

|   |    |
|---|----|
| 1. BGC Derivative Markets, L.P. Contract Specifications .....                       | 2  |
| 1.1 Product Descriptions .....  | 2  |
| 1.1.1 Mandatorily Cleared CEA 2(h)(1) Products as of 2nd October 2013.....          | 2  |
| 1.1.2 Made Available to Trade CEA 2(h)(8) Products.....                             | 5  |
| 1.1.3 Interest Rate Swaps.....  | 7  |
| 1.1.4 Commodities .....   | 27 |
| 1.1.5 Credit Derivatives .....  | 30 |
| 1.1.6 Equity Derivatives.....   | 37 |
| 1.1.6.1 Equity Index Swaps.....   | 37 |
| 1.1.6.2 Option on Variance Swaps .....  | 38 |
| 1.1.6.3 Variance & Volatility Swaps.....  | 40 |
| 1.1.7 Non Deliverable Forwards .....  | 43 |
| 1.1.8 Currency Options.....   | 46 |
| 1.2 Appendices .....  | 52 |
| 1.2.1 Appendix A - Business Day (Date Conventions) Conventions.....                 | 52 |
| 1.2.2 Appendix B - Currencies and Holiday Centers .....                             | 52 |
| 1.2.3 Appendix C - Conventions Used .....   | 56 |
| 1.2.4 Appendix D - General Definitions .....  | 57 |
| 1.2.5 Appendix E - Market Fixing Indices.....                                       | 57 |
| 1.2.6 Appendix F - Interest Rate Swap & Option Tenors (Super-Major Currencies)..... | 60 |

# BGC Derivative Markets, L.P. Contract Specifications

## Product Descriptions

### Mandatorily Cleared CEA 2(h)(1) Products as of 13th December 2016

#### BGC Derivative Markets, L.P. Contract Specifications

#### Product Descriptions

#### Mandatorily Cleared Products

*The following list of Products required to be cleared under Commodity Futures Trading Commission rules is included here for the convenience of the reader.*

Mandatorily Cleared Spot starting, Forward Starting and IMM dated Interest Rate Swaps by Clearing Organization, including LCH.Clearnet Ltd., LCH.Clearnet LLC, and CME, Inc., having the following characteristics:

| <u>Specification</u>             | <b>Fixed-to-Floating Swap Class</b> |                       |                     |                        |                     |                       |
|----------------------------------|-------------------------------------|-----------------------|---------------------|------------------------|---------------------|-----------------------|
| 1. Currency                      | Australian Dollar (AUD)             | Canadian Dollar (CAD) | Euro (EUR)          | Hong Kong Dollar (HKD) | Mexican Peso (MXN)  | Norwegian Krone (NOK) |
| 2. Floating Rate Indexes         | BBSW                                | CDOR                  | EURIBOR             | HIBOR                  | TIE-BANXICO         | NIBOR                 |
| 3. Stated Termination Date Range | 28 days to 30 years                 | 28 days to 30 years   | 28 days to 50 years | 28 days to 10 years    | 28 days to 21 years | 28 days to 10 years   |
| 4. Optionality                   | No                                  | No                    | No                  | No                     | No                  | No                    |
| 5. Dual Currencies               | No                                  | No                    | No                  | No                     | No                  | No                    |
| 6. Conditional Notional Amounts  | No                                  | No                    | No                  | No                     | No                  | No                    |

| <u>Specification</u>             | <b>Fixed-to-Floating Swap Class</b> |                        |                     |                     |                     |                     |                     |
|----------------------------------|-------------------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1. Currency                      | Polish Zloty (PLN)                  | Singapore Dollar (SGD) | Swedish Krona (SEK) | Swiss Franc (CHF)   | Sterling (GBP)      | U.S. Dollar (USD)   | Yen (JPY)           |
| 2. Floating Rate Indexes         | WIBOR                               | SOR-VWAP               | STIBOR              | LIBOR               | LIBOR               | LIBOR               | LIBOR               |
| 3. Stated Termination Date Range | 28 days to 10 years                 | 28 days to 10 years    | 28 days to 15 years | 28 days to 30 years | 28 days to 50 years | 28 days to 50 years | 28 days to 30 years |
| 4. Optionality                   | No                                  | No                     | No                  | No                  | No                  | No                  | No                  |
| 5. Dual Currencies               | No                                  | No                     | No                  | No                  | No                  | No                  | No                  |
| 6. Conditional Notional Amounts  | No                                  | No                     | No                  | No                  | No                  | No                  | No                  |

| <u>Specification</u>             | <b>Basis Swap Class</b> |                     |                     |                     |                     |
|----------------------------------|-------------------------|---------------------|---------------------|---------------------|---------------------|
| 1. Currency                      | Australian Dollar (AUD) | Euro (EUR)          | Sterling (GBP)      | U.S. Dollar (USD)   | Yen (JPY)           |
| 2. Floating Rate Indexes         | BBSW                    | EURIBOR             | LIBOR               | LIBOR               | LIBOR               |
| 3. Stated Termination Date Range | 28 days to 30 years     | 28 days to 50 years | 28 days to 50 years | 28 days to 50 years | 28 days to 30 years |
| 4. Optionality                   | No                      | No                  | No                  | No                  | No                  |
| 5. Dual Currencies               | No                      | No                  | No                  | No                  | No                  |
| 6. Conditional Notional Amounts  | No                      | No                  | No                  | No                  | No                  |

| <b>Specification</b>             | <b>Forward Rate Agreement Class</b> |                    |                       |
|----------------------------------|-------------------------------------|--------------------|-----------------------|
| 1. Currency                      | Euro (EUR)                          | Polish Zloty (PLN) | Norwegian Krone (NOK) |
| 2. Floating Rate Indexes         | EURIBOR                             | WIBOR              | NIBOR                 |
| 3. Stated Termination Date Range | 3 days to 3 years                   | 3 days to 2 years  | 3 days to 2 years     |
| 4. Optionality                   | No                                  | No                 | No                    |
| 5. Dual Currencies               | No                                  | No                 | No                    |
| 6. Conditional Notional Amounts  | No                                  | No                 | No                    |

| <b>Specification</b>             | <b>Forward Rate Agreement Class</b> |                   |                   |                   |
|----------------------------------|-------------------------------------|-------------------|-------------------|-------------------|
| 1. Currency                      | Swedish Krona (SEK)                 | Sterling (GBP)    | U.S. Dollar (USD) | Yen (JPY)         |
| 2. Floating Rate Indexes         | STIBOR                              | LIBOR             | LIBOR             | LIBOR             |
| 3. Stated Termination Date Range | 3 days to 3 years                   | 3 days to 3 years | 3 days to 3 years | 3 days to 3 years |
| 4. Optionality                   | No                                  | No                | No                | No                |
| 5. Dual Currencies               | No                                  | No                | No                | No                |
| 6. Conditional Notional Amounts  | No                                  | No                | No                | No                |

| <u>Specification</u>             | <b>Overnight Index Swap Class</b> |                       |                   |                   |                   |
|----------------------------------|-----------------------------------|-----------------------|-------------------|-------------------|-------------------|
| 1. Currency                      | Australian Dollar (AUD)           | Canadian Dollar (CAD) | Euro (EUR)        | Sterling (GBP)    | U.S. Dollar (USD) |
| 2. Floating Rate Indexes         | AONIA-OIS                         | CORRA-OIS             | EONIA             | SONIA             | FedFunds          |
| 3. Stated Termination Date Range | 7 days to 2 years                 | 7 days to 2 years     | 7 days to 3 years | 7 days to 3 years | 7 days to 3 years |
| 4. Optionality                   | No                                | No                    | No                | No                | No                |
| 5. Dual Currencies               | No                                | No                    | No                | No                | No                |
| 6. Conditional Notionals         | No                                | No                    | No                | No                | No                |

Credit Default Swaps on a broad-based Index on the Facility are Credit Default Swap Indices by Clearing Organization, including ICE Clear Credit LLC, CME, Inc., and LCH.Clearnet SA, having the following characteristics:

| <b>Specification</b>  | <b>North American Untranchd CDS Indices Class</b>   |
|-----------------------|---|
| 1. Reference Entities | Corporate   |
| 2. Region             | North America   |
| 3. Indices            | MARKIT CDX.NA.IG<br>MARKIT CDX.NA.HY  |
| 4. Tenor              | MARKIT CDX.NA.IG: 3Y, 5Y, 7Y, 10Y<br>MARKIT CDX.NA.HY: 5Y   |
| 5. Applicable Series  | MARKIT CDX.NA.IG 3Y: Series 15 and all subsequent Series, up to and including the current Series<br>MARKIT CDX.NA.IG 5Y: Series 11 and all subsequent Series, up to and including the current Series<br>MARKIT CDX.NA.IG 7Y: Series 8 and all subsequent Series, up to and including the current Series<br>MARKIT CDX.NA.IG 10Y: Series 8 and all subsequent Series, up to and including the current Series<br>MARKIT CDX.NA.HY 5Y: Series 11 and all subsequent Series, up to and including the current Series |
| 6. Tranchd            | No  |

| <b>Specification</b>  | <b>European Untranchred CDS Indices Class</b>  |
|-----------------------|--|
| 1. Reference Entities | Corporate  |
| 2. Region             | Europe   |
| 3. Indices            | MARKIT ITRAXX EUROPE<br>MARKIT ITRAXX EUROPE CROSSOVER<br><br>MARKIT ITRAXX EUROPE HIVOL   |
| 4. Tenor              | MARKIT ITRAXX EUROPE : 5Y, 10Y<br>MARKIT ITRAXX EUROPE CROSSOVER : 5Y<br><br>MARKIT ITRAXX EUROPE HIVOL: 5Y  |
| 5. Applicable Series  | MARKIT ITRAXX EUROPE 5Y: Series 10 and all subsequent Series, up to and including the current Series<br>MARKIT ITRAXX EUROPE 10Y: Series 7 and all subsequent Series, up to and including the current Series<br>MARKIT ITRAXX EUROPE CROSSOVER 5Y: Series 10 and all subsequent Series, up to and including the current Series<br>MARKIT ITRAXX EUROPE HIVOL 5Y: Series 10 and all subsequent Series, up to and including the current Series |
| 6. Tranchred          | No   |

## Made Available to Trade CEA 2(h)(8) Products

Under a Commodity Futures Trading Commission notice, and pursuant to these Swap contract specifications, the following products in less than block trade size are Made Available to Trade on the Facility.

|                       |   |  |  |
|-----------------------|---|--|--|
| Specification         | <b>Fixed-to-Floating Interest Rate Swap (USD)</b> |  |  |
| Currency              | U.S. Dollar (USD)                                 | U.S. Dollar (USD)                          | U.S. Dollar (USD)  |
| Floating Rate Indexes | USD LIBOR (3M, 6M)                                | USD LIBOR (3M, 6M)                         | USD LIBOR (3M)   |
| Trade Start Type      | Spot Starting (T+2)                               | IMM Start Date (next two IMM dates)        | IMM Start Date (next two IMM dates)  |
| Optionality           | No  | No   | No   |
| Fixed Leg             |   |  |  |
| Payment Frequency     | Semi-Annual, Annual                               | Semi-Annual, Annual                        | Semi-Annual  |
| Day Count Convention  | 30/360, Actual/360                                | 30/360, Actual/360                         | 30/360   |
| Floating Leg          |   |  |  |
| Reset Frequency       | Quarterly, Semi-Annual                            | Quarterly, Semi-Annual                     | Quarterly  |
| Day Count Convention  | Actual/360  | Actual/360                                 | Actual/360   |
| Dual Currencies       | No  | No   | No   |
| Notional              | Fixed Notional                                    | Fixed Notional                             | Fixed Notional   |
| Fixed Rate            | Par   | Par  | Standard Coupon (then-current fixed coupon rates for Market Agreed Coupon ("MAC") contracts) |
| Tenors                | 2, 3, 4, 5, 6, 7, 10, 12, 15, 20, 30 years        | 2, 3, 4, 5, 6, 7, 10, 12, 15, 20, 30 years | 1, 2, 3, 4, 5, 6, 7, 10, 15, 20, 30 years  |

|                       |  |  |
|-----------------------|--|--|
| Specification         | <b>Fixed-to-Floating Interest Rate Swaps (EUR and GBP)</b> |  |
| Currency              | Euro (EUR)   | Sterling (GBP)                         |
| Floating Rate Indexes | EURIBOR  | GBP LIBOR                              |
| Trade Start Type      | Spot Starting (T+2)  | Spot Starting (T+0)                    |
| Optionality           | No   | No                                     |
| Fixed Leg             |  |  |
| Payment Frequency     | Semi-Annual, Annual  | Quarterly, Semi-Annual                 |
| Day Count Convention  | 30/360, Actual/360   | Actual/365F                            |
| Floating Leg          |  |  |
| Reset Frequency       | Quarterly, Semi-Annual                                     | Quarterly, Semi-Annual                 |
| Day Count Convention  | Actual/360   | Actual/365F                            |
| Dual Currencies       | No   | No                                     |
| Notional              | Fixed Notional   | Fixed Notional                         |
| Fixed Rate            | Par  | Par                                    |
| Tenors <sup>3</sup>   | 2, 3, 4, 5, 6, 7, 10, 15, 20, 30 years                     | 2, 3, 4, 5, 6, 7, 10, 15, 20, 30 years |

|                    |  |           |
|--------------------|--|-----------|
| Specification      | <b>Untranching Credit Default Swap Indices</b> |           |
| Reference Entities | Corporate                                      | Corporate |
| Region             | North America                                  | Europe    |



|                   |  |  |
|-------------------|--|--|
| Indices           | MARKIT CDX.NA.IG<br>MARKIT CDX.NA.HY   | MARKIT ITRAXX EUROPE<br>MARKIT ITRAXX EUROPE<br>CROSSOVER          |
| Tenor             | MARKIT CDX.NA.IG 5Y<br>MARKIT CDX.NA.HY 5Y   | MARKIT ITRAXX EUROPE<br>5Y<br>MARKIT ITRAXX EUROPE<br>CROSSOVER 5Y |
| Applicable Series | At any time, the then-current on-the-run series<br>and the preceding series that was replaced by the current one |  |

## Notes

Interest Rate Swaps of the above Tenors will be Made Available to Trade as of trade date 17th February 2014, except Interest Rate Swaps with a tenor of 4 or 6 years that are Made Available to Trade as of trade date February 26th 2014.

The 4 and 6 year par swap tenors Made Available to Trade are also limited to Swaps of ...

a) 3M USD LIBOR/SOFR floating rate index; Quarterly Reset Frequency; and fixed leg conventions of (1) Semi-Annual on a 30/360 ("Semi-Bond basis"); or (2) Annual and Actual/360 ("Annual Money basis").

b) 3M and 6M EURIBOR floating rate index; fixed leg conventions of Annual and 30/360 ("Annual Bond basis")

Applicable series Credit Default Swap Indices will be Made Available to Trade as of trade date February 26th 2014

## Interest Rate Swaps

- 1 [Interest Rate Swaps](#)
  - 1.1.1.1 [Overview](#)
  - 1.1.2 [General Definitions](#)
  - 1.2 [Rate Index Swaps](#)
    - 1.2.1 [Interest Rate Swap \(IRS\), Fixed/Float](#)
    - 1.2.2 [Overnight Index Swap \(OIS\), Fixed/Float](#)
    - 1.2.3 [Currency Basis Swap, Float/Float](#)
    - 1.2.4 [Cross-Currency Basis Swap, Float/Float](#)
    - 1.2.5 [Cross-Currency Swap, Fixed/Fixed](#)
    - 1.2.6 [Cross-Currency Swap, Fixed/Float](#)
    - 1.2.7 [Non-Deliverable IRS, Fixed/Float](#)
  - 1.3 [Inflation Swaps](#)
    - 1.3.1 [Inflation Swap, Fixed/Float](#)
    - 1.3.2 [Inflation-Linked Swap vs Floating](#)
  - 1.4 [Constant Maturity Swaps](#)

- 1.4.1 [Constant Maturity Swap \(CMS\), Float/Float](#)
- 1.4.2 [Constant Maturity Swap, Fixed/Float](#)
- 1.5 [Forward Rate Agreements](#)
  - 1.5.1 [Forward Rate Agreement \(FRA\)](#)
  - 1.5.2 [DTCC GCF Repo Swaps, Fixed/Float](#)
- 2 [Interest Rate Options](#)
  - 2.1.1 [Overview](#)
  - 2.2 [Swap Options](#)
    - 2.2.1 [Interest Rate Swaption](#)
    - 2.2.2 [Cancellable Swap](#)
  - 2.3 [Other Options](#)
    - 2.3.1 [Interest Rate Option](#)
    - 2.3.2 [Interest Rate Option - IR/Inflation Cap/Floor](#)

## Interest Rate Swaps

### Overview

An instrument in which two parties agree to exchange cash flows in the same or two different currencies, based on a notional amount, from fixed to floating or from one floating rate to another. The fixed rate is typically reset monthly, quarterly, semi-annually or annually though in some cases such as zero coupon Inflation Swaps, there is only one exchange of cash flows at maturity. The fixed rate may also be an off-market level whereupon payer and receiver agree an upfront payment to accommodate such, such as in ISDA Market Agreed Coupon swaps. In general, the floating rate can be almost any kind of index fixed asset price, but in the OTC markets we focus on interest rate instruments only, including but not limited to:

- Deposit indices such as Euribor, Libor, SOFR etc.
- Constant Maturity indices, e.g. 5Y IRS
- Inflation indices, e.g. UK RPI, French HICP, US CPI

| General Definitions            |   |
|--------------------------------|---|
| <b>Swap Transaction</b>        | Any transaction which is a rate swap, basis swap, forward rate agreement, currency swap, cross-currency swap or similar transaction (and any combination thereof)   |
| <b>Currency</b>                | As agreed between Participants (Super-Major, Major & Non-Major Currencies)  |
| <b>Fixed Rate Payer</b>        | In respect of a Swap Transaction, a party obligated to make payments calculated by reference to a fixed rate  |
| <b>Floating Rate Payer</b>     | In respect of a Swap Transaction, a party obligated to make payments calculated by reference to a floating rate index   |
| <b>Floating Rate Index</b>     | Dependent on Currency and as agreed between Participants. A comprehensive list of indices can be found <a href="#">here</a> and with calculations in <a href="#">Articles 6 &amp; 7 of the 2006 ISDA Definitions</a> and the 2008 ISDA Inflation Derivatives Definitions. |
| <b>Up Front Payment Amount</b> | In respect of a Market Agreed Coupon Swap Transaction, the Upfront Amount Payment the Upfront Amount Payer will pay to the other Party  |

|   |   |
|---|---|
| <b>Quoting Convention and Minimum Increment</b> | Dependent on Currency, Index, Tenor and Par or Market Agreed Coupon type for electronic Central Limit Order Books or as agreed by Participants for Voice Trading Facility trades.   |
| <b>Minimum Size</b>                             | Dependent on Currency, Index, Tenor and Par or Market Agreed Coupon type for electronic Central Limit Order Books or as agreed by Participants for Voice Trading Facility trades.   |
| <b>Confirmation</b>                             | Documents or other confirming evidence exchanged between the counterparties which confirm all of the terms of the Swap Transaction  |
| <b>Business Day</b>                             | A day on which banks settle payments  |
| <b>Date Convention</b>                          | The convention used for adjusting any relevant date that would otherwise fall on a non-Business Day (see conventions list)  |
| <b>Term (Tenor)</b>                             | The total period of the Swap Transaction, starting on the Effective Date and ending on the Termination Date   |
| <b>Effective (Start) Date</b>                   | The first date of the Term of the Swap Transaction, Spot or Forward starting, subject to the agreed Date Convention.  |
| <b>Termination Date</b>                         | The last day of the Term of the Swap Transaction  |
| <b>Maturity Date</b>                            | Start Date + Term (Tenor)   |
| <b>First Fixing Date</b>                        | The first Index Fixing Date is zero, one or two business days (dependent on that Currency's market standard and according to agreed Holiday calendars) prior to the Start Date of the Swap.   |
| <b>Trade Types</b>                              | The following swap types may be executed: <ul style="list-style-type: none"> <li>• Outright (Spot and Forward starting), Curve (tenor) Spreads, Butterflies, Spreads between different floating Indices, Spreads to Futures, Spreads to Treasuries and combinations thereof.</li> </ul>   |
| <b>Trade Start Types</b>                        | <ul style="list-style-type: none"> <li>• <b>Spot:</b> A swap where the Effective Date is T+0 (e.g. GBP), T+1 (e.g. AUD), T+2 (e.g. USD, EUR, CHF, JPL) from the trade date, depending on Currency and floating Index market standard.</li> <li>• <b>Forward:</b> A swap where the Effective Date is after the Effective Date for a Spot Starting swap of that Currency and floating Index.</li> </ul> |
| <b>Settlement Procedure</b>                     | As determined by the Clearing Venue, provided above or as agreed between Participants for non-cleared trades  |
| <b>Trading Hours</b>                            | 7:00 pm to 5:30 pm EST, Sunday to Friday  |
| <b>Block Size</b>                               | By Currency and Tenor as set forth in <a href="#">Appendix F to Part 43</a> of the CFTC Regulations   |

## Rate Index Swaps

### Interest Rate Swap (IRS), Fixed/Float

|                            |  |
|----------------------------|--|
| <b>Contract Definition</b> | <b>An agreement to exchange a stream of cash flows by applying a fixed and floating interest rate to a specified notional over a term to maturity.</b> |
|----------------------------|--|

|                             |  |
|-----------------------------|--|
| <b>IRS Types</b>            | Fixed Rate v Floating Rate (X)ibor Index, SOFR (e.g. 3m Libor, 6m Euribor), BSBY   |
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed, Receive Floating (X)ibor Index</li> <li>• Sell/Receive = Receive Fixed, Pay Floating (X)ibor Index</li> <li>• Swap Price quoted as an outright percentage rate in increments of fractions or decimals of a basis point (see Appendix D).</li> <li>• Swap Price of a Market Agreed Coupon swap quoted as either CCY price for the swap or percent of par of face value</li> </ul>   |
| <b>Specific Trade Types</b> | The following swap types may be executed: Outright (Spot and Forward starting), Curve (tenor) Spreads, Butterflies, Spreads between different floating Indices, Spreads to Futures, Spreads to Treasuries and combinations thereof.  |
| <b>Swap Term (Tenor)</b>    | As agreed by the Participants. A contract can have a Tenor from 7 days to 60 years.  |
| <b>Swap Conventions</b>     | <p><b>Fixed Leg:</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Annual, Semi-Annual, Quarterly or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to the Currency's market standards, e.g. 30/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards</li> </ul> <p><b>Floating Leg</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standards (e.g. Libor, SOFR, Euribor, BSBY etc.</li> <li>• <b>Payment/Resets:</b> Semi-Annual, Quarterly, Monthly, Daily or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Index, e.g. Act/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b>  | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates.</li> </ul> <p>Payments are settled in accordance with the payment frequency of the swap.</p>  |

### Overnight Index Swap (OIS), Fixed/Float

|                            |  |
|----------------------------|--|
| <b>Contract Definition</b> | <b>An agreement to exchange a stream of cash flows by applying a fixed and floating interest rate to a specified notional over a term to maturity.</b> |
| <b>IRS Types</b>           | Fixed Rate v Floating Rate OIS Index (e.g. Sonia, Ronia, Eonia, FedFunds, SOFR)  |

|                             |   |
|-----------------------------|---|
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed, Receive Floating OIS Index</li> <li>• Sell/Receive = Receive Fixed, Pay Floating OIS Index</li> <li>• Swap Price quoted as an outright percentage rate in increments of fractions or decimals of a basis point (see Appendix D).</li> </ul>   |
| <b>Specific Trade Types</b> | The following swap types may be executed: Outright (Spot and Forward starting), Curve (tenor) Spreads, Butterflies, Spreads between different floating Indices, Spreads to Futures, Spreads to Treasuries and combinations thereof.   |
| <b>Swap Term (Tenor)</b>    | As agreed by the Participants. A contract can have a Tenor from 1 day to 60 years.  |
| <b>Swap Conventions</b>     | <p><b>Fixed Leg:</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Annual or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to the Currency's market standards, e.g. Act/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards</li> </ul> <p><b>Floating Leg</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standards(e.g. Sonia, Ronia, Eonia, FedFunds, SOFR - see Appendix E)</li> <li>• <b>Payment/Resets:</b> Daily resets, compounded daily and paid on an annualised basis, or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Index, e.g. Act/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b>  | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates.</li> </ul> <p>Payments are settled in accordance with the payment frequency of the swap.</p>   |

### Currency Basis Swap, Float/Float

|                            |   |
|----------------------------|---|
| <b>Contract Definition</b> | <b>An agreement to exchange two streams of floating cash flows on a specified notional over a term to maturity.</b>   |
| <b>Basis Spread</b>        | A spread between two Floating Rate Indices (e.g. 3m Libor, 6m Libor, OIS Index, SOFR Index, BSBY - See Appendix E) of the same currency (Super-Major, Major & Non-Major Currencies - see Appendix B). |

|                             |   |
|-----------------------------|---|
| <b>Basis Swap Types</b>     | "Fra/Ois" (3m vs daily compounded OIS), 3v1, 3v6 or 6v3, 3v12, 6v12 or other combinations of floating indices as agreed by Participants.  |
| <b>Specific Trade Types</b> | The following swap types may be executed: Outrights (Spot and Forward starting), Curve (tenor) Spreads, Butterflies   |
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Floating (X)ibor Index Index 1 Flat, Receive Floating (X)ibor Index Index 2 + Basis Spread</li> <li>• Sell/Receive = Receive Floating (X)ibor Index Index 1 Flat, Pay Floating (X)ibor Index Index 2 + Basis Spread</li> <li>• Basis Spread Price quoted in increments of fractions or decimals of a basis point (see Appendix D).</li> <li>• Leg 1 is usually the longer underlying index tenor, e.g. 3v1 rather than 1v3. Thus the 3m index is paid flat and the spread is added to the 1m index. The shorter index can be compounded, i.e. Q/Q = 3m index vs 1 quarterly payment consisting of 3 compounded 1m index settings OR the shorter index can be 3 separate monthly payments.</li> </ul>   |
| <b>Swap Term (Tenor)</b>    | As agreed by the Participants. A contract can have a Tenor from 3 months to 60 years.   |
| <b>Swap Conventions</b>     | <p><b>Floating Legs 1 &amp; 2:</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standards (e.g. 3m Libor, 6m Libor, OIS Index, SOFR Index, BSBY - See Appendix E)</li> <li>• <b>Payment/Resets:</b> Annual, Semi-Annual, Quarterly, Monthly, Daily or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for each Index, e.g. Act/360, Act/365 etc (see Appendix D)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to each Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b>  | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Floating Legs 1 &amp; 2:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates. Payments are settled in accordance with the payment frequency of the swap.</li> </ul>  |

### Cross-Currency Basis Swap, Float/Float

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|----------------------------|---|
| <b>Contract Definition</b> | <b>An agreement to exchange a stream of cash flows by applying a floating interest rate on leg 1 and a floating interest rate on leg 2 to a specified notional over a term to maturity.</b>   |
| <b>Basis Spread</b>        | A spread between the Floating Rate Indices (e.g. 3m Libor, 6m Libor, OIS Index, SOFR Index - See Appendix   |
| <b>Basis Swap Types</b>    | Floating Rate (X)ibor Index (e.g. 3m Libor) v Floating Rate (X)ibor Index (e.g. 3m Euribor), usually with the same Payment frequency, e.g. Q/Q<br>Floating Rate OIS Index (e.g. Eonia) v Floating Rate OIS Index (e.g. FedFunds, SOFR, BSBY), usually with the same Payment frequency, e.g. Q/Q |

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| <b>Specific Trade Types</b> | The following swap types may be executed: Outrights (Spot and Forward starting), Curve (tenor) Spreads, Butterflies  |
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Floating Index Currency 1 Flat, Receive Floating Index Currency 2 + Basis Spread</li> <li>• Sell/Receive = Receive Floating Index Currency 1 Flat, Pay Floating Index Currency 2 + Basis Spread</li> <li>• Basis Spread Price quoted in increments of fractions or decimals of a basis point (see <a href="#">Appendix D</a>).</li> <li>• Notional amount set in Currency 1, e.g. 100m USD, payments Leg 1 in USD, payments Leg 2 in Currency 2</li> </ul>  |
| <b>Swap Term (Tenor)</b>    | As agreed by the Participants. A contract can have a Tenor from 3 months to 60 years.  |
| <b>Swap Conventions</b>     | <p><b>Floating Legs 1 &amp; 2</b></p> <ul style="list-style-type: none"> <li>• <b>Indices:</b> As agreed by participants and suitable to each Currency's market standards (e.g. 3m Libor, 6m Libor, OIS Index, SOFR Index, BSBY – See Appendix E)</li> <li>• <b>Payment/Resets:</b> Semi-Annual, Quarterly, Monthly or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for each Index, e.g. Act/360, Act/365 (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to each Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b>  | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Floating Legs 1 &amp; 2:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates. Payments are settled in accordance with the payment frequency of either leg 1 or leg 2 as agreed between Participants. Cross Currency Basis Swaps are traded with an exchange of principle FX'd at both start date and maturity and may also be traded with intra-swap FX exchanges as required.</li> </ul>   |

### Cross-Currency Swap, Fixed/Fixed

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| <b>Contract Definition</b>  | <b>An agreement to exchange a stream of cash flows by applying a fixed interest rate on leg 1 and fixed interest rate on leg 2 to a specified notional over a term to maturity.</b> |
| <b>Spread</b>               | A spread between the fixed rates of two different currencies (Super-Major, Major & Non-Major Currencies – see Appendix B)   |
| <b>Swap Types</b>           | Fixed Rate v Fixed Rate, usually with the same Payment frequency, e.g. A/A, S/S, Q/Q  |
| <b>Specific Trade Types</b> | The following swap types may be executed: Outrights (Spot and Forward starting), Curve (tenor) Spreads, Butterflies   |



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| <b>Trading Conventions</b> | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed Leg Currency 1 Flat, Receive Fixed Leg Currency 2 + Spread</li> <li>• Sell/Receive = Receive Fixed Leg Currency 1 Flat, Pay Fixed Leg Currency 2 + Spread</li> <li>• Spread Price quoted in increments of fractions or decimals of a basis point (see Appendix D).</li> <li>• Notional amount set in Currency 1, e.g. 100m USD, payments Leg 1 in USD, payments Leg 2 in Currency 2</li> </ul>  |
| <b>Swap Term (Tenor)</b>   | As agreed by the Participants. A contract can have a Tenor from 7 days to 60 years.  |
| <b>Swap Conventions</b>    | <p><b>Fixed Legs 1 &amp; 2:</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Annual, Semi-Annual, Quarterly or as agreed by Participants</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to each Currency's market standards, e.g. 30/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to each Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to each Currency's market standards</li> </ul> |
| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Legs 1 &amp; 2:</b> The payment amount of the Fixed Legs are based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate. Payments are settled in accordance with the payment frequency of either leg 1 or leg 2 as agreed between Participants. Cross Currency Swaps may be traded with an exchange of principle FX'd at both start date and maturity and may also be traded with intra-swap FX exchanges as required and as agreed between Participants.</li> </ul>  |

### Cross-Currency Swap, Fixed/Float

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| <b>Contract Definition</b>  | <b>An agreement to exchange a stream of cash flows by applying a fixed interest rate on leg 1 and a floating interest rate on leg 2 to a specified notional over a term to maturity.</b>   |
| <b>Spread</b>               | A spread between the fixed rate of one currency and the Floating Rate Index (e.g. 3m Libor, 6m Libor, OIS Index, SOFR Index, BSBY – See Appendix E) of a second currency (Super-Major, Major & Non-Major Currencies – see Appendix B)  |
| <b>Swap Types</b>           | Fixed Rate v Floating Index Rate   |
| <b>Specific Trade Types</b> | The following swap types may be executed: Outrights (Spot and Forward starting), Curve (tenor) Spreads, Butterflies  |
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed Currency 1 Flat, Receive Floating Index Currency 2 + Spread</li> <li>• Sell/Receive = Receive Fixed Currency 1 Flat, Pay Floating Index Currency 2 + Spread</li> <li>• Spread Price quoted as an outright percentage rate in increments of fractions or decimals of a basis point (see Appendix D).</li> <li>• Notional amount set in Currency 1, e.g. 100m USD, payments Leg 1 in USD, payments Leg 2 in Currency 2</li> </ul> |
| <b>Swap Term (Tenor)</b>    | As agreed by the Participants. A contract can have a Tenor from 3 months to 60 years.  |



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| <b>Swap Conventions</b>    | <p><b>Fixed Leg, Currency 1</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Annual, Semi-Annual, Quarterly or as agreed by Participants</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to the Currency's market standards, e.g. 30/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards</li> </ul> <hr/> <p><b>Floating Leg, Currency 2</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standard e.g. 3m Libor, 6m Libor, OIS Index, SOFR Index, BSBY - See Appendix E)</li> <li>• <b>Payment/Resets:</b> Annual, Semi-Annual, Quarterly, Monthly, Daily or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Index, e.g. Act/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates.</li> </ul> <p>Payments are settled in accordance with the payment frequency of either leg 1 or leg 2 as agreed between Participants. Cross Currency Swaps may be traded with an exchange of principle FX'd at both start date and maturity and may also be traded with intra-swap FX exchanges as required as agreed between Participants.</p>  |

### Non-Deliverable IRS, Fixed/Float

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| <b>Contract Definition</b>  | <p><b>As above for <a href="#">Fixed/Float IRS</a>, an agreement to exchange a stream of cash flows by applying a fixed and floating interest rate to a specified notional over a term to maturity but where settlement value of each cash flow is paid in a second Currency (typically USD), converted at the spot FX Fixing rate for the Notional Currency traded.</b></p> <p>This type of swap is common among Asian and Latin American currencies.</p> |
| <b>Spread</b>               | <p>A spread between a Fixed Rate and a Floating Rate Index (<a href="#">see list</a>) of an offshore non-deliverable currency.</p>   |
| <b>Swap Types</b>           | <p>Fixed Rate v Floating Index Rate</p>  |
| <b>Specific Trade Types</b> | <p>The following swap types may be executed: Outrights (Spot and Forward starting), Curve (tenor) Spreads, Butterflies</p>   |

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| <b>Trading Conventions</b> | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed Currency 1, Receive Floating Index Currency 1, netted and payable in Currency 2</li> <li>• Sell/Receive = Receive Fixed Currency 1, Pay Floating Index Currency 1, netted and payable in Currency 2</li> <li>• Swap Price quoted as an outright percentage rate in increments of fractions or decimals of a basis point (see Appendix D).</li> <li>• Notional amount set in Currency 2, e.g. 100m USD, payments Leg 1 in Currency 2, payments Leg 2 in Currency 2</li> </ul>   |
| <b>Swap Term (Tenor)</b>   | As agreed by the Participants. A contract can have a Tenor from 3 months to 60 years.   |
| <b>Swap Conventions</b>    | <p><b>Fixed Leg, Currency 1</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Annual, Semi-Annual, Quarterly or as agreed by Participants</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to the Currency's market standards, e.g. 30/360, Act/365 etc (see Appendix D)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards</li> </ul> <p><b>Floating Leg, Currency 2</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standards e.g. 3m Libor, 6m Libor, OIS Index, SOFR Index, BSBY - See Appendix E)</li> <li>• <b>Payment/Resets:</b> Annual, Semi-Annual, Quarterly, Monthly, Daily or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Index, e.g. Act/360, Act/365 etc (see Appendix D)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates.</li> </ul> <p>Payments are settled in accordance with the payment frequency of either leg 1 or leg 2 as agreed between Participants. Non-Deliverable IRS are traded with an exchange of principle FX'd at both start date and maturity and may also be traded with intra- swap FX exchanges as required.</p>   |

## Inflation Swaps

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| <b>Inflation Swap, Fixed/Float</b> |  |
| <b>Contract Definition</b>         | <b>An agreement to exchange a stream of cash flows by applying a fixed rate and a floating Inflation Index rate to a specified notional over a term to maturity.</b> |

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| <b>IRS Types</b>            | <p>Fixed Rate vs. Floating Inflation Index Rate, e.g. CPI, HICP, RPI etc or based on an Inflation based instrument, e.g. Mexico UDI</p> <p>Floating Inflation Rate vs. Floating Index Rate plus or minus a spread, e.g. Mexico UDI vs. Mexico TIIE or Mexico UDI vs. USD Libor (cross currency)</p>  |
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed, Receive Floating Inflation Index</li> <li>• Sell/Receive = Receive Fixed, Pay Floating Inflation Index</li> <li>• Swap Price quoted in increments of fractions of a basis point (percentage rate * 100) (see Appendix D).</li> </ul>   |
| <b>Specific Trade Types</b> | <p>The following swap types may be executed: Outrights (Spot and Forward starting), Curve (tenor) Spreads, Butterflies, Spreads between different Inflation Indices.</p>   |
| <b>Swap Term (Tenor)</b>    | <p>As agreed by the Participants. A contract can have a Tenor from 7 days to 60 years.</p>   |
| <b>Swap Conventions</b>     | <p><b>Fixed Leg:</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Zero Coupon (ZC) with payments at Maturity or Annual Year-on-Year (YoY) payments.</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to the Currency's market standards, e.g. 30/360, Act/Act etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards</li> </ul> <p><b>Floating Leg</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standards, e.g. CPI, HICP, RPI etc</li> <li>• <b>Payment/Resets:</b> Zero Coupon (ZC) with payments at Maturity or Annual Year-on-Year (YoY) payments.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Index, e.g. 30/360, Act/Act etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</li> </ul> |

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| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <p><b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate:</p> <ul style="list-style-type: none"> <li>• Zero Coupon (ZC) = Notional * <math>((1 + X\%)^T - 1)</math></li> <li>• Year-on-Year (YoY) = Notional * X%</li> </ul> <p>where T is the tenor in Years, X is the Fixed Price.</p> <p><b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Inflation Index and Floating Reset Dates:</p> <ul style="list-style-type: none"> <li>• ZC = Notional * <math>((\text{Inflation Index at Maturity} / \text{Inflation Index at Start}) - 1)</math></li> <li>• YoY = Notional * <b>DayFrac</b> * <math>((\text{Inflation Index}(n) / \text{Inflation Index}(n-1)) - 1)</math>,</li> </ul> <p>where <b>DayFrac</b> is the DayFraction for the interval (n-1) to n.</p> <p>Payments are settled in accordance with the payment frequency of the swap.</p> |
|----------------------------|---|

### Inflation-Linked Swap vs Floating

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|--------------------------------|--|
| <b>Contract Definition</b>     | An agreement to exchange an inflation-linked bond, with an agreement for one party to pay the equivalent cash flows of the bond and the other party to pay a floating rate   |
| <b>Asset Swap Types</b>        | Proceeds-Equivalent, par-par   |
| <b>Trading Conventions</b>     | Buy/Pay = Buy Inflation-Linked Bond, pay equivalent cash flows and receive Floating Rate +/- spread in bps<br><br>Sell/Receive = Sell Inflation-Linked Bond, receive equivalent cash flows and pay Floating Rate +/- spread in bps |
| <b>Specific Trade Types</b>    | The following swap types may be executed: Outright Asset Swap, Asset Swap Switch and Asset Swap Butterflies.   |
| <b>Asset Swap Term (Tenor)</b> | <ul style="list-style-type: none"> <li>• The term of the underlying asset.</li> </ul>  |

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|----------------------------|---|
| <b>Swap Conventions</b>    | <p><b>Index:</b> As agreed by participants and suitable to the Currency's market standards, e.g. CPI, HICP, RPI, USD Libor, SOFR, BSBY, etc</p> <p><b>Payment/Resets:</b> As dictated by Market Standard for the Floating Index</p> <p><b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Index, e.g. 30/360, Act/Act etc (see Appendix C)</p> <p><b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</p> <p><b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</p> <p><b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</p> |
| <b>Periodic Settlement</b> | <p>Payment and Resets:</p> <p>Floating Leg: The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Inflation Index and Floating Reset Dates:</p> <p>Payments are settled in accordance with the payment frequency of the swap.</p>  |

## Constant Maturity Swaps

| <b>Constant Maturity Swap (CMS), Float/Float</b> |   |
|--|---|
| <b>Contract Definition</b>                       | <p>An agreement to exchange two streams of floating cash flows on a specified notional over a term to maturity. The first floating rate is referred to as a Constant Maturity because the underlying asset is the daily fixing of a medium-term <a href="#">Interest Rate Swap</a>, typically 2Y, 5Y or 10Y. The second floating rate is a deposit index such as Libor.</p> |
| <b>CMS Spread</b>                                | <p>The spread between two floating rate indices of the same currency (Super-Major, Major &amp; Non-Major Currencies - see Appendix B)</p>   |
| <b>CMS Types</b>                                 | <p>Floating ISDA Fix Constant Maturity (e.g. 5y IRS) vs Floating Rate (X)ibor Index (e.g. 3m Libor, 6m Euribor - See Appendix E) + spread</p>   |
| <b>Specific Trade Types</b>                      | <p>The following swap types may be executed: Outrights (Spot and Forward starting), Curve (tenor) Spreads, Butterflies</p>  |
| <b>Trading Conventions</b>                       | <p>Buy/Pay = Pays Floating (X)ibor Index + Spread, receives Floating CMS Index Flat<br/> Sell/Receive = Receive Floating (X)ibor Index + Spread, pays Floating CMS Index Flat<br/> Basis Spread Price quoted in increments of fractions or decimals of a basis point (see Appendix D).</p>  |
| <b>Swap Term (Tenor)</b>                         | <p>As agreed by the Participants. A contract can have a Tenor from 1 year to 60 years.</p>  |

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|----------------------------|---|
| <b>Swap Conventions</b>    | <p><b>Floating Leg 1</b></p> <ul style="list-style-type: none"> <li>• <b>CMS Index:</b> As agreed by participants and suitable to the Currency's market standards, e.g. ISDA Fix CMS Index.</li> <li>• <b>Payment/Resets:</b> Annual, Semi-Annual, Quarterly or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for each Index, e.g. 30/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to each Currency's market standards.</li> </ul>                      |
|                            | <p><b>Floating Leg 2</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standards e.g. Libor, Euribor etc. - See Appendix E</li> <li>• <b>Payment/Resets:</b> Semi-Annual, Quarterly, Monthly or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Index, e.g. Act/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Floating Legs 1 &amp; 2:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates. Payments are settled in accordance with the payment frequency of the swap.</li> </ul>  |

### Constant Maturity Swap, Fixed/Float

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| <b>Contract Definition</b>  | <p>An agreement to exchange a stream of cash flows by applying a fixed and floating interest rate to a specified notional over a term to maturity. The floating rate in this case is referred to as a Constant Maturity because the underlying asset is the daily fixing of a medium-term <a href="#">Interest Rate Swap</a>, typically 2Y, 5Y or 10Y</p> |
| <b>IRS Types</b>            | <p>Fixed Rate vs Floating ISDA Fix Constant Maturity (CMS) Rate</p>   |
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed, Receive Floating CMS</li> <li>• Sell/Receive = Receive Fixed, Pay Floating CMS</li> <li>• Swap Price quoted as an outright percentage rate in increments of fractions or decimals of a basis point (see Appendix D).</li> </ul>   |
| <b>Specific Trade Types</b> | <p>The following swap types may be executed: Outright (Spot and Forward starting), Curve (tenor) Spreads, Butterflies.</p>  |
| <b>Swap Term (Tenor)</b>    | <p>As agreed by the Participants. A contract can have a Tenor from 1 year to 60 years.</p>  |

|                            |  |
|----------------------------|--|
| <b>Swap Conventions</b>    | <p><b>Fixed Leg:</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Annual, Semi-Annual, Quarterly or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to the Currency's market standards, e.g. 30/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards</li> </ul> <p><b>Floating Leg</b></p> <ul style="list-style-type: none"> <li>• <b>CMS Index:</b> As agreed by participants and suitable to the Currency's market standards, e.g. IS DA Fix CMS Index.</li> <li>• <b>Payment/Resets:</b> Annual, Semi-Annual, Quarterly or as agreed by Participants.</li> <li>• <b>Day Count Conventions:</b> As dictated by Market Standard for the Floating Swap Index, e.g. Act/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards.</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards.</li> </ul> |
| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, CMS Index Floating Interest Rate and Floating Reset Dates.</li> </ul> <p>Payments are settled in accordance with the payment frequency of the swap.</p>  |

## Forward Rate Agreements

| <b>Forward Rate Agreement (FRA)</b> |  |
|-------------------------------------|--|
| <b>Contract Definition</b>          | <p><b>An agreement to exchange a cash flow by applying a fixed interest rate to a specified notional over a term to maturity and paying/receiving the difference according to valuation of an Index at FRA settlement date.</b></p>  |
| <b>Trading Conventions</b>          | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed, Receive Floating (X)ibor Index on settlement date, cash settled, i.e. pay [ Fixed - Floating ]</li> <li>• Sell/Receive = Receive Fixed, Pay Floating (X)ibor Index on settlement date, cash settled, i.e. receive [ Fixed - Floating ]</li> </ul> <p>FRA Price quoted as an outright percentage rate in increments of fractions or decimals of a basis point (see Appendix D).</p> |
| <b>Specific Trade Types</b>         | <p>The following FRA types may be executed: Outrights (Forward starting), Spreads, Butterflies, Spreads between different Floating Indices, Spreads to Futures and combinations thereof.</p>   |
| <b>FRA Term (Tenor)</b>             | <p>As agreed by the Participants. A FRA contract can have a forward starting Tenor from 1 month to 36 months.</p>  |

|                            |  |
|----------------------------|--|
| <b>FRA Conventions</b>     | <ul style="list-style-type: none"> <li>• <b>Start Date (Effective Date):</b> Forward Settlement as agreed by the Participants</li> <li>• <b>Maturity Date:</b> Forward Start Date + FRA Index Tenor</li> <li>• <b>Settlement:</b> Cash settled on Forward Settlement Date as Traded Rate minus Index Fixing rate [ Fixed - Floating ]</li> <li>• <b>Day Count Conventions:</b> as agreed by Participants and suitable to the Currency's market standards, e.g. 30/360, Act/365 etc (see Appendix C)</li> <li>• <b>Holiday Calendar:</b> as agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates or as agreed by Participants and suitable to the Currency's market standards</li> </ul> |
| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates.</li> </ul> <p>Payments are cash settled on Forward Settlement Date as Traded Rate minus Index Fixing rate</p>   |

### DTCC GCF Repo Swaps, Fixed/Float

|                             |   |
|-----------------------------|---|
| <b>Contract Definition</b>  | <b>An agreement to exchange a stream of cash flows by applying a fixed and floating interest rate to a specified notional over a term to maturity.</b>  |
| <b>IRS Types</b>            | Fixed Rate v Depository Trust & Clearing Corp (DTCC) General Collateral Finance (GCF) Repurchase Agreement Index  |
| <b>Trading Conventions</b>  | <ul style="list-style-type: none"> <li>• Buy/Pay = Pay Fixed, Receive DTCC GCF Repo Index</li> <li>• Sell/Receive = Receive Fixed, Pay DTCC GCF Repo Index</li> <li>• Swap Price quoted as an outright percentage rate in increments of fractions or decimals of a basis point (see Appendix D).</li> </ul>   |
| <b>Specific Trade Types</b> | The following swap types may be executed: Outright (Spot and Forward starting), Curve (tenor) Spreads, Butterflies  |
| <b>Swap Term (Tenor)</b>    | As agreed by the Participants. A contract can have a Tenor from 7 days to 5 years.  |
| <b>Swap Conventions</b>     | <p><b>Fixed Leg:</b></p> <ul style="list-style-type: none"> <li>• <b>Payment:</b> Annual (or term if &lt; 1 year)</li> <li>• <b>Day Count Conventions:</b> Act/360</li> <li>• <b>Holiday Calendar:</b> New York</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates, or as agreed between participants for more bespoke swaps</li> </ul> |



|                            |   |
|----------------------------|---|
|                            | <p><b>Floating Leg</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> DTCC GCF Repo Index, Daily reset</li> <li>• <b>Payment:</b> Daily</li> <li>• <b>Day Count Conventions:</b> Act/360</li> <li>• <b>Holiday Calendar:</b> New York</li> <li>• <b>Fixing Calendar:</b> New York</li> <li>• <b>Business Day Conventions:</b> Modified Following with adjustment to period end dates, or as agreed between participants for more bespoke swaps</li> </ul>   |
| <b>Periodic Settlement</b> | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates.</li> </ul> <p>Payments are settled in accordance with the payment frequency of the swap.</p> |

## Interest Rate Options

### Overview

An interest rate option grants the buyer the right, but not the obligation, to either enter into an underlying instrument (payers or receivers swaption - usually cash settled at expiry) or a series of pay-offs based upon future index fixings (cap/floor). Exercise of this option is dependent upon the strike price agreed at the time of the original contract being "in the money" at expiry, i.e. higher than the fixing rate for a receivers swaption or floor (puts), lower for a payers swaption or cap (calls).

## Swap Options

| Interest Rate Swaption        |   |
|-------------------------------|---|
| <b>Contract Overview</b>      | An option to enter into an Interest Rate Swap contract ('Underlying Swap') at pre-defined time(s), typically a <a href="#">Fixed/Float IRS</a> with its Fixed Rate equal to the Strike. |
| <b>Type</b>                   | Payer = Correspond to paying the fixed rate in the Underlying Swap.<br>Receiver = Correspond to receiving the fixed rate in the Underlying Swap.  |
| <b>Trade Convention</b>       | Buy = Buy the right to exercise the option.<br>Sell = Sell the right to exercise the option.  |
| <b>Trade Currency</b>         | Available currencies as defined in 'Appendix B'.  |
| <b>Trade Date</b>             | Date on which the trade is conducted.   |
| <b>Price Quote Convention</b> | Spot or Forward Option Premium quoted in increments of fractions or decimals of a basis point (see Appendix D).   |

|                                       |   |
|---------------------------------------|---|
| <b>Premium Amount</b>                 | ( Notional * Price )  |
| <b>Premium Payment Date</b>           | Date on which the Premium is paid by the Buyer to the Seller.<br>Spot – Premium paid agreed number of business days after the Trade Date.<br>Forward – Premium paid agreed number of business days after the Expiry Date.   |
| <b>Strike</b>                         | Rate that will be used for the Underlying Swap on its inception.  |
| <b>Minimum Notional</b>               | As agreed by the participants, depending upon Currency, Expiry Date and Tenor   |
| <b>Exercise Type</b>                  | European<br>American<br>Bermudan  |
| <b>Expiry Date</b>                    | Exercise date(s) of the option.<br>1 day to 50 years from Trade Date.<br><br><b>European</b><br>Exercise only on the Expiry Date and Time specified.<br><br><b>American</b><br>Exercise is allowed at any time up to the Expiry Date specified.<br><br><b>Bermudan</b><br>One or more pre-defined exercise times within a range of dates agreed between participants. |
| <b>Tenor</b>                          | Term of the underlying swap, 3 months to 50 years from Expiry Date.   |
| <b>Settlement Type</b>                | Cash<br>Physical<br>Cleared Physical<br>Dates and conventions as defined by 'ISDA 2006 Definitions'.  |
| <b>Payment Amount</b>                 | As defined by 'ISDA 2006 Definitions' according to Settlement Type.   |
| <b>Underlying Swap Effective Date</b> | Number of business days after the option is exercised, as agreed by the participants.   |
| <b>Definition of Underlying Swap</b>  | <a href="#">Fixed/Floating Interest Rate Swap</a>   |
| <b>Trade Strategies</b>               | Payers/Receivers  |

|                             |                       |
|-----------------------------|-----------------------|
| <b>ISDA OTC Taxonomy</b>    |                       |
| <b>Asset Class</b>          | Interest Rate         |
| <b>Base Product</b>         | IR Swap               |
| <b>Sub-Product</b>          | Swaption              |
| <b>Included Definitions</b> | 2006 ISDA Definitions |

| <b>Cancellable Swap</b>       |   |
|-------------------------------|---|
| <b>Contract Overview</b>      | <b>An option to exit an Interest Rate Swap contract ('Underlying Swap') at pre-defined time(s), typically a <u>Fixed/Float IRS</u> with its Fixed Rate equal to the Strike.</b>   |
| <b>Type</b>                   | Payer = Correspond to paying the fixed rate in the Underlying Swap.<br>Receiver = Correspond to receiving the fixed rate in the Underlying Swap.  |
| <b>Trade Convention</b>       | Buy = Buy the right to exercise the option.<br>Sell = Sell the right to exercise the option.  |
| <b>Trade Currency</b>         | Available currencies as defined in 'Appendix B'.  |
| <b>Trade Date</b>             | Date on which the trade is conducted.   |
| <b>Price Quote Convention</b> | Spot or Forward Option Premium quoted in increments of fractions or decimals of a basis point (see Appendix D).   |
| <b>Premium Amount</b>         | ( Notional * Price )  |
| <b>Premium Payment Date</b>   | Date on which the Premium is paid by the Buyer to the Seller.<br>Spot – Premium paid agreed number of business days after the Trade Date.<br>Forward – Premium paid agreed number of business days after the Expiry Date. |
| <b>Strike</b>                 | Rate that will be used for the Underlying Swap on its inception.  |
| <b>Minimum Notional</b>       | As agreed by the participants, depending upon Currency, Expiry Date and Tenor   |
| <b>Exercise Type</b>          | European<br>American<br>Bermudan  |

|  |  |
|--|--|
| <b>Expiry Date</b>                               | <p>Exercise date(s) of the option.<br/>1 day to 50 years from Trade Date.</p> <p><b>European</b><br/>Exercise only on the Expiry Date and Time specified.</p> <p><b>American</b><br/>Exercise is allowed at any time up to the Expiry Date specified.</p> <p><b>Bermudan</b><br/>One or more pre-defined exercise times within a range of dates agreed between participants.</p> |
| <b>Tenor</b>                                     | Term of the underlying swap, 3 months to 50 years from Expiry Date.  |
| <b>Settlement Type</b>                           | <p>Cash<br/>Physical<br/>Cleared Physical<br/>Dates and conventions as defined by 'ISDA 2006 Definitions'.</p>   |
| <b>Payment Amount</b>                            | As defined by 'ISDA 2006 Definitions' according to Settlement Type.  |
| <b>Underlying Swap Effective Date</b>            | As agreed by the participants.   |
| <b>Underlying Swap Termination/Maturity Date</b> | Number of business days after the option is exercised.   |
| <b>Definition of Underlying Swap</b>             | <a href="#">Fixed/Floating Interest Rate Swap</a>  |
| <b>Trade Strategies</b>                          | Payers/Receivers   |
| <b>ISDA OTC Taxonomy</b>                         |  |
| <b>Asset Class</b>                               | Interest Rate  |
| <b>Base Product</b>                              | IR Swap  |
| <b>Sub-Product</b>                               | Swaption   |
| <b>Included Definitions</b>                      | 2006 ISDA Definitions  |

## Other Options

**Interest Rate Option**

|                               |   |
|-------------------------------|---|
| <b>Contract Definition</b>    | <b>An agreement to exchange a stream of cash flows of an option leg and either a fixed or floating interest rate leg to a specified notional over a term to maturity.</b>   |
| <b>Trading Conventions</b>    | Buy = Receive option leg, pay fix/floating interest rate leg<br>Sell = Pay option leg, receive fix/floating interest rate leg   |
| <b>Trade Currency</b>         | Available currencies as defined in 'Appendix B'.  |
| <b>Trade Date</b>             | Date on which the trade is conducted.   |
| <b>Price Quote Convention</b> | Quoted in BP<br>Spot or Forward.  |
| <b>Specific Option Types</b>  | Cap, Floor, CMS Spread Option, Exotic   |
| <b>Swap Term (Tenor)</b>      | As agreed by the Participants. A contract can have a Tenor from 7 days to 60 years  |
| <b>Swap Conventions</b>       | <p><b>Option Leg:</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> As agreed by participants and suitable to the Currency's market standards { Interest Rate Indices (as per ISDA 2006 or agreed by Participants), Inflation Indices (as per ISDA 2008), and spreads of the aforementioned }</li> <li>• <b>Rate:</b> A function of the index including caps and floors</li> <li>• <b>Payment/Resets:</b> As per ISDA 2006</li> <li>• <b>Day Count Conventions:</b> As per Interest Swap for the trade Currency by default, or as per Appendix A</li> <li>• <b>Holiday Calendar:</b> As agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Fixing Calendar:</b> As agreed by Participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> As agreed by Participants</li> </ul> |
|                               | <p><b>Floating / Fixed Leg</b></p> <ul style="list-style-type: none"> <li>• <b>Index or Fixed Rate:</b> As agreed by Participants</li> <li>• <b>Payment/Resets:</b> As per ISDA 2006</li> <li>• <b>Day Count Conventions:</b> As per Interest Swap for the trade Currency by default, or as per Appendix A</li> <li>• <b>Holiday Calendar:</b> As agreed by participants and suitable to the Currency's market standards</li> <li>• <b>Fixing Calendar:</b> As agreed by participants and suitable to the Currency's market standards</li> <li>• <b>Business Day Conventions:</b> As agreed by Participants</li> </ul>  |
| <b>Periodic Settlement</b>    | <p><b>Payment and Resets:</b></p> <ul style="list-style-type: none"> <li>• <b>Fixed Leg:</b> The payment amount of the Fixed Leg is based on: Notional, Payment Frequency, Day Count Convention and Fixed Interest Rate.</li> <li>• <b>Floating Leg:</b> The payment amount of the Floating Leg is based on: Notional, Payment Frequency, Day Count Convention, Floating Interest Rate Index and Floating Reset Dates.</li> </ul> <p>Payments are settled in accordance with the payment frequency of the swap.</p>   |

| Interest Rate Option - IR/Inflation Cap/Floor |   |
|---|---|
| <b>Price Quote Convention</b>                 | Quoted in BP Spot – Value of option leg to be paid upfront. Basis Points Running – Premium divided into a spread paid each period of the option leg.  |
| <b>Swap Conventions</b>                       | <p><b>Option Leg (only leg of structure):</b></p> <ul style="list-style-type: none"> <li>• <b>Index:</b> <ul style="list-style-type: none"> <li>• IR = Interest Rate Indices as per ISDA 2006 or as agreed by participants.</li> <li>• Inflation = Inflation Indices as per ISDA 2008 or as agreed by participants, expressed as an annualised rate.</li> </ul> </li> <li>• <b>Rate:</b> <ul style="list-style-type: none"> <li>• <math>Cap = \text{Max}(\text{Index}(T_i) - \text{Strike}, 0)</math></li> <li>• <math>Floor = \text{Max}(\text{Strike} - \text{Index}(T_i), 0)</math></li> </ul> </li> </ul> |
| <b>Tenors</b>                                 | 1 day to 60 years   |
| <b>Strategies</b>                             | Straddle, Strangle, Collar  |

## Commodities

| <b>Product Name</b> | <b>Metal Options</b>   |
|---------------------|--|
| <b>Description</b>  | <p>A metal option represents the purchase or sale of the right to buy or sell metal, rather than an outright purchase or sale. The metal that is the subject of the option is referred to as the underlying asset.</p> <p>An option therefore is the right but not the obligation to buy from, or to sell to, the seller (or grantor) of the option, an agreed quantity of the underlying asset at an agreed price (the strike price) up to or on an agreed date in the future (the expiration date). The buyer of the option may exercise his rights under the option up to that date. In the case where the seller of the option sells, or grants, the buyer of the option the right to buy the underlying asset, the option is termed a call option. If the seller of the option grants the buyer of the option the right to sell to him the underlying asset, it is termed a put option.</p> <p>Depending on Participants, a Metal Option may be a Commodity Trade Option and treated as per CFTC Rule 32.3.</p> |

|                                |   |
|--------------------------------|---|
| <p><b>Underlying metal</b></p> | <p><b>Precious metals</b></p> <ul style="list-style-type: none"> <li>• Gold: the minimum acceptable fineness is 995.0 parts per thousand fine gold</li> <li>• Silver: 999.0 parts per thousand silver</li> <li>• Platinum: At least 99.95% Platinum</li> <li>• Palladium: At least 99.95% Palladium</li> </ul> <p><b>Base metals</b></p> <ul style="list-style-type: none"> <li>• Aluminium: Primary aluminium with impurities no greater than the chemical composition of one of the registered designations: <ul style="list-style-type: none"> <li>• P1020A in the North American and International Registration Record entitled “International Designations and Chemical Composition Limits for Unalloyed Aluminum” (revised March 2007)</li> <li>• Al99.70 in the GB/T 1196-2008 Standard entitled “Unalloyed aluminium ingots for remelting”</li> </ul> </li> <li>• Aluminium Alloy: A380.1, 226 or AD12.1 aluminium alloy</li> <li>• NASAAC: Aluminium alloy conforming to the LME NA380.1 specification</li> <li>• Copper: Grade A copper must conform to the chemical composition of one of the following standards: <ul style="list-style-type: none"> <li>• BS EN 1978:1998 - Cu-CATH-1</li> <li>• GB/T 467-2010 - Cu-CATH-1</li> <li>• ASTM B115-10 - cathode Grade 1</li> </ul> </li> <li>• Lead: Lead of 99.97% purity (minimum) must conform to the chemical composition one of the following standards: <ul style="list-style-type: none"> <li>• BS EN 12659:1999 - Permitted grades: material numbers PB970R, PB985R and PB990R</li> <li>• GB/T 469/2005 - Permitted grades: 99.970%, 99.985%, 99.990% and 99.994%</li> <li>• ASTM B29-03 (2009) - Permitted grades: 99.97% and 99.995%</li> </ul> </li> <li>• Nickel: Ni 99.8% purity conforming to B39-79 (2008)</li> <li>• Tin: Tin of 99.85% purity (minimum) conforming to BS EN 610:1996</li> <li>• Zinc: Special high-grade zinc of 99.995% purity (minimum) must conform to the chemical composition of one of the following standards: <ul style="list-style-type: none"> <li>• BS EN 1179:2003 - 99.995% grade</li> <li>• ISO 752:2004 - ZN-1 grade</li> <li>• ASTM B6-12 - LME grade</li> <li>• GB/T 470-2008 - Zn99.995 grade</li> </ul> </li> </ul> |
| <p><b>Lot size</b></p>         | <p><b>Precious metals</b></p> <ul style="list-style-type: none"> <li>• Gold: 1 Troy Ounce</li> <li>• Silver: 1 Troy Ounce</li> <li>• Platinum: 1 Troy Ounce</li> <li>• Palladium: 1 Troy Ounce</li> </ul> <p><b>Base metals</b></p> <ul style="list-style-type: none"> <li>• Aluminium: 25 tonnes</li> <li>• Aluminium Alloy: 20 tonnes</li> <li>• NASAAC: 20 tonnes</li> <li>• Copper: 25 tonnes</li> <li>• Lead: 25 tonnes</li> <li>• Nickel: 6 tonnes</li> <li>• Tin: 5 tonnes</li> <li>• Zinc: 25 tonnes</li> </ul>   |

|   |  |
|---|--|
| <p><b>Tenors</b></p>                                | <p><b>Precious metals</b></p> <ul style="list-style-type: none"> <li>• Gold: up to 10 years</li> <li>• Silver: up to 10 years</li> <li>• Platinum: up to 10 years</li> <li>• Palladium: up to 10 years</li> </ul> <p><b>Base metals</b></p> <ul style="list-style-type: none"> <li>• Aluminium: Monthly out to 63 months</li> <li>• Aluminium Alloy: Monthly out to 27 months</li> <li>• NASAAC: Monthly out to 27 months</li> <li>• Copper: Monthly out to 63 months</li> <li>• Lead: Monthly out to 15 months</li> <li>• Nickel: Monthly out to 27 months</li> <li>• Tin: Monthly out to 15 months</li> <li>• Zinc: Monthly out to 27 months</li> </ul>  |
| <p><b>Price Quote Convention</b></p>                | <p><b>Precious metals</b></p> <ul style="list-style-type: none"> <li>• Gold: tenths of US Dollar cents per Troy Ounce</li> <li>• Silver: thousandths of US Dollar cents per Troy Ounce</li> <li>• Platinum: tenths of US Dollar cents per Troy Ounce</li> <li>• Palladium: tenths of US Dollar cents per Troy Ounce</li> </ul> <p><b>Base metals</b></p> <ul style="list-style-type: none"> <li>• Aluminium: US dollars per tonne</li> <li>• Aluminium Alloy: US dollars per tonne</li> <li>• NASAAC: US dollars per tonne</li> <li>• Copper: US dollars per tonne</li> <li>• Lead: US dollars per tonne</li> <li>• Nickel: US dollars per tonne</li> <li>• Tin: US dollars per tonne</li> <li>• Zinc: US dollars per tonne</li> </ul> |
| <p><b>Minimum price fluctuation (tick size)</b></p> | <p><b>Precious metals</b></p> <ul style="list-style-type: none"> <li>• Gold: \$0.001/oz t</li> <li>• Silver: \$0.00001/oz t</li> <li>• Platinum: \$0.001/oz t</li> <li>• Palladium: \$0.001/oz t</li> </ul> <p><b>Base metals</b></p> <ul style="list-style-type: none"> <li>• Aluminium: \$0.01 per tonne</li> <li>• Aluminium Alloy: \$0.01 per tonne</li> <li>• NASAAC: \$0.01 per tonne</li> <li>• Copper: \$0.01 per tonne</li> <li>• Lead: \$0.01 per tonne</li> <li>• Nickel: \$0.01 per tonne</li> <li>• Tin: \$0.01 per tonne</li> <li>• Zinc: \$0.01 per tonne</li> </ul>  |



|                         |   |
|-------------------------|---|
| <b>Trade Types</b>      | <ul style="list-style-type: none"> <li>• Call</li> <li>• Put</li> </ul>   |
| <b>Option Premium</b>   | As agreed by Participants - Currency style option premiums must be exchanged within 2 business days of the transaction being executed.<br>Option Premium to be quoted and exchanged in US Dollars |
| <b>Option style</b>     | As agreed by Participants <ul style="list-style-type: none"> <li>• European</li> <li>• American</li> </ul>  |
| <b>Option expiry</b>    | As agreed by Participants: the option expiry date is agreed as part of the contract at point of execution.<br>Value date is T+2, based on the modified following business day convention.         |
| <b>Settlement Type</b>  | Physical  |
| <b>Holiday Calendar</b> | As per LBMA (London Bullion Market Association) or as agreed between Participants   |
| <b>Block Size</b>       | As set forth in Appendix F to Part 43 of the CFTC Regulations   |

## References:

Good gold and silver delivery:

<http://www.lbma.org.uk/good-delivery-explained>

Good platinum and palladium delivery:

<http://www.lppm.com/display.aspx?type=gooddelivery>

<http://www.lppm.com/LPPMRulesCLEANVersionSeptember2012.pdf>

<http://www.lppm.com/otcguide.pdf>

Good base metal delivery:

<http://www.lme.com/metals/non-ferrous/>

## Credit Derivatives

### Credit Derivative Product Details and Contract Specifications

#### Products

- Credit Default Swap Indices
- Credit Index Swaptions

#### Overview:

Credit derivatives provide an opportunity to hedge or acquire credit exposure on an underlying reference credit entity. In the event of a credit “event” such as default of the entity, a “buyer” of credit protection will be compensated

for losses whilst a “seller” of credit protection will be liable for the compensation amount. The underlying entity can be:

- a) a portfolio of single credits assembled as a standardized **reference index**
- b) a single credit (e.g. BMW)
- c) a “tranche” of credit risk based on an index portfolio. e.g. exposure to a defined proportion of the loss distribution associated with an index For example exposure to up to the first 3% of losses on an index.

*For this certification, we confine ourselves to standard reference indices as the underlying entity.*

### **Basic Credit Derivative contracts**

Credit exposure to the underlying reference entity can be achieved in two principal ways:

- a) via a "Credit Default Swap"

A credit default swap is a contract between two participants - “*Protection Buyer*” and a “*Protection Seller*”. Under the contract, the buyer pays a regular “*premium*” to the seller who in exchange agrees to compensate the buyer for losses if a “*Credit Event*” occurs (the definition of a credit event is specified under ISDA 2003 or ISDA 2014 definitions), at which point the contract terminates and a cash “*settlement*” is made to the buyer in accordance with ISDA CDS credit event auction guidelines. Versions of these are **Credit Default Swap Indices** based upon a standard reference index of underlying CDS (see below)

- b) via "Credit Default Swap Option (Swaption)"

A credit default swaption gives the buyer of the option, the right but not the obligation to enter into a credit default swap (as in a) above) i.e. “exercise” the option at the specified option “*expiry date*”. Option exercise is generally restricted to the expiry date – “*European style*” or less commonly may be executed at any time up to expiry – “*American Style*”. The most liquid contract is a Credit Default **Index** Swaption

### **Credit Default Swap Indices**

#### **Product Description:**

In 2004, *standardized* credit indices were introduced which are credit default swaps based upon rule-based portfolios of equally-weighted underlying credits from specific market sectors. There are two main index families based on geographical location: a) MARKIT CDX indices : comprising single credits from North America and Emerging Markets, and b) MARKIT ITRAXX indices comprising single credits from Europe, Asia and the Rest of the World. The generic MARKIT CDX and MARKIT ITRAXX indices are subdivided according to the number and credit characteristics of their underlying constituents: both indices are serially issued every 6 months, rolling in Mar and September (generally on the 20th of the Month except for High Yield on 27th) with changes to portfolio constituents determined by polling of a group of investment banks. There is a standard set of tenors depending upon the portfolio (3, 5, 7 & 10yrs). A new series will have an associated *standard coupon rate* (premium) based upon the credit spreads of the underlying constituents – this is generally fixed (and displayed on SEF systems) at either 100bps or 500bps (though can be 25 or 1000bps in exceptional situations) depending upon the credit quality of the underlying entities, with an upfront payment offsetting the difference between this rate and the average spread of the portfolio. On issue date, the new series of an index comprising new portfolio and coupon is published. New series issuance and portfolio characteristics is administered by Markit Partners - see [www.Markit.com](http://www.Markit.com), and indices adhere to ISDA standard protocols - see [www.isda.org](http://www.isda.org). Credit event(s) on single names within a portfolio will result in a proportional erosion of its par value. CDX, MCDX and iTraxx Marks used in these Contract Specifications are marks of Markit North America, Inc. and Markit Indices Limited and have been licensed for use by BGC Derivative Markets, L.P.

### **TABLE A: ON THE RUN INDICES**

| Family        | Indices                  | Description*                                    | Tenors (Y) | Cleared Series<br><br>(as of 2nd Oct 2013)                                  | Swap Convention                 | Recovery(%) |
|---------------|--------------------------|---|------------|---|---------------------------------|-------------|
| MARKIT CDX.   | NA.IG                    | 125 investment grade                            | 3,5,7,10   | 3Yr 15 to Current<br><br>5Yr 11 to Current<br><br>7Yr and 10Yr 8 to Current | Traded on Spread/ Coupon 100bps | 40          |
| MARKIT CDX.   | NA.HY                    | 100 High Yield                                  | 5          | 12 to Current   | Traded on Price/ Coupon 500bps  | 30          |
| MARKIT CDX.   | NA.HVOL                  | 30 investment grade                             | 3,5,7,10   | 12 to Current   | Traded on Spread/ Coupon 100bps | 40          |
| MARKIT CDX.   | NA.EM                    | 14 (can vary) Emerging Market Sovereign Issuers | 5          | 14 to Current   | Traded on Price/ Coupon 500bps  | 25          |
| MARKIT ITRAXX | EUROPE                   | 125 liquid European investment grade names      | 3,5,7,10   | 5yr 10 to Current<br><br>10yr 7 to Current                                  | Traded on Spread/ Coupon 100bps | 40          |
| MARKIT ITRAXX | EUROPE CROSSOVER         | 50 most liquid sub investment grade names       | 3,5,7,10   | 5y 10 to Current  | Traded on Spread/ Coupon 500bps | 40          |
| MARKIT ITRAXX | EUROPE HIVOL             | 30 widest spread non-financial credits          | 3,5,7,10   | 5y 10 to Current  | Traded on Spread/ Coupon 100bps | 40          |
| MARKIT ITRAXX | EUROPE SENIOR FINANCIALS | 25 European Senior Financial Entities           | 5, 10yr    |   | Traded on Spread/ Coupon 100bps | 40          |
| MARKIT ITRAXX | EUROPE SUB FINANCIALS    | 25 European Subordinated Financial Entities     | 5, 10yr    |   | Traded on Spread/ Coupon 100bps | 20          |
| MARKIT ITRAXX | JAPAN                    | 50 Japanese entities                            | 5yr        |   | Traded on Spread/ Coupon 100bps | 35          |

|               |                    |  |          |                   |                                 |    |
|---------------|--------------------|--|----------|-------------------|---------------------------------|----|
| MARKIT ITRAXX | ASIA-EX JAPAN      | 40 Asian - ex Japan entities                     | 5yr      |                   | Traded on Spread/ Coupon 100bps | 40 |
| MARKIT ITRAXX | AUSTRALIA          | 25 Australian entities                           | 5yr      |                   | Traded on Spread/ Coupon 100bps | 40 |
| MARKIT CDX    | LatAm Corp         | 20 Latin American Corporates                     | 5yr      |                   | Traded on Price/ Coupon 500bps  | 25 |
| MARKIT MCDX   | MCDX               | 50 US Municipal Issuers                          | 3,5,10yr |                   | Traded on Spread/ Coupon 500bps | 80 |
| MARKIT ITRAXX | SOVX               | Top 15 Western Europe Sovereign entities         | 5,10yrs  |                   | Traded on Spread/ Coupon 100bps | 40 |
| MARKIT ITRAXX | SOVX EXEU          | 10 CEEMEA names ex. Europe                       | 5yr      | Current Series 10 | Traded on Price/ Coupon 100bps  | 25 |
| MARKIT ITRAXX | CEEMEA CORPX       | 25 Corporate EM names                            | 5yr      | Current Series 20 | Traded on Price/ Coupon 100bps  | 25 |
|               | <b>SUB-INDICES</b> |  |          |                   |                                 |    |
| MARKIT CDX    | NA.HY.BB           | Sub-basket MARKIT CDX.NA.HY that are BB rated    | 5yr      |                   | Traded on Price/ Coupon 500bps  | 30 |
| MARKIT CDX    | NA.HY.B            | Sub-basket MARKIT CDX.NA.HY that are B rated     | 5yr      |                   | Traded on Price/ Coupon 500bps  | 30 |
| MARKIT CDX    | NA.IG.CONS         | Sub-basket MARKIT CDX.NA.IG that are Consumer    | 5yr      |                   | Traded on Spread/ Coupon 100bps | 40 |
| MARKIT CDX    | NA.IG.ENRG         | Sub-basket MARKIT CDX.NA.IG that are Energy      | 5yr      |                   | Traded on Spread/ Coupon 100bps | 40 |
| MARKIT CDX    | NA.IG.FIN          | Sub-basket MARKIT CDX.NA.IG that are Financials  | 5yr      |                   | Traded on Spread/ Coupon 100bps | 40 |
| MARKIT CDX    | NA.IG.INDU         | Sub-basket MARKIT CDX.NA.IG that are Industrials | 5yr      |                   | Traded on Spread/ Coupon 100bps | 40 |

|               |           |  |     |  |                                       |    |
|---------------|-----------|--|-----|--|---------------------------------------|----|
| MARKIT<br>CDX | NA.IG.TMT | Sub-basket MARKIT<br>CDX.NA.IG that are<br><br>Telecoms, Media &<br>Technology | 5yr |  | Traded on<br>Spread/ Coupon<br>100bps | 40 |
|---------------|-----------|--|-----|--|---------------------------------------|----|

\* number of constituents can vary according to series.

### Terms and Conditions : Credit Default Swap Index

| CREDIT DEFAULT SWAP INDEX                         |   |
|---|---|
| <b>Contract Overview</b>                          | An agreement to buy or sell protection on a basket of (from Table A: Description)   |
| <b>Index</b>                                      | (Name & Series)   |
| <b>Currency</b>                                   | EUR or USD dependent on Index   |
| <b>Quoting Convention &amp; Minimum Increment</b> | As agreed by counterparties.  |
| <b>Minimum Size</b>                               | As agreed by counterparties.  |
| <b>Trading Conventions</b>                        | <p>Buyer - the buyer of protection pays a premium to the seller in case of a credit event occurring</p> <p>Seller - the seller of protection receives the premium payments from the protection buyer but is liable to make good losses to buyer in credit event</p>                           |
| <b>Swap Conventions</b>                           | <p>Traded on spread or price ( see Table A Swap Convention)</p> <p>Fixed coupon payments calculated at a spread of (X bp - see Table A, Swap Conventions) and exchanged on a quarterly basis</p>  |
| <b>Tenor</b>                                      | (As agreed by the parties—for illustrative tenors see See Table A : Tenors)   |
| <b>Maturity Date</b>                              | 20 <sup>th</sup> March or September of tenor years  |
| <b>Coupon Details</b>                             | <p><i>Spread: Xbps spread ( see Table A: Swap Conventions)</i></p> <p><i>Frequency: Quarterly 20 Mar/Jun/Sep/Dec</i></p> <p><i>Daycount: Act/360</i></p> <p><i>Business Day Convention: Following</i></p> <p><i>Calendar : MARKIT ITRAXX : LDN &amp; Target, MARKIT CDX NYC &amp; LDN</i></p> |

|                                |   |
|--------------------------------|---|
| <b>Credit Event</b>            | Determined pursuant to 2014 ISDA Definition : Failure to Pay, Government Intervention, Bankruptcy (MARKIT CDX) and also (Modified) Restructuring (MARKIT ITRAXX)  |
| <b>Recovery Rate</b>           | Index dependent - as provided in Table A  |
| <b>Settlement</b>              | Contingent payment - Payments related to credit event settlement will be determined pursuant to the 2014 ISDA Credit Derivatives Determination Committees and Auction Settlement Supplement, (the "Big Bang Protocol").<br>Fixed Quarterly cash payments - reflected in basis points and paid by the protection buyer to the protection seller.<br>Upfront fee payment - The upfront fee is a portion of the payments, expressed in percentage points of the notional, which is present valued and paid immediately to the seller |
| <b>Trade Types</b>             | Outright<br><br>Rolls (a buyer of the roll is a seller of the older series and a buyer of the more newly issued series)<br><br>Spreads (a buyer of the spread is a seller of the shorter tenor and a buyer of the longer tenor)   |
| <b>Trading Hours and Venue</b> | 00:01 -24:00 Sunday-Friday; Eastern Time  |
| <b>Clearing Venue</b>          | Where applicable per Index: ICE Clear Credit, CME Clearing, LCH.Clearnet SA and ICE Clear Europe  |
| <b>Block Size</b>              | As set forth in Appendix F to Part 43. of the CFTC Regulations  |

*Credit Swap Indices and their construction, issuance and maintenance are administered by a 3rd party, Markit Partners, to ensure full standardization and maximum liquidity in the products. Principal features of the products as outlined by Markit Partners are Trade Efficiency, Liquidity, Transparency and Data Integrity. These features apply to the CDX and ITRAXX families of indices and serve to mitigate issues of price manipulation.*

#### Credit Index Swaptions

#### Product Description

A CDS option is an option to buy (payer swaption) or sell (receiver swaption) CDS protection on a specified reference entity at a fixed spread on a future date. Index swaptions are generally European with exercise at the expiry date of the option only. They are mainly traded on the main benchmark indices above and may be traded outright or against other swaptions or with the underlying index as a delta hedge. A delta hedged swaption effectively provides exposure to the volatility of the underlying index.

#### Terms & Conditions: MARKIT CDX and MARKIT ITRAXX Swaption

| CREDIT INDEX SWAPTION    |  |
|--------------------------|--|
| <b>Contract Overview</b> | An credit index swaption gives the buyer the right but not the obligation to sell or buy credit protection on credit index at a specified strike spread. On exercise, the buyer of a payer option will enter an index swap, paying the credit spread (long protection) and buyer of receiver swaption will enter an index swap, receiving the credit spread (short protection) |

|                             |   |
|-----------------------------|---|
| <b>Trading Conventions</b>  | <p>Buyer (payer). The buyer has the right but not the obligation to pay on an index swap at a specified strike spread on a specified date.</p> <p>Seller (Receiver). The seller has the obligation to receive an index swap at a specified strike spread on a specified date.</p> |
| <b>Underlying Index</b>     | Any index under the MARKIT CDX and MARKIT ITRAXX families listed in Table A above.  |
| <b>Option Style</b>         | European  |
| <b>Strike Price</b>         | Agreed as a spread  |
| <b>Premium</b>              | Cents upfront   |
| <b>Premium Payment Date</b> | Trade Date + 3 days   |
| <b>Expiration Date/Time</b> | Standard expiries of 20 Mar/Jun/Sep & Dec 11am NY, 4pm London   |
| <b>Settlement</b>           | Physical, into the underlying Index   |
| <b>Settlement Terms</b>     | Expiry + 1 day  |
|                             |   |
| <b>Credit Event</b>         | Determined pursuant to 2014 ISDA Definition : Failure to Pay, Government Intervention, Bankruptcy (MARKIT CDX) and also (Modified) Restructuring (MARKIT ITRAXX)  |
| <b>Knockout</b>             | Single name swaptions extinguish (knockout) on a credit event whereas index swaptions do not  |
| <b>Settlement</b>           | Physical : On exercise the buyer enters the underlying contract   |
| <b>Settlement Amount</b>    | <p>a) No Credit Event Buy or sell the index at strike at expiry</p> <p>b) One or More credit events : Buy or sell the index at strike at expiry Protection buyer will then trigger the underlying contract under credit events</p>  |
|                             |   |
| <b>Trade Types</b>          | <p>Outright: Payer or Receiver</p> <p>Payer or receiver spread (quoted with or without delta) - buy a low strike payer , sell a higher strike payer</p> <p>Straddle (quoted with or without delta) - buy a payer and receiver at the same strike</p>                              |
| <b>Minimum Size</b>         | As agreed by Participants   |
| <b>Clearing</b>             | The options are not cleared, the underlying may be cleared at ICE Clear Credit, CME Clearing, LCH.Clearnet SA and ICE Clear Europe as directed by CEA 2(h)1 or as agreed between Participants   |

*Credit Swap Indices and their construction, issuance and maintenance are administered by a 3rd party, Markit Partners, to ensure full standardization and maximum liquidity in the products. Principle features of the products as described by Markit Partners are Trade Efficiency, Liquidity, Transparency and Data Integrity. These features apply to the MARKIT CDX and MARKIT ITRAXX families of indices and serve to mitigate issues of price manipulation. As Credit Index Swaptions are based upon such indices and the contractual features of a swaption are well defined prior to transaction, these products also, by their nature are resilient to price manipulation.*

## Equity Derivatives

### Broad Market Index Equity Derivative Product Details and Contract Specifications

#### Equity Index Swaps

##### Product Description:

An equity swap is a product which allows the ability to gain exposure to the returns of an equity ("equity leg") in exchange for payment or receipt of regular fixed or floating payments ("floating leg") usually interest based plus a spread. Equity index swaps, for example, provide the opportunity to hedge exposure to a cash portfolio of index members without the physical sale of assets.

##### Example Terms and Conditions

| <b>EQUITY INDEX SWAP</b>    |   |
|-----------------------------|---|
| <b>Contract description</b> | <p>A contract to pay or receive regular fixed or floating interest payments on a notional amount in exchange for a notional based return performance of an equity index</p> <p>An Equity Swap may be either a Total Return Swap whereupon the return performance of an equity index includes a dividend stream or Price Return Swap whereupon the return performance of an equity index excludes a dividend stream</p>  |
| <b>Trading Conventions</b>  | <p>An equity swap buyer pays a rate of interest plus a spread on a notional amount in return for any appreciation/depreciation of the equity index on the notional amount</p> <p>An equity swap seller receives a rate of interest plus a spread on a notional amount and pay any appreciation/depreciation of the equity index on the notional amount</p> <p>Where the Equity Swap is structured as a Total Return Swap, the appreciation/depreciation includes returns due (e.g. dividends) from the underlying index over the swap period.</p> <p>Where the Equity Swap is structured as a Price Return Swap, the appreciation/depreciation excludes returns due from the underlying index over the swap period.</p> |



|                                |  |
|--------------------------------|--|
| <b>Underlying Equity</b>       | SPX S&P 500, SX5E Eurostoxx 50, RTY Russell 2000, NDX Nasdaq 100, FTSE FTSE 100, DAX Dax 30, NKY Nikkei 225, VIX on S&P 500, DIA Dow Jones 30, MID S&P Mid 400, NDUUE GFA MSCI Daily TR Net Emerging Markets Asia, NDEUSKO MSCI Daily TR Net Emerging Markets Korea, NDEUCHF MSCI Daily TR Net China, NDEUSTW MSCI Daily TR Net Emerging Markets Taiwan, NDEUSIA MSCI Emerging Markets India Net TR, NDEUPH MSCI Daily TR Net Emerging Markets Philippines, NDDUMAF MSCI Daily TR Net Malaysia, NDEUTHF MSCI Daily TR Net Emerging Markets Thailand, NDDUHK MSCI Daily TR Net Hong Kong, NDDUSG MSCI Daily TR Net Singapore, NDDUP MSCI Daily TR Net Pacific, NDDUP MSCI Daily Gross Pacific, NDDUPXJ MSCI Daily TR Net Pacific Ex Japan, HSI Hang Seng Index, HSCEI Hang Seng China Enterprises Index, TWII Taiwan Weighted Exchange Capitalization Weighted Stock Index, NSEI S&P CNX Nifty Index, AMSCI MSCI Taiwan Index, SIMSCI MSCI Singapore Free Index |
| <b>Currency</b>                | USD, EUR, JPY, SGD, HKD, CNH, CNY dependent on Underlying Equity   |
| <b>Trade Date</b>              | Date which trade terms agreed  |
| <b>Maturity</b>                | As agreed by Participants - Any maturity up to 50yrs   |
| <b>Notional</b>                | As agreed by Participants E.G. 5m (USD, EUR or JPY)  |
| <b>Floating Leg</b>            | Cashflow : xM LIBOR + Spread or an agreed fixed rate<br><br>Frequency: Determined by agreed Libor (3m, 6m etc) or agreed fixed rate frequency<br><br>DayCount : Act/360  |
| <b>Equity Leg</b>              | Notional x (% increase of equity index over floating rate period)  |
| <b>Settlement</b>              | Cash settlement as per floating rate schedule  |
| <b>Business Day Convention</b> | As agreed by Participants  |
| <b>Quote Convention</b>        | Quoted in bps as a spread or fixed rate.   |
| <b>Trade Types</b>             | Outright<br><br>Spread: Equity swap in one index versus an equity swap in another  |
| <b>Tenors</b>                  | As agreed by Participants, 1 day to 50 Years   |

*Equity index swaps are based upon highly liquid and transparent underlying indices with well-defined and accepted closing prices for the calculation of the equity leg. The terms of the contract and the payoff profiles are very well defined prior to a transaction so making the product resilient to price manipulation.*

## Option on Variance Swaps

### Product Description:

An option on variance swap allows the ability obtain exposure to the volatility of an underlying equity index via buying or selling the right, but not the obligation to enter a variance swap (see above) on the underlying index at expiration of the option.

## Example Terms and Conditions

|  |  |
|--|--|
| <b>OPTION ON EQUITY INDEX VARIANCE SWAP</b>  |  |
| <b>Contract description</b>                  | A contract that enables the ability hedge or take a view on the future direction of volatility of an underlying equity index by buying or selling the right, but not the obligation to enter a variance swap (paying or receiving the difference between actual realized variance of an index over the life of the contract and a variance "strike" agreed at contract inception.) |
| <b>Trading Conventions</b>                   | <p>Buyer – The buyer of a variance option pays premium in exchange for the right to exercise the option and enter a variance swap at an agreed strike at expiry</p> <p>Seller -The seller of a variance option receives a premium in exchange for the obligation to fulfill the option buyer's right to exercise at expiry</p>   |
| <b>Underlying Equity</b>                     | Closing Price of any valid index listed on a registered Exchange<br>E.g. SPX S&P 500, SX5E Eurostoxx 50, RTY Russell 2000, NDX Nasdaq 100, FTSE FTSE 100, DAX Dax 30, NKYNikkei 225, VIX on S&P 500, DIA Dow Jones 30, MIDS&P Mid 400  |
| <b>Currency</b>                              | USD, EUR or JPY dependent on Underlying Equity   |
| <b>Vega Notional</b>                         | As agreed by Participants e.g. 100,000 (Note: the exposure (loss or gain in contract currency) per 1% change in volatility)  |
| <b>Reference Vol Strike</b>                  | As agreed by Participants e.g 17.90  |
| <b>Ref Var Strike</b>                        | As agreed by Participants e.g. 320.21  |
| <b>Option Premium</b>                        | cents upfront of vega notional   |
| <b>Option Style</b>                          | European   |
| <b>Option Type</b>                           | Call or Put  |
| <b>Option Volatility Strike</b>              | As agreed by Participants e.g. 40  |
| <b>Option Variance Strike</b>                | As agreed by Participants e.g. $40^2 = 1600$   |
| <b>Premium Payment</b>                       | T + 3  |
| <b>Option Payoff at Final Valuation Date</b> | <p>Call : Variance Units X <math>\text{Max}(0, \text{Realized vol}^2 - \text{Variance Strike})</math> at (maturity + 3 days) of variance swap</p> <p>Put : Variance Units X <math>\text{Max}(0, \text{Variance Strike} - \text{Realized vol}^2)</math> at (maturity + 3 days) of variance swap</p>   |

|  |   |
|--|---|
| <b>Maturity or Final Valuation Date of Variance Swap</b> | Final Date on which observations are made ( contract tenors 0 mths to 50yrs supported)  |
| <b>Observation Frequency</b>                             | Daily   |
| <b>Number of Observations</b>                            | n, dependent on contract maturity (NOTE: n is the number of trading days between observation start date and Maturity)   |
| <b>Realized Volatility (RV)</b>                          | $\sigma_{realized} = \sqrt{252} \cdot \sqrt{\frac{\sum_{i=1}^m \left( \ln \left( \frac{C_{i+1}}{C_i} \right) \right)^2}{n}} \cdot 10000$ <p><i>m equals n, unless there is a market disruption event</i></p> <p><i>C<sub>i</sub> equals the daily closing price of the Underlying Equity on the i<sup>th</sup> business day starting on the day following Trade Date (i=2), and C<sub>m</sub> shall be equal to the Closing Level of the Underlying Equity on the Final Valuation Date. If the Final Valuation Date is a listed option expiration date, then C<sub>m</sub> is equal to the expiration print.</i></p> <p><i>Business Days per Year = 252</i></p> |
| <b>Business Day Convention</b>                           | As agreed by Participants   |
| <b>Quote Convention</b>                                  | Variance % points   |
| <b>Trade Types</b>                                       | <p>Outright : Long or short call or put</p> <p>Spreads : e.g. Long a lower strike call, short a higher strike call</p> <p>Straddle: Long a call and a put at same strike</p>  |
| <b>Market Disruption</b>                                 | Refer to ISDA 2002 Equity Definitions   |
| <b>Tenors</b>  | As agreed by Participants, 1 day to 10 Years  |

*Options on Variance swaps are based upon highly liquid and transparent underlying indices with well-defined and accepted closing prices for the calculation of volatility and consequently the payoff of volatility/variance swap. The terms of the contract and the calculation algorithm are very well defined prior to a transaction so making the product resilient to price manipulation.*

## Variance & Volatility Swaps

## Product Description:

A variance swap allows the ability take a direct exposure to the volatility of an underlying equity index over the length of the swap. Taking a "long volatility" view entails buying volatility via a variance or volatility swap at a predetermined strike. If the realized vol is greater than the strike, there will be a profit and vice versa. Note that volatility and variance swaps differ simply as the name suggests in exposure to volatility and volatility<sup>2</sup> (variance) respectively. In addition to speculative applications, variance/ volatility swaps serve an important purpose in providing an opportunity to hedge or protect against times of market crisis when invariably asset volatility rises substantially.

## Example Terms and Conditions

| <b>EQUITY INDEX VARIANCE SWAP</b>       |   |
|---|---|
| <b>Contract description</b>             | A contract that enables the ability hedge or take a view on the future direction of volatility of an underlying equity index by paying or receiving the difference between actual realized variance of an index over the life of the contract and a variance "strike" agreed at contract inception. |
| <b>Trading Conventions</b>              | Buyer – The buyer of a variance swap pays a fixed rate (the Variance Strike) in exchange for a payout based on the daily realised variance<br><br>Seller - The seller of a variance swap receives a fixed rate (the Variance Strike) in exchange for a payout based on the daily realised variance  |
| <b>Underlying Equity</b>                | Closing Price of any valid index listed on registered Exchange E.g.<br>SPX S&P 500, SX5E Eurostoxx 50, RTY Russell 2000, NDX Nasdaq 100, FTSE FTSE 100, DAX Dax 30, NKYNikkei 225, VIX on S&P 500, DIA Dow Jones 30, MIDS&P Mid 400   |
| <b>Currency</b>                         | USD, EUR or JPY dependent on Underlying Equity  |
| <b>Trade Start</b>                      | Immediate or forward starting determines when observations for calculation of realized volatility begin   |
| <b>Maturity or Final Valuation Date</b> | Final Date on which observations are made ( contract tenors >0 mths to 50yrs supported)   |
| <b>Observation Frequency</b>            | Daily   |
| <b>Number of Observations</b>           | n, dependent on contract maturity (NOTE: n is the number of trading days between observation start date and Maturity)   |
| <b>Vega Notional</b>                    | As agreed by Participants e.g.. 50,000 (Note: the exposure (loss or gain in contract currency) per 1% change in volatility)   |
| <b>Volatility Strike</b>                | As agreed by Participants e.g.. 27% ( for indicative purposes as payoff is linked to variance and not volatility)   |
| <b>Variance Strike</b>                  | As agreed by Participants e.g.. 729 (volatility strike) <sup>2</sup>  |

|                                 |  |
|---------------------------------|--|
| <b>Variance (Var) Units</b>     | As agreed by Participants e.g. 925.93 Vega Notional / (2x Volatility strike)   |
| <b>Variance Cap ?</b>           | YES/NO if YES e.g. (2.5 x vol strike)^2 (Notes: limits the profit/loss to defined maximum)   |
| <b>Realized Volatility (RV)</b> | $\sigma_{realized} = \sqrt{252} \cdot \sqrt{\frac{\sum_{i=1}^m \left( LN \left( \frac{C_{i+1}}{C_i} \right)^2 \right)}{n}} \cdot 10000$ <p><i>m equals n, unless there is a market disruption event</i></p> <p><i>C<sub>i</sub> equals the daily closing price of the Underlying Equity on the i<sup>th</sup> business day starting on the day following Trade Date (i=2), and C<sub>m</sub> shall be equal to the Closing Level of the Underlying Equity on the Final Valuation Date. If the Final Valuation Date is a listed option expiration date, then C<sub>m</sub> is equal to the expiration print.</i></p> <p><i>Business Days per Year = 252</i></p> |
| <b>Settlement</b>               | <p>Cash settlement of:</p> <p>For Var Buyer: Variance Units X MAX [0, Variance strike – Volatility^2]</p> <p>Var Seller: Variance Units X MAX [0, Volatility^2 - Variance strike]</p> <p>Occurs following the Final Valuation Date in accordance with underlying equity index convention</p>   |
| <b>Business Day Convention</b>  | As agreed by Participants  |
| <b>Quote Convention</b>         | Volatility % points, Variance % Points   |
| <b>Trade Types</b>              | <p>Outright : Long or short variance/volatility of an underlying index from start date to maturity</p> <p>Forward Starting : Long or short variance/volatility over a defined future period</p> <p>Spreads: Take a view on the variance/volatility difference between two indices by buying variance/volatility on one index and selling variance/volatility on the other, either spot or forward starting</p>   |
| <b>Market Disruption</b>        | Refer to ISDA 2002 Equity Definitions  |
| <b>Tenors</b>                   | As agreed by Participants, 1 day to 10 Years   |

*Volatility and variance swaps are based upon highly liquid and transparent underlying indices with well-defined and accepted closing prices for the calculation of volatility and consequently the payoff of volatility/variance swap. The terms of the contract and the calculation algorithm are very well defined prior to a transaction so making the product resilient to price manipulation.*

# Non Deliverable Forwards

## Non Deliverable Forward

An NDF is a foreign exchange forward contract on a notional amount where no physical settlement of the two currencies takes place at maturity. Instead a net cash settlement is made by one party to another based on the difference of the two FX rates. The settlement is done using a pre-determined currency, typically USD, and is determined at an agreed fixing date, typically 1 or 2 days prior to settlement, using spot fixing rates. There is no exchange of principle or upfront payments on these contracts.

| NDF                           |  |
|-------------------------------|--|
| <b>Convention Definitions</b> | Emerging Market Trade Association ( <a href="http://www.emta.org/template.aspx?id=2275">http://www.emta.org/template.aspx?id=2275</a> ), 2006 ISDA Definitions |

|                          |   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
|--------------------------|---|-----|------------------|-----|-------------------|-----|--------------|-----|------------------|-----|-------------------|-----|-----------------|-----|---------------|-----|---------------|-----|----------------|-----|---------------|-----|--------------|-----|----------------|-----|----------------|-----|--------------|-----|----------------|-----|--------------------|-----|--------------------|-----|----------------|-----|--------------------|-----|------------------|-----|-------------|
| <b>Currencies</b>        | <p>One of the following currencies, as agreed by Participants:</p> <table border="1" data-bbox="418 195 786 1375"> <tr><td>CNY</td><td>Chinese Renminbi</td></tr> <tr><td>IDR</td><td>Indonesian Rupiah</td></tr> <tr><td>INR</td><td>Indian Rupee</td></tr> <tr><td>KRW</td><td>South Korean Won</td></tr> <tr><td>MYR</td><td>Malaysian Ringgit</td></tr> <tr><td>PHP</td><td>Philippine Peso</td></tr> <tr><td>TWD</td><td>Taiwan Dollar</td></tr> <tr><td>VND</td><td>Vietnamese ng</td></tr> <tr><td>EGP</td><td>Egyptian pound</td></tr> <tr><td>RUB</td><td>Russian ruble</td></tr> <tr><td>KZT</td><td>Kazakh tenge</td></tr> <tr><td>ARS</td><td>Argentine Peso</td></tr> <tr><td>BRL</td><td>Brazilian Real</td></tr> <tr><td>CLP</td><td>Chilean Peso</td></tr> <tr><td>COP</td><td>Colombian Peso</td></tr> <tr><td>GTQ</td><td>Guatemalan quetzal</td></tr> <tr><td>PEN</td><td>Peruvian nuevo sol</td></tr> <tr><td>UYU</td><td>Uruguayan peso</td></tr> <tr><td>VEB</td><td>Venezuelan bolívar</td></tr> <tr><td>UAH</td><td>Ukranian hryvnia</td></tr> <tr><td>AZN</td><td>Azeri manta</td></tr> </table> | CNY | Chinese Renminbi | IDR | Indonesian Rupiah | INR | Indian Rupee | KRW | South Korean Won | MYR | Malaysian Ringgit | PHP | Philippine Peso | TWD | Taiwan Dollar | VND | Vietnamese ng | EGP | Egyptian pound | RUB | Russian ruble | KZT | Kazakh tenge | ARS | Argentine Peso | BRL | Brazilian Real | CLP | Chilean Peso | COP | Colombian Peso | GTQ | Guatemalan quetzal | PEN | Peruvian nuevo sol | UYU | Uruguayan peso | VEB | Venezuelan bolívar | UAH | Ukranian hryvnia | AZN | Azeri manta |
| CNY                      | Chinese Renminbi  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| IDR                      | Indonesian Rupiah   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| INR                      | Indian Rupee  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| KRW                      | South Korean Won  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| MYR                      | Malaysian Ringgit   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| PHP                      | Philippine Peso   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| TWD                      | Taiwan Dollar   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| VND                      | Vietnamese ng   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| EGP                      | Egyptian pound  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| RUB                      | Russian ruble   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| KZT                      | Kazakh tenge  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| ARS                      | Argentine Peso  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| BRL                      | Brazilian Real  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| CLP                      | Chilean Peso  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| COP                      | Colombian Peso  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| GTQ                      | Guatemalan quetzal  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| PEN                      | Peruvian nuevo sol  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| UYU                      | Uruguayan peso  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| VEB                      | Venezuelan bolívar  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| UAH                      | Ukranian hryvnia  |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| AZN                      | Azeri manta   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| <b>Notional</b>          | The notional amount of the contract, which is not exchanged   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |
| <b>Notional Currency</b> | The currency in which the contract size is expressed, as agreed by Participants   |     |                  |     |                   |     |              |     |                  |     |                   |     |                 |     |               |     |               |     |                |     |               |     |              |     |                |     |                |     |              |     |                |     |                    |     |                    |     |                |     |                    |     |                  |     |             |

|   |   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
|---|---|-----|-----------|-----|-------------------|-----|-----------------|-----|-------------|-----|------|-----|---------------|-----|--------------|
| <b>Settlement Currency</b>                      | <p>The currency used to settle the NDF, as agreed by Participants.</p> <table border="1" data-bbox="418 195 727 583"> <tr> <td>USD</td> <td>US Dollar</td> </tr> <tr> <td>AUD</td> <td>Australian Dollar</td> </tr> <tr> <td>CAD</td> <td>Canadian Dollar</td> </tr> <tr> <td>CHF</td> <td>Swiss Franc</td> </tr> <tr> <td>EUR</td> <td>Euro</td> </tr> <tr> <td>GBP</td> <td>British Pound</td> </tr> <tr> <td>JPY</td> <td>Japanese Yen</td> </tr> </table> | USD | US Dollar | AUD | Australian Dollar | CAD | Canadian Dollar | CHF | Swiss Franc | EUR | Euro | GBP | British Pound | JPY | Japanese Yen |
| USD   | US Dollar   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| AUD   | Australian Dollar   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| CAD   | Canadian Dollar   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| CHF   | Swiss Franc   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| EUR   | Euro  |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| GBP   | British Pound   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| JPY   | Japanese Yen  |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Quoting Convention and Minimum Increment</b> | <ul style="list-style-type: none"> <li>• Outright forward rate: the number of currency units as valued per unit of base currency</li> <li>• Spread: the difference between the Spot FX for the currency pair and the outright forward rate (as above)</li> <li>• Notional amount and minimum increment as agreed by Participants</li> </ul>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Trade Date</b>                               | <p>The date on which the Participants enter into the contract</p>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Fixing Date</b>                              | <p>The time, date, and location at which the Spot FX is compared to the traded NDF rate, using a particular fixing source as agreed between Participants</p>  |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Holiday Calendar</b>                         | <p>Dependent upon Currencies as defined by the Emerging Market Trade Association, or as agreed between Participants</p>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Settlement Date</b>                          | <p>Date on which the difference between the Spot FX and the traded NDF rate is paid, usually one or two business days after the Fixing Date depending on the currency, as agreed between Participants</p>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Settlement Procedure</b>                     | <ul style="list-style-type: none"> <li>• As agreed between Participants for non-cleared trades</li> <li>• As dictated by the Clearinghouse for trades subsequently novated for clearing</li> </ul>  |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Contract Types:</b>                          | <ul style="list-style-type: none"> <li>• Outrights</li> <li>• Curve (Tenor)</li> <li>• Spreads, Butterflies, Condors</li> </ul>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Tenors</b>                                   | <ul style="list-style-type: none"> <li>• Listed benchmark tenors are 1d 2d 3d 1w 2w 3w 1m 2m 3m 6m 9m 12m 15m 18m 2y ½y 3y 4y 5y</li> <li>• As agreed between Participants, off the run NDF contract tenors may be between 1 day and 10 years.</li> </ul>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Block Size</b>                               | <p>As set forth in Appendix F to Part 43 of the CFTC Regulations.</p>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Trading Hours</b>                            | <p>7:00 pm to 5:30 pm EST, Sunday to Friday</p>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Disruption Events:</b>                       | <p>As set forth in the EMTA TEMPLATE TERMS for Non-Deliverable Forward FX Transactions applicable to the Reference Currency <a href="http://www.emta.org/ndfft.aspx">http://www.emta.org/ndfft.aspx</a></p>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |
| <b>Disruption Fallbacks:</b>                    | <p>As set forth in the EMTA TEMPLATE TERMS for Non-Deliverable Forward FX Transactions applicable to the Reference Currency <a href="http://www.emta.org/ndfft.aspx">http://www.emta.org/ndfft.aspx</a></p>   |     |           |     |                   |     |                 |     |             |     |      |     |               |     |              |



|                     |  |
|---------------------|--|
| <b>Other Terms:</b> | As set forth in the EMTA TEMPLATE TERMS for Non-Deliverable Forward FX Transactions applicable to the Reference Currency <a href="http://www.emta.org/ndfft.aspx">http://www.emta.org/ndfft.aspx</a> |
|---------------------|--|

## Currency Options

### FX Currency Options

An FX option offers the right but not the obligation to buy or sell an agreed amount of one currency in exchange for an agreed amount of another currency at a specified future exchange rate (the strike price). An FX option may be either "European", whereby the right to exchange may occur only on a single date (the expiry date) or "American" whereby the right to exchange may occur on any date up to and including the expiration date as determined by the option buyer. Settlement of an "in-the-money" option is typically 1 or 2 days following the agreed expiry date. Settlement may be physical where a spot transaction at the strike price is executed or also cash, where participants exchange the net cash difference between the prevailing spot rate and the strike price.

| FX Option                     |   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
|-------------------------------|---|-----|-----------|-----|------|-----|---------------|-----|--------------|-----|-----------------|-----|-------------|-----|-------------------|
| <b>Contract Overview</b>      | <b>An option to enter into a foreign exchange contract at pre-defined time(s), with its exchange rate equal to the Strike.</b>  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Convention Definitions</b> | <ul style="list-style-type: none"> <li>1998 ISDA FX and Currency Option Definitions as updated (<a href="http://www.emta.org/WorkArea/DownloadAsset.aspx?id=7743">http://www.emta.org/WorkArea/DownloadAsset.aspx?id=7743</a>)</li> <li>Emerging Market Trade Association (<a href="http://www.emta.org/template.aspx?id=2275">http://www.emta.org/template.aspx?id=2275</a>)</li> </ul>  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Currencies</b>             | FX Rates between any two currencies as agreed between participants and listed in Appendix B but mostly including: <table border="1" data-bbox="316 1234 630 1766"> <tbody> <tr> <td>USD</td> <td>US Dollar</td> </tr> <tr> <td>EUR</td> <td>Euro</td> </tr> <tr> <td>GBP</td> <td>British Pound</td> </tr> <tr> <td>JPY</td> <td>Japanese Yen</td> </tr> <tr> <td>CAD</td> <td>Canadian Dollar</td> </tr> <tr> <td>CHF</td> <td>Swiss Franc</td> </tr> <tr> <td>AUD</td> <td>Australian Dollar</td> </tr> </tbody> </table> | USD | US Dollar | EUR | Euro | GBP | British Pound | JPY | Japanese Yen | CAD | Canadian Dollar | CHF | Swiss Franc | AUD | Australian Dollar |
| USD                           | US Dollar   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| EUR                           | Euro  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| GBP                           | British Pound   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| JPY                           | Japanese Yen  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| CAD                           | Canadian Dollar   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| CHF                           | Swiss Franc   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| AUD                           | Australian Dollar   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Notional Amount</b>        | The notional amount of the base currency of the FX pair underlying the option   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |

|  |   |
|--|---|
| <b>Notional Currency</b>                         | The base currency in which the option contract size is expressed, as agreed by Participants   |
| <b>Option Type</b>                               | <ul style="list-style-type: none"> <li>• Put = Option buyer has the right to sell the exchange rate (e.g. selling USD, buying a second currency)</li> <li>• Call = Option buyer has the right to buy the exchange rate (e.g. buying USD, selling a second currency)</li> </ul>  |
| <b>Quoting Convention and Minimum Increment:</b> | <ul style="list-style-type: none"> <li>• Implied Volatility: the value of the volatility of the underlying instrument which returns a theoretical value equal to the current market price of the option using a Garman Kohlhagen adjusted Black-Scholes pricing model</li> <li>• Options Contracts may be traded with an underlying FX Trade delta hedge, either spot or forward dated, or may be traded with no hedge where bids and offers are expressed as percentage of notional (the premium payable), as agreed between Participants.</li> <li>• Where traded as an implied volatility, option premiums are subsequently calculated and agreed between Participants before execution</li> <li>• Minimum Increments Dependent on currency pair and tenor and as agreed between participants</li> </ul> |
| <b>Strike</b>                                    | Rate that will be used for the underlying currency exchange at expiry.  |
| <b>Exercise Type</b>                             | <ul style="list-style-type: none"> <li>• European (options can only be exercised at expiration).</li> <li>• American (any time during the life of the option) and Bermudan style options (agreed dates during the life of the option) may also be traded as agreed between participants.</li> </ul>   |
| <b>Premium</b>                                   | The payment made by the buyer of the option and calculated based on the relationship between: Implied Volatility, Notional, the prevailing spot FX rate, Forward FX, Strike(s), delta and the interbank deposit rates used for each of the currencies at time of trade. Premium may be paid spot or forward upon option expiry and is valued before trade execution and agreed between Participants   |
| <b>Trade Date</b>                                | The date on which the Participants enter into the option contract   |
| <b>Expiry Date</b>                               | The last day upon which the option may be exercised and as agreed between participants, the time, date, and location at which the Spot FX is compared to the strike price of the Currency option for the purposes of the option buyer ascertaining if the option expires with creation of an underlying FX Spot trade at expiry (or cash settlement using a particular FX fixing source as agreed between Participants).  |
| <b>Minimum Size</b>                              | Dependant on currency pair and tenor or as agreed between participants for Voice trading  |
| <b>Holiday Calendar</b>                          | Dependent upon Currencies as agreed between Participants  |
| <b>Settlement</b>                                | <ul style="list-style-type: none"> <li>• As agreed between participants</li> <li>• Physical FX trade settlement</li> <li>• Cash settlement</li> </ul>   |

|                             |   |
|-----------------------------|---|
| <b>Settlement Date</b>      | Date on which the spot FX trade resulting from delivery is settled, or the difference between the spot FX and the strike price of the option is paid where cash settled, one or two business days after the expiry date depending on the currency, as agreed between Participants   |
| <b>Settlement Procedure</b> | As agreed between Participants for non-cleared trades   |
| <b>Contract Types</b>       | <p>Each Currency Option traded is bespoke and agreed between Participants. All option strategies result in Call options and/or Put options executed with the following strategies traded as agreed between Participants:</p> <p><b>Vanilla:</b> Outright Call / Put, Straddle, Strangle, Butterfly, Risk Reversal, Calendar (tenor) spread, Cross Currency Spread, Condor, Call Spread, Put Spread, Live Trading with no delta hedge</p> <p><b>Exotic:</b> Also traded are different bespoke put/call structures agreed between Participants such as Barriers, Baskets, Digitals, Knockins, Knockouts, Reverse Knockins/Knockouts, No Touch, Double No Touch, Average Price, Volatility Swaps, Variance Swaps, Worst of Options, Compound Options, Forward Volatility Agreements: trades may be with or without delta hedges and some structures may also be bilaterally negotiated with additional options as part of the package to form a vega hedge</p> |
| <b>Tenors</b>               | As agreed between Participants, Currency Option contract tenors may be between 1 day and 30 years.  |
| <b>Block Size</b>           | As set forth in Appendix F to Part 43 of the CFTC Regulations.  |
| <b>Trading Hours</b>        | 7:00 pm to 5:30 pm EST, Sunday to Friday  |

## Non-Deliverable FX Options

### Overview

A Non-Deliverable FX option (NDO) offers the right but not the obligation to buy or sell an agreed amount of one currency in exchange for an agreed amount of another currency at a specified future exchange rate (the strike price), but using a net cash settlement made by one party to another based on the difference of the two FX rates (strike price rate and fixing expiry rate). An NDO is typically "European", whereby the right to exercise may occur only on a single date (the expiry date) but may also be "American" as agreed between Participants whereby the right to exercise may occur on any date up to and including the expiration date as determined by the option buyer. Settlement of an "in-the-money" option is typically 1 or 2 days following the agreed expiry date, using the spot FX Fixing rate of expiry date. Settlement is cash, where participants exchange the net cash difference between the prevailing spot rate and the strike price of an exercised NDO.

### Non-Deliverable FX Option (NDO)

|                          |  |
|--------------------------|--|
| <b>Contract Overview</b> | <b>An option to enter into a non-deliverable forward (NDF) foreign exchange contract at pre-defined time(s), with its exchange rate equal to the Strike.</b> |
|--------------------------|--|

**Convention Definitions**

- 2006 ISDA Definitions as updated (<http://www.emta.org/template.aspx?id=2275>)
- Underlying NDFs:- Emerging Market Trade Association (<http://www.emta.org/ndfft.aspx> )

**Currencies**

One of the following currencies from Appendix B, as agreed by Participants

|     |                    |
|-----|--------------------|
| CNY | Chinese Renminbi   |
| IDR | Indonesian Rupiah  |
| INR | Indian Rupee       |
| KRW | South Korean Won   |
| MYR | Malaysian Ringgit  |
| PHP | Philippine Peso    |
| TWD | Taiwan Dollar      |
| VND | Vietnamese ng      |
| EGP | Egyptian pound     |
| RUB | Russian ruble      |
| KZT | Kazakh tenge       |
| ARS | Argentine Peso     |
| BRL | Brazilian Real     |
| CLP | Chilean Peso       |
| COP | Colombian Peso     |
| GTQ | Guatemalan quetzal |
| PEN | Peruvian nuevo sol |
| UYU | Uruguayan peso     |
| VEB | Venezuelan bolívar |
| UAH | Ukranian hryvnia   |
| AZN | Azeri manta        |

|   |  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
|---|--|-----|-----------|-----|------|-----|---------------|-----|--------------|-----|-----------------|-----|-------------|-----|-------------------|
| <b>Notional</b>                                 | The notional amount of the NDF underlying the NDO  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Notional Currency</b>                        | The currency in which the option contract size is expressed, as agreed by Participants   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Settlement Currency</b>                      | <p>The currency used to settle the NDO, as agreed by Participants.</p> <table border="1"> <tr> <td>USD</td> <td>US Dollar</td> </tr> <tr> <td>EUR</td> <td>Euro</td> </tr> <tr> <td>GBP</td> <td>British Pound</td> </tr> <tr> <td>JPY</td> <td>Japanese Yen</td> </tr> <tr> <td>CAD</td> <td>Canadian Dollar</td> </tr> <tr> <td>CHF</td> <td>Swiss Franc</td> </tr> <tr> <td>AUD</td> <td>Australian Dollar</td> </tr> </table>  | USD | US Dollar | EUR | Euro | GBP | British Pound | JPY | Japanese Yen | CAD | Canadian Dollar | CHF | Swiss Franc | AUD | Australian Dollar |
| USD   | US Dollar  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| EUR   | Euro   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| GBP   | British Pound  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| JPY   | Japanese Yen   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| CAD   | Canadian Dollar  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| CHF   | Swiss Franc  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| AUD   | Australian Dollar  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Notional Amount</b>                          | The notional amount of the settlement currency of the NDF pair underlying the option   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Notional Currency</b>                        | The base currency in which the option contract size is expressed, as agreed by Participants  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Option Type</b>                              | <ul style="list-style-type: none"> <li>Put = Option buyer has the right to sell the NDF exchange rate (e.g. selling USD, buying a non-deliverable currency)</li> <li>Call = Option buyer has the right to buy the NDF exchange rate (e.g. buying USD, selling a non-deliverable currency)</li> </ul>   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Quoting Convention and Minimum Increment</b> | <ul style="list-style-type: none"> <li>Implied Volatility: the value of volatility for the underlying instrument which returns a theoretical value equal to the current market price of the option using a Garman Kohlhagen adjusted Black-Scholes pricing model</li> <li>Non-Deliverable Options Contracts may be traded with an underlying delta hedge NDF or may be traded with no hedge where bids and offers are expressed as percentage of notional (the premium payable), as agreed between Participants</li> <li>Where traded as an implied volatility, NDO premiums are subsequently calculated and agreed between Participants before execution</li> <li>Minimum Increments Dependent on currency pair and tenor and as agreed between participants</li> </ul> |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Strike</b>                                   | Rate that will be used for the underlying currency exchange at expiry.   |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |
| <b>Exercise Type</b>                            | <ul style="list-style-type: none"> <li>European (options can only be exercised at expiration).</li> <li>American (any time during the life of the option) and Bermudan style options (agreed dates during the life of the option) may also be traded as agreed between participants.</li> </ul>  |     |           |     |      |     |               |     |              |     |                 |     |             |     |                   |

|                                      |   |
|--------------------------------------|---|
| <b>Premium</b>                       | The payment made by the buyer of the option and calculated based on the relationship between: Implied Volatility, Notional, the prevailing spot FX rate, Non-Deliverable Forward FX rate, Strike(s), delta and the interbank deposit rates used for each of the currencies at time of trade. Premium may be paid spot or forward upon option expiry, as agreed between Participants   |
| <b>Trade Date</b>                    | The date on which the Participants enter into the option contract   |
| <b>Expiry Date (NDO Fixing date)</b> | The last day upon which the option may be exercised and as agreed between participants, the time, date, and location at which the Spot FX is compared to the strike price of the NDO for the purposes of ascertaining if the option expires via settlement of an underlying NDF trade at expiry, using a particular fixing source as agreed between Participants  |
| <b>Minimum Size</b>                  | Dependant on currency pair and tenor or as agreed between participants  |
| <b>Holiday Calendar</b>              | Dependent upon Currencies as defined by the Emerging Market Trade Association (viewed at <a href="http://www.emta.org/template.aspx?id=2275">http://www.emta.org/template.aspx?id=2275</a> ), or as agreed between Participants   |
| <b>Settlement Procedure</b>          | As agreed between participants  |
| <b>Settlement Date</b>               | Date on which the spot FX trade resulting from delivery is settled, or the difference between the spot FX and the strike price of the option is paid where cash settled, one or two business days after the expiry date depending on the currency, as agreed between Participants   |
| <b>Settlement Procedure</b>          | As agreed between Participants for non-cleared trades   |
| <b>Contract Types</b>                | <p>Each NDO traded is bespoke and agreed between Participants. All option strategies result in Call options and/or Put options executed with the following strategies commonly traded:</p> <p><b>Vanilla:</b> Outright Call / Put, Straddle, Strangle, Butterfly, Risk Reversal, Calendar (tenor) spread, Cross Currency Spread, Condor, Call Spread, Put Spread, Live Trading with no delta hedge</p> <p><b>Exotic:</b> Also traded are different bespoke put/call structures agreed between Participants such as Barriers, Baskets, Digitals, Knockins, Knockouts, Reverse Knockins/Knockouts, No Touch, Double No Touch, Average Price, Volatility Swaps, Variance Swaps, Worst of Options, Compound Options, Forward Volatility Agreements: trades may be with or without delta hedges and some structures may also be bilaterally negotiated with additional options as part of the package to form a vega hedge</p> |
| <b>Tenors</b>                        | As agreed between Participants, NDO contract tenors may be between 1 day and 30 years.  |
| <b>Block Size</b>                    | As set forth in Appendix F to Part 43 of the CFTC Regulations.  |
| <b>Trading Hours</b>                 | 7:00 pm to 5:30 pm EST, Sunday to Friday  |
| <b>Additional Terms:</b>             | Applicable Non-Deliverable Currency Option Transactions covered by recommended EMTA TEMPLATE TERMS:-  |

|                              |  |
|------------------------------|--|
| <b>Disruption Events:</b>    | As set forth in the EMTA TEMPLATE TERMS for Non-Deliverable Currency Option Transactions applicable to the Reference Currency: <a href="http://www.emta.org/ndfft.aspx">http://www.emta.org/ndfft.aspx</a> |
| <b>Disruption Fallbacks:</b> | As set forth in the EMTA TEMPLATE TERMS for Non-Deliverable Currency Option Transactions applicable to the Reference Currency: <a href="http://www.emta.org/ndfft.aspx">http://www.emta.org/ndfft.aspx</a> |
| <b>Other Terms:</b>          | As set forth in the EMTA TEMPLATE TERMS for Non-Deliverable Currency Option Transactions applicable to the Reference Currency: <a href="http://www.emta.org/ndfft.aspx">http://www.emta.org/ndfft.aspx</a> |

## Appendices

- [Appendix A - Business Day \(Date\) Conventions](#)
- [Appendix B - Currencies and Holiday Centers](#)
- [Appendix C - Conventions Used](#)
- [Appendix D - General Definitions](#)
- [Appendix E - Market Fixing Indices](#)
- [Appendix F - Interest Rate Swap & Option Tenors \(Super-Major Currencies\)](#)

### Appendix A - Business Day (Date) Conventions) Conventions

| <b>Business Day (Date) Conventions</b> |  |
|--|--|
| Following                              | The first following day that is a good Business Day  |
| Modified Following                     | The first following day that is a good Business Day unless that day falls in the next calendar month, in which case the first preceding good Business Day  |
| Preceding                              | The first preceding day that is a good Business Day  |
| End/End                                | If the Start (Effective) Date falls on the last calendar day of the month, then each successive roll date shall also fall on the last day of the relevant month, subject to Modified Following convention. |

### Appendix B - Currencies and Holiday Centers

As per the CTFC definitions, the following currencies are listed by product group:

| <b>Currency Group</b> | <b>Currencies - Interest Rate Swaps</b>   |
|-----------------------|---|
| <b>Super-Major</b>    | United States dollar (USD), European Union Euro Area euro (EUR), United Kingdom pound sterling (GBP) and Japan yen (JPY).   |
| <b>Major</b>          | Australia dollar (AUD), Switzerland franc (CHF), Canada dollar (CAD), Republic of South Africa rand (ZAR), Republic of Korea won (KRW), Kingdom of Sweden krona (SEK), New Zealand dollar (NZD), Kingdom of Norway krone (NOK), and Denmark krone (DKK) |

|                  |                       |
|------------------|-----------------------|
| <b>Non-Major</b> | All other currencies. |
|------------------|-----------------------|

**i** For Interest Rate Swaps, all Super-Major or Major currency Spot (Effective) Dates are T+2 except for: GBP (T+0), CAD (T+0) and AUD (T+1)

| <b>Currency Code</b> | <b>Description</b>   | <b>Financial Centre</b> |
|----------------------|--|-------------------------|
| AED                  | <b>Emirati Dirham</b> and "AED" each refer to the legal currency of the United Emirates                                      | Abu Dhabi               |
| AFN                  | <b>Afghani Afghani</b> and "AFN" each refer to the legal currency of Afghanistan   | Kabul                   |
| AMD                  | <b>Armenian Dram</b> and "AMD" each refer to the legal currency of Armenia   | Yerevan                 |
| AZN                  | <b>Azeri Manta</b> and "AZN" each refer to the legal currency of the Azerbaijan Republic                                     | Baku                    |
| ANG                  | <b>Netherlands Antilles Guilder</b> and "ANG" each refer to the legal currency of the Netherlands Antilles                   | Willemstad              |
| ARS                  | <b>Argentine Peso</b> and "ARS" each refer to the legal currency of the Argentine Republic.                                  | Buenos Aires            |
| AUD                  | <b>Australian Dollar</b> , "A\$" and "AUD" each refer to the legal currency of Australia.                                    | Sydney                  |
| AWG                  | <b>Aruban Guilder</b> and "AWG" each refer to the legal currency of Aruba  | Oranjestad              |
| BGN                  | <b>Bulgarian Lev</b> and "BGN" each refer to the legal currency of Bulgaria  | Sofia                   |
| BHD                  | <b>Bahraini Dinar</b> and "BHD" each refer to the legal currency of Bahrain  | Al Manamah              |
| BIF                  | <b>Burundian Franc</b> and "BIF" each refer to the legal currency of Burundi   | Bujumbura               |
| BND                  | <b>Bruneian Dollar</b> and "BND" each refer to the legal currency of Brunei  | Bander Seri Begawan     |
| BRL                  | <b>Brazilian Real</b> , "Brazilian Reais" and "BRL" each refer to the legal currency of the Federative Republic of Brazil.   | São Paulo               |
| CAD                  | <b>Canadian Dollar</b> , "C\$" and "CAD" each refer to the legal currency of Canada.   | Toronto                 |
| CHF                  | <b>Swiss Franc</b> , "Sfr", "CHF" and "SWF" each refer to the legal currency of Switzerland.                                 | Zürich                  |
| CLP                  | <b>Chilean Peso</b> and "CLP" each refer to the legal currency of the Republic of Chile.                                     | Santiago                |
| CNY                  | <b>Chinese Renminbi (Yuan)</b> , "CNY" and "RMB" each refer to the legal currency of the People's Republic of China.         | Beijing                 |
| CNH                  | <b>Hong Kong Delivered Chinese Renminbi (Yuan)</b> , CNH each refer to the legal currency of the People's Republic of China. | Hong Kong               |
| COP                  | <b>Columbian Peso</b> and "COP" each refer to the legal currency of Colombia   | Bogotá                  |
| CRC                  | <b>Costa Rican Colon</b> and "CRC" each refer to the legal currency of Costa Rica  | San Jose                |



|     |   |                |
|-----|---|----------------|
| CUP | <b>Cuban Peso</b> and "CUP" each refer to the legal currency of Cuba  | Havana         |
| CZK | <b>Czech Koruna</b> and "CZK" each refer to the legal currency of the Czech Republic.   | Prague         |
| DKK | <b>Danish Krone</b> , "DKr" and "DKK" each refer to the legal currency of the Kingdom of Denmark.   | Copenhagen     |
| EUR | <b>Euro</b> , "euro", "€" and "EUR" each refer to the legal currency of the member states of the European Union that have adopted the single currency in accordance with the EC Treaty. | TARGET         |
| EGP | <b>Egyptian Pound</b> and "EGP" each refer to the legal currency of the Arab Republic of Egypt  | Cairo          |
| GEL | Georgian Lari and "GEL" each refer to the legal currency of Georgia   | Tbilisi        |
| GTQ | <b>Guatemalan Quetzal</b> and "GTQ" each refer to the legal currency of the Republic of Guatemala   | Guatemala City |
| GBP | <b>Sterling</b> , "£", "GBP" and "STG" each refer to the legal currency of the United Kingdom.  | London         |
| HKD | <b>Hong Kong Dollar</b> , "HK\$" and "HKD" each refer to the legal currency of Hong Kong.   | Hong Kong      |
| HUF | <b>Hungarian Forint</b> and "HUF" each refer to the legal currency of the Republic of Hungary.  | Budapest       |
| INR | <b>Indian Rupee</b> and "INR" each refer to the legal currency of India.  | Mumbai         |
| IDR | <b>Indonesian Rupiah</b> and "IDR" each refer to the legal currency of the Republic of Indonesia.   | Jakarta        |
| ILS | <b>Israeli Shekel</b> and "ILS" each refer to the legal currency of the State of Israel.  | Tel Aviv       |
| ISK | <b>Icelandic Krona</b> and "ISK" each refer to the legal currency of Iceland  | Reykjavik      |
| JPY | <b>Japanese Yen</b> , "Yen", "¥" and "JPY" each refer to the legal currency of Japan.   | Tokyo          |
| KRW | <b>Korean Won</b> and "KRW" each refer to the legal currency of the Republic of Korea.  | Seoul          |
| KWD | <b>Kuwaiti Dinar</b> and "KWD" each refer to the legal currency of the State of Kuwait  | Kuwait City    |
| LBP | <b>Lebanese Pound</b> and "LBP" each refer to the legal currency of the Republic of Lebanon.  | Beirut         |
| LKR | <b>Sri Lankan Rupee</b> and "LKR" each refer to the legal currency of the Democratic Socialist Republic of Sri Lanka.   | Colombo        |
| KZT | <b>Kazakhstani Tenge</b> and "KZT" each refer to the legal currency of Kazakhstan   | Almaty         |
| MXN | <b>Mexican Peso</b> , "MXN" and "MXP" each refer to the legal currency of the United Mexican States.  | Mexico City    |

|     |   |                       |
|-----|---|-----------------------|
| MYR | <b>Malaysian Ringgit</b> and “MYR” each refer to the legal currency of the Federation of Malaysia.  | Kuala Lumpur          |
| NOK | <b>Norwegian Krone</b> , “Nkr” and “NOK” each refer to the legal currency of the Kingdom of Norway.   | Oslo                  |
| NZD | <b>New Zealand Dollar</b> , “NZ\$” and “NZD” each refer to the legal currency of New Zealand.   | Wellington & Auckland |
| PEN | <b>Peruvian Nuevo Sol</b> and “PEN” each refer to the legal currency of Peru  | Lima                  |
| PHP | <b>Philippine Peso</b> and “PHP” each refer to the legal currency of the Republic of the Philippines.   | Manila                |
| PKR | <b>Pakistani Rupee</b> and “PKR” each refer to the legal currency of the Islamic Republic of Pakistan.  | Karachi               |
| PLN | <b>Polish Zloty</b> and “PLN” each refer to the legal currency of the Republic of Poland.   | Warsaw                |
| QAR | <b>Qatari Riyal</b> and “QAR” each refer to the legal currency of the State of Qatar.   | Doha                  |
| RON | <b>Romanian Leu</b> . “Romanian Leu” and “RON” each refer to the legal currency of Romania.   | Bucharest             |
| RUB | <b>Russian Ruble</b> . “Russian Ruble”, “Russian Rouble”, “RUR” and “RUB” each refer to the legal currency of the Russian Federation.   | Moscow                |
| SAR | <b>Saudi Arabian Riyal</b> . “Saudi Arabian Riyal”, “Saudi Riyal”, “Saudi Arabian Rial”, “SAR” and “Riyal” refer to the legal currency of the Kingdom of Saudi Arabia.  | Riyadh                |
| SEK | <b>Swedish Krona</b> . “Swedish Krona”, “SKr” and “SEK” each refer to the legal currency of the Kingdom of Sweden.  | Stockholm             |
| SGD | <b>Singapore Dollar</b> . “Singapore Dollar”, “S\$” and “SGD” each refer to the legal currency of the Republic of Singapore.  | Singapore             |
| SKK | <b>Slovak Koruna</b> . “Slovak Koruna” and “SKK” each refer to the legal currency of the Slovak Republic.   | Bratislava            |
| THB | <b>Thai Baht</b> . “Thai Baht” and “THB” each refer to the legal currency of the Kingdom of Thailand.   | Bangkok               |
| TND | <b>Tunisian Dinar</b> and “TND” each refer to the legal currency of Tunisia   | Tunis                 |
| TRY | <b>Turkish Lira</b> . “Turkish Lira” and “TRY” each refer to the legal currency of the Republic of Turkey. “New Turkish Lira” means, in respect of a Swap Transaction with a Trade Date prior to the date upon which the Republic of Turkey ceases officially to use the prefix “New” in relation to the currency introduced on 1 January 2005, the legal currency of the Republic of Turkey. | Istanbul              |

|     |  |              |
|-----|--|--------------|
| TWD | <b>Taiwanese Dollar.</b> "Taiwanese Dollar", "New Taiwanese Dollar" and "TWD" each refer to the legal currency of the Republic of China. | Taipei       |
| UAH | <b>Ukrainian Hryvnia</b> and "UAH" each refer to the legal currency of the REpublic of Ukraine   | Kiev         |
| UYU | <b>Uruguayan Peso</b> and "UYU" each refer to the legal currency of the Eastern Republic of Uruguay                                      | Montevideo   |
| USD | <b>U.S. Dollar.</b> "U.S. Dollar", "Dollar", "U.S.\$", "\$" and "USD" each refer to the legal currency of the United States of America.  | New York     |
| UZS | <b>Uzbekistani Som</b> and "UZS" each refer to the legal currency of the legal currency of Uzbekistan                                    | Tashkent     |
| VND | <b>Vietnamese Dong.</b> "Vietnamese Dong" and "VND" each refer to the legal currency of the Socialist Republic of Vietnam.               | Hanoi        |
| ZAR | <b>South African Rand.</b> "South African Rand", "Rand", "R" and "ZAR" each refer to the legal currency of the Republic of South Africa. | Johannesburg |

## Appendix C - Conventions Used

### Day Count Convention

- ACT360
- ACT365F
- ACTACT\_ISMA
- ACTACT\_BOND
- ACTACT\_ISDA
- ACTACT\_HISTORICAL
- ACTACT\_ACTUAL365,
- ACTACT\_AFB,
- ACTACT\_EURO
- BUSINESS252
- ONE
- SIMPLE
- THIRTY360\_USA
- THIRTY360\_BONDBASIS
- THIRTY360\_EUROPEAN
- THIRTY360\_EUROBONDBASIS
- THIRTY360\_ITALIAN
- NOADJUSTMENT

## Appendix D - General Definitions

### General Definitions

Basis point - 1 bp = 0.01%

## Appendix E - Market Fixing Indices

| <i>Interbank Indices</i> | Description                       | Currencies                      | Day Count   | Fixings Calendar                               |
|--------------------------|-----------------------------------|---------------------------------|---|--|
| BBA LIBOR                | London Interbank Offered Rate     | USD<br>JPY<br>CHF<br>GBP<br>EUR | Act/360<br>Act/360<br>Act/360<br>Act/365<br>Act/365 | London<br>London<br>London<br>London<br>London |
| EURIBOR                  | Euro Interbank Offered Rate       | EUR                             | Act/360   | TARGET   |
| SOFR                     | Secured Overnight Financing Rate  | USD                             | Act/360   | New York                                       |
| BSBY                     | Bloomberg Short-Term Yield Index  | USD                             | Act/360   | New York                                       |
| MUNIPSA                  | SIFMA Municipal Swap Index Yield  | USD                             | Act/Act   | New York                                       |
| CDOR                     | Canada Bankers Acceptances        | CAD                             | Act/365   | Toronto  |
| TIBOR                    | Euro Yen Tibor Fixing Rates       | JPY                             | Act/365   | Tokyo  |
| STIBOR                   | Stockholm Interbank Offered Rates | SEK                             | Act/360   | Stockholm                                      |
| EIBOR                    | Emirates Interbank Offer Rate     | AED                             | Act/360   | Abu Dhabi                                      |
| APDRC                    | ARS Deposit                       | ARS                             | Act/360   | Buenos Aires                                   |

|          |  |     |         |                         |
|----------|--|-----|---------|-------------------------|
| ADBB     | AUD Bank Bills   | AUD | Act/365 | Sydney                  |
| SOFIBOR  | Bulgaria SOFIBOR   | BGN | Act/360 | Sofia                   |
| BHIBOR   | Bahrain Association of Banks BHIBOR Rate - ASK           | BHD | Act/360 | Al Manamah              |
| CLICP    | Sinacofi Chile Interbank Rate Avg (CAMARA)               | CLP | Act/360 | Santiago                |
| CNRR     | China Fixing Repo Rates                                  | CNY | Act/365 | Beijing                 |
| DTF RATE | Colombia DTF Rate  | COP | Act/360 | Bogotá                  |
| PRIBOR   | Czech Interbank Offered Rates                            | CZK | Act/360 | Prague                  |
| CIBO     | Copenhagen Interbank Offered Rates                       | DKK | Act/360 | Copenhagen              |
| HIBOR    | HKAB Hong Kong Interbank Offered Rates                   | HKD | Act/365 | Hong Kong               |
| BUBOR    | Budapest Interbank Offered Rates                         | HUF | Act/360 | Budapest                |
| BITD     | Bank Indonesia Term Deposit                              | IDR | Act/360 | Jakarta                 |
| TELBOR   | Tel Aviv Interbank Offered Rate                          | ILS | Act/365 | Tel Aviv                |
| REIBOR   | Central Bank of Iceland ISK REIBOR Interest Rates Fixing | ISK | Act/360 | Reykjavik               |
| KWCDC    | KRW Certificate of Deposit                               | KRW | Act/365 | Seoul                   |
| KIBOR    | Kuwait Interbank Rate                                    | KWD | Act/365 | Kuwait City             |
| MXIBTIE  | Mexico Interbank TIE 28 Day                              | MXN | Act/360 | Mexico City             |
| KLIB     | Klibor Interbank Offered Rate Fixing                     | MYR | Act/365 | Kuala Lumpur            |
| NIBOR    | Norway Interbank Offered Rate Fixing                     | NOK | Act/360 | Oslo                    |
| NDBB     | NZD Bank Bill  | NZD | Act/365 | Wellington and Auckland |
| PHIREF   | Philippines Interbank Reference Rate PHIREF at 1130am    | PHP | Act/360 | Manila                  |
| PKDP     | State Bank of Pakistan KIBOR Fixing                      | PKR | Act/365 | Karachi                 |
| WIBR     | Warsaw Interbank Offered Rates.                          | PLN | Act/365 | Warsaw                  |
| QRIFR    | QIBOR Fixing 3 Month Rate                                | QAR | Act/360 | Doha                    |
| BUBR     | Romania ROBOR  | RON | Act/360 | Bucharest               |
| MOSKP    | MosPrime Rate  | RUB | Act/Act | Moscow                  |
| SAIB     | Saudi Riyal Interbank Average Offered Rate               | SAR | Act/360 | Riyadh                  |
| SORF     | Association of Banks in Singapore Swap Offer Rate Fixing | SGD | Act/365 | Singapore               |
| THFX     | Bloomberg Thailand Fixing Rate                           | THB | Act/365 | Bankok                  |
| TRLIB    | Bank Association of Turkey TRLIBOR Rates                 | TRY | Act/360 | Istanbul                |

|                    |   |                   |                  |                         |
|--------------------|---|-------------------|------------------|-------------------------|
| TDSF               | TDCC Taiwan Depository & Clearing Corp Secondary Mkt  | TWD               | Act/365          | Taipei                  |
| VIFOR              | Bloomberg Vietnam Onshore Forward Fixings 3 Month   | TWD               | Act/360          | Hanoi                   |
| JIBA               | South Africa Johannesburg Interbank Agreed Rate   | ZAR               | Act/365          | Johannesburg            |
|                    |   |                   |                  |                         |
| <b>OIS Indices</b> | <b>Description</b>  | <b>Currencies</b> | <b>Day Count</b> | <b>Fixings Calendar</b> |
| SONIO/A            | Sterling Overnight Index Average  | GBP               | Act/365          | London                  |
| RONIA              | GBP Repo Overnight Index Average  | GBP               | Act/365          | London                  |
| EONIA              | Effective Overnight Index Average Eonia   | EUR               | Act/360          | TARGET                  |
| FEDFUNDS           | Federal Funds Effective Rate US   | USD               | Act/360          | Fed Reserve             |
| SOFR               | Secured Overnight Financing Rate  | USD               | Act/360          | New York                |
| DTCC GCF Repo      | Depository Trust & Clearing Corp (DTCC) General Collateral Finance (GCF) Repurchase Agreement Index | USD               | Act/360          | New York                |
| CAONREPO           | Bank of Canada Overnight Repo Rate (CORRA)soni  | CAD               | Act/365          | Toronto                 |
| TOIS               | Fixing Rate on CHF Tomnext Offered Indexed Swaps  | CHF               | Act/360          | Xurich                  |
| MUTSCALM           | Bank of Japan Estimate Unsecured Overnight Call Rate  | JPY               | Act/365          | Tokyo                   |
| STIB1D             | Stockholm Interbank Offered Rate T/N  | SEK               | Act/360          | Stockholm               |
| APDR1T             | ARS Overnight Deposit   | ARS               | Act/360          | Buenos Aries            |
| RBACOR             | RBA Cash Rate Overnight   | AUD               | Act/365          | Sydney                  |
| SOBRON             | Bulgaria SOFIBOR Rates  | BGN               | Act/360          | Sofia                   |
| BHIBORON           | Bahrain Association of Banks Overnight BHIBOR Rate  | BHD               | Act/360          | Al Manamah              |
| HICNHON            | ON CNH Hong Kong Interbank Offered Rate (CNH Hiber) Fixing  | CNH               | Act/360          | Hong Kong               |
| SHIFON             | Shanghai Interbank Offered Rate Fixing - O/N  | CNY               | Act/360          | Shanghai                |
| COOVIBR            | Colombia IBR Overnight Interbank Reference Rate   | COP               | Act/360          | Bogota                  |
| PRIBOVN            | Czech Interbank Offered Rates O/N   | CZK               | Act/360          | Prague                  |
| DETNT/N            | Denmark Tomorrow/Next   | DKK               | Act/360          | Copenhagen              |
| H\$ONWGHT          | HKFEDBA Hong Kong Overnight Index Swap Reference Rate   | HKD               | Act/365          | Hong Kong               |
| BUBORON            | Budapest Interbank Offered Rates Overnight Index  | HUF               | Act/360          | Budapest                |
| JSORON             | Jakarta Swap Offer Rate Overnight   | IDR               | Act/360          | Jakarta                 |
| NSERO              | India National Stock Exchange NSE Interbank Offer Rate  | INR               | Act/365          | Mumbai                  |
| SEDAONRE           | Central Bank of Iceland ISK REIBOR O/N Intersest Rate Fixing  | ISK               | Act/360          | Reykjavik               |

|          |  |     |         |                         |
|----------|--|-----|---------|-------------------------|
| IWARWAOV | Bank Negara Malaysia Interbank Weighted Avg Rates Overnight    | MYR | Act/365 | Kuala Lumpur            |
| NOBRON   | Norway Overnight Lending Rate Effective Rate                   | NOK | Act/360 | Oslo                    |
| NZOCRS   | New Zealand Official Cash Daily Rate                           | NZD | Act/365 | Wellington and Auckland |
| PZCFPLNI | Polonia Fixing   | PLN | Act/365 | Warsaw                  |
| QRIFROVN | QIBOR Overnight Fixing Rate                                    | QAR | Act/360 | Doha                    |
| BUBRON   | Romania ROBOR Overnight  | RON | Act/360 | Bucharest               |
| RUONIA   | Ruble OverNight Index Average                                  | RUB | Act/Act | Moscow                  |
| SORF1D   | Association of Banks in Singapore Swap Offer Rate Fixing 1 Day | SGD | Act/365 | Singapore               |
| NTON     | Taiwan New Taiwan Dollar Overnight Rate Weighted Avg           | TWD | Act/365 | Taipei                  |
| SAONBOR  | South Africa Benchmark Overnight Rate on deposits (Sabor)      | ZAR | Act/365 | Johannesburg            |

[ [Interbank Indices](#) ] [ [OIS Indices](#) ]

## Appendix F - Interest Rate Swap & Option Tenors (Super-Major Currencies)

- [Vanilla Interest Rate Swaps \(IRS\)](#)
- [Vanilla Overnight Index Swaps \(OIS\)](#)
- [Vanilla Cross-Currency Currency Basis Swaps](#)
- [Forward Rate Agreements \(FRAs\)](#)
- [Interest Rate Swaptions](#)
- [Interest Rate Caps & Floors](#)
- [Inflation Swaps](#)
- [Inflation Caps & Floors](#)

### Vanilla Interest Rate Swaps (IRS)

| Currency | Day Count Conventions | Standard Tenors | Non-Standard Tenors |
|----------|-----------------------|-----------------|---------------------|
|----------|-----------------------|-----------------|---------------------|

|                        |   |  |  |
|------------------------|---|--|--|
| GBP 1w-21m Short-Term  | <ul style="list-style-type: none"> <li>Fixed: Annual Act/365</li> <li>Float: Quarterly Act/365</li> <li>Index: 3m Libor/SOFR (Also A/M 1m Libor)</li> </ul> | 3m 6m 9m 12m 15m 18m 21m, 2y, 2½y, 3y, IMM Dates<br>N.B 1m Libor swaps are also traded usually up to no more than 2y in 1m intervals.  | 1d-60y Any start / end date.<br>As agreed by participants. |
| GBP 6m-60y Medium-Term | <ul style="list-style-type: none"> <li>Fixed: Semi Act/365</li> <li>Float: Semi Act/365</li> <li>Index: 6m Libor/SOFR (Also Q/Q 3m Libor)</li> </ul>        | 6m 1y 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 35y 40y 45y 50y<br>Spreads (e.g. 2x10), Butterflies (e.g. 2x5x10), Forwards (e.g. 5y/5y). IMM dates.<br>N.B. S/Q v 3m Libor swaps also trade, though infrequently. | 1d-60y Any start / end date.<br>As agreed by participants. |
| GBP Basis              | 3vSonia (Fra/Ois), 3v1, 6v3   | 3m 6m 9m 12m 15m 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y 35y 40y 45y 50y<br>IMM dates to 3Y  | 1d-60y Any start / end date.<br>As agreed by participants. |
| USD 3m-21m Short-Term  | <ul style="list-style-type: none"> <li>Fixed: Annual Act/360</li> <li>Float: Quarterly Act/360</li> <li>Index: 3m Libor/SOFR</li> </ul>                     | 3m 6m 9m 12m 15m 18m 21m, IMM Dates (including serials)<br>N.B 1m Libor swaps are also traded usually up to no more than 2y in 1m intervals.   | 1d-60y Any start / end date.<br>As agreed by participants. |
| USD 1y-60y Medium-Term | <ul style="list-style-type: none"> <li>Fixed: Semi 30I/360</li> <li>Float: Quarterly Act /360</li> <li>Index: 3m Libor/SOFR</li> </ul>                      | 1y 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 35y 40y 45y 50y<br>Spreads (e.g. 2x10), Butterflies (e.g. 2x5x10), Forwards (e.g. 5y/5y)  | 1d-60y Any start / end date.<br>As agreed by participants. |
| USD Basis              | 3vOIS (Fra/Ois), 3v1, 6v3   | 3m 6m 9m 12m 15m 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y 35y 40y 45y 50y<br>IMM dates to 3Y  | 1d-60y Any start / end date.<br>As agreed by participants. |



|                           |   |  |  |
|---------------------------|---|--|--|
| EUR 1m-24m<br>Short-Term  | <ul style="list-style-type: none"> <li>Fixed: Annual Act/360</li> <li>Float: Monthly Act/360</li> <li>Index: 1m Euribor</li> </ul>                    | 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m 15m 18m 21m 2y<br>IMM Dates   | 1d-3y Any start / end date.<br>As agreed by participants.  |
| EUR 3m-60y<br>Medium-Term | <ul style="list-style-type: none"> <li>Fixed: Annual 30U/360</li> <li>Float: Semi Act/360</li> <li>Index: 6m Euribor (Also A/Q 3m Euribor)</li> </ul> | 6m 1y 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 35y 40y 45y 50y<br>Spreads (e.g. 2x10), Butterflies (e.g. 2x5x10), Forwards (e.g. 5y/5y)<br>N.B. 6m EuroLibor A/365 swaps are also traded, though less frequently.<br>N.B. 6m Euribor swaps are predominant over 3m the longer the maturity beyond 3y. | 1d-60y Any start / end date.<br>As agreed by participants. |
| EUR Basis                 | 3vEonia (Fra/Ois), 3v1, 6v3   | 3m 6m 9m 12m 15m 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y 35y 40y 45y 50y<br>IMM dates to 3Y  | 1d-60y Any start / end date.<br>As agreed by participants. |
| JPY 1m-2y<br>Short-Term   | <ul style="list-style-type: none"> <li>Fixed: Annual Act/360</li> <li>Float: Monthly Act/360</li> <li>Index: 1m Libor/SOFR</li> </ul>                 | 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m<br>IMM Dates  | 1d-2y Any start / end date.<br>As agreed by participants.  |
| JPY 3m-30y<br>Medium-Term | <ul style="list-style-type: none"> <li>Fixed: Semi Act/365</li> <li>Float: Semi Act/360</li> <li>Index: 6m Libor/SOFR</li> </ul>                      | 3m 6m 9m 1y 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Spreads (e.g. 2x10), Butterflies (e.g. 2x5x10), Forwards (e.g. 5y/5y)   | 1d-30y Any start / end date.<br>As agreed by participants. |
| JPY Basis                 | 3vTonar (Fra/Ois), 3v1, 6v3   | 3m 6m 9m 12m 15m 18m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>IMM dates to 3Y  | 1d-30y Any start / end date.<br>As agreed by participants. |

### Vanilla Overnight Index Swaps (OIS)

| Currency | Day_Count_Conventions | Standard Tenors | Non_Standard_Tenors |
|----------|-----------------------|-----------------|---------------------|
|----------|-----------------------|-----------------|---------------------|

|     |  |   |  |
|-----|--|---|--|
| GBP | <ul style="list-style-type: none"> <li>Fixed: _Annual_Act/365</li> <li>Floating: _Annual_Act/365</li> <li>Index: Sonia</li> </ul>    | 1w 2w 3w 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m 15m 18m 21m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 35y 40y 45y 50y, Quarterly IMM dates, MPC (BoE Monetary Policy Committee) meeting dates.  | 1d-60y Any start / end date.<br>As agreed by participants. |
| USD | <ul style="list-style-type: none"> <li>Fixed: _Annual_Act/360</li> <li>Floating: _Annual_Act/360</li> <li>Index: FedFunds</li> </ul> | 1w 2w 3w 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m 15m 18m 21m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 35y 40y 45y 50y, Quarterly IMM dates, FOMC (Federal Oversight Monetary Committee) meeting dates, FedFunds Futures expiry dates. | 1d-60y Any start / end date.<br>As agreed by participants. |
| EUR | <ul style="list-style-type: none"> <li>Fixed: _Annual_Act/360</li> <li>Floating: _Annual_Act/360</li> <li>Index: Eonia</li> </ul>    | 1w 2w 3w 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m 15m 18m 21m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 35y 40y 45y 50y, Quarterly IMM dates, ECB (Euro Central Bank Governing Council) meeting dates.                                  | 1d-60y Any start / end date.<br>As agreed by participants. |
| JPY | <ul style="list-style-type: none"> <li>Fixed: _Annual_Act/365</li> <li>Floating: _Annual_Act/365</li> <li>Index: Tonar</li> </ul>    | 1w 2w 3w 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m 11m 12m 15m 18m 21m 2y 2½y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y, Quarterly IMM dates, BoJ (Bank of Japan Monetary Policy) meeting dates.  | 1d-60y Any start / end date.<br>As agreed by participants. |

#### Vanilla Cross-Currency Currency Basis Swaps

| Currency    | Day_Count_Conventions                                   | Standard Tenors  | Non Standard Tenors  |
|-------------|---|--|--|
| USD/EUR Q/Q | USD = 3m Libor/SOFR Act/360 EUR = 3m Euribor Act/360    | 3m 6m 9m 12m 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 40y 50y     | 3m-60y Any start / end date.<br>As agreed by participants. |
| USD/EUR Q/Q | USD = FedFunds Act/360 EUR = Eonia Act/360              | 3m 6m 9m 12m 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y                         | 3m-60y Any start / end date.<br>As agreed by participants. |
| USD/JPY Q/Q | USD = 3m Libor/SOFR Act/360 JPY = 3m Libor/SOFR Act/360 | 3m 6m 9m 12m 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y 13y 14y 15y 20y 25y 30y 35y 40y 50y | 3m-60y Any start / end date.<br>As agreed by participants. |

|                |   |   |   |
|----------------|---|---|---|
| USD/JPY<br>Q/Q | USD = FedFunds Act/360<br>JPY = Tonar Act/360                 | 3m 6m 9m 12m 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y<br>15y 20y 25y 30y                     | 3m-60y Any<br>start / end<br>date.<br>As agreed by<br>participants. |
| USD/GBP<br>Q/Q | USD = 3m Libor/SOFR<br>Act/360 GBP = 3m<br>Libor/SOFR Act/365 | 3m 6m 9m 12m 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 11y<br>12y 13y 14y 15y 20y 25y 30y 40y 50y | 3m-60y Any<br>start / end<br>date.<br>As agreed by<br>participants. |
| USD/GBP<br>Q/Q | USD = FedFunds Act/360<br>GBP = Sonia Act/365                 | 3m 6m 9m 12m 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y<br>15y 20y 25y 30y                     | 3m-60y Any<br>start / end<br>date.<br>As agreed by<br>participants. |
| GBP/EUR<br>Q/Q | GBP = 3m Libor/SOFR<br>Act/365 EUR = 3m Euribor<br>Act/360    | 3m 6m 9m 12m 2y 3y 4y 5y 6y 7y 8y 9y 10y 11y 12y<br>13y 14y 15y 20y 25y 30y             | 3m-60y Any<br>start / end<br>date.<br>As agreed by<br>participants. |
| JPY/EUR<br>Q/Q | JPY = 3m Libor/SOFR<br>Act/360 EUR = 3m Euribor<br>Act/360    | 1y 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y                                      | 3m-60y Any<br>start / end<br>date.<br>As agreed by<br>participants. |

#### Forward Rate Agreements (FRAs)

| Currency                 | Day Count Conventions  | Standard Tenors  | Non-Standard Tenors  |
|--------------------------|--|--|--|
| GBP<br>USD<br>EUR<br>JPY | <ul style="list-style-type: none"> <li>• Annual Act/365</li> <li>• Annual Act/360</li> <li>• Annual Act/360</li> <li>• Annual Act/365</li> </ul> | Spot Start: 0x1 1x2 2x3<br>... 35x36<br>Spot Start: 0x3 1x4 2x5<br>... 33x36<br>Spot Start: 0x6 1x7 2x8<br>... 30x36<br>*JPY Max end date =<br>24m | IMM Dates, End of month Turns<br>Any date chosen by the trade originator, e.g. "1x4<br>over the 9th" |

#### Interest Rate Swaptions

| Currency | IRS Day Count Conventions | Standard Tenors | Off-The-Run Tenors |
|----------|---------------------------|-----------------|--------------------|
|----------|---------------------------|-----------------|--------------------|

|     |  |  |   |
|-----|--|--|---|
| GBP | Up to 18m - Annual/3s<br>2y+ - Semi/6s   | Option Expiries: 1d 2d 1w 2w 1m 2m 3m 6m 9m 1y 18m 2y 3y<br>4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Underlying Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y 40y 50y 60y | 1d-50y Any expiry date.<br>As agreed by participants. |
| USD | Up to 18m - Annual/3s<br>2y+ - Semi/3s   | Option Expiries: 1d 2d 1w 2w 1m 2m 3m 6m 9m 1y 18m 2y 3y<br>4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Underlying Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y 40y 50y 60y | 1d-50y Any expiry date.<br>As agreed by participants. |
| EUR | Up to 18m - Annual/3s<br>2y+ - Annual/6s | Option Expiries: 1d 2d 1w 2w 1m 2m 3m 6m 9m 1y 18m 2y 3y<br>4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Underlying Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y 40y 50y 60y | 1d-50y Any expiry date.<br>As agreed by participants. |
| JPY | Up to 18m - Annual/3s<br>2y+ - Semi/6s   | Option Expiries: 1d 2d 1w 2w 1m 2m 3m 6m 9m 1y 18m 2y 3y<br>4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Underlying Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y             | 1d-30y Any expiry date.<br>As agreed by participants. |

### Interest Rate Caps & Floors

| Currency | Underlying Index                                 | Standard Tenors  | Off-The-Run Tenors                              |
|----------|--|--|---|
| GBP      | Up to 18m - 3m Libor<br>2y+ - 6m Libor/SOFR      | Option Tenors: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y, IMM Expiries<br>Strikes from -1% to +20% | 3m-60y any expiry.<br>As agreed by participants |
| USD      | All Tenors - 3m Libor/SOFR                       | Option Tenors: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y, IMM Expiries<br>Strikes from -1% to +20% | 3m-60y any expiry.<br>As agreed by participants |
| EUR      | Up to 18m - 3m Euribor<br>2y+ - 6m Euribor       | Option Tenors: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y, IMM Expiries<br>Strikes from -1% to +20% | 3m-60y any expiry.<br>As agreed by participants |
| JPY      | Up to 18m - 3m Libor/SOFR<br>2y+ - 6m Libor/SOFR | Option Tenors: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y<br>20y 25y 30y, IMM Expiries<br>Strikes from -1% to +20% | 3m-30y any expiry.<br>As agreed by participants |

### Inflation Swaps

| Currency | Underlying Index | Standard Tenors | Non-Standard Tenors |
|----------|------------------|-----------------|---------------------|
|----------|------------------|-----------------|---------------------|

|               |  |   |   |
|---------------|--|---|---|
| GBP           | UK RPI 2m Lag Act/Act<br>ZC & YoY T+0    | Vanilla Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y 35y 40y 45y 50y 55y 60y 70y<br>Fixing Swaps: Previous 12m YoY monthly RPI fixings<br>CPI Swaps also traded 30/360 Daycount. | 1d-70y Any start / end date.<br>As agreed by participants |
| USD           | US CPI 3m Lag Act/Act<br>ZC & YoY T+2    | Vanilla Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y 35y 40y 45y   | 1d-60y Any start / end date.<br>As agreed by participants |
| EUR           | EUR HICPxT 3m Lag 30/360<br>ZC & YoY T+2 | Vanilla Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y 40y 50y<br>Fixing Swaps: Previous 12m YoY monthly HICPxT fixings  | 1d-60y Any start / end date.<br>As agreed by participants |
| France (Euro) | Fr CPI 3m Lag 30/360<br>ZC & YoY T+2     | Vanilla Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y 40y 50y 55y   | 1d-60y Any start / end date.<br>As agreed by participants |
| JPY           | Yen CPI 3m Lag 30/360<br>ZC T+2          | Vanilla Swaps: 1y 18m 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y   | 1d-30y Any start / end date.<br>As agreed by participants |

### Inflation Caps & Floors

| Currency | Underlying Index    | Standard Tenors & Strikes   | Non-Standard Tenors & Strikes  |
|----------|---------------------|---|--|
| GBP      | UK RPI ZC & YoY     | Option Tenors: 1y 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Cap Strikes: 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0% 4.5% 5.0% 6.0%<br>Floor Strikes: -3.0% -2.0% -1.0% -0.5% 0.0% 0.5% 1.0% 1.5% 2.0% 3.0% | 3m-50y any expiry date, Any strike from -5% - +15%,<br>As agreed by participants |
| USD      | US CPI ZC & YoY     | Option Tenors: 1y 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Cap Strikes: 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0% 4.5% 5.0% 6.0%<br>Floor Strikes: -3.0% -2.0% -1.0% -0.5% 0.0% 0.5% 1.0% 1.5% 2.0% 3.0% | 3m-50y any expiry date, Any strike from -5% - +15%,<br>As agreed by participants |
| EUR      | EUR HICPxT ZC & YoY | Option Tenors: 1y 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y 15y 20y 25y 30y<br>Cap Strikes: 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0% 4.5% 5.0% 6.0%<br>Floor Strikes: -3.0% -2.0% -1.0% -0.5% 0.0% 0.5% 1.0% 1.5% 2.0% 3.0% | 3m-50y any expiry date, Any strike from -5% - +15%,<br>As agreed by participants |

|        |                 |  |   |
|--------|-----------------|--|---|
| France | Fr CPI ZC & YoY | Option Tenors: 1y 2y 3y 4y 5y 6y 7y 8y 9y 10y 12y<br>15y 20y 25y 30y<br>Cap Strikes: 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0%<br>4.5% 5.0% 6.0%<br>Floor Strikes: -2.0% -1.0% -0.5% 0.0% 0.5% 1.0%<br>1.5% 2.0% 3.0% | 3m-50y any expiry date,<br>Any strike from -5% -<br>+15%,<br>As agreed by<br>participants |
| JPY    | Yen CPI         | N/A  |   |