

# Nomura Commodity Trend Indices – Index Rulebook

18-May 2020

For further information, including the risks in relation to the Indices, 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”).

## Index Determination

### Index Sponsor

Nomura International plc (“NIP”) who is responsible for the administration of the Index.

### Index Start Date

For each index of the Nomura Trend Indices, the relevant start date as set out in the Index Specifications Table in the Appendix.

### Index<sup>z</sup>

Each index of the Nomura Commodity Trend Indices, which is built using the methodology described in this rulebook.

### Level of Index<sup>z</sup><sub>t</sub>

The level of the Index in respect of Index Business Day t, for Index z as defined in Index Specifications Table

### Index<sup>z</sup><sub>t</sub>

For any Index Business Day t, Index<sup>z</sup><sub>t</sub> shall be equal to:

$$\text{Index}_t^z = \text{Index}_{t-1}^z + \sum_j \text{Index}_{t,\text{reset}}^{z,j} \times w^{z,j} \times \text{Return}_t^j$$

Where

t-1 denotes the Index Business Day immediately preceding Index Business Day t,

w<sup>z,j</sup> is defined in Index Specifications Table,

∑<sub>j</sub> is taken over all Sub-Index<sup>j</sup> excluding those that are not marked as applicable as defined in the Sub-Index Specifications Table,

Index<sup>z</sup><sub>t</sub> for Index<sup>z</sup><sub>Start Date</sub> = 100, and

Index Start Date with respect to each Index<sup>z</sup> is defined in the Index Specifications Table.

### Index<sup>z,j</sup><sub>t,reset</sub>

For each Index<sup>z</sup> and Sub-Index<sup>j</sup>, with respect to any Index Business Day t where a Sub-Index<sup>j</sup> Limit Event did not occur on Index Business Day t-1

The Level of Index<sup>z</sup><sub>t</sub> on a day that is one Index Business Day prior to the immediately preceding Scheduled Roll Date.

With respect to any Index Business Day t on which a Sub-Index<sup>j</sup> Limit Event has occurred or is continuing:

$$\text{Index}_{t,\text{reset}}^{z,j} = \text{Index}_{t-1,\text{reset}}^{z,j}$$

Where

t-1 denotes the Index Business Day immediately preceding Index Business Day t.

### Return<sup>j</sup><sub>t</sub>

For any Index Business Day t

$$\text{Return}_t^j = \text{Position}_{t-1}^j \times \text{Sub-Index Daily Return}_{t-1}^{j,N,1} - \text{Trading Charge}_{t-1}^j$$

Where

t-1 denotes the Index Business Day immediately preceding Index Business Day t.

## Index Position

### Position<sup>j</sup><sub>t</sub>

With respect to each Index Business Day where a Sub-Index<sup>j</sup> Limit Event did not occur on Index Business Day t for Sub-Index<sup>j</sup>

<b>Daily Signal<sub>t</sub><sup>j</sup></b>	[formula to Measure Position]  With respect to each weekday t [formula to Measure Daily Signal]
<b>Daily Volatility Scale<sub>t</sub><sup>j</sup></b>	With respect to each weekday t [formula to Daily Volatility Scale]
<b>Volatility<sub>t</sub><sup>j,x,y</sup></b>	With respect to each weekday t [formula to Volatility]
<b>Return<sub>t</sub><sup>j,x</sup></b>	With respect to each weekday t  $\text{Return}_t^{j,x} = \sum_{k:t-x+1}^t \text{Sub-Index Daily Return}_k^{j,N,1}$ Where the summation is taken with respect to each weekday, and x refers to the length of the summation window of Sub-Index Daily Return <sub>t</sub> <sup>j</sup>

<b>Index Components</b>	
<b>Sub-Index Daily Return<sub>t</sub><sup>j,k,i</sup></b>	With respect to each weekday t that is an Index Business Day  $\text{Sub-Index Daily Return}_t^{j,k,i} = \left( \frac{\text{Sub-Index}_t^{j,k,i} - \text{Sub-Index}_{t-1}^{j,k,i}}{\text{Sub-Index}_{t,\text{reset}}^{j,k,i}} \right)$ With respect to any other weekday t  $\text{Sub-Index Daily Return}_t^{j,k,i} = 0$ Where t-1 denotes the Index Business Day immediately preceding Index Business Day t.
<b>Sub-Index<sub>t</sub><sup>j,k,i</sup></b>	For any Index Business Day t, the level of Sub-Index for day t as determined by the Index Sponsor in accordance with the methodology of Sub-Index <sup>j</sup> .
<b>Sub-Index<sub>t,reset</sub><sup>j,k,i</sup></b>	For any Index Business Day t, the level of Sub-Index <sub>t,reset</sub> <sup>j,k,i</sup> for day t as determined by the Index Sponsor in accordance with the methodology of Sub-Index <sup>j</sup> .

<b>Index Charges</b>	
<b>Trading Charge<sub>t</sub><sup>j</sup></b>	With respect to each Index Business Day t that falls within a Roll Period and if Underlying Future <sub>t</sub> <sup>j,N,1,current</sup> is different from Underlying Future <sub>t</sub> <sup>j,N,1,previous</sup> , then  $\text{Trading Charge}_t^j = \left\{ \begin{aligned} & \left  \text{Position}_t^j \times \text{Roll Weight}_t^{j,N,1} - \text{Position}_{t-1}^j \times \text{Roll Weight}_{t-1}^{j,N,1} \right  \\ & \times \left( \text{Charge A}^j + \frac{\text{Charge B}^j}{\text{Future}_{t+1,\text{reset}}^{j,N,1,\text{current}} \times \text{Contract Size}^j} \right) \end{aligned} \right\}$ $+ \left\{ \begin{aligned} & \left  \text{Position}_t^j \times (1 - \text{Roll Weight}_t^{j,N,1}) - \text{Position}_{t-1}^j \times (1 - \text{Roll Weight}_{t-1}^{j,N,1}) \right  \\ & \times \left( \text{Charge A}^j + \frac{\text{Charge B}^j}{\text{Future}_{t+1,\text{reset}}^{j,N,1,\text{previous}} \times \text{Contract Size}^j} \right) \end{aligned} \right\}$ Otherwise,

$$\text{Trading Charge}_t^j = \left\{ \left| \text{Position}_t^j - \text{Position}_{t-1}^j \right| \times \left( \text{Charge A}^j + \frac{\text{Charge B}^j}{\text{Future}_{t+1, \text{reset}}^{j, N, 1, \text{current}} \times \text{Contract Size}^j} \right) \right\}$$

Where

t-1 denotes the Index Business Day immediately preceding Index Business Day t, and

t+1 denotes the Index Business Day immediately following Index Business Day t.

Charge A<sup>j</sup>, Charge B<sup>j</sup> and Contract Size<sup>j</sup> are defined in the Appendix in Sub-Index Specifications Table

<b>Future<sub>t,s</sub><sup>j,k,i,n</sup></b>	As defined in Nomura Commodity Futures Index Rulebook
<b>Future<sub>t,reset</sub><sup>j,k,i,n</sup></b>	As defined in Nomura Commodity Futures Index Rulebook
<b>Underlying Future<sub>t</sub><sup>j,k,i,n</sup></b>	As defined in Nomura Commodity Futures Index Rulebook
<b>Roll Period<sup>j,k,i</sup></b>	As defined in Nomura Commodity Futures Index Rulebook
<b>Roll Weight<sub>t</sub><sup>j,k,i</sup></b>	As defined in Nomura Commodity Futures Index Rulebook
<b>Roll Day<sub>t</sub><sup>j,k,i</sup></b>	As defined in Nomura Commodity Futures Index Rulebook

## General Definitions

<b>Index Business Day</b>	As defined in Nomura Commodity Futures Index Rulebook
<b>Index Trading Business Day</b>	Each Index Business Day
<b>Scheduled Roll Date</b>	As defined in Nomura Commodity Futures Index Rulebook
<b>Sub-Index Limit Event</b>	As defined in Nomura Commodity Futures Index Rulebook under section Index Limit Event
<b>Index Publication</b>	With respect to each Index Business Day, the Rounded Index Level will be published to the Index Price Source specified in the Index Specifications Table.
<b>Rounded Index Level</b>	Rounded Index Level means the Index Level (Index <sub>t</sub> <sup>z</sup> ) rounded to the nearest number decimal places specified in the Index Specifications Table.

## Disruption Provisions

<b>Index Adjustment</b>	<p>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 “<b>Adjustment Determination Date</b>”) 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).</p> <p>The Index Sponsor may correct errors in accordance with 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.</p>
<b>Consequences of Sub-Index Correction</b>	If in a relation to a Sub-Index, at any time the Index Sponsor of that Sub-Index corrects the level or value of a Sub-Index subsequent to publication, the Index Sponsor will make all calculations and determinations in respect of the Index by reference to such corrected level of the Sub-Index.
<b>Index Disruption</b>	If, in the opinion of the Index Sponsor, on any day an Index Disruption Event has occurred or exists or is occurring in respect of a Sub-Index or the Index then the Index Sponsor may take one or more of the following actions in its discretion, with a view to preserving the objective of the Sub-Index or Index (regardless of whether or not a level of the affected Sub-Index has been published by the Index Sponsor in respect of such day):

- (i) delay any rebalancing and/or calculation of the Index (an “**Index Determination Date**”) until the relevant Index Disruption Event no longer exists, *provided that*, if such Index Disruption Event is continuing on the [Number] Index Business Day following any such Index Determination Date (the “**Delayed Index Determination Date**”), then the Index Sponsor will determine the level of the relevant Sub-Index (including any affected Sub-Index component) in respect of such Index Determination Date as of on the related Delayed Index Determination Date in accordance with (ii) below; and/or
- (ii) determine the level of the affected Sub-Index for such day in accordance with the formula for and method of calculating such Sub-Index taking into account the relevant Index Disruption Event, latest available quotation of the Sub-Index and its Sub-Index Components and any other information the Index Sponsor deems relevant in its discretion, having regard to the standard of input data quality for the Sub-Index or Index as determined by the Index Sponsor during the design of the Sub-Index or Index, as set out in Appendix 2, Section 6 of the Control Framework Summary (“Data Sufficiency and Hierarchy of Input Data”), and/or
- (iii) not calculate and publish the Index level for such day or delay the publication; and/or
- (iv) make any adjustments to the Index methodology to account for the relevant Index Disruption Event as it deems necessary

## Index Disruption Event

Means in respect of a Sub-Index:

- (i) any of the events or circumstances as specified in the in the disruption section in the relevant Index Description of such Sub-Index (as maybe amended and updated from time to time by the Sub-Index Sponsor of such Sub-Index), occurs or exists in relation to a Sub-Index and its components (including, without limitation, any index adjustment, index modification or index disruption); and/or
- (ii) the Sub-Index Sponsor makes or announces that it will make a material change in the formula for or the method of calculating a Sub-Index or in any other way materially modifies or announces that it will materially modify a Sub-Index; and/or
- (iii) on any relevant date on which an Index determination is scheduled to occur, the Sub-Index Sponsor fails to calculate and announce a Sub-Index; and/or
- (iv) on any relevant date on which an Index determination is scheduled to occur, the Sub-Index Price Source fails to publish a level for a Sub-Index.

Means in respect of the Index:

- (i) the Index Sponsor determines that 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 its reasonable control exists, has occurred or is occurring in respect of an Index Component or the Index, and 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; and/or
- (ii) 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

(a) Upon the occurrence of a (i) Sub-Index Modification Event or (ii) Input Data Decline Event, the Index Sponsor may make such adjustment(s) to the Index as it deems appropriate, to account for any affect such event has on the Index (such as, but not limited to, the input data and/or price source used to determine the Index, Sub-Index weights and/or related charges, fees or taxes) and, where possible, shall use input data which 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”).

(b) Upon the occurrence of an Extraordinary Event the Index Sponsor may make such adjustment(s)

## Index Modification Event

to the Index that it determines appropriate such that the event ceases to exist. If the Index Sponsor determines that no such adjustment(s) would preserve the objective of the Index, would result in the use of input data which is not of the same or equivalent standard of quality as any input data and/or price source used in the Index prior to the occurrence of the Extraordinary Event, and/or is economically, operationally, legally or otherwise not feasible (after using commercially reasonable efforts) ("**Index Modification Failure**") it may cancel the Index in accordance with the Index Cancellation provisions below.

The Index Sponsor may modify the Index in accordance Appendix 2, Section 15 of the Control Framework Summary ("Changes to Methodology").

Means the existence or occurrence of a (i) Sub-Index Modification Event or (ii) Input Data Decline Event.

**"Input Data Decline Event"** means if the Index Sponsor determines that the input data and/or price source in relation to a Sub-Index Component or Index Component used to calculate the Sub-Index or Index is no longer sufficient to represent accurately and reliably the market and economic reality that the Sub-Index or Index is intended to measure, or is otherwise not appropriate, or no longer meets the standard of input data quality for the Sub-Index or Index as determined by the Index Sponsor during the design of the Sub-Index or Index, as set out in Appendix 2, Section 6 of the Control Framework Summary ("Data Sufficiency and Hierarchy of Input Data")

**Sub-Index Modification** means an "Index Modification Event" in respect of the relevant Sub-Index as specified in the in the disruption section in the relevant Index Description of such Sub-Index (as maybe amended and updated from time to time by the Sub-Index Sponsor of such Sub-Index).

**Extraordinary Event** means any 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 Sub-Index component, or (y) there is a materially increased cost of trading in a Sub-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 Sub-Index and its components.

**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 Effective 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).

## Consequences of a Sub-Index Cancellation

If upon the occurrence of a Sub-Index Cancellation there is a Successor Sub-Index then such Successor Sub-Index shall be deemed to be the relevant Sub-Index and the Index Sponsor may make such adjustment(s) to the Index methodology that it determines appropriate, in order to account for the effect of the replacement of that Sub-Index with the Successor Sub-Index.

If a Sub-Index Cancellation occurs for a period of fifteen (15) Index Business Days measured from the first day of such Sub-Index Cancellation and as at the end of such period of time there is no Successor Sub-Index ("**Sub-Index Replacement Failure**"), then the Index Sponsor may

- a) remove the cancelled Sub-Index and make such adjustment(s) to the Index methodology that it determines appropriate, in order to account for the effect of such removal of the cancelled Sub-Index, or
- b) cancel the Index in accordance with the Index Cancellation provisions below.

## 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 (“Termination of Indices and Transitional Arrangements”), including upon the occurrence of:

- (a) Sub-Index Replacement Failure; and/or
- (b) an Index Modification Failure.

## Definitions

**Index Component** means, in respect of the Index, each underlying Sub-Index Component and any other index, futures contract, currency, rate, variable or other component necessary in order to determine a level of the Index, in each case, in line with the then existing methodology of the Index.

**Sub-Index Component** means, in respect of a Sub-Index, each underlying component index, futures contract, currency, rate, variable or other component necessary in order to determine a level of such Sub-Index, in each case, in line with the then existing methodology of the Sub-Index.

**Sub-Index Sponsor** means Nomura International plc (“NIP”), who is responsible for the administration of the relevant Sub-Index.

**Sub-Index Price Source** means, in respect of a Sub-Index, the relevant Bloomberg page as specified in Sub-Index Specifications Table under the column headed “Sub-Index Price Source” in the row corresponding to such Sub-Index. References to Sub-Index Price Source shall be construed as referring also to any successor publication, page or source on which the relevant Sub-Index levels may be disseminated, as determined by the Index Sponsor in its sole discretion and acting in a commercially reasonable manner.

**Sub-Index Cancellation** means, that a Sub-Index is permanently cancelled or the relevant Sub-Index Sponsor announces (including through an agent, if applicable) its intention to permanently cancel a Sub-Index or its intention to cease to calculate and announce a level for a Sub-Index.

**Successor Sub-Index** means a successor or replacement index using, in the determination of the Index Sponsor, the same or a substantially similar formula for and method of calculation as used in the calculation of the relevant Sub-Index or, if non, a replacement with the same or similar investment objective as the Sub-Index and that is acceptable to the Index Sponsor.

## ADDITIONAL INFORMATION IN RESPECT OF THE INDEX METHODOLOGY

### Governance Policy and Control Framework

The Index Sponsor has established a governance framework (the “**Governance Policy and Control Framework**”) to ensure compliance with the IOSCO Principles for Financial Benchmarks (FR07/13, July 2013) (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 “**Control Framework Summary**”) is published on: [www.nomuranow.com/portal/site/nnextranet/en/global-markets/structured-derivatives/quant-investment-strategies.shtml](http://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:

### Criteria for Index Development and Input Data and Source Selection

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”).

### 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 Data Inputs”) when considering the data inputs used to construct the Index.

### Index Error

The Index Sponsor has adopted procedures for analysis and remediation of Index errors, and for

<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>Reports and Revision</b>	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”).

## Appendix

### Index Specifications Table

z	Index <sup>z</sup>	Index Price Source (Bloomberg page)	Applicable Sub-Index <sup>j</sup> (j)	w <sup>z,j</sup>	Index Start Date	Index Live Date	Rounding
1	Nomura WTI Crude Oil 1st to Expire Trend Index	NMCOTCL1 Index	1	Weight	5 October 1981	3 September 2019	3 d.p.
2	Nomura Brent Crude Oil 1st to Expire Trend Index	NMCOTCO1 Index	2	Weight	6 April 1990	3 September 2019	3 d.p.
3	Nomura Heating Oil 1st to Expire Trend Index	NMCOTHO1 Index	3	Weight	6 February 1981	3 September 2019	3 d.p.
4	Nomura Gasoline 1st to Expire Trend Index	NMCOTXB1 Index	4	Weight	8 May 1986	3 September 2019	3 d.p.
5	Nomura Gas Oil 1st to Expire Trend Index	NMCOTQS1 Index	5	Weight	7 June 1985	3 September 2019	3 d.p.
6	Nomura Natural Gas 1st to Expire Trend Index	NMCOTNG1 Index	6	Weight	9 September 1991	3 September 2019	3 d.p.
7	Nomura Gold 1st to Expire Trend Index	NMCOTGC1 Index	7	Weight	7 June 1976	3 September 2019	3 d.p.
8	Nomura Silver 1st to Expire Trend Index	NMCOTS1I Index	8	Weight	8 January 1971	3 September 2019	3 d.p.
9	Nomura Copper 1st to Expire Trend Index	NMCOTLP1 Index	9	Weight	6 April 1990	3 September 2019	3 d.p.
10	Nomura Aluminium 1st to Expire Trend Index	NMCOTLA1 Index	10	Weight	7 December 1998	3 September 2019	3 d.p.
11	Nomura Zinc 1st to Expire Trend Index	NMCOTLX1 Index	11	Weight	7 December 1998	3 September 2019	3 d.p.
12	Nomura Nickel 1st to Expire Trend Index	NMCOTLN1 Index	12	Weight	7 December 1998	3 September 2019	3 d.p.
13	Nomura Lead 1st to Expire Trend Index	NMCOTLL1 Index	13	Weight	9 April 1999	3 September 2019	3 d.p.
14	Nomura Corn 1st to Expire Trend Index	NMCOTC1 Index	14	Weight	8 January 1971	3 September 2019	3 d.p.
15	Nomura Soybean 1st to Expire Trend Index	NMCOTS1 Index	15	Weight	8 January 1971	3 September 2019	3 d.p.
16	Nomura Soy Meal 1st to Expire Trend Index	NMCOTSM1 Index	24	Weight	7 June 1971	3 September 2019	3 d.p.
17	Nomura Soybean Oil 1st to Expire Trend Index	NMCOTBO1 Index	25	Weight	7 June 1971	3 September 2019	3 d.p.
18	Nomura Wheat 1st to Expire Trend Index	NMCOTW1 Index	16	Weight	8 January 1971	3 September 2019	3 d.p.
19	Nomura Kansas Wheat 1st to Expire Trend Index	NMCOTKW1 Index	23	Weight	7 June 1971	3 September 2019	3 d.p.
20	Nomura Sugar 1st to Expire Trend Index	NMCOTSB1 Index	17	Weight	7 June 1974	3 September 2019	3 d.p.
21	Nomura Coffee 1st to Expire Trend Index	NMCOTKC1 Index	18	Weight	7 March 1975	3 September 2019	3 d.p.
22	Nomura Cocoa 1st to Expire Trend Index	NMCOTCC1 Index	19	Weight	7 March 1974	3 September 2019	3 d.p.
23	Nomura Cotton 1st to Expire Trend Index	NMCOTCT1 Index	20	Weight	7 March 1974	3 September 2019	3 d.p.
24	Nomura Live Cattle 1st to Expire Trend Index	NMCOTLC1 Index	21	Weight	8 September 1971	3 September 2019	3 d.p.
25	Nomura Lean Hogs 1st to Expire Trend Index	NMCOTLH1 Index	22	Weight	8 July 1971	3 September 2019	3 d.p.
26	Nomura 1st to Expire Commodity Trend Index with Risk Weights	NMCOT1NM Index	*	Weight	8 January 1971	3 September 2019	2 d.p.
27	Nomura 1st to Expire Energy Trend Index with Risk Weights	NMCOT1NE Index	*	Weight	6 February 1981	3 September 2019	3 d.p.
28	Nomura 1st to Expire Precious Metals Trend Index with Risk Weights	NMCOT1NP Index	*	Weight	8 January 1971	3 September 2019	3 d.p.
29	Nomura 1st to Expire Industrial Metals Trend Index with Risk Weights	NMCOT1NI Index	*	Weight	6 April 1990	3 September 2019	3 d.p.
30	Nomura 1st to Expire Agriculture Trend Index with Risk Weights	NMCOT1NA Index	*	Weight	8 January 1971	3 September 2019	3 d.p.
31	Nomura 1st to Expire Livestock Trend Index with Risk Weights	NMCOT1NL Index	*	Weight	8 July 1971	3 September 2019	3 d.p.
32	Nomura 1st to Expire Energy and Industrial Metals Trend Index with Risk Weights	NMCOT1NF Index	*	Weight	6 February 1981	3 September 2019	3 d.p.
33	Nomura 1st to Expire Energy and Metals Trend Index with Risk Weights	NMCOT1NG Index	*	Weight	8 January 1971	3 September 2019	2 d.p.
34	Nomura 1st to Expire Commodity Core Trend Index	NMCOT1C Index	*	Weight	7 June 1976	1 May 2020	2 d.p.

\* Refer to Index Specifications Weight Table



### Index Specifications Weight Table

j	Sub-Index <sup>1</sup>	w <sup>z,j</sup> *								
		z = 26	z = 27	z = 28	z = 29	z = 30	z = 31	z = 32	z = 33	z = 34
1	Nomura WTI Crude Oil 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
2	Nomura Brent Crude Oil 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
3	Nomura Heating Oil 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
4	Nomura Gasoline 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
5	Nomura Gas Oil 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
6	Nomura Natural Gas 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
7	Nomura Gold 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
8	Nomura Silver 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
9	Nomura Copper 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
10	Nomura Aluminium 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
11	Nomura Zinc 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
12	Nomura Nickel 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
13	Nomura Lead 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
14	Nomura Corn 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
15	Nomura Soybean 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
16	Nomura Soy Meal 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
17	Nomura Soybean Oil 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
18	Nomura Wheat 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
19	Nomura Kansas Wheat 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
20	Nomura Sugar 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
21	Nomura Coffee 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
22	Nomura Cocoa 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
23	Nomura Cotton 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
24	Nomura Live Cattle 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight
25	Nomura Lean Hogs 1st to Expire Futures Index	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight	Weight

\* For Index<sup>2</sup> where z = 27 to 33, the weight to each Sub-Index<sup>1</sup> are determined by scaling the Sub-Index<sup>1</sup> weights for z = 26 (w<sup>26,j</sup>) for applicable sub-indices proportionally such the weights add up to Applicable sub-indices are those where the Sub-Index<sup>1</sup> weights are not set as n/a in the table above. Sub-Index<sup>1</sup> weights for z = 27 to 33, showed in the table are rounded to 2 decimal places for illustration only. The calculation of indices utilise Sub-Index<sup>1</sup> weights that are not rounded.

**Sub-Index Specifications Table**

j	Commodity	Sub-Index	Blomberg page	Target Volatility <sup>j</sup>	Volatility Scale Cap <sup>j</sup>	Charge A <sup>i</sup> (%)	Charge B <sup>j</sup> (\$ per contract)	Contract Size <sup>j</sup>
1	WTI Crude Oil	Nomura WTI Crude Oil 1st to Expire Futures Index	NMCOCL1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
2	Brent Crude Oil	Nomura Brent Crude Oil 1st to Expire Futures Index	NMCOCO1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
3	Heating Oil	Nomura Heating Oil 1st to Expire Futures Index	NMCOHO1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
4	Gasoline	Nomura Gasoline 1st to Expire Futures Index	NMCOXB1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
5	Gas Oil	Nomura Gas Oil 1st to Expire Futures Index	NMCOQS1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
6	Natural Gas	Nomura Natural Gas 1st to Expire Futures Index	NMCONG1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
7	Gold	Nomura Gold 1st to Expire Futures Index	NMCOGC1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
8	Silver	Nomura Silver 1st to Expire Futures Index	NMCOSI1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
9	Copper	Nomura Copper 1st to Expire Futures Index	NMCOLP1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
10	Aluminium	Nomura Aluminium 1st to Expire Futures Index	NMCOLA1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
11	Zinc	Nomura Zinc 1st to Expire Futures Index	NMCOLX1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
12	Nickel	Nomura Nickel 1st to Expire Futures Index	NMCOLN1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
13	Lead	Nomura Lead 1st to Expire Futures Index	NMCOLL1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
14	Corn	Nomura Corn 1st to Expire Futures Index	NMCOC1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
15	Soybean	Nomura Soybean 1st to Expire Futures Index	NMCOS1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
16	Soy Meal	Nomura Soy Meal 1st to Expire Futures Index	NMCOSM1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
17	Soybean Oil	Nomura Soybean Oil 1st to Expire Futures Index	NMCOBO1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
18	Wheat	Nomura Wheat 1st to Expire Futures Index	NMCOW1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
19	Kansas Wheat	Nomura Kansas Wheat 1st to Expire Futures Index	NMCOKW1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
20	Sugar	Nomura Sugar 1st to Expire Futures Index	NMCOSB1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
21	Coffee	Nomura Coffee 1st to Expire Futures Index	NMCOKC1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
22	Cocoa	Nomura Cocoa 1st to Expire Futures Index	NMCOCC1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
23	Cotton	Nomura Cotton 1st to Expire Futures Index	NMCOCT1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
24	Live Cattle	Nomura Live Cattle 1st to Expire Futures Index	NMCOLC1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size
25	Lean Hogs	Nomura Lean Hogs 1st to Expire Futures Index	NMCOLH1 Index	Target Volatility	Volatility Scale	Charge A	Charge B	Contract Size

## Backtest Assumptions

### Start Date

With respect to the “Nomura 1st to Expire Commodity Trend Index with Nomura Risk Weights” ( $z = 26$ ), the exposure to each underlying commodity started on the same date as the respective commodity trend Indices' Index Start Date (as stated in the Index Specifications Table). During the historical period where not all of the underlying commodities were available, weight ( $w^{z,j}$ ) for the underlying commodity that was not available was distributed proportionally to those available at the time such that the sum of weight across all commodities add up to.

### Index $_{t,reset}^{z,j}$

With respect to each Index $^z$  prior to the respective Index Start Date, Index $_{t,reset}^{z,j}$  is equal to Index $_{Start Date}^z$ .

### Daily Signal $_t^j$

With respect to the calculation of Daily Signal $_t^j$  in the historical backtest:

- i) For periods where there are less than data points required for calculating Volatility $_t^{j,x}$ , the calculation occurred and utilised a minimum of data points, and extended the width of the window as more data points became available.
- ii) For periods where calculation of ratio was not possible due to unavailability of historical data, the calculation of Daily Signal $_t^j$ , which normally take an average of the ratios, excluded the ratio that was unavailable and calculated the average using ratios that were available at the time.

### Gasoline

For the period before 3 January 2006:

For the calculation of Sub-Index Daily Return $_t^{j,k,i}$  prior to 3 January 2006 for the Gasoline Sub-Index ( $j = 4$ ), Reformulated Gasoline future contract (Bloomberg ticker HU) was used instead of the current Gasoline RBOB future contract in order to start the historical backtest further back in time. The calculation was based on the same methodology as described under the Nomura Commodity Futures Index Rulebook.

For the period between 3 January 2006 and 9 January 2006:

As the Sub-Index for Gasoline Index Start Date is 9 January 2006, the Sub-Index Daily Return $_t^{j,k,i}$  for Gasoline was calculated based on the methodology described under the Nomura Commodity Futures Index Rulebook for the period between 3 January 2006 to 9 January 2006.

### Copper

For the calculation of the “Nomura Copper 1st to Expire Trend Index” ( $z = 9$ ) prior to 7 December 1998, the trend following strategy was implemented and calculated based on COMEX Copper (Bloomberg ticker HG) from the Index Start Date. The calculation was done based on the same methodology as described under the Nomura Commodity Futures Index Rulebook (for long only returns) as well as this rulebook for the trend following strategy.

Charges applied to the historical backtest for COMEX Copper were: Fee.

The Target Volatility is, with Volatility Scape Cap of.

The transition from i) trend following strategy on COMEX Copper to ii) trend following strategy on LME Copper occurred over 5 Index Business Days (from and including 7 December 1998) with equal exposure on each day.

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