The MSFX℠ Indices Manual

2014 Edition

Updated June 23, 2014

The data and information (the "Information") presented in this MSFX Indices Manual reflect the methodology (the "MSFX Indices Methodology") for calculating and determining the level of each of the MSFX Indices (the "MSFX Indices" or individually, an "MSFX Index"). This MSFX Indices Manual and the MSFX Indices Methodology are published and, with the exceptions noted below, were created and compiled, by the Morgan Stanley Institutional Research Department (the "Index Sponsor"), and are the exclusive property of Morgan Stanley & Co. LLC ("Morgan Stanley"). The Morgan Stanley Multi FX Enhanced Basket Index, G10 Risk Adjusted Carry Basket Index, G10 Equity Signal Basket Index, G10 REER Valuation Basket Index and the G10 Market Positioning Basket Index were created by Fixed Income Sales and Trading and are calculated and published by the Institutional Research Department.

The Information and the MSFX Indices Methodology are not intended, and should not be construed, as an offer to sell, or a solicitation of an offer to purchase, any securities or other financial instruments. Each of Morgan Stanley and its affiliates and their officers, directors and employees may have positions or engage in transactions in securities or other financial instruments based on or indexed or otherwise related to the MSFX Indices.

This edition of the MSFX Indices Manual reflects the methodology that will be utilized with respect to the determination and calculation of the MSFX Indices as of June 2010, unless amended in accordance with the provisions herein. After June 2010, the methodology shall remain in effect until amended or replaced by an updated version. However, the MSFX Methodology is subject to revision and adjustment by the Index Sponsor, as described herein.

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I. Introduction

I.1 Overview of the MSFX Indices[1]

The MSFX Indices suite consists of tradable indices (together, the "MSFX Indices" and individually, an "MSFX Index") relating to (A) nine (9) developed market and nine (9) emerging market currencies, each valued relative to the U.S. dollar, (B) nine (9) developed market currencies valued relative to the European Union euro (the "EUR cross-currencies"), (C) nine (9) developed market currencies valued relative to the British pound (the "GBP cross-currencies") (together, the "MSFX Currencies" and individually, an "MSFX Currency") and (D) baskets of currencies valued as a weighted sum of other indices (the "Diversified Developed Market Basket Indices"). The MSFX Indices were designed as tradable benchmarks for the foreign exchange rate performance of the related MSFX Currency pairs. The MSFX Indices were created by and are calculated and disseminated daily on a real time basis by or for the Index Sponsor using an objective and systematic methodology that uses publicly available data sources that reflect actual quotes or trades by market participants.

The MSFX Indices provide "long", "short", "long/short" and "leveraged" benchmarks for investments in a wide range of currencies. Each single currency pair has both a "long" version (the "MSFX Long Indices" or, individually, an "MSFX Long Index") and a "short" version (the "MSFX Short Indices" or, individually, an "MSFX Short Index"), and may also have a "2x leveraged long" and "2x leveraged short" version (the "MSFX Double Indices") or "3x leveraged long" and "3x leveraged short" version (the "MSFX Triple Indices"), or "5x leveraged long" and "5x leveraged short" version (the "MSFX Five Times Leveraged (5X) Indices"), as more fully detailed herein. The baskets of currency indices can be only long, only short or a combination of long and short single currency indices

Each MSFX Index will have a "total return" version, reflecting the performance of a constant fully collateralized currency investment in the related MSFX Currency, and may have an "excess return" version, reflecting the performance of a pure currency investment in the related MSFX Currency.

The Index Sponsor first began publishing certain of the MSFX indices in July 2009 and has continued to roll out publication and calculation of new MSFX Indices listed herein in its sole discretion. In addition, the Index Sponsor has calculated historical levels for each of the MSFX Indices being published using the methodology contained herein; provided however, that historical levels published may have been calculated using generic Bloomberg mid level data sources rather than the actual reference sources set forth under "The MSFX Indices Methodologies" herein. The MSFX Indices will be set to a value of 100 as of the date of their initial calculation, with the exception of the MSFX triple indices which will be set to a value of 100 as of the 4th of January 2010.

Levels for the MSFX Indices will be published daily by or for the Index Sponsor between 8:00 a.m. and 4:30 p.m. (London time) on each business day for the related MSFX Currency, with such levels being updated on a "live" basis approximately every 15 seconds on the related reference sources set forth herein. An official closing level will be published (i) for the MSFX Indices related to all MSFX Currencies other than certain Emerging Market Currencies, on any day where The WM Company ("WM") publishes a 4:00 p.m. London close for the specific currency, and (ii) for the MSFX Indices related to BRL, CNY and INR, on any day where the official fixing rate is published on the fixing source for the specific currency.

[1] CC: we assume that this remains true for the new indices.

I.2 The MSFX Indices Manual

This MSFX Indices Manual describes the current MSFX Indices Methodology used by the Index Sponsor in determining and calculating the MSFX Indices levels on any given day. The Index Sponsor is committed to using commercially reasonable efforts to maintain the MSFX Indices as liquid, tradable indices that serve as benchmarks for foreign exchange rate investing in the MSFX Currencies. As a result, modifications or refinements to the MSFX Indices Methodology, and consequently this MSFX Indices Manual, may be necessary from time to time. The Index Sponsor reserves the right to make such modifications or refinements, after consultation with the MSFX Indices Committee, as it believes necessary in order to preserve and enhance the utility and tradability of the MSFX Indices as benchmarks for foreign exchange rate investing in the MSFX Currencies.

Neither this MSFX Indices Manual nor any set of procedures, however, are capable of anticipating all possible circumstances and events that may affect the MSFX Indices and their respective calculation methodologies. The detailed rules-based approach contained in this MSFX Indices Manual may not at all times be able to reflect the underlying liquidity and condition of a specific market, particularly in periods of extraordinary market volatility or rapid technological change. Accordingly, the Index Sponsor, after consultation with the MSFX Indices Committee, may make certain determinations that cannot be adequately reflected in this MSFX Indices Manual with regard to an MSFX Currency, the related exchange rate or the related MSFX Index, should conditions exist (as described herein) or upon the occurrence of certain extraordinary market events and market emergencies, that in the discretion of the Index Sponsor and Index Committee, would undermine the effectiveness of the related MSFX Index as a measure for the related foreign exchange rate performance or as a tradable index.

All questions of interpretation with respect to the application of the provisions of this MSFX Indices Manual, including any determinations that need to be made in the event of an adjustment event, market disruption, discontinuance or other circumstances or events that affect the MSFX Indices, will be resolved in a commercially reasonable manner by the Index Sponsor after consultation with the MSFX Indices Committee (as discussed below). The composition of the MSFX Indices, and the value of the MSFX Indices on any given day, as determined and published by the Index Sponsor, are dispositive.

Wherever practicable, any modifications, adjustments or actions will be publicly announced by the Index Sponsor prior to their effective date.

I.3 The MSFX Currencies

Developed Market Currencies (vs. USD)	***Standard Quotation***
Australian dollar (AUD)	USD per 1 AUD
British pound (GBP)	USD per 1 GBP
Canadian dollar (CAD)	CAD per 1 USD
European Union euro (EUR)	USD per 1 EUR
Japanese yen (JPY)	JPY per 1 USD
New Zealand dollar (NZD)	USD per 1 NZD
Norwegian krone (NOK)	NOK per 1 USD
Swedish krona (SEK)	SEK per 1 USD
Swiss franc (CHF)	CHF per 1 USD

Emerging Market Currencies (vs. USD)	***Standard Quotation***
Brazilian real (BRL)	BRL per 1 USD
Chinese renminbi (Yuan) (CNY)	CNY per 1 USD
Czech koruna (CZK)	CZK per 1 USD
Hungarian forint (HUF)	HUF per 1 USD
Indian rupee (INR)	INR per 1 USD
Israeli shekel (ILS)	ILS per 1 USD
Mexican peso (MXN)	MXN per 1 USD
Singapore dollar (SGD)	SGD per 1 USD
South African rand (ZAR)	ZAR per 1 USD

Developed Market EUR Cross-Currencies (vs. EUR)	***Standard Quotation***
Australian dollar (AUD)	AUD per 1 EUR
British pound (GBP)	EUR per 1 GBP
Canadian dollar (CAD)	CAD per 1 EUR
Japanese yen (JPY)	JPY per 1 EUR
New Zealand dollar (NZD)	NZD per 1 EUR
Norwegian krone (NOK)	NOK per 1 EUR
Swedish krona (SEK)	SEK per 1 EUR
Swiss franc (CHF)	CHF per 1 EUR
United States dollar (USD)	USD per 1 EUR

Developed Market GBP Cross-Currencies (vs. GBP)	***Standard Quotation***
Australian dollar (AUD)	AUD per 1 GBP
British pound (GBP)	EUR per 1 GBP
Canadian dollar (CAD)	CAD per 1 GBP
Japanese yen (JPY)	JPY per 1 GBP
New Zealand dollar (NZD)	NZD per 1 GBP
Norwegian krone (NOK)	NOK per 1 GBP
Swedish krona (SEK)	SEK per 1 GBP
Swiss franc (CHF)	CHF per 1 GBP
United States dollar	USD per 1 EUR

I.4 The MSFX Indices

A list of all of the MSFX Indices can be accessed on Bloomberg Page "ALLX MSCE" and each MSFX Index can be found using the respective Bloomberg Index Ticker set forth next to each MSFX Index set forth below.*

A. MSFX Total Return (TR) Indices and Related Bloomberg Index Tickers

I. Developed Market Currencies - USD

Long and Short Indices – Total Return (USD)		***Double Long and Double Short Indices – Total Return (USD)***	
Developed Market Currency Indices (TR) (USD)	***Bloomberg Index Ticker***	***Developed Market Currency Double Indices (TR) (USD)***	***Bloomberg Index Ticker***
Long Australian Dollar Index (TR)	MSCEAUDL	Double Long Australian Dollar Index (TR)	MSCEADDL
Short Australian Dollar Index (TR)	MSCEAUDS	Double Short Australian Dollar Index (TR)	MSCEADDS
Long British Pound Index (TR)	MSCEGBPL	Double Long British Pound Index (TR)	MSCEGBDL
Short British Pound Index (TR)	MSCEGBPS	Double Short British Pound Index (TR)	MSCEGBDS
Long Canadian Dollar Index (TR)	MSCECADL	Double Long Canadian Dollar Index (TR)	MSCECADL
Short Canadian Dollar Index (TR)	MSCECADS	Double Short Canadian Dollar Index (TR)	MSCECADS
Long Euro Index (TR)	MSCEEURL	Double Long Euro Index (TR)	MSCEEUDL
Short Euro Index (TR)	MSCEEURS	Double Short Euro Index (TR)	MSCEEUDS
Long Japanese Yen Index (TR)	MSCEJPYL	Double Long Japanese Yen Index (TR)	MSCEJPDL
Short Japanese Yen Index (TR)	MSCEJPYS	Double Short Japanese Yen Index (TR)	MSCEJPDS
Long New Zealand Dollar Index (TR)	MSCENZDL	Double Long New Zealand Dollar Index (TR)	MSCENZDL
Short New Zealand Dollar Index (TR)	MSCENZDS	Double Short New Zealand Dollar Index (TR)	MSCENZDS
Long Norwegian Krone Index (TR)	MSCENOKL	Double Long Norwegian Krone Index (TR)	MSCENODL
Short Norwegian Krone Index (TR)	MSCENOKS	Double Short Norwegian Krone Index (TR)	MSCENODS
Long Swedish Krona Index (TR)	MSCESEKL	Double Long Swedish Krona Index (TR)	MSCESEDL
Short Swedish Krona Index (TR)	MSCESEKS	Double Short Swedish Krona Index (TR)	MSCESEDS
Long Swiss Franc Index (TR)	MSCECHFL	Double Long Swiss Franc Index (TR)	MSCECHDL
Short Swiss Franc Index (TR)	MSCECHFS	Double Short Swiss Franc Index (TR)	MSCECHDS
Triple Long and Triple Short Indices – Total Return (USD)		***5X Long and 5X Short Indices – Total Return (USD)***	
Developed Market Currency Triple Indices (TR) (USD)	***Bloomberg Index Ticker***	***Developed Market Currency 5X Indices (TR) (USD)***	
Triple Long Australian Dollar Index (TR)	MSCEAUUL	5X Long Australian Dollar Index (TR)	MSCEAUXL
Triple Short Australian Dollar Index (TR)	MSCEAUUS	5X Short Australian Dollar Index (TR)	MSCEAUXS
Triple Long British Pound Index (TR)	MSCEGBUL	5X Long British Pound Index (TR)	MSCEGBXL
Triple Short British Pound Index (TR)	MSCEGBUS	5X Short British Pound Index (TR)	MSCEGBXS
Triple Long Canadian Dollar Index (TR)	MSCECAUL	5X Long Canadian Dollar Index (TR)	MSCECAXL
Triple Short Canadian Dollar Index (TR)	MSCECAUS	5X Short Canadian Dollar Index (TR)	MSCECAXS
Triple Long Euro Index (TR)	MSCEEUUL	5X Long Euro Index (TR)	MSCEEUXL
Triple Short Euro Index (TR)	MSCEEUUS	5X Short Euro Index (TR)	MSCEEUXS
Triple Long Japanese Yen Index (TR)	MSCEJPUL	5X Long Japanese Yen Index (TR)	MSCEJPXL
Triple Short Japanese Yen Index (TR)	MSCEJPUS	5X Short Japanese Yen Index (TR)	MSCEJPXS
Triple Long New Zealand Dollar Index (TR)	MSCENZUL	5X Long New Zealand Dollar Index (TR)	MSCENZXL
Triple Short New Zealand Dollar Index (TR)	MSCENZUS	5X Short New Zealand Dollar Index (TR)	MSCENZXS
Triple Long Norwegian Krone Index (TR)	MSCENOUL	5X Long Norwegian Krone Index (TR)	MSCENOXL
Triple Short Norwegian Krone Index (TR)	MSCENOUS	5X Short Norwegian Krone Index (TR)	MSCENOXS
Triple Long Swedish Krona Index (TR)	MSCESEUL	5X Long Swedish Krona Index (TR)	MSCESEXL
Triple Short Swedish Krona Index (TR)	MSCESEUS	5X Short Swedish Krona Index (TR)	MSCESEXS
Triple Long Swiss Franc Index (TR)	MSCECHUL	5X Long Swiss Franc Index (TR)	MSCECHXL
Triple Short Swiss Franc Index (TR)	MSCECHUS	5X Short Swiss Franc Index (TR)	MSCECHXS

II. Emerging Market Currencies – USD

Long and Short Indices – Total Return (USD)		***Double Long and Double Short Indices – Total Return (USD)***	
Emerging Market Currency Indices (TR) (USD)	***Bloomberg Index Ticker***	***Emerging Market Currency Double Indices (TR) (USD)***	***Bloomberg Index Ticker***
Long Brazilian Real Index (TR)	MSCEBRLL	N/A	N/A
Short Brazilian Real Index (TR)	MSCEBRLS	N/A	N/A
Long Chinese Renminbi Index (TR)	MSCECNYL	N/A	N/A
Short Chinese Renminbi Index (TR)	MSCECNYS	N/A	N/A
Long Czech Koruna Index (TR)	MSCECZKL	N/A	N/A
Short Czech Koruna Index (TR)	MSCECZKS	N/A	N/A
Long Hungarian Forint Index (TR)	MSCEHUFL	N/A	N/A
Short Hungarian Forint Index (TR)	MSCEHUFS	N/A	N/A
Long Indian Rupee Index (TR)	MSCEINRL	N/A	N/A
Short Indian Rupee Index (TR)	MSCEINRS	N/A	N/A
Long Israeli Shekel Index (TR)	MSCEILSL	N/A	N/A
Short Israeli Shekel Index (TR)	MSCEILSS	N/A	N/A
Long Mexican Peso Index (TR)	MSCEMXNL	N/A	N/A
Short Mexican Peso Index (TR)	MSCEMXNS	N/A	N/A
Long Singapore Dollar Index (TR)	MSCESGDL	N/A	N/A
Short Singapore Dollar Index (TR)	MSCESGDS	N/A	N/A
Long South African Rand Index (TR)	MSCEZARL	N/A	N/A
Short South African Rand Index (TR)	MSCEZARS	N/A	N/A
Triple Long and Triple Short Indices – Total Return (USD)			
Emerging Market Currency Triple Indices (TR) (USD)	***Bloomberg Index Ticker***		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		
N/A	N/A		

III. Developed Market Currencies - EUR

Long and Short Indices – Total Return (EUR)		***Double Long and Double Short Indices – Total Return (EUR)***	
Developed Market Cross-Currency Indices (TR) (EUR)	***Bloomberg Index Ticker***	***Developed Market Cross-Currency Double Indices (TR) (EUR)***	***Bloomberg Index Ticker***
Long Australian Dollar/Euro Index (TR)	MSCEEAL	Double Long Australian Dollar/Euro Index (TR)	MSCEEADL
Short Australian Dollar/Euro Index (TR)	MSCEEAS	Double Short Australian Dollar/Euro Index (TR)	MSCEEADS
Long British Pound/Euro Index (TR)	MSCEEGL	Double Long British Pound/Euro Index (TR)	MSCEEGDL
Short British Pound/Euro Index (TR)	MSCEEGS	Double Short British Pound/Euro Index (TR)	MSCEEGDS
Long Canadian Dollar/Euro Index (TR)	MSCEECL	Double Long Canadian Dollar/Euro Index (TR)	MSCEECDL
Short Canadian Dollar/Euro Index (TR)	MSCEECS	Double Short Canadian Dollar/Euro Index (TR)	MSCEECDS
Long Japanese Yen/Euro Index (TR)	MSCEEJL	Double Long Japanese Yen/Euro Index (TR)	MSCEEJDL
Short Japanese Yen/Euro Index (TR)	MSCEEJS	Double Short Japanese Yen/Euro Index (TR)	MSCEEJDS
Long New Zealand Dollar/Euro Index (TR)	MSCEEZL	Double Long New Zealand Dollar/Euro Index (TR)	MSCEEZDL
Short New Zealand Dollar/Euro Index (TR)	MSCEEZS	Double Short New Zealand Dollar/Euro Index (TR)	MSCEEZDS
Long Norwegian Krone/Euro Index (TR)	MSCEENL	Double Long Norwegian Krone/Euro Index (TR)	MSCEENDL
Short Norwegian Krone/Euro Index (TR)	MSCEENS	Double Short Norwegian Krone/Euro Index (TR)	MSCEENDS
Long Swedish Krona/Euro Index (TR)	MSCEESL	Double Long Swedish Krona/Euro Index (TR)	MSCEESDL
Short Swedish Krona/Euro Index (TR)	MSCEESS	Double Short Swedish Krona/Euro Index (TR)	MSCEESDS
Long Swiss Franc/Euro Index (TR)	MSCEEHL	Double Long Swiss Franc/Euro Index (TR)	MSCEEHDL
Short Swiss Franc/Euro Index (TR)	MSCEEHS	Double Short Swiss Franc/Euro Index (TR)	MSCEEHDS
Long US Dollar/Euro Index (TR)	MSCEEUL	Double Long US Dollar/Euro Index(TR)	MSCEEUDL
Short US Dollar/Euro Index (TR)	MSCEEUS	Double Short US Dollar/Euro Index(TR)	MSCEEUDS
Triple Long and Triple Short Indices – Total Return (EUR)		***5X Long and 5X Short Indices – Total Return (EUR)***	
Developed Market Cross-Currency Triple Indices (TR) (EUR)	***Bloomberg Index Ticker***	***Developed Market Cross-Currency 5X Indices (TR) (EUR)***	***Bloomberg Index Ticker***
Triple Long Australian Dollar/Euro Index (TR)	MSCEEAUL	5X Long Australian Dollar/Euro Index (TR)	MSCEEAXL
Triple Short Australian Dollar/Euro Index (TR)	MSCEEAUS	5X Short Australian Dollar/Euro Index (TR)	MSCEEAXS
Triple Long British Pound/Euro Index (TR)	MSCEEGUL	5X Long British Pound/Euro Index (TR)	MSCEEGXL
Triple Short British Pound/Euro Index (TR)	MSCEEGUS	5X Short British Pound/Euro Index (TR)	MSCEEGXS
Triple Long Canadian Dollar/Euro Index (TR)	MSCEECUL	5X Long Canadian Dollar/Euro Index (TR)	MSCEECXL
Triple Short Canadian Dollar/Euro Index (TR)	MSCEECUS	5X Short Canadian Dollar/Euro Index (TR)	MSCEECXS
Triple Long Japanese Yen/Euro Index (TR)	MSCEEJUL	5X Long Japanese Yen/Euro Index (TR)	MSCEEJXL
Triple Short Japanese Yen/Euro Index (TR)	MSCEEJUS	5X Short Japanese Yen/Euro Index (TR)	MSCEEJXS
Triple Long New Zealand Dollar/Euro Index (TR)	MSCEEZUL	5X Long New Zealand Dollar/Euro Index (TR)	MSCEEZXL
Triple Short New Zealand Dollar/Euro Index (TR)	MSCEEZUS	5X Short New Zealand Dollar/Euro Index (TR)	MSCEEZXS
Triple Long Norwegian Krone/Euro Index (TR)	MSCEENUL	5X Long Norwegian Krone/Euro Index (TR)	MSCEENXL
Triple Short Norwegian Krone/Euro Index (TR)	MSCEENUS	5X Short Norwegian Krone/Euro Index (TR)	MSCEENXS
Triple Long Swedish Krona/Euro Index (TR)	MSCEESUL	5X Long Swedish Krona/Euro Index (TR)	MSCEESXL
Triple Short Swedish Krona/Euro Index (TR)	MSCEESUS	5X Short Swedish Krona/Euro Index (TR)	MSCEESXS
Triple Long Swiss Franc/Euro Index (TR)	MSCEEHUL	5X Long Swiss Franc/Euro Index (TR)	MSCEEHXL
Triple Short Swiss Franc/Euro Index (TR)	MSCEEHUS	5X Short Swiss Franc/Euro Index (TR)	MSCEEHXS
Triple Long US Dollar/Euro Index(TR)	MSCEEUUL	5X Long US Dollar/Euro Index(TR)	MSCEEUXL
Triple Short US Dollar/Euro Index(TR)	MSCEEUUS	5X Short US Dollar/Euro Index(TR)	MSCEEUXS

IV. Developed Market Currencies - GBP

Long and Short Indices – Total Return (GBP)		***Double Long and Double Short Indices – Total Return (GBP)***	
Developed Market Cross-Currency Indices (TR) (GBP)	***Bloomberg Index Ticker***	***Developed Market Cross-Currency Double Indices (TR) (GBP)***	***Bloomberg Index Ticker***
Long Australian Dollar/GBP Index (TR)	MSCEGAL	Double Long Australian Dollar/GBP Index (TR)	MSCEGADL
Short Australian Dollar/GBP Index (TR)	MSCEGAS	Double Short Australian Dollar/GBP Index (TR)	MSCEGADS
Long Canadian Dollar/GBP Index (TR)	MSCEGCL	Double Long Canadian Dollar/GBP Index (TR)	MSCEGCDL
Short Canadian Dollar/GBP Index (TR)	MSCEGCS	Double Short Canadian Dollar/GBP Index (TR)	MSCEGCDS
Long Euro/GBP Index (TR)	MSCEGEL	Double Long Euro/GBP Index (TR)	MSCEGEDL
Short Euro/GBP Index (TR)	MSCEGES	Double Short Euro/GBP Index (TR)	MSCEGEDS
Long Japanese Yen/GBP Index (TR)	MSCEGJL	Double Long Japanese Yen/GBP Index (TR)	MSCEGJDL
Short Japanese Yen/GBP Index (TR)	MSCEGJS	Double Short Japanese Yen/GBP Index (TR)	MSCEGJDS
Long New Zealand Dollar/GBP Index (TR)	MSCEGZL	Double Long New Zealand Dollar/GBP Index (TR)	MSCEGZDL
Short New Zealand Dollar/GBP Index (TR)	MSCEGZS	Double Short New Zealand Dollar/GBP Index (TR)	MSCEGZDS
Long Norwegian Krone/GBP Index (TR)	MSCEGNL	Double Long Norwegian Krone/GBP Index (TR)	MSCEGNDL
Short Norwegian Krone/GBP Index (TR)	MSCEGNS	Double Short Norwegian Krone/GBP Index (TR)	MSCEGNDS
Long Swedish Krona/GBP Index (TR)	MSCEGSL	Double Long Swedish Krona/GBP Index (TR)	MSCEGSDL
Short Swedish Krona/GBP Index (TR)	MSCEGSS	Double Short Swedish Krona/GBP Index (TR)	MSCEGSDS
Long Swiss Franc/GBP Index (TR)	MSCEGHL	Double Long Swiss Franc/GBP Index (TR)	MSCEGHDL
Short Swiss Franc/GBP Index (TR)	MSCEGHS	Double Short Swiss Franc/GBP Index (TR)	MSCEGHDS
Long US Dollar/GBP Index (TR)	MSCEGUL	Double Long US Dollar/GBP Index(TR)	MSCEGUDL
Short US Dollar/GBP Index (TR)	MSCEGUS	Double Short US Dollar/GBP Index(TR)	MSCEGUDS
Triple Long and Triple Short Indices – Total Return (GBP)		***5X Long and 5X Short Indices – Total Return (GBP)***	
Developed Market Cross-Currency Triple Indices (TR) (GBP)	***Bloomberg Index Ticker***	***Developed Market Cross-Currency 5X Indices (TR) (GBP)***	***Bloomberg Index Ticker***
Triple Long Australian Dollar/GBP Index (TR)	MSCEGAUL	5X Long Australian Dollar/GBP Index (TR)	MSCEGAXL
Triple Short Australian Dollar/GBP Index (TR)	MSCEGAUS	5X Short Australian Dollar/GBP Index (TR)	MSCEGAXS
Triple Long Canadian Dollar/GBP Index (TR)	MSCEGCUL	5X Long Canadian Dollar/GBP Index (TR)	MSCEGCXL
Triple Short Canadian Dollar/GBP Index (TR)	MSCEGCUS	5X Short Canadian Dollar/GBP Index (TR)	MSCEGCXS
Triple Long Euro/GBP Index (TR)	MSCEGEUL	5X Long Euro/GBP Index (TR)	MSCEGEXL
Triple Short Euro/GBP Index (TR)	MSCEGEUS	5X Short Euro/GBP Index (TR)	MSCEGEXS
Triple Long Japanese Yen/GBP Index (TR)	MSCEGJUL	5X Long Japanese Yen/GBP Index (TR)	MSCEGJXL
Triple Short Japanese Yen/GBP Index (TR)	MSCEGJUS	5X Short Japanese Yen/GBP Index (TR)	MSCEGJXS
Triple Long New Zealand Dollar/GBP Index (TR)	MSCEGZUL	5X Long New Zealand Dollar/GBP Index (TR)	MSCEGZXL
Triple Short New Zealand Dollar/GBP Index (TR)	MSCEGZUS	5X Short New Zealand Dollar/GBP Index (TR)	MSCEGZXS
Triple Long Norwegian Krone/GBP Index (TR)	MSCEGNUL	5X Long Norwegian Krone/GBP Index (TR)	MSCEGNXL
Triple Short Norwegian Krone/GBP Index (TR)	MSCEGNUS	5X Short Norwegian Krone/GBP Index (TR)	MSCEGNXS
Triple Long Swedish Krona/GBP Index (TR)	MSCEGSUL	5X Long Swedish Krona/GBP Index (TR)	MSCEGSXL
Triple Short Swedish Krona/GBP Index (TR)	MSCEGSUS	5X Short Swedish Krona/GBP Index (TR)	MSCEGSXS
Triple Long Swiss Franc/GBP Index (TR)	MSCEGHUL	5X Long Swiss Franc/GBP Index (TR)	MSCEGHXL
Triple Short Swiss Franc/GBP Index (TR)	MSCEGHUS	5X Short Swiss Franc/GBP Index (TR)	MSCEGHXS
Triple Long US Dollar/GBP Index(TR)	MSCEGUUL	5X Long US Dollar/GBP Index(TR)	MSCEGUXL
Triple Short US Dollar/GBP Index(TR)	MSCEGUUS	5X Short US Dollar/GBP Index(TR)	MSCEGUXS

V. Diversified Basket Indices – USD, EUR, GBP

Long and Short Indices – Total Return			
Diversified Developed Market Basket Indices	***Bloomberg Index Ticker***		
Diversified Dollar Long Basket Index (USD) (TR)	MSCEUSLU		
Diversified Dollar Short Basket Index (USD) (TR)	MSCEUSSU		
Diversified EUR Long Basket Index (EUR) (TR)	MSCEERLE		
Diversified EUR Short Basket Index (EUR) (TR)	MSCEERSE		
Diversified GBP Long Basket Index (GBP) (TR)	MSCEGBLG		
Diversified GBP Short Basket Index (GBP) (TR)	MSCEGBSG		
Diversified Commodity Long Basket Index (USD) (TR)	MSCECOLU		
Diversified Commodity Short Basket Index (USD) (TR)	MSCECOSU		
G10 Multi FX Enhanced Basket Index (USD)	MSCEEFXU		
G10 Risk Adjusted Carry Basket Index (USD)	MSCECARU		
G10 Equity Signal Basket Index (USD)	MSCEQSIU		
G10 REER Valuation Basket Index (USD)	MSCERERU		
G10 Market Positioning Basket Index (USD)	MSCEPOSU		

B. MSFX Excess Return (ER) Indices and Related Bloomberg Index Tickers

Long and Short Indices – Excess Return		***Triple Long and Triple Short Indices – Excess Return***	
Developed Market Currency Indices (ER) (USD)	***Bloomberg Index Ticker***	***Developed Market Currency Triple Indices (ER) (USD)***	***Bloomberg Index Ticker***
Long Australian Dollar Index (ER)	MSCEAULE	N/A	N/A
Short Australian Dollar Index (ER)	MSCEAUSE	N/A	N/A
Long British Pound Index (ER)	MSCEGBLE	N/A	N/A
Short British Pound Index (ER)	MSCEGBSE	N/A	N/A
Long Canadian Dollar Index (ER)	MSCECALE	N/A	N/A
Short Canadian Dollar Index (ER)	MSCECASE	N/A	N/A
Long Euro Index (ER)	MSCEEULE	N/A	N/A
Short Euro Index (ER)	MSCEEUSE	N/A	N/A
Long Japanese Yen Index (ER)	MSCEJPLE	N/A	N/A
Short Japanese Yen Index (ER)	MSCEJPSE	N/A	N/A
Long New Zealand Dollar Index (ER)	MSCENZLE	N/A	N/A
Short New Zealand Dollar Index (ER)	MSCENZSE	N/A	N/A
Long Norwegian Krone Index (ER)	MSCENOLE	N/A	N/A
Short Norwegian Krone Index (ER)	MSCENOSE	N/A	N/A
Long Swedish Krona Index (ER)	MSCESELE	N/A	N/A
Short Swedish Krona Index (ER)	MSCESESE	N/A	N/A
Long Swiss Franc Index (ER)	MSCECHLE	N/A	N/A
Short Swiss Franc Index (ER)	MSCECHSE	N/A	N/A
Emerging Market Currency Indices (ER) (USD)	***Bloomberg Index Ticker***	***Emerging Market Currency Triple Indices (ER) (USD)***	***Bloomberg Index Ticker***
Long Brazilian Real Index (ER)	MSCEBRLU	N/A	N/A
Short Brazilian Real Index (ER)	MSCEBRLD	N/A	N/A
Long Chinese Renminbi Index (ER)	MSCECNYU	N/A	N/A
Short Chinese Renminbi Index (ER)	MSCECNYD	N/A	N/A
Long Czech Koruna Index (ER)	MSCECZKU	N/A	N/A
Short Czech Koruna Index (ER)	MSCECZKD	N/A	N/A
Long Hungarian Forint Index (ER)	MSCEHUFU	N/A	N/A
Short Hungarian Forint Index (ER)	MSCEHUFD	N/A	N/A
Long Indian Rupee Index (ER)	MSCEINRU	N/A	N/A
Short Indian Rupee Index (ER)	MSCEINRD	N/A	N/A
Long Israeli Shekel Index (ER)	MSCEILSU	N/A	N/A
Short Israeli Shekel Index (ER)	MSCEILSD	N/A	N/A
Long Mexican Peso Index (ER)	MSCEMXNU	N/A	N/A
Short Mexican Peso Index (ER)	MSCEMXND	N/A	N/A
Long Singapore Dollar Index (ER)	MSCESGDU	N/A	N/A
Short Singapore Dollar Index (ER)	MSCESGDD	N/A	N/A
Long South African Rand Index (ER)	MSCEZARD	N/A	N/A
Short South African Rand Index (ER)	MSCEZARU	N/A	N/A

****The MSFX Indices can also be accessed via Reuters by taking the related Bloomberg Index Ticker symbol and inserting a "." before the ticker. For example, the Long Australian Dollar Index (TR) can be found on Reuters Page ".MSCEAUDL"***

I.5 Certain Basic Foreign Exchange Market Concepts and Definitions

Deliverable Currencies

All of the developed market MSFX Currencies and most of the emerging market MSFX Currencies listed above (other than BRL, CNY and INR) are "deliverable currencies", which means that a "spot transaction" will result in an actual exchange of currencies.

For the deliverable MSFX Currencies, the related MSFX Excess Return Indices will replicate the return on a constant position in the related MSFX Currency. In order to avoid physical delivery of the MSFX Currency, the related MSFX Indices will be rebalanced daily on each Index-Good Day (as defined herein) via a "Spot Next" or "Tom Next" transaction (as described below).

For the Total Return versions of the MSFX Indices based on the deliverable MSFX Currencies, in order to replicate the return of a constant fully collateralized strategy, the related MSFX Index will accrue interest daily based on the (i) One-Month T-Bill Rate ("T-Bill"), in the case of the MSFX Currencies valued relative to the U.S. dollar, (ii) Euro Overnight Index Average rate ("EONIA"), in the case of the MSFX Currencies valued relative to the Euro and (iii) the Sterling Overnight Interbank Average Rate ("SONIA"), in the case of the MSFX Currencies valued relative to the British Pound. Hence, the daily return on the related MSFX Total Return Index will be computed based on the MSFX Currency return and the One-Month T-Bill return, EONIA return or SONIA return, as applicable. *Please see the more fulsome MSFX Indices Methodologies herein.*

Non-Deliverable Currencies

The governments of Brazil, China and India restrict the trading of their currencies and therefore it is not possible for foreign parties to own and trade these currencies for speculative purposes. In order to allow hedging and trading by foreign parties, a market has developed in derivatives that allows parties to receive the equivalent U.S. dollar return on these currencies. These derivatives are called Non-Deliverable Forward ("NDF") contracts. An NDF contract sets an exchange rate for the currency at some time in the future. The exchange rate at which the NDF typically settles is the spot rate set by (i) for BRL, the Central Bank of Brazil, (ii) for CNY, the People's Bank of China and (iii) for INR, the Reserve Bank of India.

For BRL, CNY and INR, the related MSFX Excess Return Indices will replicate the return of a constant position in the relevant NDF, which will be rebalanced periodically (as specified herein). For the Total Return versions of the related MSFX Indices, in order to replicate the return of a fully collateralized strategy, the related MSFX Index will accrue interest daily at the One-Month T-Bill Rate. Hence, the daily return on the related MSFX Index will be computed as the sum of the return of the NDF contract and the One Month T-Bill return for the relevant quarter. *Please see the more fulsome MSFX Indices Methodologies herein.*

Spot Transaction

In a **Spot** currency transaction, a counterparty agrees to exchange some amount "A" of currency "X" against another currency "Y" at a certain rate. Generally, the actual exchange occurs T+2 from the transaction date (with the exception of CAD, which settles T+1).

Spot Next Transaction

In a **Spot Next** transaction, a counterparty agrees to exchange some amount "A" of currency "X" against another currency "Y" at a certain rate two business days from the transaction date and receive back the same amount "A" of currency "Y" against currency "X" at the same rate plus a spread three business days from the transaction date. The spread is generally quoted in the market.

Tom Next Transaction

In a **Tom Next** transaction, a counterparty agrees to exchange some amount "A" of currency "X" against another currency "Y" at a certain rate one business day from the transaction date and receive back the same amount "A" of currency "X" against currency "Y" at the same rate plus a spread two business days from the transaction date. This spread is quoted in the market.

I.6 The MSFX Indices Committee

Morgan Stanley has established an Indices Committee (the "MSFX Indices Committee") to oversee activities relating to the MSFX Methodology and the calculation and publication of the MSFX Indices. The MSFX Indices Committee will meet with the Index Sponsor on an annual basis and at other times during the year at the request of the Index Sponsor as issues or market events arise that warrant the MSFX Indices Committee consideration.

The principal purpose of the MSFX Indices Committee is to advise the Index Sponsor with respect to, among other things, the methodology and calculation of the MSFX Indices, the effectiveness of the MSFX Indices as a measure of the related foreign exchange rate performance and the need for changes in the composition or methodology of the MSFX Indices. The MSFX Indices Committee, currently comprised of 3 Morgan Stanley employees, reviews any significant market events or conditions that may affect the MSFX Indices. In addition, the MSFX Indices Committee may suggest that the Index Sponsor revise the MSFX Methodology and make any changes to the MSFX Indices as it reasonably deems necessary in response to such events or conditions. Decisions with respect to the composition, calculation and operation of the MSFX Indices in the ordinary daily course of business will be made by the Index Sponsor after consultation with the MSFX Indices Committee. Morgan Stanley considers information about any changes to the MSFX Indices and related matters to be potentially market moving and material. Therefore, all MSFX Indices Committee discussions are deemed to be confidential.

II. Index Rules

II.1 Calculation and Publication of the MSFX Indices

The Index Sponsor will itself or through its calculation agent (if any) use commercially reasonable efforts to calculate and publish (a) live levels for the MSFX Indices from 8:00 a.m. to 4:30 p.m. London time and (b) a closing levels for the MSFX Indices at 4:30 p.m. London time, (i) for the MSFX Indices related to all MSFX Currencies other than BRL, CNY and INR, on any day where WM publishes a 4:00 p.m. London close for the specific currency, and (ii) for the MSFX Indices related to BRL, CNY and INR, on any day where the official fixing rate is published on the fixing source for the specific currency; in each case subject to the adjustment and market disruption provisions set forth herein.

Published levels for the MSFX Indices will be rounded to 3 decimals. Closing levels for the MSFX Indices for purposes of the Index Methodology will be rounded to 7 decimals.

II.2 Data Sources

Reuters will be the primary source used to obtain the relevant spot foreign exchange rates used in the calculation of the MSFX Indices. WM will be the primary source used to obtain the relevant fixings for the relevant foreign exchange market. To the extent possible, the underlying rates represent those sources that are commonly used by market participants when executing foreign investment transactions. Where available, multi-contributor rate sources are used over single contributor rate sources, with the exception of official fixing rates.

Reference sources for any of the rates or inputs in the methodology may be changed by the Index Sponsor, if after consultation with the Index Committee, the Index Sponsor determines that (i) the reference source is no longer available, (ii) the reference source is replaced by another source or (iii) the Index Sponsor determines, in its reasonable judgment, that the source is manifestly incorrect and no longer reflects accurate market data. In the event of any such determination, and wherever practicable, any such source change will be publicly announced prior to its effective date.

II.3 The MSFX Indices Methodologies

Developed Market Currency Long Indices (Total Return) (USD) – AUD, GBP, EUR, NZD vs. USD

The following methodology applies to the computation of the level for any of the Developed Market Currency Long Indices (Total Return) (USD) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the Financial Center for the related MSFX Currency; provided that, a TARGET Business Day shall refer to any day on which TARGET (the Trans-European Automated Gross settlement Express Transfer system) is open.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] + \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right];$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day with respect to the related MSFX Currency and (ii) the next Business Day is also a New York Business Day. The related MSFX Index will only be rolled on an Index-Good Day;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
    - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for the related MSFX Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"S/N"** is the Spot/Next "Ask" side for the related MSFX Currency relative to USD at the Roll Time, as reported on the S/N Source.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	S/N Source (Ask) (Reuters) (1)	S/N Scaling Factor
AUD	AUDUSD	MSCEAUDL	Sydney, Australia	4:00 p.m. London	WMRSPOT12	AUD=	AUDSN = TTKL	10,000
GBP	GBPUSD	MSCEGBPL	London, England	4:00 p.m. London	WMRSPOT07	GBP=	GBPSN = TTKL	10,000
EUR	EURUSD	MSCEEURL	TARGET	4:00 p.m. London	WMRSPOT05	EUR=	EURSN = TTKL	10,000
NZD	NZDUSD	MSCENZDL	Wellington/Auckland, New Zealand	4:00 p.m. London	WMRSPOT13	NZD=	NZDSN = TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

To calculate a **live level** at any time on any day for any of the MSFX Indices listed above, the Fix Source (Mid) in the definition of "FX" will be replaced by the "mid" side (average of the bid and the ask) value taken from the related Live Source. All other calculations will remain the same.

Developed Market Currency Short Indices (Total Return) (USD) - AUD, GBP, EUR, NZD vs. USD

The following methodology applies to the computation of the level for any of the Developed Market Currency Short Indices (Total Return) (USD) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the Financial Center for the related MSFX Currency; provided that, a TARGET Business Day shall refer to any day on which TARGET (the Trans-European Automated Gross settlement Express Transfer system) is open.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] - \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right];$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day with respect to the related MSFX Currency and (ii) the next Business Day is also a New York Business Day. The related MSFX Index will only be rolled on an Index-Good Day;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
    - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for the related MSFX Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"S/N"** is the Spot/Next "Bid" side for the related MSFX Currency relative to USD at the Roll Time, as reported on the S/N Source.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	S/N Source (Bid) (Reuters) (1)	S/N Scaling Factor
AUD	AUDUSD	MSCEAUDS	Sydney, Australia	4:00 p.m. London	WMRSPOT12	AUD=	AUDSN = TTKL	10,000
GBP	GBPUSD	MSCEGBPS	London, England	4:00 p.m. London	WMRSPOT07	GBP=	GBPSN = TTKL	10,000
EUR	EURUSD	MSCEEURS	TARGET	4:00 p.m. London	WMRSPOT05	EUR=	EURSN = TTKL	10,000
NZD	NZDUSD	MSCENZDS	Wellington/Auckland, New Zealand	4:00 p.m. London	WMRSPOT13	NZD=	NZDSN = TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

To calculate a **live level** at any time on any day for any of the MSFX Indices listed above, the Fix Source (Mid) in the definition of "FX" will be replaced by the "mid" side (average of the bid and the ask) value taken from the related Live Source. All other calculations will remain the same.

Developed Market Currency Long Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

The following methodology applies to the computation of the level for any of the Developed Market Currency Long Indices (Total Return) (USD) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the related Financial Center for the related MSFX Currency.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right];$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day with respect to the related MSFX Currency and (ii) the next Business Day is also a New York Business Day. The related MSFX Index will only be rolled on an Index-Good Day.
  - For JPY, though December 25th is a Business Day in Japan, such day will not be considered an Index-Good Day for the purposes of the related MSFX Index. Rather, the related MSFX Index will be rolled on the first Index-Good Day prior to December 25th using the S/N Date relating to that December 25th and the S/N points of the first Index-Good Day prior to December 25th;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
  - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for the related MSFX Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"S/N"** is the Spot/Next "Bid" side for the related MSFX Currency relative to USD at the Roll Time, as reported on the S/N Source.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	S/N Source (Bid) (Reuters) (1)	S/N Scaling Factor
JPY	USDJPY	MSCEJPYL	Tokyo, Japan	4:00 p.m. London	WMRSPOT12	JPY=	JPYSN = TTKL	100
NOK	USDNOK	MSCENOKL	Oslo, Norway	4:00 p.m. London	WMRSPOT06	NOK=	NOKSN = TTKL	10,000
SEK	USDSEK	MSCESEKL	Stockholm, Sweden	4:00 p.m. London	WMRSPOT07	SEK=	SEKSN = TTKL	10,000
CHF	USDCHF	MSCECHFL	Zurich, Switzerland	4:00 p.m. London	WMRSPOT07	CHF=	CHFSN = TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

To calculate a **live level** at any time on any day for any of the MSFX Indices listed above, the Fix Source (Mid) in the definition of "FX" will be replaced by the "mid" side (average of the bid and the ask) value taken from the related Live Source. All other calculations will remain the same.

Developed Market Currency Short Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

The following methodology applies to the computation of the level for any of the Developed Market Currency Short Indices (Total Return) (USD) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the related Financial Center for the related MSFX Currency.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right];$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day with respect to the related MSFX Currency and (ii) the next Business Day is also a New York Business Day. The related MSFX Index will only be rolled on an Index-Good Day.
  - For JPY, though December 25th is a Business Day in Japan, such day will not be considered an Index-Good Day for the purposes of the related MSFX Index. Rather, the related MSFX Index will be rolled on the first Index-Good Day prior to December 25th using the S/N Date relating to that December 25th and the S/N points of the first Index-Good Day prior to December 25th;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
  - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for the related MSFX Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"S/N"** is the Spot/Next "Ask" side for the related MSFX Currency relative to USD at the Roll Time, as reported on the S/N Source.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	S/N Source (Ask) (Reuters) (1)	S/N Scaling Factor
JPY	USDJPY	MSCEJPYS	Tokyo, Japan	4:00 p.m. London	WMRSPOT12	JPY=	JPYSN = TTKL	100
NOK	USDNOK	MSCENOKS	Oslo, Norway	4:00 p.m. London	WMRSPOT06	NOK=	NOKSN = TTKL	10,000
SEK	USDSEK	MSCESEKS	Stockholm, Sweden	4:00 p.m. London	WMRSPOT07	SEK=	SEKSN = TTKL	10,000
CHF	USDCHF	MSCECHFS	Zurich, Switzerland	4:00 p.m. London	WMRSPOT07	CHF=	CHFSN = TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

To calculate a **live level** at any time on any day for any of the MSFX Indices listed above, the Fix Source (Mid) in the definition of "FX" will be replaced by the "mid" side (average of the bid and the ask) value taken from the related Live Source. All other calculations will remain the same.

Developed Market Currency Long Index (Total Return) (USD) – CAD vs. USD

The following methodology applies to the computation of the level of the Long Canadian Dollar Index (TR) (USD) (MSCECADL).

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the Financial Center.

On any day "D" the closing level "I" for the Long Canadian Dollar Index (TR) (USD) (MSCECADL) will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right];$$

where:

- **"I"** is the Long Canadian Dollar Index (TR) (USD) (MSCECADL) closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day and (ii) the next Business Day is also a New York Business Day. The Long Canadian Dollar Index (TR) (USD) (MSCECADL) will only be rolled on an Index-Good Day;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR" subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
    - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for CAD relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"T/N"** is the Tom/Next "Bid" side for CAD relative to USD at the Roll Time, as reported on the T/N Source.
    - T/N is used for USDCAD because standard settlement for CAD is T+1 versus T+2 for the other developed market currencies.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	T/N Source (Bid) (Reuters) (1)	T/N Scaling Factor
CAD	USDCAD	MSCECADL	Ottawa, Canada	4:00 p.m. London	WMRSPOT09	CAD=	CADTN = TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

To calculate a **live level** at any time on any day for the Long Canadian Dollar Index (TR) (USD) (MSCECADL), the Fix Source (Mid) in the definition of "FX" will be replaced by taking the "mid" side (average of the bid and the ask) value from the Live Source. All other calculations will remain the same.

Developed Market Currency Short Index (Total Return) (USD) – CAD vs. USD

The following methodology applies to the computation of the level of the Short Canadian Dollar Index (TR) (USD) (MSCECADS).

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the Financial Center.

On any day "D" the closing level "I" for Short Canadian Dollar Index (TR) (USD) (MSCECADS) will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right];$$

where:

- **"I"** is the Short Canadian Dollar Index (TR) (USD) (MSCECADS) closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day and (ii) the next Business Day is also a New York Business Day. The Short Canadian Dollar Index (TR) (USD) (MSCECADS) will only be rolled on an Index-Good Day;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR" subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
    - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for CAD relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"T/N"** is the Tom/Next "Ask" side for CAD relative to USD at the Roll Time, as reported on the T/N Source.
    - T/N is used for USDCAD because standard settlement for CAD is T+1 versus T+2 for the other developed market currencies.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	T/N Source (Ask) (Reuters) (1)	T/N Scaling Factor
CAD	USDCAD	MSCECADS	Ottawa, Canada	4:00 p.m. London	WMRSPOT09	CAD=	CADTN = TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

To calculate a **live level** at any time on any day for the Short Canadian Dollar Index (TR) (USD) (MSCECADS), the Fix Source (Mid) in the definition of "FX" will be replaced by taking the "mid" side (average of the bid and the ask) value from the Live Source. All other calculations will remain the same.

Developed Market EUR Cross-Currency Long and Short Indices (Total Return) (EUR) - AUD, CAD, CHF, GBP, JPY, NOK, NZD, SEK, USD vs. EUR

The following methodology applies to the computation of the level for any of the Developed Market EUR Cross-Currency Long and Short Indices (Total Return) (EUR) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Index.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the Financial Center for the related MSFX Currency.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times EU_D}{36{,}500}\right]\right] + B \times I_{D_{-2}} \times \mathrm{FW}\,(\mathrm{D}_{-2}, \mathrm{SN}_{\mathrm{Cross},\,\mathrm{D}_{-2}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A}) \times \left[\frac{1}{\mathrm{FW}\,(\mathrm{D}, \mathrm{SN}_{\mathrm{Cross},\,\mathrm{D}_{-1}}, \mathrm{B}, -\mathrm{B} \times \mathrm{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}_{-1}, \mathrm{SN}_{\mathrm{Cross},\,\mathrm{D}_{-1}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A})}\right]$$

where

$$\mathrm{FW}(\mathrm{T1},\ \mathrm{T2}, \mathrm{c1}, \mathrm{c2}) = \frac{\mathrm{EURUSD}_{\,T1} + \left[\frac{\mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,EUR,T1,c1} - \mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} \frac{\mathrm{T2} - SN_{EUR,T1,c1}}{1W_{EUR,T1} - SN_{EUR,T1}}\right] \times 1(\mathrm{T2} - SN_{EUR,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ Factor} \frac{\mathrm{T2} - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(\mathrm{T2} - SN_{FX,T1})\right\}^{A}}$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is any day where WM publishes a close for the related MSFX Currency and $SN_{Cross,T}$ is computed to be greater than $SN_{Cross,T-1}$
- **"EU"** is the Euro Overnight Index Average rate ("EONIA") calculated by the European Central Bank, as published on Bloomberg Page "EONIA Index", *minus* – 0.50%; subject to a 0.00% floor. The value of EU will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior TARGET Business Day;
- **"TARGET Business Day"** is any day on which TARGET (the Trans-European Automated Gross settlement Express Transfer system) is open;
- **"FX"** is the WM exchange rate fixing for the related MSFX USD Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"EURUSD"** is the WM exchange rate fixing for the related the EURUSD Currency at the Roll Time, as posted under the column "Mid" on the Fix Source (WMRSPOT05 on Reuters);
- "$1(X)$" is 1 if $X \geq 0$ and 0 otherwise.
- "$\mathrm{Pts}_{Mat,FX,t,1}$" refers to the ask side of the points for term Mat, for currency FX on day t
- "$\mathrm{Pts}_{Mat,FX,t,-1}$" refers to the bid side of the points for term Mat, for currency FX on day t
- "$\mathrm{Pts}_{Mat,EUR,T1,1}$" refers to the ask side of the points for term Mat for the Euro Currency (EURFWD= on Reuters)
- "$\mathrm{Pts}_{Mat,EUR,T1,-1}$" refers to the bid side of the points for term Mat for the Euro Currency (EURFWD= on Reuters)
- **"$S_{EUR,T}$"** is the Spot Settlement date of EURUSD on date T according to usual conventions.
- **"$S_{FX,T}$"** is the Spot Settlement date of the MSFX USD Currency pair on date T according to usual conventions.
- **"$SN_{EUR,T}$"** is the Spot Next Settlement date of EURUSD on date T according to usual conventions.
- **"$SN_{FX,T}$"** is the Spot Next Settlement date of the MSFX USD Currency pair on date T according to usual conventions.
- **"$1W_{EUR,T}$"** is the 1week Settlement date of EURUSD on date T according to usual conventions.
- **"$1W_{FX,T}$"** is the 1 week Settlement date of the MSFX USD Currency pair on date T according to usual conventions.
- **"$S_{Cross,T}$"** is defined as the first USD,EUR,GBP, MSFX Currency Business Date after the first EUR,GBP, MSFX Currency Business date after T.
- **"$SN_{Cross,T}$"** will be defined as the first USD,EUR,GBP, MSFX Currency Business Date following $S_{Cross,T}$.

MSFX Currency	MSFX EUR Currency Pair	MSFX USD Currency Pair	A	B	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	S/N, T/N, 1W Source (Reuters)(1)	S/N Scaling Factor
USD	EURUSD	1	1	1	MSCEEUL	TARGET	4:00 p.m. London		1	0	10,000
GBP	EURGBP	GBPUSD	1	1	MSCEEGL	London, England	4:00 p.m. London	WMRSPOT07	GBP=	GBPFWD = TTKL	10,000
NZD	EURNZD	NZDUSD	1	1	MSCEEZL	Wellington/Auckland, New Zealand	4:00 p.m. London	WMRSPOT13	NZD=	NZDFWD = TTKL	10,000
AUD	EURAUD	AUDUSD	1	1	MSCEEAL	Sydney, Australia	4:00 p.m. London	WMRSPOT12	AUD=	AUDFWD = TTKL	10,000
NOK	EURNOK	USDNOK	-1	1	MSCEENL	Oslo, Norway	4:00 p.m. London	WMRSPOT06	NOK=	NOKFWD= TTKL	10,000
SEK	EURSEK	USDSEK	-1	1	MSCEESL	Stockholm, Sweden	4:00 p.m. London	WMRSPOT07	SEK=	SEKFWD= TTKL	10,000
JPY	EURJPY	USDJPY	-1	1	MSCEEJL	Tokyo, Japan	4:00 p.m. London	WMRSPOT12	JPY=	JPYFWD= TTKL	100
CAD	EURCAD	USDCAD	-1	1	MSCEECL	Ottawa, Canada	4:00 p.m. London	WMRSPOT09	CAD=	CADFWD= TTKL	10,000
CHF	EURCHF	USDCHF	-1	1	MSCEEHL	Zurich, Switzerland	4:00 p.m. London	WMRSPOT07	CHF=	CHFWD= TTKL	10,000
USD	EURUSD	1	1	-1	MSCEEUS	TARGET	4:00 p.m. London		1	0	10,000
GBP	EURGBP	GBPUSD	1	-1	MSCEEGS	London, England	4:00 p.m. London	WMRSPOT07	GBP=	GBPFWD = TTKL	10,000
NZD	EURNZD	NZDUSD	1	-1	MSCEEZS	Wellington/Auckland, New Zealand	4:00 p.m. London	WMRSPOT13	NZD=	NZDFWD = TTKL	10,000
AUD	EURAUD	AUDUSD	1	-1	MSCEEAS	Sydney, Australia	4:00 p.m. London	WMRSPOT12	AUD=	AUDFWD = TTKL	10,000
NOK	EURNOK	USDNOK	-1	-1	MSCEENS	Oslo, Norway	4:00 p.m. London	WMRSPOT06	NOK=	NOKFWD= TTKL	10,000
SEK	EURSEK	USDSEK	-1	-1	MSCEESS	Stockholm, Sweden	4:00 p.m. London	WMRSPOT07	SEK=	SEKFWD= TTKL	10,000
JPY	EURJPY	USDJPY	-1	-1	MSCEEJS	Tokyo, Japan	4:00 p.m. London	WMRSPOT12	JPY=	JPYFWD= TTKL	100
CAD	EURCAD	USDCAD	-1	-1	MSCEECS	Ottawa, Canada	4:00 p.m. London	WMRSPOT09	CAD=	CADFWD= TTKL	10,000
CHF	EURCHF	USDCHF	-1	-1	MSCEEHS	Zurich, Switzerland	4:00 p.m. London	WMRSPOT07	CHF=	CHFWD= TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett, Prebon inter-dealer brokers based in London.

Developed Market GBP Cross-Currency Long and Short Indices (Total Return) (GBP) - AUD, CAD, CHF, EUR, JPY, NOK, NZD, SEK, USD vs. GBP

The following methodology applies to the computation of the level for any of the Developed Market GBP Cross-Currency Long and Short Indices (Total Return) (GBP) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Index.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the Financial Center for the related MSFX Currency.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times GB_D}{36{,}500}\right]\right] + B \times I_{D_{-2}} \times \mathrm{FW}\ (\mathrm{D}_{-2}, \mathrm{SN}_{\mathrm{Cross},\ \mathrm{D}_{-2}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A}) \times \left[\frac{1}{\mathrm{FW}\ (\mathrm{D}, \mathrm{SN}_{\mathrm{Cross},\ \mathrm{D}_{-1}}, \mathrm{B}, -\mathrm{B} \times \mathrm{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}-1, \mathrm{SN}_{\mathrm{Cross},\ \mathrm{D}_{-1}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A})}\right]$$

where

$$\mathrm{FW}(\mathrm{T1},\ \mathrm{T2}, \mathrm{c1}, \mathrm{c2}) = \frac{\mathrm{GBPUSD}_{\ T1} + \left[\frac{\mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,GBP,T1,c1} - \mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} \frac{\mathrm{T2} - SN_{GBP,T1,c1}}{1W_{GBP,T1} - SN_{GBP,T1}}\right] \times 1(\mathrm{T2} - SN_{GBP,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ \ Factor} \frac{\mathrm{T2} - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(\mathrm{T2} - SN_{FX,T1})\right\}^{A}}$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"$\mathbf{D_{-1}}$"** is the first Index-Good Day preceding day D;
- **"$\mathbf{D_{-2}}$"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is any day where WM publishes a close for the related MSFX Currency and $SN_{Cross,T}$ is computed to be greater than $SN_{Cross,T-1}$
- **"GB"** is the Sterling Overnight Interbank Average Rate ("SONIA") as published on Bloomberg Page "SONIO/N Index", *minus* – 0.50%; subject to a 0.00% floor. The value of GB will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior BOE Business Day;
- **"TARGET Business Day"** is any day on which TARGET (the Trans-European Automated Gross settlement Express Transfer system) is open;
- **"FX"** is the WM exchange rate fixing for the related MSFX USD Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source; and
- **"GBPUSD"** is the WM exchange rate fixing for the related the GBPUSD Currency at the Roll Time, as posted under the column "Mid" on the Fix Source (WMRSPOT05 on Reuters); and
- "$1(X)$" is 1 if X≥0 and 0 otherwise.
- "$\mathrm{Pts}_{Mat,FX,t,1}$" refers to the ask side of the points for term Mat, for currency FX on day t
- "$\mathrm{Pts}_{Mat,FX,t,-1}$" refers to the bid side of the points for term Mat, for currency FX on day t
- "$\mathrm{Pts}_{Mat,GBP,T1,1}$" refers to the ask side of the points for term Mat for the GBP Currency (GBPFWD= on Reuters)
- "$\mathrm{Pts}_{Mat,GBP,T1,-1}$" refers to the bid side of the points for term Mat for the GBP Currency (GBPFWD= on Reuters)
- **"$\mathbf{S_{GBP,T}}$"** is the Spot Settlement date of GBPUSD on date T according to usual conventions.
- **"$\mathbf{S_{FX,T}}$"** is the Spot Settlement date of the MSFX USD Currency pair on date T according to usual conventions.
- **"$\mathbf{SN_{GBP,T}}$"** is the Spot Next Settlement date of GBPUSD on date T according to usual conventions.
- **"$\mathbf{SN_{FX,T}}$"** is the Spot Next Settlement date of the MSFX USD Currency pair on date T according to usual conventions.
- **"$\mathbf{1W_{GBP,T}}$"** is the 1week Settlement date of GBPUSD on date T according to usual conventions.
- **"$\mathbf{1W_{FX,T}}$"** is the 1 week Settlement date of the MSFX USD Currency pair on date T according to usual conventions.
- **"$\mathbf{S_{Cross,T}}$"** is defined as the first USD,GBP, MSFX Currency Business Date after the first GBP, MSFX Currency Business date after T.
- **"$\mathbf{SN_{Cross,T}}$"** will be defined as the first USD,GBP, MSFX Currency Business Date following $S_{Cross,T}$.

MSFX Currency	MSFX EUR Currency Pair	MSFX USD Currency Pair	A	B	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	Live Source (Mid) (Reuters)	S/N, T/N, 1W Source (Reuters) (1)	S/N Scaling Factor
USD	GBPUSD	1	1	1	MSCEGUL	London, England	4:00 p.m. London		1	0	10,000
EUR	GBPEUR	EURUSD	1	1	MSCEGEL	Target	4:00 p.m. London	WMRSPOT07	GBP=	EURFWD = TTKL	10,000
NZD	GBPNZD	NZDUSD	1	1	MSCEGZL	Wellington/Auckland, New Zealand	4:00 p.m. London	WMRSPOT13	NZD=	NZDFWD = TTKL	10,000
AUD	GBPAUD	AUDUSD	1	1	MSCEGAL	Sydney, Australia	4:00 p.m. London	WMRSPOT12	AUD=	AUDFWD = TTKL	10,000
NOK	GBPNOK	USDNOK	-1	1	MSCEGNL	Oslo, Norway	4:00 p.m. London	WMRSPOT06	NOK=	NOKFWD= TTKL	10,000
SEK	GBPSEK	USDSEK	-1	1	MSCEGSL	Stockholm, Sweden	4:00 p.m. London	WMRSPOT07	SEK=	SEKFWD= TTKL	10,000
JPY	GBPJPY	USDJPY	-1	1	MSCEGJL	Tokyo, Japan	4:00 p.m. London	WMRSPOT12	JPY=	JPYFWD= TTKL	100
CAD	GBPCAD	USDCAD	-1	1	MSCEGCL	Ottawa, Canada	4:00 p.m. London	WMRSPOT09	CAD=	CADFWD= TTKL	10,000
CHF	GBPCHF	USDCHF	-1	1	MSCEGHL	Zurich, Switzerland	4:00 p.m. London	WMRSPOT07	CHF=	CHFWD= TTKL	10,000
USD	GBPUSD	1	1	-1	MSCEGUS	London, England	4:00 p.m. London		1	0	10,000
EUR	GBPEUR	EURUSD	1	-1	MSCEGES	Target	4:00 p.m. London	WMRSPOT07	GBP=	EURFWD = TTKL	10,000
NZD	GBPNZD	NZDUSD	1	-1	MSCEGZS	Wellington/Auckland, New Zealand	4:00 p.m. London	WMRSPOT13	NZD=	NZDFWD = TTKL	10,000
AUD	GBPAUD	AUDUSD	1	-1	MSCEGAS	Sydney, Australia	4:00 p.m. London	WMRSPOT12	AUD=	AUDFWD = TTKL	10,000
NOK	GBPNOK	USDNOK	-1	-1	MSCEGNS	Oslo, Norway	4:00 p.m. London	WMRSPOT06	NOK=	NOKFWD= TTKL	10,000
SEK	GBPSEK	USDSEK	-1	-1	MSCEGSS	Stockholm, Sweden	4:00 p.m. London	WMRSPOT07	SEK=	SEKFWD= TTKL	10,000
JPY	GBPJPY	USDJPY	-1	-1	MSCEGJS	Tokyo, Japan	4:00 p.m. London	WMRSPOT12	JPY=	JPYFWD= TTKL	100
CAD	GBPCAD	USDCAD	-1	-1	MSCEGCS	Ottawa, Canada	4:00 p.m. London	WMRSPOT09	CAD=	CADFWD= TTKL	10,000
CHF	GBPCHF	USDCHF	-1	-1	MSCEGHS	Zurich, Switzerland	4:00 p.m. London	WMRSPOT07	CHF=	CHFWD= TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett, Prebon inter-dealer brokers based in London.

Emerging Market Currency Long Indices (Total Return) (USD) – CZK, HUF, ILS, MXN, SGD, ZAR vs. USD

The following methodology applies to the computation of the level for any of the Emerging Market Currency Long Indices (Total Return) (USD) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the related Financial Center for the related MSFX Currency.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36500}\right]\right] + I_{D-2} \times FX_{D-2} \times \left[\frac{1}{\left(FXam_D - \frac{T/N_D}{T/N\ Scaling\ \ Factor}\right)} - \frac{1}{FX_{D-1}}\right] + I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FXam_D}\right];$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day with respect to the related MSFX Currency and (ii) the next Business Day is also a New York Business Day. The related MSFX Index will only be rolled on an Index-Good Day;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
    - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for the related MSFX Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source;
- **"FXam"** is the "mid" side (average of the bid and the ask) value for the related MSFX Currency relative to the USD, as posted on the A.M. Source at 9 a.m. London Time; and
- **"T/N"** is the Tom/Next "Bid" side for the related MSFX Currency relative to USD at the A.M. Roll Time, as reported on the T/N Source.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	A.M. Roll Time	A.M. Source (Mid) (Reuters)	T/N Source (Bid) (Reuters) (1)(2)(3)(4)	T/N Scaling Factor
CZK	USDCZK	MSCECZKL	Prague, Czech Republic	4:00 p.m. London	WMRSPOT05	9:00 a.m. London	CZK=	CZKTN=PREL	10,000
HUF	USDHUF	MSCEHUFL	Budapest, Hungary	4:00 p.m. London	WMRSPOT06	9:00 a.m. London	HUF=	HUFTN=PREL	10,000
ILS	USDILS	MSCEILSL	Tel Aviv, Israel	4:00 p.m. London	WMRSPOT16	9:00 a.m. London	ILS=	ILSTN=TFSI	10,000
MXN	USDMXN	MSCEMXNL	Mexico City, Mexico	4:00 p.m. London	WMRSPOT10	8:00 a.m. New York	MXN=	MXNTN=	10,000
SGD	USDSGD	MSCESGDL	Singapore, Republic of Singapore	4:00 p.m. London	WMRSPOT13	9:00 a.m. Hong Kong	SGD=	SGDTN=PREA	10,000
ZAR	USDZAR	MSCEZARL	Johannesburg, Republic of South Africa	4:00 p.m. London	WMRSPOT17	9:00 a.m. London	ZAR=	ZARTN=TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

(2) The "=PREL" notation signifies that the source of the data is obtained via Prebon inter-dealer broker based in London.

(3) The "=PREA" notation signifies that the source of the data is obtained via Prebon inter-dealer broker based in Hong Kong.

(4) The "=TFSI" notation signifies that the source of the data is obtained via TFS inter-dealer broker based in Tel Aviv.

To calculate a **live level** at any time on any day for any of the MSFX Indices listed above, the formula below will apply:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36500}\right]\right] + I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_{Live,D}} - \frac{1}{FX_{D-1}}\right]; \text{ where}$$

- **"FX_{Live}"** is the "mid" side (average of the bid and the ask) value for the related MSFX Currency relative to the USD, as posted on the A.M. Source.

All other terms will be defined as per the above definitions used to calculate the related closing index levels.

Emerging Market Currency Short Indices (Total Return) (USD) – CZK, HUF, ILS, MXN, SGD, ZAR vs. USD

The following methodology applies to the computation of the level for any of the Emerging Market Currency Short Indices (Total Return) (USD) relating to the MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

"**Business Day**" means a day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in the related Financial Center for the related MSFX Currency.

On any day "D" the related MSFX Index closing level "I" will be computed as follows:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36500}\right]\right] - I_{D-2} \times FX_{D-2} \times \left[\frac{1}{\left(FXam_D - \frac{T/N_D}{T/N\ Scaling\ Factor}\right)} - \frac{1}{FX_{D-1}}\right] - I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FXam_D}\right];$$

where:

- **"I"** is the related MSFX Index closing level;
- **"D"** is any day;
- **"D_{-1}"** is the first Index-Good Day preceding day D;
- **"D_{-2}"** is the first GBP Business Day preceding day D_{-1};
- **"Index-Good Day"** is a day that is both a (i) Business Day with respect to the related MSFX Currency and (ii) the next Business Day is also a New York Business Day. The related MSFX Index will only be rolled on an Index-Good Day;
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
    - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed;
- **"FX"** is the WM exchange rate fixing for the related MSFX Currency relative to the USD at the Roll Time, as posted under the column "Mid" on the Fix Source;
- **"FXam"** is the "mid" side (average of the bid and the ask) value for the related MSFX Currency relative to the USD, as posted on the A.M. Source at 9 a.m. London Time; and
- **"T/N"** is the Tom/Next "Ask" side for the related MSFX Currency relative to USD at the A.M. Roll Time, as reported on the T/N Source.

MSFX Currency	MSFX Currency Pair	MSFX Index	Financial Center	Roll Time	Fix Source (Mid) (Reuters)	A.M. Roll Time	A.M. Source (Mid) (Reuters)	T/N Source (Ask) (Reuters) (1)(2)(3)(4)	T/N Scaling Factor
CZK	USDCZK	MSCECZKL	Prague, Czech Republic	4:00 p.m. London	WMRSPOT05	9:00 a.m. London	CZK=	CZKTN=PREL	10,000
HUF	USDHUF	MSCEHUFL	Budapest, Hungary	4:00 p.m. London	WMRSPOT06	9:00 a.m. London	HUF=	HUFTN=PREL	10,000
ILS	USDILS	MSCEILSL	Tel Aviv, Israel	4:00 p.m. London	WMRSPOT16	9:00 a.m. London	ILS=	ILS=TFSI	10,000
MXN	USDMXN	MSCEMXNL	Mexico City, Mexico	4:00 p.m. London	WMRSPOT10	8:00 a.m. New York	MXN=	MXNTN=	10,000
SGD	USDSGD	MSCESGDL	Singapore, Republic of Singapore	4:00 p.m. London	WMRSPOT13	9:00 a.m. Hong Kong	SGD=	SGDTN=PREA	10,000
ZAR	USDZAR	MSCEZARL	Johannesburg, Republic of South Africa	4:00 p.m. London	WMRSPOT17	9:00 a.m. London	ZAR=	ZARTN=TTKL	10,000

(1) The "=TTKL" notation signifies that the source of the data is obtained via Tullett Prebon inter-dealer brokers based in London.

(2) The "=PREL" notation signifies that the source of the data is obtained via Prebon inter-dealer broker based in London.

(3) The "=PREA" notation signifies that the source of the data is obtained via Prebon inter-dealer broker based in Hong Kong.

(4) The "=TFSI" notation signifies that the source of the data is obtained via TFS inter-dealer broker based in Tel Aviv.

To calculate a **live level** at any time on any day for any of the MSFX Indices listed above, the formula below will apply:

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36500}\right]\right] - I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_{Live,D}} - \frac{1}{FX_{D-1}}\right]; \text{ where}$$

- **"FX_{Live}"** is the "mid" side (average of the bid and the ask) value for the related MSFX Currency relative to the USD, as posted on the A.M. Source.

All other terms will be defined as per the above definitions used to calculate the related closing index levels.

Emerging Market Currency Long Indices (Total Return) (USD) – NDFs – CNY, INR vs. USD

The following methodology applies to the computation of the level for any of the Emerging Market Currency Long Indices (Total Return) (USD) relating to the non-deliverable forward MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

On day "D" the index is computed as:

$$I_D = I_{rb} \times (1 + \mathrm{Return}_D) + \sum_{t=rb}^{D-1} I_t \times TBY_{t+1} / 36{,}500;$$

where:

- **"I_D"** is the related MSFX Index closing level on day D; provided that if D is not a WM business day, then the MSFX Index level will be the related MSFX Index closing level on the preceding WM business day.
- **"D"** is any day;
- **"I_{rb}"** is the related MSFX Index level on the previous Rebalancing Date (rb is the first rebalancing date preceding D)
  - The related MSFX Index will be rebalanced 6 times per year. A "Rebalancing Date" (rb) is on the first US and London business day prior to the first CNY or INR (as applicable) business day prior to the last US and CNY or INR (as applicable) business day in February, April, June, August, October and December of each year.
- **"Return$_D$"** = $((\mathrm{Forward\ Rate}_{rb} / \mathrm{Forward\ Rate}_D) - 1) \times DF_D$
  - DF_D = *Discount Factor =1/ (1+* $(\mathrm{T3M,rb - TSpot,D})$*/36000*LIBOR$_D$)*
  - $\mathrm{Forward\ Rate}_{rb}$ is the bid side of the 3 month NDF on the rebalancing date rb at 9am London time.
  - $\mathrm{Forward\ Rate}_D = \dfrac{\mathrm{NDF(3m,D) - NDF(1m,D)}}{\mathrm{T3M,D - T1M,D}}[\mathrm{T3M,rb - T1M,D}] + \mathrm{NDF(1m,D)}$
  - T1M,D is the settlement date of the 1M MSFX currency NDF on day D
  - T3M,D is the settlement date of the 3M MSFX currency NDF on day D
  - TSpot,D is the spot settlement date of the MSFX currency on day D
  - $LIBOR_D = \dfrac{\mathrm{LIBOR(3m,D) - LIBOR(1m,D)}}{\mathrm{T3M,D - T1M,D}}[\mathrm{T3M,rb - T1M,D}] + \mathrm{LIBOR(1m,D)}$
  - LIBOR(3m,D) is the 3month Libor on day D published by the BBA.
  - LIBOR(1m,D) is the 3month Libor on day D published by the BBA.
  - $\mathrm{NDF(3m,D)}$ is the bid side of the 3m MSFX Currency NDF (if D is a rebalancing date, we take the ask side), the fixing value are taken at 9am London time.
  - $\mathrm{NDF(1m,D)}$ is the bid side of the 1m MSFX Currency NDF (if D is a rebalancing date, we take the ask side), the fixing value are taken at 9am London time.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
  - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed.

MSFX Currency	MSFX Currency Pair	MSFX Index	Forward Rate (Reuters)	Rebalancing Frequency
CNY	USDCNY	MSCECNYL	PYLNDF	Every 2 Months
INR	USDINR	MSCEINRL	PYLNDF	Every 2 Months

Emerging Market Currency Short Indices (Total Return) (USD) – NDFs – CNY, INR vs. USD

The following methodology applies to the computation of the level for any of the Emerging Market Currency Short Indices (Total Return) (USD) relating to the non-deliverable forward MSFX Currencies listed above, adjusted to reflect the parameters set forth below and in the table below with respect to each MSFX Currency.

On day "D" the index is computed as:

$$I_D = I_{rb} \times \left(1 - \mathrm{Return}_D\right) + \sum_{t=rb}^{D-1} I_t \times TBY_{t+1} / 36{,}500;$$

where:

- **"I_D"** is the related MSFX Index closing level on day D; provided that if D is not a WM business day, then the MSFX Index level will be the related MSFX Index closing level on the preceding WM business day.
- **"D"** is any day;
- **"I_{rb}"** is the related MSFX Index level on the previous Rebalancing Date, (rb is the first rebalancing date preceding D)
  - The related MSFX Index will be rebalanced 6 times per year. A "Rebalancing Date" (rb) is on the first US and London business day prior to the first CNY or INR (as applicable) business day prior to the last US and CNY or INR (as applicable) business day in February, April, June, August, October and December of each year.
- **"Return_D"** = $((\mathrm{Forward\,Rate}_{rb} / \mathrm{Forward\,Rate}_D) - 1) \times DF_D$
  - DF_D = *Discount Factor =1/(1+* $(\mathrm{T3M,rb - TSpot,D})$*/36000*LIBOR$_D$)*
  - $\mathrm{Forward\,Rate}_{rb}$ is the ask side of the 3 month NDF on the rebalancing date rb at 9am London.
  - $\mathrm{Forward\,Rate}_D = \dfrac{\mathrm{NDF(3m,D) - NDF(1m,D)}}{\mathrm{T3M,D - T1M,D}}\left[\mathrm{T3M,rb - T1M,D}\right] + \mathrm{NDF(1m,D)}$
  - T1M,D is the settlement date of the 1M MSFX currency NDF on day D
  - T3M,D is the settlement date of the 3M MSFX currency NDF on day D
  - TSpot,D is the spot settlement date of the MSFX currency on day D
  - $LIBOR_D = \dfrac{\mathrm{LIBOR(3m,D) - LIBOR(1m,D)}}{\mathrm{T3M,D - T1M,D}}\left[\mathrm{T3M,rb - T1M,D}\right] + \mathrm{LIBOR(1m,D)}$
  - LIBOR(3m,D) is the 3month Libor on day D published by the BBA.
  - LIBOR(1m,D) is the 3month Libor on day D published by the BBA.
  - $\mathrm{NDF(3m,D)}$ is the ask side of the 3m MSFX Currency NDF (if D is a rebalancing date, we take the bid side), the fixing value are taken at 9am London time.
  - $\mathrm{NDF(1m,D)}$ is the ask side of the 1m MSFX Currency NDF (if D is a rebalancing date, we take the bid side), the fixing value are taken at 9am London time.

- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.
  - "**New York Fed Business Day**" means any day except for a Saturday, Sunday or a day on which the Federal Reserve Bank of New York is closed.

MSFX Currency	MSFX Currency Pair	MSFX Index	Forward Rate (Reuters)	Rebalancing Frequency
CNY	USDCNY	MSCECNYS	PYLNDF	Every 2 Months
INR	USDINR	MSCEINRS	PYLNDF	Every 2 Months

Diversified Dollar Long and Short Basket Indices (USD)

The following methodology applies to the computation of the level for the long and short Dollar Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{9} \left[w_i \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - TBY_D * (D - rb)/36500 \right\} \right] + 1 + TBY_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the related Dollar Index closing level on day rb;
- **"rb"** is the GBP business day immediately preceding day D**;**
- **"** $MSFX_{i,D}$ **"** is the closing value of the index number i on day D, rounded to the third decimal value as published on Bloomberg;
- **"** $MSFX_{i,rb}$ **"** is the closing value of the index number i on day rb, rounded to the third decimal value as published on Bloomberg;
- **"** w_i **"** is weight related to index number i as described in the below table.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.

Diversified Dollar Short Basket Index (USD) (TR)									
Index List	MSCEAUDL	MSCENZDL	MSCEGBPL	MSCESEKL	MSCENOKL	MSCECADL	MSCEEURL	MSCECHFL	MSCEJPYL
Weights	2.95%	0%	19.41%	2.90%	0%	21.85%	27.69%	3.11%	22.09%
Number	1	2	3	4	5	6	7	8	9
Diversified Dollar Long Basket Index (USD) (TR)									
Index List	MSCEAUDS	MSCENZDS	MSCEGBPS	MSCESEKS	MSCENOKS	MSCECADS	MSCEEURS	MSCECHFS	MSCEJPYS
Number	1	2	3	4	5	6	7	8	9
Weights	2.95%	0%	19.41%	2.90%	0%	21.85%	27.69%	3.11%	22.09%

Diversified EUR Long and Short Basket Indices (EUR)

The following methodology applies to the computation of the level for the long and short EUR Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{9} \left[w_i \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - EU_D * (D - rb)/36500 \right\} \right] + 1 + EU_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the related Dollar Index closing level on day rb;
- **"rb"** is the GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of the index number i on day D rounded to the third decimal value as published on Bloomberg;
- **"** $MSFX_{i,rb}$ **"** is the closing value of the index number i on day rb rounded to the third decimal value as published on Bloomberg;
- **"** w_i **"** is weight related to index number i as described in the below table.
- **"EU"** is the Euro Overnight Index Average rate ("EONIA") calculated by the European Central Bank, as published on Bloomberg Page "EONIA Index", *minus* – 0.50%; subject to a 0.00% floor. The value of EU will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior TARGET Business Day;

Diversified EUR Short Basket Index (EUR) (TR)									
Index List	MSCEEAL	MSCEEZL	MSCEEGL	MSCEESL	MSCEENL	MSCEECL	MSCEEUL	MSCEEHL	MSCEEJL
Weights	3.30%	0.00%	38.60%	2.00%	1.40%	2.20%	31.10%	12.60%	8.80%
Number	1	2	3	4	5	6	7	8	9
Diversified EUR Long Basket Index (EUR) (TR)									
Index List	MSCEEAS	MSCEEZS	MSCEEGS	MSCEESS	MSCEENS	MSCEECS	MSCEEUS	MSCEEHS	MSCEEJS
Number	1	2	3	4	5	6	7	8	9
Weights	3.30%	0.00%	38.60%	2.00%	1.40%	2.20%	31.10%	12.60%	8.80%

Diversified GBP Long and Short Basket Indices (GBP)

The following methodology applies to the computation of the level for the long and short GBP Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{9} \left[w_i \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - GB_D * (D - rb)/36500 \right\} \right] + 1 + GB_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the related Dollar Index closing level on day rb;
- **"rb"** is the GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of the index number i on day D rounded to the third decimal value as published on Bloomberg ;
- **"** $MSFX_{i,rb}$ **"** is the closing value of the index number i on day rb rounded to the third decimal value as published on Bloomberg ;
- **"** w_i **"** is weight related to index number i as described in the below table.
- **"GB"** is the Sterling Overnight Interbank Average Rate ("SONIA") as published on Bloomberg Page "SONIO/N Index", *minus* – 0.50%; subject to a 0.00% floor. The value of GB will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior BOE Business Day;

Diversified GBP Short Basket Index (GBP) (TR)									
Index List	MSCEGAL	MSCEGZL	MSCEGEL	MSCEGSL	MSCEGNL	MSCEGCL	MSCEGUL	MSCEGHL	MSCEGJL
Weights	2.60%	2.40%	42.70%	1.60%	3.10%	3.20%	34.20%	3.00%	7.20%
Number	1	2	3	4	5	6	7	8	9
Diversified GBP Long Basket Index (GBP) (TR)									
Index List	MSCEGAS	MSCEGZS	MSCEGES	MSCEGSS	MSCEGNS	MSCEGCS	MSCEGUS	MSCEGHS	MSCEGJS
Number	1	2	3	4	5	6	7	8	9
Weights	2.60%	2.40%	42.70%	1.60%	3.10%	3.20%	34.20%	3.00%	7.20%

Diversified Commodity Long and Short Basket Indices (USD)

The following methodology applies to the computation of the level for the long and short Commodity Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{9} \left[w_i \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - TBY_D * (D - rb)/36500 \right\} \right] + 1 + TBY_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the related Dollar Index closing level on day rb;
- **"rb"** is the GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of the index number i on day D rounded to the third decimal value as published on Bloomberg ;
- **"** $MSFX_{i,rb}$ **"** is the closing value of the index number i on day rb rounded to the third decimal value as published on Bloomberg ;
- **"** w_i **"** is weight related to index number i as described in the below table.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.

Diversified Commodity Long Basket Index (USD) (TR)									
Index List	MSCEAUDL	MSCENZDL	MSCEGBPL	MSCESEKL	MSCENOKL	MSCECADL	MSCEEURL	MSCECHFL	MSCEJPYL
Weights	27.00%	13.40%	0%	0%	29.40%	30.20%	0%	0%	0%
Number	1	2	3	4	5	6	7	8	9
Diversified Commodity Short Basket Index (USD) (TR)									
Index List	MSCEAUDS	MSCENZDS	MSCEGBPS	MSCESEKS	MSCENOKS	MSCECADS	MSCEEURS	MSCECHFS	MSCEJPYS
Number	1	2	3	4	5	6	7	8	9
Weights	27.00%	13.40%	0%	0%	29.40%	30.20%	0%	0%	0%

G10 Multi FX Enhanced Basket Index (USD)

Morgan Stanley G10 Multi FX Enhanced Basket Index aims to capture returns by diversifying across four recognized currency investment styles.

Target Volatility: 15%

Currencies included: EUR, JPY, GBP, CHF, CAD, AUD, NZD, SEK, and NOK.

The four recognized styles are carry, equity signal, valuation and market positioning based

The G10 Multi FX Enhanced Basket Index Methodology

The following methodology applies to the computation of the level for the G10 Multi FX Enhanced Basket Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{18} \left[w_{i,rb} \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - TBY_D * (D - rb)/36500 \right\} \right] + 1 + TBY_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the Index closing level on day rb;
- **"rb"** is the last GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of component currency index number i on day D rounded to the third decimal value as published on Bloomberg ;
- **"** $MSFX_{i,rb}$ **"** is the closing value of component currency index number i on day rb rounded to the third decimal value as published on Bloomberg ;
- **"** $w_{i,rb}$ **"** is the weight for component currency index number i on day rb. It is computed monthly by Morgan Stanley using its proprietary model. Weights are distributed on the first GBP day preceding the second Monday of each month (before 1pm London Time), and take effect from and including the immediately following Monday.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.

G10 Multi FX Enhanced Basket Index (USD)									
Index List	MSCEAUDL	MSCENZDL	MSCEGBPL	MSCESEKL	MSCENOKL	MSCECADL	MSCEEURL	MSCECHFL	MSCEJPYL
Number	1	2	3	4	5	6	7	8	9
Index List	MSCEAUDS	MSCENZDS	MSCEGBPS	MSCESEKS	MSCENOKS	MSCECADS	MSCEEURS	MSCECHFS	MSCEJPYS
Number	10	11	12	13	14	15	16	17	18

G10 Risk Adjusted Carry Basket Index (USD)

Morgan Stanley G10 Risk Adjusted Carry Basket Index aims to capture returns from the forward rate bias phenomenon.

Target Volatility: 15%

Currencies included: EUR, JPY, GBP, CHF, CAD, AUD, NZD, SEK, and NOK.

The G10 Risk Adjusted Carry Basket Index Methodology

The following methodology applies to the computation of the level for the G10 Risk Adjusted Carry Basket Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{18} \left[w_{i,rb} \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - TBY_D * (D - rb)/36500 \right\} \right] + 1 + TBY_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the Index closing level on day rb;
- **"rb"** is the last GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of component currency index number i on day D rounded to the third decimal value as published on Bloomberg ;
- **"** $MSFX_{i,rb}$ **"** is the closing value of component currency index number i on day rb rounded to the third decimal value as published on Bloomberg;
- **"** $w_{i,rb}$ **"** is the weight for component currency index number i on day rb. It is computed monthly by Morgan Stanley using its proprietary model. Weights are distributed on the first GBP day preceding the second Monday of each month (before 1pm London Time), and take effect from and including the immediately following Monday.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.

G10 Risk Adjusted Carry Basket Index (USD)									
Index List	MSCEAUDL	MSCENZDL	MSCEGBPL	MSCESEKL	MSCENOKL	MSCECADL	MSCEEURL	MSCECHFL	MSCEJPYL
Number	1	2	3	4	5	6	7	8	9
Index List	MSCEAUDS	MSCENZDS	MSCEGBPS	MSCESEKS	MSCENOKS	MSCECADS	MSCEEURS	MSCECHFS	MSCEJPYS
Number	10	11	12	13	14	15	16	17	18

G10 Equity Signal Basket Index (USD)

Morgan Stanley G10 Equity Signal Basket Index uses equity markets as an indicator for future FX performance.

Target Volatility: 15%

Currencies included: EUR, JPY, GBP, CHF, CAD, AUD, NZD, SEK, and NOK.

The G10 Equity Signal Basket Index Methodology

The following methodology applies to the computation of the level for the G10 Equity Signal Basket Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{18} \left[w_{i,rb} \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - TBY_D * (D - rb)/36500 \right\} \right] + 1 + TBY_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the Index closing level on day rb;
- **"rb"** is the last GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of component currency index number i on day D rounded to the third decimal value as published on Bloomberg;
- **"** $MSFX_{i,rb}$ **"** is the closing value of component currency index number i on day rb rounded to the third decimal value as published on Bloomberg ;
- **"** $w_{i,rb}$ **"** is the weight for component currency index number i on day rb. It is computed monthly by Morgan Stanley using its proprietary model. Weights are distributed on the first GBP day preceding the second Monday of each month (before 1pm London Time), and take effect from and including the immediately following Monday.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.

G10 Equity Signal Basket Index (USD)									
Index List	MSCEAUDL	MSCENZDL	MSCEGBPL	MSCESEKL	MSCENOKL	MSCECADL	MSCEEURL	MSCECHFL	MSCEJPYL
Number	1	2	3	4	5	6	7	8	9
Index List	MSCEAUDS	MSCENZDS	MSCEGBPS	MSCESEKS	MSCENOKS	MSCECADS	MSCEEURS	MSCECHFS	MSCEJPYS
Number	10	11	12	13	14	15	16	17	18

G10 REER Valuation Basket Index (USD)

Morgan Stanley G10 REER Valuation Basket Index identifies relative diversion of Real Effective Exchange Rate ("**REER**") of Developed Market currencies and takes positions accordingly

Target Volatility: 15%

Currencies included: EUR, JPY, GBP, CHF, CAD, AUD, NZD, SEK, and NOK.

The G10 REER Valuation Basket Index Methodology

The following methodology applies to the computation of the level for the G10 REER Valuation Basket Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{18} \left[w_{i,rb} \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - TBY_D * (D - rb)/36500 \right\} \right] + 1 + TBY_D * (D - rb)/36500 \right\rangle;$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the Index closing level on day rb;
- **"rb"** is the last GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of component currency index number i on day D rounded to the third decimal value as published on Bloomberg;
- **"** $MSFX_{i,rb}$ **"** is the closing value of component currency index number i on day rb rounded to the third decimal value as published on Bloomberg ;
- **"** $w_{i,rb}$ **"** is the weight for component currency index number i on day rb. It is computed monthly by Morgan Stanley using its proprietary model. Weights are distributed on the first GBP day preceding the second Monday of each month (before 1pm London Time), and take effect from and including the immediately following Monday.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.

G10 REER Valuation Basket Index (USD)									
Index List	MSCEAUDL	MSCENZDL	MSCEGBPL	MSCESEKL	MSCENOKL	MSCECADL	MSCEEURL	MSCECHFL	MSCEJPYL
Number	1	2	3	4	5	6	7	8	9
Index List	MSCEAUDS	MSCENZDS	MSCEGBPS	MSCESEKS	MSCENOKS	MSCECADS	MSCEEURS	MSCECHFS	MSCEJPYS
Number	10	11	12	13	14	15	16	17	18

G10 Market Positioning Basket Index (USD)

Morgan Stanley G10 Market Positioning Basket Index uses market positioning data to get an indication of future FX performance.

Target Volatility: 15%

Currencies included: EUR, JPY, GBP, CHF, CAD, AUD, NZD, SEK, and NOK.

The G10 Market Positioning Basket Index Methodology

The following methodology applies to the computation of the level for the G10 Market Positioning Basket Index.

On any day "D" the related Index closing level "I" will be computed as follows:

$$I_D = I_{rb} \times \left\langle \sum_{i=1}^{18} \left[w_{i,rb} \left\{ \frac{MSFX_{i,D}}{MSFX_{i,rb}} - 1 - TBY_D * (D - rb)/36500 \right\} \right] + 1 + TBY_D * (D - rb)/36500 \right\rangle$$

where:

- **"I_D"** is the Index closing level on day D;
- **"D"** is any day;
- **"I_{rb}"** is the Index closing level on day rb;
- **"rb"** is the last GBP business day immediately preceding day D;
- **"** $MSFX_{i,D}$ **"** is the closing value of component currency index number i on day D rounded to the third decimal value as published on Bloomberg;
- **"** $MSFX_{i,rb}$ **"** is the closing value of component currency index number i on day rb rounded to the third decimal value as published on Bloomberg ;
- **"** $w_{i,rb}$ **"** is the weight for component currency index number i on day rb. It is computed monthly by Morgan Stanley using its proprietary model. Weights are distributed on the first GBP day preceding the second Monday of each month (before 1pm London Time), and take effect from and including the immediately following Monday.
- **"TBY"** is the One (1)-Month Treasury Bill Yield reported by the U.S Federal Reserve on Reuters Page "USYTFRB1M=RR"; subject to a 0.00% floor. The value of TBY will be taken at 8 a.m. London time on the relevant calculation day (D) and will reflect the value published for the prior New York Fed Business Day.

G10 Market Positioning Basket Index (USD)									
Index List	MSCEAUDL	MSCENZDL	MSCEGBPL	MSCESEKL	MSCENOKL	MSCECADL	MSCEEURL	MSCECHFL	MSCEJPYL
Number	1	2	3	4	5	6	7	8	9
Index List	MSCEAUDS	MSCENZDS	MSCEGBPS	MSCESEKS	MSCENOKS	MSCECADS	MSCEEURS	MSCECHFS	MSCEJPYS
Number	10	11	12	13	14	15	16	17	18

The MSFX Double Indices

The methodology for computation of the level for any of the MSFX Double Indices will be the same as the methodologies used for the corresponding single exposure MSFX Index and will use the same reference sources and inputs; provided that the formulas will be modified, in each case, by multiplying "I_{D-2}" by two (2).

Developed Market Currency Double Long Indices (Total Return) (USD) - AUD, GBP, EUR, NZD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + 2 \times \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right]$$

Developed Market Currency Double Short Indices (Total Return) (USD) - AUD, GBP, EUR, NZD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - 2 \times \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right]$$

Developed Market Currency Double Long Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + 2 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Double Short Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - 2 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Double Long Index (Total Return) (USD) – CAD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] + 2 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Double Short Index (Total Return) (USD) – CAD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] - 2 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right]$$

Developed Market EUR Cross-Currency Double Indices (Total Return) (EUR) - AUD, CAD, CHF, GBP, JPY, NOK, NZD, SEK, USD vs. EUR

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times EU_D}{36'500}\right]\right] + 2 \times B \times I_{D-2} \times \mathrm{FW}\ (\mathrm{D}-2, \mathrm{SN}_{\text{Cross, D-2}}, \text{-B},\ \mathrm{B} \times \mathrm{A}) \times \left[\frac{1}{\mathrm{FW}\ (\mathrm{D}, \mathrm{SN}_{\text{Cross, D-1}}, \mathrm{B}, \text{-B} \times \mathrm{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}-1, \mathrm{SN}_{\text{Cross, D-1}}, \text{-B},\ \mathrm{B} \times \mathrm{A})}\right]$$

where

$$\mathrm{FW}(\mathrm{T1},\ \mathrm{T2}, \mathrm{c1}, \mathrm{c2}) = \frac{\mathrm{EURUSD}_{T1} + \left[\frac{\mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,EUR,T1,c1} - \mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} \frac{\mathrm{T2} - SN_{EUR,T1,c1}}{1W_{EUR,T1} - SN_{EUR,T1}}\right] \times 1(\mathrm{T2} - SN_{EUR,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ Factor} \frac{\mathrm{T2} - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(\mathrm{T2} - SN_{FX,T1})\right\}^A}$$

Developed Market GBP Cross-Currency Double Indices (Total Return) (GBP) - AUD, CAD, CHF, EUR, JPY, NOK, NZD, SEK, USD vs. GBP

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times EU_D}{36'500}\right]\right] + 2 \times B \times I_{D-2} \times \mathrm{FW}\ (\mathrm{D}-2, \mathrm{SN}_{\text{Cross, D-2}}, \text{-B},\ \mathrm{B} \times \mathrm{A}) \times \left[\frac{1}{\mathrm{FW}\ (\mathrm{D}, \mathrm{SN}_{\text{Cross, D-1}}, \mathrm{B}, \text{-B} \times \mathrm{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}-1, \mathrm{SN}_{\text{Cross, D-1}}, \text{-B},\ \mathrm{B} \times \mathrm{A})}\right]$$

where

$$\mathrm{FW}(\mathrm{T1},\ \mathrm{T2}, \mathrm{c1}, \mathrm{c2}) = \frac{\mathrm{GBPUSD}_{T1} + \left[\frac{\mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,GBP,T1,c1} - \mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} \frac{\mathrm{T2} - SN_{GBP,T1,c1}}{1W_{EUR,T1} - SN_{EUR,T1}}\right] \times 1(\mathrm{T2} - SN_{GBP,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ \ Scaling\ \ Factor} \frac{\mathrm{T2} - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(\mathrm{T2} - SN_{FX,T1})\right\}^A}$$

The MSFX Triple Indices

The methodology for computation of the level for any of the MSFX Triple Indices will be the same as the methodologies used for the corresponding single exposure MSFX Index and will use the same reference sources and inputs; provided that the formulas will be modified, in each case, by multiplying "I_{D-2}" by three (3).

Developed Market Currency Triple Long Indices (Total Return) (USD) - AUD, GBP, EUR, NZD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + 3 \times \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right]$$

Developed Market Currency Triple Short Indices (Total Return) (USD) - AUD, GBP, EUR, NZD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - 3 \times \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right]$$

Developed Market Currency Triple Long Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + 3 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Triple Short Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - 3 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Triple Long Index (Total Return) (USD) – CAD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] + 3 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Triple Short Index (Total Return) (USD) – CAD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] - 3 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right]$$

Developed Market EUR Cross-Currency Triple Indices (Total Return) (EUR) - AUD, CAD, CHF, GBP, JPY, NOK, NZD, SEK, USD vs. EUR

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times EU_D}{36'500}\right]\right] + 3 \times B \times I_{D-2} \times \mathrm{FW}\ (\mathrm{D}-2, \mathrm{SN}_{\text{Cross, D-2}}, \text{-B, B} \times \text{A}) \times \left[\frac{1}{\mathrm{FW}\ (\mathrm{D}, \mathrm{SN}_{\text{Cross, D-1}}, \mathrm{B}, \text{-B} \times \text{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}-1, \mathrm{SN}_{\text{Cross, D-1}}, \text{-B, B} \times \text{A})}\right]$$

where

$$\mathrm{FW}(\mathrm{T1,\ T2}, \mathrm{c1}, \mathrm{c2}) = \frac{\mathrm{EURUSD}_{T1} + \left[\frac{\mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,EUR,T1,c1} - \mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} \frac{\mathrm{T2} - SN_{EUR,T1,c1}}{1W_{EUR,T1} - SN_{EUR,T1}}\right] \times 1(\mathrm{T2} - SN_{EUR,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} \frac{\mathrm{T2} - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(\mathrm{T2} - SN_{FX,T1})\right\}^A}$$

Developed Market GBP Cross-Currency Triple Indices (Total Return) (GBP) - AUD, CAD, CHF, EUR, JPY, NOK, NZD, SEK, USD vs. GBP

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times EU_D}{36'500}\right]\right] + 3 \times B \times I_{D-2} \times \mathrm{FW}\ (\mathrm{D}-2, \mathrm{SN}_{\text{Cross, D-2}}, \text{-B, B} \times \text{A}) \times \left[\frac{1}{\mathrm{FW}\ (\mathrm{D}, \mathrm{SN}_{\text{Cross, D-1}}, \mathrm{B}, \text{-B} \times \text{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}-1, \mathrm{SN}_{\text{Cross, D-1}}, \text{-B, B} \times \text{A})}\right]$$

where

$$\mathrm{FW}(\mathrm{T1,\ T2}, \mathrm{c1}, \mathrm{c2}) = \frac{\mathrm{GBPUSD}_{T1} + \left[\frac{\mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,GBP,T1,c1} - \mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} \frac{\mathrm{T2} - SN_{GBP,T1,c1}}{1W_{GBP,T1} - SN_{GBP,T1}}\right] \times 1(\mathrm{T2} - SN_{GBP,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} \frac{\mathrm{T2} - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(\mathrm{T2} - SN_{FX,T1})\right\}^A}$$

The MSFX Five Times Leveraged (5X) Indices

The methodology for computation of the level for any of the MSFX Five Times Leveraged (5X) Indices will be the same as the methodologies used for the corresponding single exposure MSFX Index and will use the same reference sources and inputs; provided that the formulas will be modified, in each case, by multiplying "I_{D-2}" by five (5).

Developed Market Currency Five Times Leveraged (5X) Long Indices (Total Return) (USD) - AUD, GBP, EUR, NZD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + 5 \times \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right]$$

Developed Market Currency Five Times Leveraged (5X) Short Indices (Total Return) (USD) - AUD, GBP, EUR, NZD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - 5 \times \frac{I_{D-2}}{FX_{D-2}} \times \left[FX_D - \left(FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}\right)\right]$$

Developed Market Currency Five Times Leveraged (5X) Long Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] + 5 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Five Times Leveraged (5X) Short Indices (Total Return) (USD) - JPY, NOK, SEK, CHF vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - D_{-1}) \times TBY_D}{36{,}500}\right]\right] - 5 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{S/N_{D-1}}{S/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Five Times Leveraged (5X) Long Index (Total Return) (USD) – CAD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] + 5 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right]$$

Developed Market Currency Five Times Leverage (5X) Short Index (Total Return) (USD) – CAD vs. USD

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times TBY_D}{36{,}500}\right]\right] - 5 \times I_{D-2} \times FX_{D-2} \times \left[\frac{1}{FX_D} - \frac{1}{FX_{D-1} + \frac{T/N_{D-1}}{T/N\ Scaling\ \ Factor}}\right]$$

Developed Market EUR Cross-Currency Five Times Leveraged (5X) Indices (Total Return) (EUR) - AUD, CAD, CHF, GBP, JPY, NOK, NZD, SEK, USD vs. EUR

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times EU_D}{36'500}\right]\right] + 5 \times B \times I_{D-2} \times \mathrm{FW}\ (D-2, \mathrm{SN}_{\text{Cross, D-2}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A}) \times \left[\frac{1}{\mathrm{FW}\ (\mathrm{D}, \mathrm{SN}_{\text{Cross, D-1}}, \mathrm{B}, -\mathrm{B} \times \mathrm{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}-1, \mathrm{SN}_{\text{Cross, D-1}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A})}\right]$$

where

$$\mathrm{FW}(T1,\ T2, c1, c2) = \frac{\mathrm{EURUSD}_{T1} + \left[\frac{\mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,EUR,T1,c1} - \mathrm{Pts}_{SN,EUR,T1,c1}}{10'000} \frac{T2 - SN_{EUR,T1,c1}}{1W_{EUR,T1} - SN_{EUR,T1}}\right] \times 1(T2 - SN_{EUR,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} \frac{T2 - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(T2 - SN_{FX,T1})\right\}^A}$$

Developed Market GBP Cross-Currency Five Times Leveraged (5X) Indices (Total Return) (GBP) - AUD, CAD, CHF, EUR, JPY, NOK, NZD, SEK, USD vs. GBP

$$I_D = I_{D-1} \times \left[1 + \left[\frac{(D - \mathrm{D}_{-1}) \times EU_D}{36'500}\right]\right] + 5 \times B \times I_{D-2} \times \mathrm{FW}\ (D-2, \mathrm{SN}_{\text{Cross, D-2}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A}) \times \left[\frac{1}{\mathrm{FW}\ (\mathrm{D}, \mathrm{SN}_{\text{Cross, D-1}}, \mathrm{B}, -\mathrm{B} \times \mathrm{A})} - \frac{1}{\mathrm{FW}(\mathrm{D}-1, \mathrm{SN}_{\text{Cross, D-1}}, -\mathrm{B},\ \mathrm{B} \times \mathrm{A})}\right]$$

where

$$\mathrm{FW}(T1,\ T2, c1, c2) = \frac{\mathrm{GBPUSD}_{T1} + \left[\frac{\mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} + \frac{\mathrm{Pts}_{1w,GBP,T1,c1} - \mathrm{Pts}_{SN,GBP,T1,c1}}{10'000} \frac{T2 - SN_{GBP,T1,c1}}{1W_{GBP,T1} - SN_{GBP,T1}}\right] \times 1(T2 - SN_{GBP,T1})}{\left\{\mathrm{FX}_{T1} + \left[\frac{\mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} + \frac{\mathrm{Pts}_{1w,FX,T1,c2} - \mathrm{Pts}_{SN,FX,T1,c2}}{S/N\ Scaling\ \ Factor} \frac{T2 - SN_{FX,T1,c2}}{1W_{FX,T1} - SN_{FX,T1}}\right] \times 1(T2 - SN_{FX,T1})\right\}^A}$$

The MSFX Excess Return Indices

The methodology for computation of the level for any Excess Return versions of the MSFX Indices will be the same as the methodology used for the corresponding Total Return version of the related MSFX Index and will use the same reference sources and inputs; provided that the formulas will be modified, in each case, by setting the value of "TBY" and/or "EU", as applicable, to a value of zero (0).

III. Adjustments, Market Disruption Events and Discontinuance

III.1 Adjustments to the MSFX Indices

While the methodologies, composition and calculations described herein to calculate the MSFX Indices are currently in use by the Index Sponsor, it is possible that market, regulatory, judicial, financial, fiscal or other circumstances (including, but not limited to, any adjustment events as described below) may arise that would, in the opinion of the Index Sponsor, necessitate a modification or adjustment to such methodologies, composition or calculation. In such event, the Index Sponsor, after consultation with the Index Committee, will make such modifications or adjustments based on market conditions and other relevant factors, as in the judgment of the Index Sponsor, are necessary to maintain such index as a tradable benchmark for foreign exchange rate performance of the related MSFX Currency. Wherever practicable, any adjustments will be publicly announced as soon as is reasonably practicable and prior to the effective date.

An "**adjustment event**" with respect to any MSFX Index or related MSFX Currency includes, but is not limited to, any of the following:

- the related exchange rate splits into dual or multiple exchange rates; or
- the related MSFX Currency has been removed from circulation or otherwise discontinued and banks dealing in foreign exchange and foreign currency deposits in the MSFX Currency commence trading a successor or substitute currency substantially similar to the MSFX Currency that the Index Sponsor determines is comparable to the discontinued MSFX Currency;

III.2 Market Disruption Events

The occurrence or existence of any of the below, as determined by the Index Sponsor:

- any event or any condition (including without limitation any event or condition that occurs as a result of the enactment, promulgation, execution, ratification, change in any application or official interpretation of, or any change in or amendment to, any law (including those laws or regulations that relate to taxation), rule or regulation by any applicable governmental authority) that (i) results in the occurrence or existence of a lack of, or a material decline in, the liquidity in the market for trading in any MSFX Currency that generally makes it impossible, illegal or impracticable for market participants, or hinders, disrupts or impairs their abilities, (a) to convert from one foreign currency to another through customary commercial channels, (b) to effect currency transactions or, or to obtain market values of, such currency, (c) to obtain a firm quote for the related exchange rate or (d) to obtain the relevant exchange rate by reference to the applicable price source; or (ii) leads to or may lead to a currency peg regime; or
- (i) the declaration of a banking moratorium or (ii) the suspension of payments by banks, in either case, in the country of any currency used to determine the MSFX Currency exchange rate or (iii) the declaration of capital and/or currency controls (including without limitation any restriction placed on assets in or transactions through any account through which a non-resident of the country of any currency used to determine the MSFX currency exchange rate may hold assets or transfer monies outside the country of that currency, and any restriction on the transfer of funds, securities or other assets of market participants from or within or outside of the country of any currency used to determine the applicable exchange rate); or
- an event or circumstance (including without limitation, a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance) that is beyond the reasonable control of the Index Sponsor and that the Index Sponsor determines affects the related MSFX Index in any fashion; or
- the method of calculating the value of the MSFX Currency is changed in a material respect, or is in any other way modified so that the conventional market quotation does not, in the opinion of the Index Sponsor, fairly represent the value of such MSFX Currency; or
- the Index Sponsor determines that there is a material difference in a relevant MSFX Currency exchange rate, as determined by reference to the rate source for the related MSFX Index and any other market source.

III.3 Discontinuance of the MSFX Indices

The Index Sponsor may, in its sole discretion, after consultation with the Index Committee, discontinue calculating and publishing any MSFX Index at any time upon the occurrence of, but not limited to, any of the following.

- if as a result of a market disruption event or an adjustment event, an adjustment to and/or calculation of the related MSFX Index is no longer reasonably possible or practical, in the determination of the Index Sponsor; or
- the Index Sponsor or its successor terminates its index publication business operations, is declared insolvent or is subject to winding-up proceedings
- the Index Sponsor or its successor determines that it no longer in its commercial interests to continue publishing the index

Upon any such discontinuance, the Index Sponsor will use commercially reasonable efforts to publicly announce such discontinuance as soon as is reasonably practicable prior to the effective date.