NOMURA

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Nomura Interest Rate Volatility Risk Premium 3 month expiry series 3 Indices

Rulebook

Strictly Private and Confidential

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Summary Description

The Interest Rate Volatility Risk Premium ("iVRP") 3 month expiry series 3 Indices (each an "Index", and together the "Indices") aim to capture the risk premium between the implied and realised volatility in interest rate swaptions markets.

A historical analysis shows that over long periods of time implied volatility tends to be higher than realised volatility in these markets.

The strategy consists of selling implied volatility through swaptions straddles, and capturing the realised volatility by delta hedging them. In a market where underlying interest rates are less volatile than implied by the option price, the cost of the delta hedging should be cheaper than predicted, and the strategy should return a profit. Otherwise the strategy should produce a negative return.

This Index Rulebook describes the calculation methodology of the following indices:

Bloomberg ticker	Index Name	Currency k*	Tenor i
NMIV3UM1 Index	Nomura Interest Rate Volatility Risk Premium USD 3M10Y Series 3 Index 1	USD	10Y
NMIV3UM2 Index	Nomura Interest Rate Volatility Risk Premium USD 3M10Y Series 3 Index 2	USD	10Y
NMIV3UM3 Index	Nomura Interest Rate Volatility Risk Premium USD 3M10Y Series 3 Index 3	USD	10Y
NMIV3UM4 Index	Nomura Interest Rate Volatility Risk Premium USD 3M10Y Series 3 Index 4	USD	10Y
NMIV3UN1 Index	Nomura Interest Rate Volatility Risk Premium USD 3M30Y Series 3 Index 1	USD	30Y
NMIV3UN2 Index	Nomura Interest Rate Volatility Risk Premium USD 3M30Y Series 3 Index 2	USD	30Y
NMIV3UN3 Index	Nomura Interest Rate Volatility Risk Premium USD 3M30Y Series 3 Index 3	USD	30Y
NMIV3UN4 Index	Nomura Interest Rate Volatility Risk Premium USD 3M30Y Series 3 Index 4	USD	30Y

* *Please note that for the purpose of defining SOFR related terms, we are introducing another k = USD_SOFR, which is defined for all relevant terms (except for Indexk,l,p where k will remain as USD). For other definitions, if k = USD_SOFR is not explicitly defined, it should be treated the same as k=USD.*

NMIV3EM1 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M10Y Series 3 Index 1	EUR	10Y
NMIV3EM2 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M10Y Series 3 Index 2	EUR	10Y
NMIV3EM3 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M10Y Series 3 Index 3	EUR	10Y
NMIV3EM4 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M10Y Series 3 Index 4	EUR	10Y
NMIV3EN1 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M30Y Series 3 Index 1	EUR	30Y
NMIV3EN2 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M30Y Series 3 Index 2	EUR	30Y
NMIV3EN3 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M30Y Series 3 Index 3	EUR	30Y
NMIV3EN4 Index	Nomura Interest Rate Volatility Risk Premium EUR 3M30Y Series 3 Index 4	EUR	30Y

Each Index was created by Nomura International plc, the Index Sponsor and Index Calculation Agent. Prior to the Index Live Date, the Index Sponsor reconstructed each Index using backtested data. Please refer to Appendices A and B for data sources used before the Index Live Date.

Index $_{k, i, p}$	An index built using the methodology described in this Index Rulebook.
Calculation Agent	Nomura International plc (“NIP”)
Index Sponsor	Nomura International plc (“NIP”), who is responsible for the administration of the Indices.
Index Level $_{k, i, p}$	In respect of an Index$_{k, i, p}$ Business Day t, the calculated level of the Index$_{k, i, p}$ in respect of that day.
Index Publication	In respect of an Index$_{k, i, p}$ Business Day t, the Index Level$_{k, i, p}$ rounded to 3 decimal places in respect of that day will be published on the relevant Bloomberg page or any successor thereto.
Index $_{k, i, p}$ **Business Day**	**For k = USD or USD_SOFR** *Prior to the BD Modification Date*: Each day that is a London Business Day and New York Business Day *From and including the BD Modification Date*: Each day that is a London Business Day, New York Business Day and a CME Business Day **For k = EUR** *Prior to the BD Modification Date*: Each day that is a London Business Day and TARGET Business Day *From and including the BD Modification Date:* Each day that is a London Business Day, TARGET Business Day and EUREX Business Day
Index $_{k, i, p}$ **Trading Business Day**	Means Index $_{k, i, p}$ Business Day
Expiry $_{k, i, p}$ **Business Day**	For k = USD or USD_SOFR Each day that is a London Business Day, New York Business Day For k = EUR Each day that is a London Business Day, TARGET Business Day

London Business Day	Each day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in London
New York Business Day	Each day on which commercial banks and foreign exchange markets settle payments and are open for general business (including dealings in foreign exchange and foreign currency deposits) in New York
SIFMA Business Day	Each day that is not a SIFMA (The Securities Industry and Financial Markets Association) US recommended holiday
TARGET Business Day	Any day on which the Trans-European Automated Real-time Gross Settlement Express Transfer system (or any successor transfer system) is open for the settlement of payments in Euro. References in this Index Rulebook to "TARGET" in respect of any day shall be construed as references to a TARGET Business Day
CME Business Day	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 USD interest rate futures contracts
Eurex Business Day	A day on which Eurex is scheduled to be open (or would have been open but for the occurrence of a market disruption event) for trading in EUR interest rate futures contracts
Exchange Business Day	**For k=USD or USD_SOFR:** CME Business Day **For k=EUR:** EUREX Business Day
Calculation Period $_p$	[Calculation Period]
EURSwaption Modification Date	[Date]
BD Modification Date	[Date]
SOFR Switch Date	[Date]
Selling Dates $_{k,i.p}$	[Date]
Index $_{k, i, p}$	As of, and prior to, the Index$_{k, i, p}$ Base Date, the Index Level$_{k, i, p}$ was 100. Please refer to Appendix E for Index$_{k, i, p}$ Base Dates. For any Index$_{k, i, p}$ Business Day t $$\text{Index}_{k,i,p}(t) = \text{Index}_{k,i,p}(\text{reset}_{k,i,p}) \times \left[1 + \sum_{\substack{w \geq \text{Previous Clean Date}_p \\ w \text{ belongs to Selling Dates}_{k,i,p} \\ w < t}} \text{Notional}_{k,i,w} \times \left(\text{Premium Start}_{k,i,w} \times DF_{k,i,w}(t) - \text{Option MtM}_{k,i,w}(t) + \text{Hedge MtM}_{k,i,w}(t) - \text{Transaction Costs}_{k,i,w}(t)\right)\right]$$ and reset $_{k, i, p}$ = Previous Clean Date $_p$ or if any of such days is not an Index $_{k, i, p}$ Business Day, the immediately following Index $_{k, i, p}$ Business Day. For k = USD, for calculation period containing SOFR switch date, daily returns untill SOFR switch date are calculated assuming k = USD, returns for period from and including SOFR switch date to calculation day t (within the calculation period) are calculated assuming k = USD_SOFR since start of calculation period. For calculation period after SOFR switch date, k = USD_SOFR is used for return calculation Please refer to Appendix J for more details regarding Index calculation during calculation period containing SOFR switch date

Reference Straddle $_{k, i, w}$	For any given Calculation Period$_p$, a straddle denominated in the Currency k on the Forward Swap $_{k, i, w}$ expiring on the Expiry Date $_{k, i, w}$ with a strike equal to Straddle Strike $_{k, i, w}$.
Cash Formula $_{k, i, w}$	For any day t : $$\sum_{m=1}^{i}\left[\frac{1}{1+\text{Unrounded Forward Swap Rate}_{k,i,w}(t)}\right]^{m}$$
Expiry Date $_{k, i, w}$	*Prior to the BD Modification Date:* For any Calculation Period$_p$ the Index$_{k, i, p}$ Business Day which is 3 (three) months immediately following the day w using a Modified Following convention. *From and including the BD Modification Date* For any Calculation Period$_p$ the Expiry$_{k, i, p}$ Business Day which is 3 (three) months immediately following the day w using a Modified Following convention. The Expiry Date $_{k, i, w}$ for a Calculation Period$_p$ is subsequently always on or before the last London Business Day of such Calculation Period$_p$
Forward Swap$_{k, i, w}$	For any given Calculation Period$_p$, an interest rate swap transaction with a maturity equal to Tenor i and in the Currency k, following the standard swap conventions for such tenor and currency, with an effective date ("Forward Swap Date$_{k, i, w}$") on the Spot Date immediately following the Expiry Date $_{k, i, w}$ Please refer to Appendix F for a list of the standard swap conventions in respect of the relevant Currency k and Tenor i.
Notional$_{k, i, w}$	[Notional definition]
Spot Date	The swap spot date as defined by the standard swap convention for the relevant currency of the swap transaction. Please refer to Appendix G for a list of the standard swap conventions for Spot Date in respect of the relevant Currency k and Tenor i.
Forward Swap Rate$_{k, i, w}$	For any Index$_{k, i, p}$ Business Day t, the mid-market forward rate for the Forward Swap$_{k, i, w}$ rounded to six decimal places (6 d.p.), as of the Option Trading Time$_k$ specified in Appendix H on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to Appendix B for more details on the backtest parameters of the Yield Curve methodology. For the avoidance of double, Forward Swap Rate$_{k, i, w}$ = 0.01 for forward rate of 1%
Unrounded Forward Swap Rate$_{k, i, w}$	For any Index$_{k, i, p}$ Business Day t, the mid-market forward rate for the Forward Swap$_{k, i, w}$, as of the Option Trading Time$_k$ described in Appendix H on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to Appendix B for more details on the back-test parameters of the Yield Curve methodology. For the avoidance of double, Unrounded Forward Swap Rate$_{k, i, w}$ = 0.01 for forward rate of 1%
Straddle Strike $_{k, i, w}$	[Straddle Strike]
Option MtM$_{k, i, w}$	For any Index$_{k, i, p}$ Business Days t during a Calculation Period$_p$ prior to and excluding the Expiry Date $_{k, i, w}$, the Mid price for the Reference Straddle $_{k, i, w}$ calculated using the below formula as of the Option Trading Time$_k$ specified in Appendix H: For **k=USD or USD_SOFR** $$\text{Option MtM}_{k,i,w}(t) = \text{Black}_{\text{Straddle}}\left(F_t, K, \sigma\ \text{implied}_{k,i}(t), \tau_{k,w}(t)\right) \times \text{PV01}_{k,i,w}(t)$$ For **k=EUR** *From and including the EURSwaption Modification Date* $$\text{Option MtM}_{k,i,w}(t) = \text{Black}_{\text{Straddle}}\left(F_t, K, \sigma\ \text{implied}_{k,i}(t), \tau_{k,w}(t)\right) \times \text{PV01}_{k,i,w}(t)$$ *Prior to the EURSwaption Modification Date* $$\text{Option MtM}_{k,i,w}(t) = \text{Black Straddle}_{k,i,w}\left(F_t, K, \sigma\ \text{implied}_{k,i}(t), \tau_{k,w}(t)\right) \times \text{Cash Formula}_{k,i,w}(t) \times DF_{k,i,w}(t)$$ where Black$_{\text{Straddle}}$ is defined in Appendix C. F_t = Forward Swap Rate$_{k, i, w}$ (t),

	K = Straddle Strike $_{k,i,w}$, and; $\tau_{k,w}(t)$ is the number of Factor Calendar Days$_k$ from and including t to but excluding the Expiry Date $_{k,i,w}$, divided by the Business Day Factor$_k$
Factor Calendar Days$_k$	<table><tr><td>k</td><td>Factor Calendar Days$_k$</td></tr><tr><td>USD</td><td>New York Business Days</td></tr><tr><td>USD_SOFR</td><td>New York Business Days</td></tr><tr><td>EUR</td><td>TARGET Business Days</td></tr></table>
Yield Curve	Yield Curve means, in respect of each Index and an Index$_{k,i,p}$ 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$_{k,i,p}$ 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.
PV01$_{k,i,w}$	For any Index$_{k,i,p}$ Business Day t during a Calculation Period$_p$, the present value of 1 unit of Currency k paid over i years with the payment convention matching the Fixed Leg Payment Convention of the Forward Swap$_{k,i,w}$ (as specified in Appendix F) as of the Option Trading Time$_k$ specified in Appendix H on such Index$_{k,i,p}$ Business Day t, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to the Appendix B for more details on the backtest parameters of the Yield Curve methodology.
PV01 Hedge$_{k,i,w}$	For any Index$_{k,i,p}$ Business Day t during a Calculation Period$_p$, the present value of 1 unit of Currency k paid over i years with the payment convention matching the Fixed Leg Payment Convention of the Forward Swap$_{k,i,w}$ (as specified in Appendix F) as of the Delta Trading Time$_k$ specified in Appendix H on such Index$_{k,i,p}$ Business Day t, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to the Appendix B for more details on the backtest parameters of the Yield Curve methodology.
σ implied$_{k,i}$	For any day t, the implied volatility of an straddle denominated in the Currency k on the Forward Swap $_{k,i,t}$ expiring on the Expiry Date $_{k,i,t}$. Please refer to Appendix A for more details on the calculation of σ implied$_{\mathbf{k,i}}$ For the avoidance of double, σ implied$_{k,i}$= 0.01 for a basis points volatility of 100
Premium Start$_{k,i,w}$	For any Calculation Period$_p$ the Reference Straddle$_{k,i,w}$ forward premium as computed on the selling date w $$\text{Premium Start}_{k,i,w} = \frac{\text{Option MtM}_{k,i,w}(w)}{DF_{k,i,w}(w)} - \text{Option Bid/Mid}_{k,i,w}$$
Option Bid/Mid$_{k,i}$	[Option Big/Mid]
TC Schedule	[TC Schedule]
DF$_{k,i,w}$	For any Index$_{k,i,p}$ Business Day t, within the relevant Calculation Period$_p$, the discount factor for 1 unit of Currency k paid on the Forward Swap Date$_{k,i,w}$ as of the Option Trading Time$_k$ specified in Appendix H on such Index$_{k,i,p}$ Business Day t, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to the Appendix B for more details on the backtest parameters of the Yield Curve methodology.
Hedge MtM$_{k,i,w}$	[Formula to measure Hedge MtM$_{k,i,w}$]
Delta$_{k,i,w}$	For any Index$_{k,i,p}$ Business Day t during a Calculation Period$_p$: $$\text{Delta}_{k,i,w}(t) = \text{Black Delta}_{\text{Straddle}}\left(F_t, K, \sigma\ \text{implied}_{k,i}(w), \tau_{k,w}(t)\right)$$ where Black Delta$_{\text{Straddle}}$ is defined in Appendix D. F_t = Forward Swap Rate Delta $_{k,i,w}(t)$, K = Straddle Strike $_{k,i,w}$,

	$\tau_{k,w}(t)$ is the number of Factor Calendar Days$_k$ from and including t to but excluding the Expiry Date $_{k,i,w}$, divided by the Business Day Factor$_k$
Forward Swap Rate Hedge $_{k,i,w}$	For any Index$_{k,i,p}$ Business Day t, the mid-market forward rate for the Forward Swap$_{k,i,w}$ rounded to six decimal places (6 d.p.) as of the Delta Trading Time$_k$ specified in Appendix H on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to the Appendix B for more details on the backtest parameters of the Yield Curve methodology. For the avoidance of double, Forward Swap Rate Hedge$_{k,i,w}$ = 0.01 for forward rate of 1%
Forward Swap Rate Delta $_{k,i,w}$	For any Index$_{k,i,p}$ Business Day t, the mid-market forward rate for the Forward Swap$_{k,i,w}$ rounded to six decimal places (6 d.p.) as of the Delta Calculation Time$_k$ specified in Appendix H on such Day, as determined using the processes and price sources specified in the Yield Curve methodology. Please refer to the Appendix B for more details on the backtest parameters of the Yield Curve methodology. For the avoidance of double, Forward Swap Rate Delta$_{k,i,w}$ = 0.01 for forward rate of 1%
Transaction Costs $_{k,i,w}$	[Formula to measure Transaction Cost]
Index Component Disruption Events	**Index Component Adjustment**: If, due to the occurrence of an error (i) in relation to the calculation or publication of the level of any Index, or (ii) in the method for determining any 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). **Price Source Disruption**: In the event that any Price Source fails to publish a level in relation to any component of an Index which is required in order to calculate the level of the Index on any day (other than as a result of an Index Component Disruption), the Calculation Agent shall determine the level of such component of the Index using such alternative Price Sources as it deems relevant, or, in the absence of any alternative Price Sources, in its sole discretion. "**Price Source**" means, in respect of an Index Component, the publication, page (or any other origin of reference) containing (or reporting) the prices, levels, rates or other data utilised by the Calculation Agent for such component. References to "Price Source" shall be construed as referring also to any successor page, publication or information on which the relevant rate may be published as determined by the Calculation Agent in its sole discretion acting in a commercially reasonable manner. **Market Disruption**: If, in the sole opinion of the Index Sponsor, a Market Disruption Event has occurred or is occurring, including in respect of an Index Component utilised to calculate the level of an Index on any day, then the Index Sponsor may (with a view to preserving the objective of the Index): 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 a Market 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 ii. not calculate and publish the Index level for such day or delay the publication; or 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 the level of 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"). "**Disruption Cut-off Date**" means the 5th Index Business Day from and including the original day. The determination by the Index Sponsor in its sole discretion that one or more of the following events (eacha "**Market Disruption Event**") has occurred: (a) the material suspension of, a material limitation imposed on, or the cessation of the trading in any Index Component; (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; (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; (d) a material change by the Price Source in the content, composition, constitution of, or in the formula for or method of calculating (a "**Material Change**") 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); (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); or (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); (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 (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.
Index Modification	Upon the occurrence of an Index Modification Event, the Index Sponsor may i. remove or replace such affected Index Component with an alternative futures or options contract, currency, rate, variable or other component (a "**Replacement Index Component**") which, in it 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 ii. make such other adjustments as it deems appropriate to take such event into account (including without limitation replacing certain Price Sources used for determining the Yield Curve). The Index Sponsor may refrain from publishing the Index until the Index Modification Event ceases to exist. 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 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. An "**Index Modification Event**" means (a) the existence or occurrence of an Extraordinary Event and (b) shall be deemed to have occurred if 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, cancellation, 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 objective; or (c) 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; (ii) is repeatedly different to a significant extent from the level of such data prevailing in the market; or (iii) no longer accurately and reliably represents the interest purported to be measured by that data, each as determined by the Index Sponsor acting in good faith and a commercially reasonable manner; or (d) the Index Sponsor determines, in its sole discretion, that any input data and/or price source in relation to an Index Component used to calculate the Index is no longer sufficient to represent accurately and reliably the market and economic reality that the Index is intended to measure, or 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 Appendix 2, Section 6 of the Control Framework Summary ("Data Sufficiency and Hierarchy of Input Data"); or **Extraordinary Event** means in respect of any Index Component means any of Change in Law, Instrument Disruption and/or Increased Cost of Index Implementation. **Change in Law** 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). **Instrument Disruption** 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 any restriction on making new or additional investments in any Index Component. **Increased Cost of Index Implementation** 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).
Index Component	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.
Index Cancellation	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).

Index Disclaimer	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. 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. 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 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.

Appendices	[Appendices]

Additional information in respect of the Index methodology

The Index Sponsor has established a governance framework (the "**Governance Policy and Control Framework**") to ensure compliance with UK BMR[1] and the IOSCO Principles for Financial Benchmarks (FR07/13, July 2013) and any related measures and applicable FCA rules (as amended or replaced from time to time)[2].

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 "**Control Framework Summary**") is published on: www.nomuranow.com/portal/site/nnextranet/en/global-markets/structured-derivatives/quant-investment-strategies.shtml.

Please refer to the summary of the Governance Policy and Control Framework in respect of the following information applying to the Index methodology:

Index Development Criteria and Input Data and Source Selection	The criteria and procedures used to develop this Index are set out in Appendix 2, Section 3 of the Control Framework Summary ("Index Design and Creation of New Indices and Methodologies").
Exercise of Expert Judgment and discretion	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").
Input Data Type Priority	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 Input Data") when considering the data inputs used to construct the Index.
Index Error Reports and Revision	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.
Quantity and Quality of Input Data	The Index is constructed by the Index Sponsor using both single prices or levels and an average or other formula of 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. 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 Input Data"). These standards are reflected in the Index methodology, as described in this Index 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.
Internal Reviews of the Index	The Index Sponsor is required to conduct internal reviews of the Index on a periodic basis. Further details regarding the frequency of those reviews and the procedures to be followed are contained in Appendix 2, Section 16 of the Control Framework Summary ("Periodic Review of Indices"). 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

[1] UK BMR means the United Kingdom Benchmark Regulation which comprises Regulation (EU) 2016/1011 ("EU BMR") as amended by Regulation (EU) 2019/2089 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks insofar as they are applicable in the United Kingdom by virtue of the European Union (Withdrawal) Act 2018 and other United Kingdom legislation which implements and amends retained European Union law in the United Kingdom including, but without limitation, the Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019, SI 2019/657.

2 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 EU BMR and will be updated in due course to reflect the requirements of UK BMR, as well as related measures and applicable FCA rules

	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.
Index Approval	The criteria and procedures used to approve the Index 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 and Methodologies").
Investor Consultation upon Index termination and material changes to the Index methodology	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.
Active Market of the Index	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.
Outsourcing of Index Determination	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").

Important Risks and Disclosures in Relation to Each Index

Suitability

Financial products and transactions which are linked to the Index (collectively "Financial Products") are suitable only for investors who:

a) if distributed into the US, are or are advised by investment advisors that are qualified institutional buyers as defined in Rule 144A under the Securities Act of 1933, as amended; and if distributed into Singapore investors who are Institutional Investors as defined in Securities and Futures Act, Chapter 289, as amended;
b) have the requisite knowledge and experience in financial and business matters to evaluate the merits and risks of an investment in the Financial Products;
c) understand thoroughly the terms and conditions of the Financial Products and are familiar with the relevant underlying and markets and how the performance thereof may affect the payments and value of the Financial Products;
d) have access to, and knowledge of, appropriate analytical tools to evaluate such merits and risks in the context of their financial situation and the impact the Financial Products will have on their overall investment portfolio;
e) have sufficient financial resources and liquidity to bear all of the risks of an investment in the Financial Products; and
f) have reviewed thoroughly all of the materials provided with respect to the Financial Products and the relevant underlying, including the Risk Factors set forth below.

Investments Based On Hypothetical Straddle Swaptions, Interest Rate Swap Forwards and Interest Rate Volatility Are Not Suitable For All Investors

Each Index provides notional exposure to hypothetical straddle swaptions and hypothetical interest rate swap forwards, and seeks returns based on the difference between implied and realised interest rate volatility. An investment in any Index is exposed to the performance of notional short positions in hypothetical straddle swaptions and notional long or short positions in hypothetical interest rate swap forwards, the value of which is based on interest rate movements. The values of hypothetical straddle swaptions and hypothetical interest rate swap forwards can be volatile and move dramatically over short periods of time. Because of the large and sudden value movements associated with hypothetical straddle swaptions and hypothetical interest rate swap forwards, an investment in any Index is suitable only for sophisticated investors who understand the risks associated with investments linked to short positions in hypothetical straddle swaptions, long/short positions in hypothetical interest rate swap forwards and exposure to interest rate volatility.

Risk Factors Relating to Each Index

Complexity of the Indices

Each Index is complex and takes multiple positions in hypothetical straddle swaptions and hypothetical interest rate swap forwards. Hypothetical straddle swaptions and hypothetical interest rate swap forwards constitute risky investments the value of which can change dramatically over short periods of time depending upon various factors. Thus, an investor must have the requisite knowledge and understanding of hypothetical straddle swaptions, hypothetical interest rate swap forwards and volatility so as to be able to assess the significant risks associated with the Indices and the Financial Products.

Performance Risk

There is no assurance that any Index will achieve positive returns, and the level of each Index may decline significantly over any given period.

As each Index targets returns based on the potential volatility risk premium related to the underlying hypothetical interest rate swap forwards, each Index will tend to perform well when the implied volatility of the hypothetical interest rate swap forwards, measured at the time the notional short positions in the hypothetical straddle swaptions are taken, is greater than their actual realised volatility. On the other hand, each Index will tend to perform poorly when the actual realised volatility of the underlying hypothetical interest rate swap forwards exceeds their implied volatility, measured at the time the notional short positions in the hypothetical straddle swaptions are taken. For example, an Index will perform poorly when the underlying hypothetical interest rate swap forward is unstable and experiences large, sudden changes in value, in which case such Index can experience sharp, severe losses. Further, because of the leveraged nature of the Indices (as described below), each Index will lose value on an accelerated basis under such circumstances. Additionally, because each Index takes notional short positions in hypothetical straddle swaptions, there is no limit to the amount by which the level of each Index may decline. Unlike long positions, short positions are subject to unlimited risk of loss because there is no limit on the amount by which realised volatility may increase. Therefore, the level of each Index may decline to zero or may even be negative.

Strategy Risk

Each Index aims to implement a "volatility risk premium" investment strategy that seeks to provide returns based on the difference between implied, or expected, volatility and realised, or actual, volatility relating to prices of hypothetical interest rate swap forwards.

This volatility risk premium strategy is based upon the hypothesis that implied volatility of hypothetical interest rate swap forwards is generally greater than realised volatility of the hypothetical interest rate swap forwards. Implied volatility represents the expectation of future daily movements of the hypothetical interest rate swap forwards, regardless of direction, and realised volatility is the actual magnitude of daily movements in the hypothetical interest rate swap forwards, regardless of direction.

Implied volatility of the hypothetical interest rate swap forwards is measured by reference to the prices of options contracts on the hypothetical interest rate swap forwards (swaptions). Risk-averse investors are generally willing to pay a premium for the insurance offered by sellers of an option contract, and therefore the prices of options contracts reflect this desired transfer of risk. Any potential volatility risk premium is therefore caused by the premium price that investors are willing to pay for portfolio insurance offered by options contracts. Under normal market conditions, implied volatility of the hypothetical interest rate swap forwards has historically been greater than realised volatility of the hypothetical interest rate swap forwards. However, during times of market stress, realised volatility may exceed implied volatility, and in those and perhaps other cases, the volatility risk premium strategy will suffer significant losses.

There can be no assurance that the Indices' strategy will be effective, and each Index may not achieve its stated investment objectives. Each Index has been constructed on the basis of certain historically observed trends and assumptions, which may not prove to be correct in any future period. Additionally, each Index's methodology is fixed, and the Index rules will not change in response to changing market conditions.

Moreover, even if a volatility risk premium strategy on the hypothetical interest rate swap forwards would be generally successful, the manner in which the Indices implement their volatility risk premium strategy may prove to be unsuccessful. The methodology of each Index has set parameters to determine the strike level and the notional amount of the hypothetical straddle swaptions. A volatility risk premium strategy on the hypothetical interest rate swap forwards could alternatively be implemented using longer-term or shorter-term expiries or underlying interest rate swap tenors for the hypothetical straddle swaptions, or with different parameters to determine the strike levels and notional amounts of the hypothetical straddle swaptions and the delta hedge amount. Each Index's parameters could hinder an effective implementation of a volatility risk premium strategy, and no assurance can be given that the Index's methodology will not underperform any alternative implementation of a volatility risk premium strategy.

Movements in Implied Volatility Will Affect the Value of Each Index

Each Index takes notional short positions in the hypothetical straddle swaptions on the hypothetical interest rate swap forwards. The relationship of an option's price to implied volatility is such that, all else being equal, the price of the option is expected to fall as implied volatility decreases, and the price of the option is expected to rise as implied volatility increases. Each Index's notional short exposure to the hypothetical straddle swaptions is therefore effectively similar to a short position in the implied volatility of the hypothetical interest rate swap forwards. Therefore, each day, changes in implied volatility levels will affect the value of each Index. Specifically, increases in implied volatility will increase the prices of the hypothetical straddle swaptions in which each Index holds notional short positions, which will reduce the value of each Index.

Risks Relating to Delta-Hedging

Delta-hedging seeks to reduce the risk of exposure to movements in the underlying interest rates such that each Index remains exposed primarily to changes in market volatility. However, the delta-hedging process is imperfect, will not completely mitigate the interest rate risk within each Index and will result in reductions to the level of each Index that will need to be offset by gains from the diminishing value of the notional short position in the hypothetical straddle swaptions over time (based on the volatility risk premium strategy) or the applicable Index will decline in value.

Options price movements do not correlate in a linear fashion to price movements of the related underlying asset. As the value of the underlying hypothetical interest rate swap forward moves up or down, the value of the hypothetical straddle swaptions will move on a fractional basis in relation to the move of the underlying hypothetical interest rate swap forward. The delta of the hypothetical straddle swaptions (i.e., the rate of changes in the hypothetical straddle swaptions' value relative to changes in the value of the hypothetical interest rate swap forwards) is not static and changes based on many factors, including but not limited to, volatility, time to expiration and the value of the underlying hypothetical interest rate swap forward. Thus, using the delta of the hypothetical straddle swaptions to determine the magnitude of the notional long or short positions in the underlying hypothetical interest rate swap forward taken by each Index will not result in a perfect hedge because the actual delta is constantly changing,

Risks Related to Interest Rates

The performance of each Index will depend on the values of interest rate swaps and options on interest rate swaps. Interest rates are subject to volatility due to a variety of factors, including:

- sentiment regarding underlying strength in the economies of the countries for which the currencies are legal tender;
- expectations regarding the level of price inflation in such countries;
- sentiment regarding credit quality in such countries, as well as in global credit markets generally;
- the policies of worldwide central banks regarding interest rates; and
- the performance of capital markets.

Fluctuations in interest rates will affect the level of each Index.

Each Index's Hypothetical Straddle Swaptions and Hypothetical Interest Rate Swap Forwards Are Hypothetical, and Price Data Are Not Publicly Available and Will Be Determined by the Index Sponsor

The hypothetical straddle swaptions and the hypothetical interest rate swap forwards (referred to collectively as the "index components") are each hypothetical, and price data for the index components are not publicly available. The Index Sponsor determines the price of each index component by referencing data that are predominantly publicly available relating to the applicable index components, and by then using a proprietary model that is meant to approximate a market-standard method of determining the price of the applicable index component. However, there is no single accepted market-standard method for determining the prices of the index components. The proprietary model used by the Index Sponsor may differ in certain respects from alternative methods of determining the prices of the index components, and the prices determined by the Index Sponsor may therefore differ from prices determined through such alternative methods. In addition, the pricing of interest rate swaptions is inherently more complex than the pricing of many other options because interest rate swaption value is a function of a forward swap rate. The Index utilises a formula to value the hypothetical interest rate swaptions. This may differ from valuation models used by other market participants, which may be more complex. In the event that any price data necessary to calculate the levels of the Indices are unavailable on the price sources set forth in the relevant Index Rulebook, the Index Calculation Agent may determine such price data in its sole discretion, acting in a manner that it reasonably believes will be consistent with the objectives of the Indices.

There can be no assurance that the prices of the index components determined by the Index Sponsor will correspond to prices of actual interest rate swaptions or interest rate swap forwards. You will not necessarily have access to all of the data used by the Index Sponsor in determining the prices of the index components, and you may not be able to determine the prices of the index components on any given day.

Impact of Index Charges

Each Index deducts transaction-based charges from its level.

The Index charges will reduce the level of each Index in all cases, whether the Index performs well or poorly, and will need to be offset by gains from the volatility risk premium strategy in order for each Index to appreciate.

Risk of Inopportune or Disadvantageous Exposure to the Hypothetical Straddle Swaptions

Each Index's volatility risk premium strategy is based upon the hypothesis that implied volatility of hypothetical interest rate swap forwards is generally greater than realised volatility of the hypothetical interest rate swap forwards; however, each Index does not take into account current market conditions regarding either implied volatility or realised volatility when taking new positions in the hypothetical straddle swaptions.

Therefore, the Index may take new positions that subsequently lead to a loss, which could have been avoided had the Index used set parameters to determine when to take new positions based on current market conditions.

Risks Related to the Strike Levels of the Hypothetical Straddle Swaptions

The determination of the strike level is fixed and will not change based on changing market conditions There is no guarantee that the hypothetical straddle swaptions' strike levels will result in positive returns, and they may underperform a strategy that sells hypothetical swaptions with different strikes.

Each Index's Investments Are Entirely Hypothetical

The exposure to the hypothetical straddle swaptions and hypothetical interest rate swap forwards provided by each Index is purely notional and will exist solely in the records maintained by or on behalf of the Index Calculation Agent. There is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Consequently, you will not have any ownership rights with respect to any of the hypothetical straddle swaptions or hypothetical interest rate swap forwards that each Index references.

Each Index is Calculated on an Unfunded/Excess Return Basis

Each Index is calculated on an "unfunded" or "excess return" basis and not on a "total return" basis. As excess return Indices, each Index reflects the returns that are potentially available through an investment in the notional positions held by such Index. By contrast, a total return Index, in addition to reflecting those returns, also reflects interest that could be earned on funds committed to the trading of the underlying positions. None of the Indices include such a total return feature.

Past Performance is No Guide to Future Performance

The historical levels of any Index should not be viewed as an indication of its future performance. The actual performance of an Index during any future period may bear little or no relation to its historical performance. No one can predict with any degree of certainty the future performance of any Index. This will be particularly the case in periods of greater market stress.

Lack of Operating History; Back-Tested Performance

Each Index does not have sufficient data upon which to evaluate long-term performance over various economic cycles. Any performance information for periods prior to the inception of each Index represents simulated returns based on back-tested data, intended to illustrate how the relevant Index may have performed had it been created in the past, but those simulations are subject to many limitations. Unlike actual historical performance, such simulations do not reflect actual trading, liquidity constraints and other factors that may affect the results obtained from such back-tested data, should not be considered indicative of the actual results that might be obtained from an investment in any Index, and the actual performance of each Index may vary significantly from the results obtained from back-testing. Unlike an actual performance record, simulated results are achieved by means of the retroactive application of a back-tested model which was itself designed with the benefit of hindsight and knowledge of factors that may have possibly affected its performance. In addition, the model used to simulate these hypothetical returns is based on certain data, assumptions and estimates. Different models or models using different data, assumptions and estimates might result in materially different hypothetical performance results. Due to inherent limitations in hypothetical performance results, there may frequently be significant differences between hypothetical performance results and the actual results subsequently achieved.

Disruptions may Impact Performance

Interest rate markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, market fragmentation, the participation of speculators and government regulation and intervention. These circumstances could adversely affect the level of the Index. Accordingly the Index Sponsor has attempted to describe in the Index methodology (through appropriate fallback provisions) the particular disruptions or periods of stress that may affect the Index from time to time, including circumstances where transaction data sources may become insufficient, inaccurate, unreliable or absent; as well as the potential consequences that these events may have on the determination and/or publication of the Index. The Index is also reviewed periodically to ensure that any input data used in the determination of the Index remains appropriate, sufficient, and reliable to accurately reflect the market or economic reality that the Index is intended to measure, including in response to market conditions. Changes to the data used and/or the data sources may therefore become necessary to ensure that these standards are met on an ongoing basis.

The Index methodology Was Amended On SOFR Switch Date Such That the USD Swaption Straddles Reference SOFR Instead of LIBOR

Interest Rate Benchmark Reform May Adversely Affect the Value of the Index

The Index consists of market standard interest rate swaptions and swaps in major markets. The convention for swaptions is to refer to an interest rate for the floating rate leg. As of the date of this document, the USD swaptions reference SOFR (which was recently modified from LIBOR, as described herein) and the EUR swaptions refer to EURIBOR.

Certain interest rates which are deemed to be "benchmark" rates have been the subject of national, international and other regulatory guidance, reform and other actions. This has resulted in regulatory reform and changes to existing benchmarks. Such reform of benchmarks includes the EU Benchmarks Regulation and the UK Benchmarks Regulation (together with the EU Benchmarks Regulation, the "Benchmarks Regulations"), which apply to the provision of benchmarks, the contribution of input data to a benchmark and the use of a benchmark within the EU and the UK, respectively. Among other things, the Benchmarks Regulations (i) require benchmark administrators to be authorised or registered (or, if non-EU-based or non-UK based, to be subject to an equivalent regime or otherwise recognized or endorsed) and (ii) prevent certain uses by EU and UK supervised entities, as applicable, of benchmarks of administrators that are not authorised or registered (or if non EU-based or UK-based, as applicable, not deemed equivalent or recognized or endorsed). The Benchmarks Regulations could have a material impact on the Indices, in particular, if the methodology or other terms of the benchmark are changed in order to comply with the requirements of the Benchmarks Regulations. Such changes could, amongst other things, have the effect of reducing, increasing or otherwise affecting the volatility of the published rate or level of the relevant benchmark.

In addition, in the future, benchmark rates could be subject to further regulatory scrutiny, reform efforts and/or other actions. Any such regulatory scrutiny, reform efforts and/or other actions could increase the costs and risks of administering or otherwise participating in the setting of a "benchmark" and complying with applicable regulations or requirements. Such factors may have the effect of discouraging market participants from continuing to administer or contribute to certain "benchmarks", trigger changes in the rules or methodologies used in certain "benchmarks" or lead to the elimination, discontinuance or obsolescence of certain "benchmarks". Following the implementation of reforms, the manner of administration of benchmarks may change, with the result that they may perform differently than in the past, or the benchmark could be eliminated or discontinued entirely, or there could be other consequences that cannot be predicted. Even prior to the implementation of any changes, uncertainty as to the nature of potential alternative reference rates and as to the nature and effect of potential changes to such benchmark may adversely affect such benchmark. Any of the foregoing consequences could have a material adverse effect on the Indices if they reference such benchmarks.

The Index's EUR swaption straddles reference EURIBOR. EURIBOR is subject to the Benchmarks Regulations. In response to regulatory scrutiny and applicable legal requirements, the European Money Markets Institute (EMMI), as administrator of EURIBOR, conducted a series of consultations on a proposed reformed hybrid methodology for EURIBOR. In July 2019, EMMI published its EURIBOR Benchmark Statement setting forth its reformed hybrid methodology and received regulatory authorization for the continued administration of EURIBOR. Although EURIBOR has been reformed in order to comply with the terms of the EU Benchmarks Regulation, its future remains uncertain. It is not known how long EURIBOR will continue in its current form. Any of these developments could have a material adverse effect on the value and the return on the Indices that reference EURIBOR.

These circumstances may cause disruption events in the interest rate swaption and swap markets, including but not limited to having a material adverse effect on the liquidity of interest rate swaptions and swaps, upon which the Index Sponsor/Index Calculation Agent may exercise a certain amount of discretion in determining the prices of the index components and the level of the Indices. See the Index Rulebook for a description of potential disruption events and their consequences.

As described under “The Index Methodology Was Amended On SOFR Switch Date Such That the USD Swaption Straddles Reference SOFR Instead of LIBOR” the Indices that reference USD swaption straddles have already been modified to reference SOFR in lieu of LIBOR. The Index Sponsor may further amend the methodology of an Index as it deems appropriate, including adjusting the Index’s prescribed interest rate swaption and swap conventions and calculation methodology, replacing index components with those consistent with an alternative rate and accounting for any increase in cost and any spread adjustment in relation to such adjustments; or the Index Sponsor may decide to permanently cancel and discontinue calculating and publishing the Index. Such decisions would likely need to be made based on a limited sample of historical data on the new rates, and any decision to amend the methodology may require calculations to use a blend of historical IBOR swaps and RFR swaps data for a certain period. The use of any replacement rate or replacement index component and the related adjustments to the methodology of the Index made to reflect the relevant replacement may adversely affect the Index performance. Further, such action taken, or discretion exercised, by the Index Sponsor may result in benefits to Nomura International plc or any of its affiliates and/or losses to an investor. If an Index is terminated, any transaction linked to such Index may be terminated early at a value reflecting a level of the index that may be considerably less than the last published level of the Index, and such level may even be zero or negative.

Conflicts of Interest

Nomura International plc is the Index Sponsor of each Index, and is therefore responsible for the administration of each Index, including maintaining each Index, as well as calculating and publishing the levels of each Index, based on a proprietary model and relying on market information. In addition, Nomura International plc (or any of its affiliates) will be the Nomura counterparty to any investment product entered into based on any Index. This gives rise to potential conflicts of interest.

In respect of any index-linked investment product Nomura International plc or any of its affiliates enters into, Nomura International plc (or any of its affiliates) will typically enter into hedging and pre-hedging transactions. Such hedging and pre-hedging activities will typically involve trading the instruments underlying the relevant Index or instruments related to those underlying the relevant Index. Potentially market sensitive information, such as Index signal determinations, are shared with the respective trading desk in order to risk manage Nomura International plc’s (or its affiliates’) index-linked investment products in the normal course of its hedging activities. There is no physical separation between the Index Sponsor and other front office functions within Nomura International plc. Nomura International plc and its affiliates may also trade otherwise (either for proprietary accounts or their client accounts), in the normal course of business, in each Index, in instruments underlying each Index or in instruments related to those that are linked to any of the foregoing, which may affect the level of any Index. These trading activities may present a conflict between the interests of an investor that is considering whether or not to enter (or has already entered) into an investment product based on the Index with Nomura International plc or any of its affiliates and the interests that Nomura International plc and its affiliates will have in their risk management of any index-linked investment product, in their proprietary accounts, in facilitating transactions for their customers and in accounts under their management.

In the ordinary course of business, Nomura International plc or any of its affiliates may have expressed views on expected movements in each Index and/or in any of the instruments underlying an Index and may do so in the future. These views or reports may be communicated to the clients of Nomura International plc or any of its affiliates. However, any such views are and will be subject to change from time to time. Moreover, other professionals who deal in markets relating to the Index and/or any instruments underlying an Index may at any time have significantly different views from those of Nomura International plc or its affiliates.

In addition, Nomura International plc or any of its affiliates may, from time to time, publish research that may influence the level of any Index, or may express opinions or provide recommendations that are inconsistent with the investment views inherent in the Indices.

Neither the creation, calculation or maintenance of the Indices nor any view which Nomura International plc or any of its affiliates may from time to time express constitutes a recommendation as to the merits of any investment product based on any of the Indices.

Impact of Pre-hedging, Hedging and Trading Activities

Each Index was designed by Nomura International plc with the intention of earning a profit for the Nomura Group through entering into transactions linked to each Index, including pre-hedging and hedging transactions. Pre-hedging and hedging activities conducted by Nomura International plc or any of its affiliates relating to an Index involve trading in the index components, which in some cases may be of low liquidity. It is possible that hedging activities conducted by Nomura International plc and its affiliates in relation to an Index will lead to movements in the relevant index components markets that could adversely affect the performance of the applicable Index. Nomura International plc and its affiliates may realise a profit in connection with pre-hedging and hedging activities regardless of whether the level of each Index increases or decreases.

Index Sponsor / Index Calculation Agent Discretion

Each Index was developed and is calculated and published by Nomura International plc, as Index Sponsor and Index Calculation Agent. As the Index Sponsor and Index Calculation Agent, Nomura International plc is responsible for and has determinative influence over each Index’s composition, calculation and maintenance. The potentially subjective judgments that Nomura International plc, as Index Sponsor and Index Calculation Agent, makes in connection with the composition, calculation and maintenance of each Index, could have an adverse effect on the level of any Index.

Nomura International plc maintains certain discretion (i) to determine whether certain types of disruption events have occurred, (ii) to determine any resulting adjustments and calculations and (iii) to make such other determinations or adjustments necessary to calculate the level of each Index. In such circumstances, Nomura International plc may delay publication of the Index level for any Index and/or may estimate the value of a disrupted index component to determine the level of any Index, or may make such further adjustments to any Index as it deems necessary.

This may include the removal or replacement of any affected index component by the Index Sponsor, in which case the Index Sponsor shall make any other adjustments to the affected Index to account for the price or value of the affected index component at the time of its removal and any related costs. This may mean that the economic benefit, if any, of the replacement component is reduced or that the replacement has a material adverse effect on the applicable Index's performance. For example, and without limitation, the value of the replacement component may be adjusted by the same proportion as any fall in the value of the affected index component at the time of its removal relative to the live date of the relevant Index and may be further reduced to account for the cost to the Index Sponsor for implementing the replacement instrument.

The exercise by Nomura International plc of these prescribed and non-prescribed discretion is governed by Appendix 2, Section 14 ("Expert Judgement and Discretion") of the summary of the Index Sponsor's Governance Policy and Control Framework (as may be amended and/or updated from time to time), and will have direct impact on the level of the affected Index. The Governance Policy and Control Framework is available at: www.nomuranow.com/portal/site/nnextranet/en/global-markets/structured-derivatives/quant-investment-strategies.shtml.

Potential Adjustments to an Index

The Index Sponsor has the authority to amend the methodology of any Index and/or make such adjustments to the index methodology as it considers appropriate, in each case in its sole discretion acting in good faith, in order to take into account events or changes in the relevant underlying markets or to preserve the investability and objective of the applicable Index (including cancelling any Index in certain circumstances). Such action taken, or discretion exercised, by the Index Sponsor may result in benefits to Nomura International plc or any of its affiliates and/or losses to an investor.

Potential Termination of an Index

Nomura International plc may decide to permanently cancel and discontinue calculating and publishing any Index at any time. There is no guarantee that any Index will continue to be calculated for the full duration of any transaction linked to such Index.

If any Index is terminated, any transaction linked to such Index may be terminated early at a value reflecting a level of such Index that may be considerably less than the last published level of such Index, and such level may even be zero or negative.

Disclaimer

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