



Citi Rates Benchmark Family

Benchmark Statement

Citi Investment Strategies

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1. Introduction

Citigroup Global Markets Limited (“**CGML**”) develops, calculates, publishes, and offers financial products referencing, a range of rules-based investment strategy indices which may include components from commodities, credit, equities, fixed income markets and/or foreign exchange (“**FX**”) (or a combination of such underlying interests). Such indices may also be licensed for use by third parties.

Citi considers certain of these indices to fall within the definition of a ‘benchmark’ as defined under the European Union regulation on indices used as benchmarks in financial instruments and financial contracts (the “**Benchmark Regulation**”¹) including those referred to in this Benchmark Statement. Where Citi considers certain indices do not fall within this definition, it may nonetheless treat such indices as if they are benchmarks for the purposes of applying the requirements of the Benchmark Regulation, but shall not be obliged to do so.

This document constitutes the applicable Benchmark Statement under Article 27 of Regulation (EU) 2016/1011 in respect of the benchmarks referred to herein and CGML shall be considered the “administrator” of such benchmarks (as defined in Article 3(1)(6) of the Benchmark Regulation).

Terms used in this document, but not defined, shall have the meaning ascribed in the Benchmark Administration - Key Terms Document.

¹ Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 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/EC and Regulation (EU) No 596/2014.

2. Benchmark Family Statement

2.1 Benchmarks

CGML makes this Benchmark Statement in its capacity as Administrator in respect of the family of indices, which shall be classified as “**Rates indices**”. Each of these Rates indices shall be individually referred to as a “benchmark” and collectively, a “benchmark family”. This benchmark family is separate to the Citi Rates (Regulated-Data) benchmark family. Please refer to the Benchmark Statement for the Citi Rates (Regulated-Data) indices for the relevant information in respect of that benchmark family.

There are presently no ISINs available or accessible for the benchmarks contemplated by this document.

2.2 Rationale

The Rates indices are notional rules-based proprietary indices developed by CGML, as Administrator. The rationale for adopting the methodology is to create a quantitative investable index that tracks the weighted performance of a number of:

- (i) financial instruments² referencing a broad range of global interest rates and/or treasury bonds,

for the purposes of this Benchmark Statement, the “**Constituents**”.

The selection and weighting of Constituents is determined periodically by CGML in accordance with a defined index objective or theme and based on pre-determined criteria or filters, which may seek to evaluate or modify the risk and return profile of notional allocations of Constituents to the applicable index. The Constituents comprised in an index may be selected from one or more designated regions or countries and/or filtered according to the features of the Constituents. Each index will be used in one or more Index Linked Products entered into by, or issued by (a) CGML or one of its affiliates; and/or (b) third parties pursuant to applicable licensing arrangements.

Full information in respect of a benchmark, including a description of the benchmark and the applicable calculation methodology, is set out in the applicable Index Conditions, which shall be made available to potential investors prior to any investment in an Index Linked Product. Particular attention is drawn to the important risk factors and disclaimers contained in such Index Conditions.

Each benchmark methodology has been developed and tested internally by Citi Investment Strategies and the Benchmark Administration Team. Each benchmark has been reviewed and approved by the Index Governance Committee pursuant to a formalized internal process whereby Citi Investment Strategies provides to the Index Governance Committee requisite detail relating to the benchmark including, without limitation, information relating to the objective of the applicable benchmarks, key assumptions and risks associated with such benchmarks, benchmark composition and elements of discretion (where applicable).

The benchmarks may be subject to periodic review. The scope of such review of such benchmarks depends on the nature and size of, and the risk posed by, the relevant benchmarks and factors relevant to the benchmarks including the frequency of any operational items which have been noted, Stakeholder feedback (as the case may be) including complaints (if any), audit findings, matters arising from reviews of third party index advisors, or as may be requested by the Index Governance Committee or otherwise determined appropriate by the Index Calculation Agent.

² As listed in Section C of Annex I to Directive 2014/65/EU.

In reviewing a benchmark or benchmark family (as the case may be), it shall be assessed (i) whether there have been any changes in the underlying components or interest referenced by the benchmark which may mean that such components or interest are no longer adequately represented by the benchmark in the manner originally intended, and (ii) whether the benchmark remains fit-for-purpose. The Index Governance Committee shall oversee and consider the findings following any such periodic review.

2.3 Input data

The benchmarks use input data as a part of the algorithmic benchmark determination process both in relation to rebalancing and reweighting determinations and in relation to the calculation of the daily levels of the benchmarks.

The benchmarks described herein have been categorised as follows:

- (i) benchmarks comprising input data that is not considered regulated-data³, but which nonetheless is data that is readily available to the Administrator and which may be:
 - (a) determined by Citi in the ordinary course of its business as a dealer (i.e. as a market maker in relevant instruments) for its own valuation purposes and/or for the purposes of its own audited books and records⁴; and/or
 - (b) transaction data (including reported transactions, quoted prices, committed quotes) observed from third party data providers; and
- (ii) non-significant benchmarks.

Input data is typically defined by reference to both the source of the data and the time as of which the input data is observed. While the majority of benchmarks specify a single source for each input rather than utilising a hierarchy of input data, a secondary or alternative source may also be specified for a particular input.

The sources of input data used in respect of the applicable algorithmic benchmark determination process shall be available upon request.

The benchmarks are not determined using contributions of input data.

2.4 Insufficiency of input data

Fluctuations in the level, price, rate or value (as applicable) of the Constituents contained in the benchmark from time to time will directly affect the Index Level. The extent to which fluctuations in the Constituent closing level of a particular Constituent will affect the Index Level will, amongst other things, depend on how the Constituent is used in the benchmark. The benchmark is subject to the risks which arise in the markets for the Constituents whose performance it reflects, including potential illiquidity of such Constituents and the risk of market disruption affecting such Constituents. For example, a price

³ Note that benchmarks that comprise a combination of both regulated data and other types of input data that are not considered regulated data but which are readily available to the Administrator, have been categorised as Rates indices for the purpose of this document.

⁴ Note that in limited circumstances, the Index Calculation Agent may, with the intention of assigning weights to applicable Constituents, observe one or more Citi Research reports that are published independently by Citi Research Analysts in the ordinary course of its business of producing investment research and economic and market analysis to Citi clients.

source for determining a foreign exchange rate may become unavailable or an exchange on which an underlying Constituent is traded may close early. The occurrence or existence of a market disruption event may result in the publication of the Index Calculation Agent's good faith estimate of the Index Level (notwithstanding the occurrence of a disruption event) and/or the calculation, publication and dissemination of the benchmark being postponed to a later time than as provided in the Index Conditions.

Further, the overall diversification of the benchmark is potentially limited and may be less diversified than an investment in any fund, investment portfolio or other product which invests in or tracks a diversified investment portfolio, and therefore could experience greater volatility.

2.5 Expert Judgement

Certain events beyond the control of the Administrator, may affect the calculation of the benchmark and the Index Level. Each Index Conditions document relating to a benchmark defines the specific market disruption events that are relevant for the Constituents, along with the corresponding consequences for the benchmark determination process if such an event were to occur. These events may have consequences including:

- (i) making certain adjustments to dates;
- (ii) suspending the calculation, publication and dissemination of the benchmark and the Index Level;
- (iii) making a modification or change to the applicable Index Conditions; and
- (iv) discontinuing and cancelling the benchmark.

CGML may lack sufficient input data to determine the benchmark according to the methodology in the following circumstances:

- (i) where a market event which is not fully anticipated or addressed in the Index Conditions occurs; or
- (ii) where any necessary input data is unavailable or considered by the Index Calculation Agent to be unreliable for any reason.

In such circumstances (after applying any applicable fall-back provision specified in the relevant Index Conditions) Expert Judgement may be used in performing the relevant benchmark determinations. Expert Judgement may also be used by the Index Calculation Agent in relation to corporate actions and similar market events in order to appropriately reflect the commercial objective of the benchmark and market practice in relation to such events. Any such use of Expert Judgement shall be recorded by the Benchmark Administration Team and notified to the Index Governance Committee.

Any exercise of Expert Judgement in non-routine circumstances not specifically identified in the applicable Index Conditions and which could have a material effect on the benchmark shall be escalated to an internal oversight function, the Index Governance Committee, for review and approval in advance wherever possible. The Index Governance Committee fulfils the role of ensuring accountability and providing oversight. The Index Governance Committee will review any such use of Expert Judgement in such extraordinary circumstances and may challenge any other use of Expert Judgement as it deems appropriate.

In all cases, Expert Judgement will be exercised (i) in good faith and in a commercially reasonable manner, (ii) to the extent practicable, reflecting the commercial objective of the relevant benchmark and market practice, and (iii) to the extent practicable, in a manner which promotes consistency in the exercise

of Expert Judgement and the making of determinations in respect of the relevant benchmark and other benchmarks administered by CGML.

Although the Administrator and Index Calculation Agent may use Expert Judgement in exercising any discretion, potential investors should be aware that the exercise of any such discretion may have an adverse effect on the Index Level and therefore may have an adverse effect on the value of any Index Linked Product.

The Index Conditions for each benchmark include a summary of certain risk factors and limitations associated with the relevant benchmark including a description of the material conflicts of interest that may exist as a consequence of CGML and its affiliates carrying out multiple roles in connection with benchmarks and Index Linked Products.

2.6 Changes to benchmark methodology

Although CGML indices are governed by a static set of rules that are set out in the relevant Index Conditions and are intended to be comprehensive, it is possible that ambiguities, errors and omissions may occur. CGML will seek to resolve, using Expert Judgement, any such ambiguity, error or omission, and may amend the applicable Index Conditions to reflect the resolution of such ambiguity, error or omission.

In such circumstances, CGML shall follow procedures, which it considers are appropriate and proportionate to the amount and type of Index Linked Products referencing the relevant benchmark which are currently in existence.

In summary, the procedures involve three phases: discovery, planning and execution.

Discovery: The Benchmark Administration Team will endeavour to resolve such ambiguity, error or omission using Expert Judgment and may, in consultation with the Index Governance Committee, propose amendments to the Index Conditions to reflect the resolution of such ambiguity, error or omission. In so doing, CGML shall assess the potential impact such change may have on Stakeholders and may, if deemed by CGML to be appropriate and proportionate to the risk and size of the benchmark, seek to consult with Stakeholders. Any such decision to consult with Stakeholders shall be considered by the Index Governance Committee.

Planning: The Benchmark Administration Team in consultation with the Index Governance Committee shall consider (i) the potential impact on Stakeholders, (ii) whether a change to a benchmark (including, without limitation, a change to the composition, input data or calculation methodology) is necessary to ensure that the benchmark continues to be fit-for-purpose, and (iii) any feedback received from Stakeholders (as may be deemed appropriate) prior to implementation.

Execution: The Benchmark Administration Team shall be responsible for overseeing and shall consult, as necessary, with the Index Governance Committee on all three phases of the process and shall consult with the Index Governance Committee with regard to any proposed amendment to the relevant Index Conditions and may liaise with other teams within Citi with regard to obtaining Stakeholder feedback.

Index Governance Committee approval is required in connection with any Material Change. Following approval of the Index Governance Committee, CGML shall seek to notify Stakeholders of its determination to amend the Index Conditions. Such notification shall explain the reason for any such change and shall be communicated to Stakeholders where reasonably possible along with the relevant amended and restated Index Conditions.

Potential investors and users of the benchmarks should be aware that any Material Changes to the benchmark may have an adverse effect on any Index Linked Product or on the measurement of the performance of any related investment fund (as the case may be).

2.7 Cessation of a benchmark

In certain extraordinary circumstances, CGML may cease to provide a benchmark (including, without limitation, as a consequence of changes in the underlying Constituents or interest referenced by the benchmark which may mean that such Constituents or interest are no longer adequately represented by the benchmark in the manner originally intended), CGML shall follow procedures, which it considers are appropriate and proportionate to the amount and type of Index Linked Products referencing the relevant benchmark which are currently in existence.

In summary, the procedures involve three phases: discovery, planning and execution.

Discovery: CGML shall assess the potential impact a cessation of a benchmark may have on relevant Stakeholders and, if it deems appropriate and proportionate to do so, may seek to consult with Stakeholders. Any such decision to consult with Stakeholders shall be considered by the Index Governance Committee.

Planning: CGML shall take an appropriate and proportionate approach and consider (i) the potential impact on Stakeholders, (ii) any feedback received from Stakeholders (as applicable), (iii) the availability of any alternative benchmark, (iv) the extent to which Stakeholders may wish to transition to an alternative benchmark and, if so, the practicability of maintaining a parallel benchmark in order to accommodate an orderly transition to a new benchmark, (v) the extent to which an alternative benchmark is investable, (vi) the procedures that it shall follow in the event that a suitable alternative cannot be identified, and (vii) timing aspects for the cessation of a benchmark and any transition to an alternative benchmark.

Execution: The Benchmark Administration Team shall be responsible for overseeing and shall consult, as necessary, with the Index Governance Committee on all three phases of the process with regard to any proposal to cease publication of a benchmark and may liaise with other teams within Citi with regard to obtaining Stakeholder feedback. The approval of the Index Governance Committee is required in connection with the cessation of any benchmark. Following approval of the Index Governance Committee, CGML shall provide notice to Stakeholders of its determination to cease publication of a benchmark. Such notification shall be communicated to Stakeholders where reasonably possible.

Potential investors should be aware that any cessation of a benchmark may have an adverse effect on any Index Linked Product or on the measurement of the performance of any related investment fund.

2.8 Correction

If the level, price, rate or value (as applicable) of any Constituent for any time on any day, that is (i) announced by or on behalf of the person or entity responsible for such publication or announcement, and (ii) used for any calculation or determination in respect of the benchmark, is subsequently corrected, and the corrected level, price, rate or value (as applicable) (the “**Corrected Level**”) is published by or on behalf of such person or entity in respect of such Constituent within a specified period set out in the Index Conditions, then such Corrected Level shall be deemed to be the level, price, rate or value (as applicable) for such Constituent for the relevant time on the relevant day. The Index Calculation Agent may, but shall not be obliged to, make appropriate adjustments to the Index Level for such day.



In addition, it is possible that errors in calculations may arise in certain circumstances. Where the corrective course of action is not contemplated by the applicable Index Conditions, the Administrator may, using Expert Judgement, seek to restate the Index Level for each day affected by an error in a calculation. In exercising such Expert Judgement, the Index Calculation Agent will act in good faith and in a commercially reasonable manner which is consistent with the primary objective of the benchmark.

Any decision to correct a published Index Level shall only be taken by the Index Calculation Agent following internal escalation and in consultation with the Index Governance Committee and shall be notified to Stakeholders as soon as reasonably practicable.



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This document constitutes the applicable benchmark statement under Article 27 of the Benchmark Regulation and is provided by CGML for the sole purpose of describing the aspects of the benchmark as required by the Benchmark Regulation. Further information regarding CGML, the benchmarks it administers and this document are available upon request. This document is subject to amendment from time to time.

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