,t}}{TR_{i,t-1}} - 1\right)^2}$$

6.3. THE ASSET SELECTION

The ASSETS Selection is based on the CONDITIONED MOMENTUM signal. Excluding the SAFETY ASSET, The Selected Assets are those with a CONDITIONED MOMENTUM signal greater than 1. The proportion of assets with positive momentum scores are calculated:

$$Pos_t = \frac{\sum_{k=1}^{9}\left(TS_{t,k}^{crossover\_ex\_safety} \geq 1\right)}{9}$$

Where $TS_{t,k}^{crossover\_ex\_safety}$ CONDITIONED MOMENTUM excluding the SAFETY ASSET.

A SCALAR FACTOR is computed as follows:

$$Scalar_t = \min\left(\frac{Pos_t}{0.6}, 1\right)$$

Such that when the proportion of assets with positive momentum is less than 60% of the RISKY ASSET universe, the RISK BUDGET for the RISKY ASSETS will be scaled back proportionally by the SCALER FACTOR, and the SAFETY ASSET is introduced with the weight $1 - Scalar_t$.

6.4. THE ASSETS WEIGHTS AND REBALANCING

The assets TARGET WEIGHTS are calculated using the RISK BUDGET calculated based on the Momentum signals in the section 6.2, and The Inverse volatility as follows:

Risk budget for Selected Assets:

$$Scores_{t,k} = Mom_{t,k}^{cross\_sectional} + Mom_{t,k}^{average}$$

$$Scores_{t,k,ex\_safety} = Scores_{t,k} \text{ excluding the } \text{SAFETY ASSET}$$

$$RiskBudget_{t,k,ex\_safety} = \frac{rank(scores_{t,k,ex\_safety})}{\sum_{k=1}^{9} rank(scores_{t,k,ex\_safety})} * Scalar_t$$

$$RiskBudget_{t,safety} = 1 - Scalar_t$$

Where:

$$Mom_{t,k}^{average} = rank\left(Mom_{3m,t,k} + Mom_{3m,t,k} + Mom_{3m,t,k} + Mom_{3m,t,k}\right)$$

Assets Target Weight:

In respect of a CALCULATION DAY t, an ASSET k, the TARGET WEIGHT is calculated as follows:

$$W_{t,k}^{target} = \frac{\dfrac{RiskBudget_{t,k}}{AssetVol_{t,k,window=260}}}{\Sigma\left(\dfrac{Riskudget_{t,k}}{AssetVol_{t,k,window=260}}\right)}$$

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Assets Weights Tracking Error:

In respect of a CALCULATION DAY t, an ASSET k, the TRACKING ERROR between the ASSETS TARGET WEIGHTS $W_{t,k}^{target}$ and the Assets WEIGHTS as of the previous REBALANCING DAY $W_{R(t),k}$ is computed using risk model $S_{t,k,l}$ as:

$$TE_t = \frac{\sqrt{(W_{R(t),k} - W_{t,k}^{target})' S_{t,k,l}(W_{R(t),k} - W_{t,k}^{target})}}{\sqrt{W_{t,k}^{target'} S_{t,k,l} W_{t,k}^{target}}}$$

Where:

$R(t)$: The REBALANCING DAY immediately preceding (and excluding) the CALCULATION DAY t

Rebalancing Day:

The INDEX will rebalance to new TARGET WEIGHTS $W_{t,k}^{target}$ if TE_t is greater than 40%, i.e., when the TRACKING ERROR between $W_{t,k}$ and the target portfolio TE_t exceeds 40% of the target portfolio risk $\sqrt{WW_{t,k}^{target'} S_t W_{t,k}^{target}}$. and the CALCULATION DAY t would be considered as "REBALANCING DAY"

The REBALANCING CYCLE is the 5 CALCULATION DAYS following (and excluding) the REBALANCING DAY,

Assets Final Weights:

To reduce transaction cost and fees, each rebalance trigger will be carried out over the course of 5 CALCULATION DAY, with each CALCULATION DAY rebalancing 1/5 of the total difference in weights between $W_{t,k}^{target}$ and $W_{R(t),,k}$.

For each CALCULATION DAY t and in respect of an ASSET k, the ASSET Final WEIGHT as of t (aka $W_{t,k}$) is as follows:

If t is in REBALANCING CYCLE:

$$W_{t,k} = W_{R(t),k} + i * (W_{t,k}^{target} - W_{R(t),,k})/5$$

With:

$R(t)$: The REBALANCING DAY immediately preceding (and excluding) the CALCULATION DAY t

If t is in the CALCULATION DAY following the last CALCULATION DAY in a REBALANCING CYCLE:

$$W_{t,k} = W_{t,k}^{target}$$

Otherwise:

$$W_{t,k} = W_{t-1,k}$$

With:

$$W_{Index\ Start\ Date,k} = W_{t,k}^{target}$$

If a new REBALANCING DAY occurs within a prior 5-day rebalancing window, the current REBALANCING CYCLE will be halted, and a new trigger process is initiated based on the new difference between current portfolio WEIGHTS $W_{R(t),k}$ and the TARGET WEIGHT $W_{t,k}^{target}$.

7. MISCELLANEOUS

7.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the INDEX (for example the determination of the INDEX UNIVERSE (if applicable), the selection of the INDEX COMPONENTS (if applicable) or any other relevant decisions in relation to the INDEX) shall be made in accordance with strict rules regarding the exercise of discretion or expert judgement.

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7.2. METHODOLOGY REVIEW

The methodology of the INDEX is subject to regular review, at least annually. In case a need of a change of the methodology has been identified within such review (e.g. if the underlying market or economic reality has changed since the launch of the INDEX, i.e. if the present methodology is based on obsolete assumptions and factors and no longer reflects the reality as accurately, reliably and appropriately as before), such change will be made in accordance with the Solactive Methodology Policy, which is incorporated by reference and available on the SOLACTIVE website: https://www.solactive.com/documents/methodology-policy/.

Such change in the methodology will be announced on the SOLACTIVE website under the Section "Announcement", which is available at https://www.solactive.com/news/announcements/. The date of the last amendment of this INDEX is contained in this GUIDELINE.

7.3. CHANGES IN CALCULATION METHOD

The application by the INDEX ADMINISTRATOR of the method described in this document is final and binding. The INDEX ADMINISTRATOR shall apply the method described above for the composition and calculation of the INDEX. However, it cannot be excluded that the market environment, supervisory, legal and financial or tax reasons may require changes to be made to this method. The INDEX ADMINISTRATOR may also make changes to the terms and conditions of the INDEX and the method applied to calculate the INDEX that it deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The INDEX ADMINISTRATOR is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the INDEX ADMINISTRATOR will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.

7.4. TERMINATION

SOLACTIVE makes the greatest possible efforts to ensure the resilience and continued integrity of its indices over time. Where necessary, SOLACTIVE follows a clearly defined and transparent procedure to adapt Index methodologies to changing underlying markets (see Section 5.2 "Methodology Review") in order to maintain continued reliability and comparability of the indices. Nevertheless, if no other options are available the orderly cessation of the INDEX may be indicated. This is usually the case when the underlying market or economic reality, which an index is set to measure or to reflect, changes substantially and in a way not foreseeable at the time of inception of the index, the index rules, and particularly the selection criteria, can no longer be applied coherently or the index is no longer used as the underlying value for financial instruments, investment funds and financial contracts.

SOLACTIVE has established and maintains clear guidelines on how to identify situations in which the cessation of an index is unavoidable, how stakeholders are to be informed and consulted and the procedures to be followed for a termination or the transition to an alternative index. Details are specified in the Solactive Termination Policy, which is incorporated by reference and available on the SOLACTIVE website: https://www.solactive.com/documents/termination-policy/.

7.5. OVERSIGHT

An oversight committee composed of staff from SOLACTIVE and its subsidiaries (the "**OVERSIGHT COMMITTEE**") is responsible for decisions regarding any amendments to the rules of the INDEX. Any such amendment, which may result in an amendment of the GUIDELINE, must be submitted to the OVERSIGHT COMMITTEE for prior approval and will be made in compliance with the Methodology Policy, which is available on the SOLACTIVE website: https://www.solactive.com/documents/methodology-policy/.

8. DEFINITIONS

"BENCHMARK REGULATION" shall have the meaning as defined in Section "Introduction".

"BMR" shall have the meaning as defined in Section "Introduction".

"CALCULATION DAY" is any weekday which is not Saturday or Sunday.

The **"CLOSING PRICE"** in respect of an INDEX COMPONENT and a CALCULATION DAY is a security's final regular-hours TRADING PRICE published by the EXCHANGE and determined in accordance with the EXCHANGE regulations. If the EXCHANGE has no or has not published a CLOSING PRICE in accordance with the EXCHANGE rules for an INDEX COMPONENT, the last TRADING PRICE will be used.

"GUIDELINE" shall have the meaning as defined in Section "Introduction".

"INDEX" shall have the meaning as defined in Section "Introduction".

"INDEX ADMINISTRATOR" shall have the meaning as defined in Section "Introduction".

"INDEX OWNER" shall have the meaning as defined in Section "Introduction".

"ASSET" is each of the assets specified in the section 2.1

"INDEX COMPONENT" is each security reflected in the INDEX.

"INDEX CURRENCY" is the currency specified in the column "Currency" in the table in Section 1.1.

"LIVE DATE" shall have the meaning as defined in Section 1.3.

"OVERSIGHT COMMITTEE" shall have the meaning as defined in Section 7.5.

"**REBALANCING DAY**" shall have the meaning as defined in Section 6.4

"**REBALANCE CYCLE**" is the period starting from (and including) the REBALANCE DAY until and (including) the immediately following 5th CALCULATION DAY.

"SOLACTIVE" shall have the meaning as defined in Section "Introduction.

"FRANKLIN TEMPLETON INVESTMENT SOLUTIONS " shall have the meaning as defined in Section "Introduction.

"START DATE" shall have the meaning as defined in Section 1.3.

The **"TRADING PRICE"** in respect of an INDEX COMPONENT and a TRADING DAY is the most recent published price at which the INDEX COMPONENT was traded on the respective EXCHANGE.

The "**TARGET VOLATILITY**" is 5%

The "**Exchange**" is, in respect of the Index and every INDEX COMPONENT, the respective primary exchange where the Index Component has its primary listing. The Committee may decide to declare a different stock exchange the "Exchange" for trading reasons, even if the company is only listed there via a Stock Substitute.

The "**CONDITIONED MOMENTUM**" shall have the meaning as defined in Section 6.2

The "**CROSS-SECTIONAL MOMENTUM**"shall have the meaning as defined in Section 6.2

The "**MULTI-PERIOD LOOKBACK MOMENTUM**" shall have the meaning as defined in Section 6.2

The **"SCALAR FACTOR"** shall have the meaning as defined in Section 6.3

The "**TARGET WEIGHTS**" shall have the meaning as defined in Section 6.4

The "**WEIGHTS**" shall have the meaning as defined in Section 6.4

The "**RISK BUDGET**" shall have the meaning as defined in Section 6.4

The ""**RACKING ERROR**" shall have the meaning as defined in Section 6.4

The "**UNDERLYING BASKET REALIZED VOLATILITY**" shall have the meaning as defined in Section 3.1

The "**UNDERLYING BASKET**" shall have the meaning as defined in Section 3.1

The "**SAFETY ASSET**" shall have the meaning as defined in Section 2.1

The "**CASH ASSET**" shall have the meaning as defined in Section 2.1

The **"RISKY ASSETS"** Each INDEX COMPONENT except the The SAFETY ASSET and The CASH ASSE".

The "**THE GROSS TOTAL RETURN**" shall have the meaning as defined in Section 5.

The "**ASSET VOLATILITY**" shall have the meaning as defined in Section 6.1.

The **"EXPONENTIAL WEIGHTS"** shall have the meaning as defined in Section 6.1

The **"RISK MODEL"** shall have the meaning as defined in Section 6.1

9. HISTORY OF INDEX CHANGES

1.0	05 November 2021	Index Guideline creation (*initial version*)

Version 1.0 – 05 November 2021

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