

# Nomura Interest Rate Receiver Swap Indices

## Index Rulebook

### Strictly Private and Confidential

#### 3 December 2019

This document is only for informational purposes and is a description of the Index, and may not be incorporated into any contract or agreement. This document does not constitute an offer to sell, or the solicitation of an offer to purchase, any securities. The information contained herein is believed by Nomura to be accurate in all respects, but Nomura makes no representation or warranty, expressed or implied, as to its accuracy or completeness. Where there are any discrepancies between the information contained herein and the actual specification or calculation methodology of the Index, the actual specification or calculation methodology employed within the model of the Index shall prevail.

<b>Summary Description</b>	<p>Each Index was created by Nomura International plc, which is the Index Sponsor and Index calculation agent. Each Index tracks the performance of rolling a 1 month forward receiver swap of a certain tenor ("The Underlying Swap Tenor") in a certain currency ("The Underlying Swap Currency")</p> <p>Prior to the Index Live Date (25-Feb-2014), the Index Sponsor reconstructed each Index using backtested data from the relevant Start Date.</p> <p>Please refer to Appendix C for backtesting assumptions.</p> <p>For further information please see the Index summary disclosures document for this Index, which is to be read in conjunction with this Index Rulebook (together, the "Index Description").</p>
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Index Determination	
<b>Index</b>	Each index of the Nomura Interest Rate Receiver Swap Indices suite, which is built using the methodology described in this Rulebook denominated in the Underlying Swap Currency
<b>Index Sponsor</b>	Nomura International plc ("NIP"), who is responsible for the administration of the Index.
<b>Start Date</b>	Please refer to Appendix A for a list of the Start Date for each Index
<b>Index Level</b>	<p>In respect of an Index Business Day t, the calculated level of the Index in respect of that day, denoted Index(t) and published on the relevant Bloomberg page or any successor thereto.</p> <p>Please refer to Appendix A for a list of the relevant Bloomberg pages for the different variations.</p> <p>The Index Level on the Start Date shall be equal to 100.</p> <p>-</p> <p>For any Index Business Day t where t &gt; Start Date And t not a Roll Date :</p> $\text{Index}(t) = \text{Index}(t-1) - [\text{Swap rate}_{\text{FWD}}(t) - \text{Swap rate}_{\text{FWD}}(t-1)] \times \frac{\text{PV01}_{\text{FWD}}(t)}{\text{PV01}_{\text{FWD}}(t-1)} \times 100$ <p>If t is a Roll Date then :</p> $\text{Index}(t) = \text{Index}(t-1) - [\text{Swap rate}_{\text{Spot}}(t) - \text{Swap rate}_{\text{FWD}}(t-1)] \times \frac{\text{PV01}_{\text{Spot}}(t)}{\text{PV01}_{\text{FWD}}(t-1)} \times 100$

Index Components	
<b>Forward Swap</b>	<p>A swap transaction with a maturity equal to the Underlying Swap Tenor and denominated in the Underlying Swap Currency, following the standard swap conventions for this tenor and currency, with an effective date on the Spot Date immediately following the next Roll Date</p> <p>Please refer to Appendix B for a list of the standard swap conventions for different currencies and tenors</p>
<b>Spot Swap</b>	<p>A swap transaction with a maturity equal to the Underlying Swap Tenor and denominated in the Underlying Swap Currency, following the standard swap conventions for this tenor and currency, with an effective date on the Spot Date immediately following day t</p> <p>Please refer to Appendix B for a list of the standard swap conventions</p>
<b>Spot Date</b>	<p>The swap spot date as defined by the standard swap convention for the Underlying Swap Currency</p> <p>Please refer to Appendix B for a list of the standard swap conventions for different currencies and tenors</p>

<b>Roll Date</b>	The 15 <sup>th</sup> of each month, if this date is not a London and Local <sup>k</sup> Business Day then the immediately following London and Local <sup>k</sup> Business Day
<b>Swap rate<sub>FWD</sub>(t)</b>	For any Index Business Day t, the mid-market forward rate (quoted in percentage points) for the Forward Swap, as of London Time on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to Appendix B for a list of the standard swap conventions for different currencies and tenors
<b>Swap rate<sub>Spot</sub>(t)</b>	For any Index Business Day t, the mid-market forward rate (quoted in percentage points) for the Spot Swap, as of London Time on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to Appendix B for a list of the standard swap conventions for different currencies and tenors
<b>Yield Curve</b>	Yield Curve means, in respect of each Index and an Index Business Day, the relevant Yield Curve (as defined in the NIP Indices Yield Curve Process document dated July 2017 (as amended and/or supplemented from time to time and published on the Nomura QIS Website) in respect of such Index and Index Business Day.  The Yield Curve is built using the interest rate curve determined and used by Nomura International plc in the ordinary course of its business as a dealer/market maker and for the purposes of its own audited books and records and certain other data, for more information please see the NIP Indices Yield Curve Process.
<b>PV01<sub>FWD</sub>(t)</b>	For any Index Business Day t, the sensitivity of the Forward Swap present value to a change of 0.01% in the coupon for a swap notional of 1 as of London Time on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to Appendix B for a list of the standard swap conventions for different currencies and tenors
<b>PV01<sub>Spot</sub>(t)</b>	For any Index Business Day t, the sensitivity of the Spot Swap present value to a change of 0.01% in the coupon for a swap notional of 1 as of London Time on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to Appendix B for a list of the standard swap conventions for different currencies and tenors

<b>General Definitions</b>	
<b>Index Business Day</b>	Any day that is a London and Local <sup>k</sup> Business Day
<b>Index Trading Business Day</b>	Any day that is a London and Local <sup>k</sup> Business Day
<b>Local<sup>k</sup> Business Day</b>	<p><i>Prior to the BD Modification Date</i></p> <p>Means the local calendar for currency k:  For k=1 Local<sup>k</sup>=New York Business Day  For k=2 Local<sup>k</sup>=TARGET Business Day  For k=3 Local<sup>k</sup>=London Business Day  For k=4 Local<sup>k</sup>=Tokyo Business Day</p> <p><i>From and including the BD Modification Date</i></p> <p>means the local calendar for currency k:  for k=1 Local<sup>k</sup>= any day which is a New York Business Day and a CME Business Day but excluding 24-December and 31-December;  for k=2 Local<sup>k</sup>= any day which is a TARGET Business Day, a Eurex Business Day and an ICE Futures Europe (EU) Business Day but excluding 24-December and 31-December;  for k=3 Local<sup>k</sup>= any day which is a London Business Day and an ICE Futures Europe (UK) Business Day but excluding 24-December and 31-December; and  for k=4 Local<sup>k</sup>= any day which is a Tokyo Business Day, a Tokyo Financial Exchange Business Day and a Osaka Exchange Business Day but excluding 24-December and 31-December.</p>
<b>London Business Day</b>	A day (other than a Saturday or Sunday) on which commercial banks are open for general business in London
<b>ICE Futures Europe (UK) Business Day</b>	A day on which ICE Futures Europe is scheduled to be open (or would have been but for the occurrence of a market disruption event) for trading in British interest rate futures contracts.

<b>New York Business Day</b>	A day (other than a Saturday or Sunday) on which commercial banks are open for general business in New York
<b>CME Business Day</b>	A day on which the Chicago Mercantile Exchange (Globex) is scheduled to be open (or would have been but for the occurrence of a market disruption event) for trading in American interest rate futures contracts.
<b>Target Business Day</b>	Means any day on which TARGET2 (the Trans-European Automated Real-time Gross settlement Express Transfer system) is open
<b>Eurex Business Day</b>	A day on which Eurex is scheduled to be open (or would have been but for the occurrence of a market disruption event) for trading in European interest rate futures contracts.
<b>ICE Futures Europe (EU) Business Day</b>	A day on which ICE Futures Europe is scheduled to be open (or would have been but for the occurrence of a market disruption event) for trading in European interest rate futures contracts.
<b>Tokyo Business Day</b>	A day (other than a Saturday or Sunday) on which commercial banks are open for general business in Tokyo
<b>Tokyo Financial Exchange Business Day</b>	A day on which Tokyo Financial Exchange is scheduled to be open (or would have been but for the occurrence of a market disruption event) for trading in Japanese interest rate futures contracts.
<b>Osaka Exchange Business Day</b>	A day on which Osaka Exchange is scheduled to be open (or would have been but for the occurrence of a market disruption event) for trading in Japanese interest rate futures contracts.
<b>BD Modification Date</b>	20 November 2019

<b>Disruptions Events / Fallbacks</b>	
<b>Index Adjustment</b>	If, due to the occurrence of an error (i) in relation to the calculation or publication of the level of the Index, or (ii) in the method for determining the Index, the Index Sponsor has determined on any day (an "Adjustment Determination Date") that an adjustment to the Index is necessary in order to correct such error (an "Index Adjustment"), then the Index Sponsor will make such corresponding adjustments to the Index as it deems necessary, if any, in order to reflect the Index Adjustment (in each case in accordance with the principles and methodology of the Index).
<b>Index Disruption</b>	If, in the opinion of the Index Sponsor, an Index Disruption Event has occurred or is occurring, including in respect of any Index Component utilised to calculate the level of the Index on any day, then, the Index Sponsor may (with a view to preserving the objective of the Index): <ul style="list-style-type: none"> <li>i. delay or postpone the rebalancing and/or calculation of such affected Index Component to a day not later than the Disruption Cut-off Date, notwithstanding that such day may be subject to an Index Disruption Event and in which case the Index Sponsor will determine the level of such affected Index Component as of that Disruption Cut-off Date in its sole discretion and acting in a commercially reasonable manner; and/or</li> <li>ii. not calculate and publish the Index level for such day or delay the publication; or</li> <li>iii. determine the level of any affected Index Component in respect of such relevant day (including without limitation the Yield Curve), in its sole discretion and acting in a commercially reasonable manner (regardless of whether or not a level of any such affected Index Component has been published by the Price Source in respect of such day) having regard to the standard of input data quality for the Index as determined by the Index Sponsor during the design of the Index, as set out in Appendix 2, Section 6 of the Control Framework Summary ("Data Sufficiency and Hierarchy of Input Data").</li> </ul>
<b>Index Disruption Event</b>	The determination by the Index Sponsor in its sole discretion that one or more of the following events (each an "Index Disruption Event") has occurred: <ul style="list-style-type: none"> <li>a. the material suspension of, a material limitation imposed on, or the cessation of the trading in any Index Component;</li> <li>b. the failure of any Price Source to announce or publish any relevant price, level, rate or other data necessary for the determination of any Index Component;</li> <li>c. the level published on any Price Source in relation to any price, level, rate or other data necessary to determine any Index Component is significantly different to the level of such data prevailing in the market;</li> <li>d. a material change by the Price Source in the content, composition, constitution of, or in</li> </ul>

	<p>the formula for or method of calculating (a “<b>Material Change</b>”) any Index Component (including where any such Material Change is due to an amendment or other modification to the rules and/or regulations of the Price Source);</p> <p>e. the failure of any Price Source to open for trading during a scheduled trading session, or the early closure thereof (without 48 hours prior notice to the market);</p> <p>f. the occurrence of any event or circumstance which generally prevents, disrupts or impairs the ability of market participants in general to enter into transactions or obtain market values of the type which would be required to implement the Index in a commercially reasonable manner (including, without limitation, a significant widening in the bid/offer and/or a significant reduction in liquidity in an Index Component);</p> <p>g. in respect of an Index Component or the Index, a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labour disruption or any similar intervening circumstances beyond the Index Sponsor’s reasonable control which prevents, disrupts, or impairs the ability of the Index to achieve its economic objective, the prompt or accurate determination of the level of the Index, and/or the ability of the Index Sponsor or Index calculation agent to perform its role in respect of the Index; or</p> <p>h. any other event or circumstance that, in the opinion of the Index Sponsor, prevents, disrupts or impairs the ability of the Index to achieve its economic objective or the prompt or accurate determination of the level of the Index, or any other event or circumstance which causes the Index Sponsor to reasonably conclude that as a consequence of such event or circumstance, if the level of the Index were to be determined, it should not be relied upon to represent the market or economic reality that the Index is intended to measure.</p>
<b>Disruption Cut-off Date</b>	Means the 5 <sup>th</sup> Index Business Day from and including the original day.
<b>Index Modification</b>	<p>Upon the occurrence of an Index Modification Event, the Index Sponsor may</p> <p>i. remove or replace such affected Index Component with an alternative futures or options contract, currency, rate, variable or other component (a “<b>Replacement Index Component</b>”) which, in its sole determination, is consistent with the objective of the Index and, where possible, is of the same or equivalent standard of quality as any input data and/or price source used prior to the occurrence of the Index Modification Event, having regard to the standard of input data quality for the Index as determined by the Index Sponsor during the design of the Index, as set out in Appendix 2, Section 6 of the Control Framework Summary (“Data Sufficiency and Hierarchy of Input Data”); and/or</p> <p>ii. make such other adjustments as it deems appropriate preserve the objective of the Index, taking into account the relevant Index Modification Event (including without limitation replacing certain Price Sources used for determining the Yield Curve).</p> <p>The Index Sponsor may refrain from publishing the Index until the Index Modification Event ceases to exist.</p> <p>For the purpose of the removal or replacement of any affected Index Component, the Index Sponsor shall make any other adjustments to the Index to account for the price or value of the affected Index Component at the time of its removal and any related charges, fees or taxes as well as the cost to the Index Sponsor for implementing any Replacement Index Component.</p>
<b>Index Modification Event</b>	<p>An “<b>Index Modification Event</b>” shall be deemed to have occurred if:</p> <p>a. the Index Sponsor determines, in its sole discretion, that an Index Component (i) is no longer available (whether due to a permanent discontinuation of trading, disappearance or otherwise) or (ii) has been the subject of a Material Change in a manner which has or will have a material adverse effect on the Index achieving its stated objective; or</p> <p>b. the Index Sponsor determines, in its sole discretion, that the level published on any Price Source in relation to any price, level, rate or other data necessary to determine any Index Component (i) is discontinued, so as to materially affect the Index calculation or (ii) is repeatedly different to a significant extent from the level of such data prevailing in the market or (iii) is no longer sufficient to represent accurately and reliably the market and economic reality the Index is intended to measure, each as determined by the Index Sponsor acting in good faith and a commercially reasonable manner; or</p> <p>c. an Input Data Decline Event;</p> <p>d. an Extraordinary Event has occurred.</p>
<b>Input Data Decline Event</b>	Means if the Index Sponsor determines that the input data and/or price source in relation to an Index Component used to calculate the Index no longer meets the standard of input data quality for the Index as determined by the Index Sponsor during the design of the Index, as set out in Appendix 2, Section 6 of the

	Control Framework Summary (“Data Sufficiency and Hierarchy of Input Data”).
<b>Extraordinary Event</b>	<p>Means in respect of any Index Component means any of Change in Law, Index Component Disruption and/or Increased Cost of Index Implementation.</p> <p><b>Change in Law</b> means that, on or after the Index Live Date (i) due to the adoption of or any change in any applicable law or regulation (including, without limitation, any tax law), or (ii) due to the promulgation of or any change in the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law or regulation (including any action taken by a taxing authority), the Index Sponsor determines in good faith that (x) it has become illegal to hold, acquire or dispose of an Index Component, or (y) there is a materially increased cost of trading in an Index Component for the Index Sponsor or its affiliates (including, without limitation, due to any increase in tax liability, decrease in tax benefit or other adverse effect on its tax position).</p> <p><b>Index Component Disruption</b> means that the Index Sponsor or any of its affiliates or agents is unable, or it is impractical, after using commercially reasonable efforts, to (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction(s) or asset(s) it deems necessary to implement the Index, or (ii) realise, recover or remit the proceeds of any such transaction(s) or asset(s), including, without limitation, where such inability or impracticability has arisen by reason of (x) any restriction on making new or additional investments in any Index Component.</p> <p><b>Increased Cost of Index Implementation</b> means that the Index Sponsor or any of its affiliates would incur a materially increased (as compared with circumstances existing on the Index Live Date) amount of tax, duty, expense or fee to (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction(s) or asset(s) it deems necessary to implement the Index, or (ii) realise, recover or remit the proceeds of any transaction(s) or asset(s).</p> <p>1. <b>Index Cancellation:</b> The Index Sponsor may permanently cancel and discontinue calculating and publishing the Index, in accordance with Appendix 2, Section 17 of the Control Framework Summary (as defined below).</p>
<b>Price Source</b>	<p>“<b>Price Source</b>” means, in respect of an Index Component, the publication, page (or any other origin of reference, including an exchange) containing (or reporting) the prices, levels, rates or other data utilised by the Index Sponsor for such Index Component. References to Price Source shall be construed as referring also to any successor publication, page or source on which the relevant prices, levels, rates or other data for a Index Component may be disseminated, as determined by the Index Sponsor at its sole discretion and acting in a commercially reasonable manner.</p>
<b>Index Component</b>	<p>“<b>Index Component</b>” means, in respect of the Index, each underlying component index, futures contract, currency, rate, variable or other component necessary in order to determine a level of the Index (including the Yield Curve and any data used to determine the Yield Curve), in each case, in line with the then existing methodology of the Index.</p>

Additional information in respect of the Index methodology	
<b>Index Governance</b>	<p>The Index Sponsor has established a governance framework (the “<b>Governance Policy and Control Framework</b>”) to ensure compliance with the European Benchmark Regulation, the IOSCO Principles and any related measures and applicable FCA rules (each as amended or replaced from time to time)<sup>1</sup>. The Governance Policy and Control Framework governs (amongst other things) the development, determination and operation of indices administered by the Index Sponsor. A summary of the Governance Policy and Control Framework (the “<b>Control Framework Summary</b>”) is published on: <a href="http://www.nomuranow.com/portal/site/nnextranet/en/global-markets/structured-derivatives/quant-investment-strategies.shtml">www.nomuranow.com/portal/site/nnextranet/en/global-markets/structured-derivatives/quant-investment-strategies.shtml</a>. Please refer to the summary of the Governance Policy and Control Framework in respect of the following information applying to the Index methodology</p>
<b>Criteria for Index Development and Input Data and Source Selection</b>	<p>The criteria and procedures used to develop this Index, and for selecting the sources of data inputs used in the Index, are set out in Appendix 2, Section 3 of the Control Framework Summary (“Index Design and Creation of New Indices”) and Appendix 2, Section 6 (“Data Sufficiency and Hierarchy of Data Inputs”).</p>
<b>Exercise of Expert Judgment and discretion</b>	<p>The Index Sponsor has adopted guidelines and procedures designed to promote consistency in the exercise of Expert Judgment and discretion for Index determinations. Further details are contained in Appendix 2, Section 14 of the Control Framework Summary (“Expert Judgment and Discretion”).</p>
<b>Input Data Type</b>	<p>The Index Sponsor applied the hierarchy for data inputs as set out in Appendix 2, Section 6 of the Control Framework Summary (“Data Sufficiency and Hierarchy of Data Inputs”) when considering the data inputs used</p>

<sup>1</sup><https://www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf>. The Governance Policy and Control Framework will be periodically reviewed and has been updated to reflect the requirements of the Regulation on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014 (Regulation (EU) 2016/1011) (the “**Benchmark Regulation**”), as well as related level 2 measures and applicable FCA rules.

<b>Priority</b>	to construct the Index.
<b>Index Error Reports and Revision</b>	The Index Sponsor has adopted procedures for analysis and remediation of Index errors, and for potential restatement of a published Index level. Further details are contained in Appendix 2, Section 13 of the Control Framework Summary (“Correction of Errors”) and Appendix 2, Section 15 (“Changes to Methodology”) where remediation requires change to the Index Methodology.
<b>Quantity and Quality of Input Data</b>	<p>The Index is constructed by the Index Sponsor using single prices or levels prescribed by the Index Methodology. The Index Sponsor therefore considers that the requirement to determine the thresholds of the quantity of data inputs, necessary to determine the Index accurately and reliably, has been met.</p> <p>The Index Sponsor determines the standards of quality of the data inputs used in this Index at the design stage of the Index in accordance with Appendix 2, Section 6 of the Control Framework Summary (“Data Sufficiency and Hierarchy of Data Inputs”). These standards are reflected in the Index Methodology, as described in this Rulebook. The Index Sponsor will review these standards and the data inputs on a periodic basis in accordance with Appendix 2, Section 16 of the Control Framework Summary (“Periodic Review of Indices”) and in the full policies and procedures available on the Index Sponsor’s public website, to ensure that the data inputs used continue to be of sufficient quality to determine the Index accurately and reliably, and will accordingly determine whether an Index Modification Event has occurred.</p>
<b>Internal Reviews of the Index</b>	<p>The Index Sponsor is required to conduct internal reviews of the Index on a periodic basis. Further details regarding the frequency of those reviews, the procedures to be followed, and the bodies or functions within the Index Sponsor’s organisational structure involved in such reviews, are contained in Appendix 2, Section 16 of the Control Framework Summary (“Periodic Review of Indices”) and in the full policies and procedures available on the Index Sponsor’s public website.</p> <p>Reviews will further be conducted where the Index Sponsor considers it desirable or necessary to do so, including in response to specific events or otherwise. Specific events may include (without limitation) any index errors, index disruptions, or other index life-cycle events; changes in market circumstances; changes in the applicable legal or regulatory environment; any challenges or complaints or other feedback from stakeholders, and/or any material audit findings. Further information regarding the procedures to be followed in response to certain specific events, and the bodies or functions within the Index Sponsor’s organisational structure involved in such reviews, can be found in Appendix 2, Sections 13 (“Correction of Errors”), 14 (“Expert Judgment and Discretion”), 15 (“Changes to Methodology”), 19 (“Complaints Handling Policy”), 21 (“Audits”), and any other sections of the Control Framework Summary which may be relevant from time to time.</p>
<b>Index Approval</b>	The criteria and procedures used to approve the Index, and the bodies or functions within the Index Sponsor’s organisational structure involved in such approval, are set out in Appendix 3 of the Control Framework Summary (“Main Features of Index Committee Constitution and Terms of Reference”) and Appendix 2, Section 3 (“Index Design and Creation of New Indices”).
<b>Investor Consultation upon Index termination and material changes to the Index methodology</b>	The Index Sponsor is required to consult investors of index linked products when proposing material changes to the Index methodology and termination of the Index. Further details on the circumstances and procedures under which consultation takes place are contained in Appendix 2, Section 15 of the Control Framework Summary (“Changes to Methodology”), Appendix 2, Section 17 (“Termination of Indices and Transitional Arrangements”) and in the full policies and procedures available on the Index Sponsor’s public website.
<b>Active Market of the Index</b>	As of the date of this Index Description, the Index Sponsor considers the underlying market of the Index to be active, in accordance with in Appendix 2, Sections 3 (“Index Design and Creation of New Indices and Methodologies”) of the Control Framework Summary.
<b>Outsourcing of Index Determination</b>	The Index Sponsor has outsourced certain IT, Quants, Middle Office and Structuring functions to Nomura Structured Finance Services (India) Private Limited subject to a corporate service agreement between the entities. Further details are contained in Appendix 2, Section 1 of the Control Framework Summary (“Oversight of Third Parties”).
<b>Index Disclaimer</b>	<p>The Index Sponsor and its affiliates make no representation whatsoever, whether express or implied, either as to the results to be obtained from the use of an Index and/or the levels at which the relevant Index stands at a particular time on any particular date or otherwise. The Index Sponsor and its affiliates shall not be liable (whether in contract, tort or otherwise) to any person for any error in such Index.</p> <p>The Index Sponsor and its affiliates make no representation whatsoever, whether express or implied, as to the advisability of purchasing or assuming any risk in connection with entering into any transactions or products which are linked to or deriving a value from an Index.</p> <p>Neither the Index Sponsor nor its affiliates shall have any liability for any act or failure to act by the Index Sponsor in connection with the calculation, adjustment or maintenance of an Index. Although the Index Sponsor will obtain information concerning an Index from publicly available sources it believes reliable, such information</p>

may not have been independently verified. Accordingly, no representation, warranty or undertaking (express or implied) is made and no responsibility is accepted by the Index Sponsor or its affiliates as to the accuracy, completeness and timeliness of information concerning an Index or any other information provided by any person in connection with the information described herein, or as to the continuance of calculation or publication of an Index.

Nothing in this disclaimer shall exclude or limit liability to the extent such exclusion or limitation is not permitted by law or regulation to which the Index Sponsor is subject.

## Appendix

### Appendix A:

Please see below a list of the Bloomberg pages and Start Dates for the different Nomura Interest Rate Swap Receiver Indices:

Currency	Tenor	BBG ticker	Start Date
USD	1y	NMRSR01U Index	21/06/1996
USD	2y	NMRSR02U Index	01/11/1988
USD	3y	NMRSR03U Index	01/11/1988
USD	4y	NMRSR04U Index	01/11/1988
USD	5y	NMRSR05U Index	01/11/1988
USD	7y	NMRSR07U Index	01/11/1988
USD	10y	NMRSR10U Index	01/11/1988
USD	15y	NMRSR15U Index	10/05/1994
USD	20y	NMRSR20U Index	05/05/1994
USD	30y	NMRSR30U Index	05/05/1994
EUR	1y	NMRSR01E Index	26/09/1996
EUR	2y	NMRSR02E Index	01/11/1989
EUR	3y	NMRSR03E Index	01/11/1989
EUR	4y	NMRSR04E Index	01/11/1989
EUR	5y	NMRSR05E Index	01/11/1989
EUR	7y	NMRSR07E Index	01/11/1989
EUR	10y	NMRSR10E Index	01/11/1989
EUR	15y	NMRSR15E Index	14/02/1997
EUR	20y	NMRSR20E Index	12/02/1998
EUR	30y	NMRSR30E Index	12/02/1998
JPY	1y	NMRSR01Y Index	11/05/1995
JPY	2y	NMRSR02Y Index	01/11/1989
JPY	3y	NMRSR03Y Index	01/11/1989
JPY	4y	NMRSR04Y Index	01/11/1989
JPY	5y	NMRSR05Y Index	01/11/1989
JPY	7y	NMRSR07Y Index	01/11/1989
JPY	10y	NMRSR10Y Index	01/11/1989
JPY	15y	NMRSR15Y Index	27/12/1995
JPY	20y	NMRSR20Y Index	27/12/1995
JPY	30y	NMRSR30Y Index	06/09/1999
GBP	1y	NMRSR01P Index	23/01/1997

GBP	2y	NMRSR02P Index	16/11/1990
GBP	3y	NMRSR03P Index	16/11/1990
GBP	4y	NMRSR04P Index	16/11/1990
GBP	5y	NMRSR05P Index	16/11/1990
GBP	7y	NMRSR07P Index	16/11/1990
GBP	10y	NMRSR10P Index	16/11/1990
GBP	15y	NMRSR15P Index	08/07/1997
GBP	20y	NMRSR20P Index	02/06/1997
GBP	30y	NMRSR30P Index	19/01/1999

**Appendix B**

Local<sup>k</sup> Calendar and Spot Date Convention for each Currency:

Currency	Local Calendar	Spot Date - adjustment from current date
USD	New-York (NY)	+ 2 London BizDays, resulting date being adjusted for LON NY
EUR	Target	+2 Target BizDays
JPY	Tokyo	+2 London and Tokyo Bizdays
GBP	London	+0 London Bizday

Swaps conventions for every tenors and swap currencies

Currency	Tenor	Holiday	Floating Index	Floating Leg Pay Convention	Fixed Leg Pay Convention
USD	1y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	2y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	3y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	4y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	5y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	7y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	10y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	15y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	20y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
USD	30y	London, New-York	USD-LIBOR-BBA	Quarterly ,Act/360, Modified Following	Semi-Annually, 30/360 Modified Following
EUR	1y	Target	EUR-EURIBOR	Quarterly, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	2y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	3y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	4y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	5y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following

EUR	7y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	10y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	15y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	20y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
EUR	30y	Target	EUR-EURIBOR	Semi-Annually, Act/360, Modified Following	Annually, 30/360, Modified Following
JPY	1y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	2y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	3y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	4y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	5y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	7y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	10y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	15y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	20y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
JPY	30y	London Tokyo	JPY-LIBOR-BBA	Semi-Annually, Act/360, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	1y	London	GBP-LIBOR-BBA	Quarterly, Act/365f, Modified Following	Annually, Act/365f, Modified Following
GBP	2y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	3y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	4y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	5y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	7y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	10y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	15y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	20y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following
GBP	30y	London	GBP-LIBOR-BBA	Semi-Annually, Act/365f, Modified Following	Semi-Annually, Act/365f, Modified Following

<b>Appendix C</b>	<u>Backtest parameters of the Yield Curve methodology</u>			
	Before January 2014 the yield curve for each Currency is built using Nomura proprietary yield curve interpolation methodology, using ISDA Swap Rates and LIBOR fixings when available and Bloomberg end of day level before that: please see the table below for ticker details.			
	From the 2 <sup>nd</sup> of January 2014 the yield curve for each Currency is built using Nomura proprietary Yield Curve interpolation methodology as defined in the NIP Indices Yield Curve Process document dated July 2017 (as amended and/or supplemented from time to time and published on the Nomura QIS Website) using Reuters Market data as of .			
	<u>USD Curve Instruments before January 2014:</u>			
	[description of Price Levels used]Instrument	ISDA / LIBOR ticker	Bloomberg ticker	Bloomberg source used From (including) – To (excluding)








<sup>2</sup> The 3m vs 6m basis is added to the 1y EUR Swap Rate. Before the Bloomberg source start date basis is assumed to be 0.

<sup>3</sup> 25y Swap Rate is not used in the curve construction before 23/09/1999 from and including this date the EUR ISDA fixing is used

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