

REFINITIV

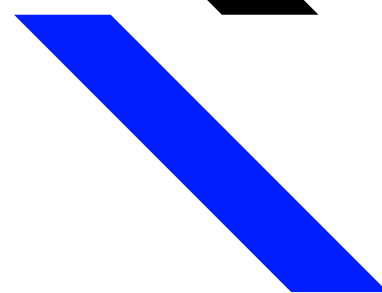
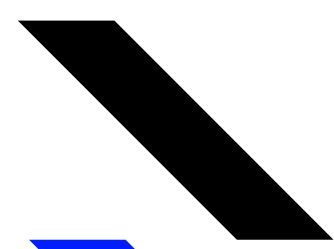
**TOKYO SWAP RATE (FOR SWAPS REFERENCING TIBOR®)
BENCHMARK**

METHODOLOGY



Effective Date: 1 February 2022

Refinitiv Document Classification: Public



Contents

1.	INTRODUCTION	3
1.1	Overview	3
1.2	Benchmark Administrator	3
1.3	Description of the Benchmark	3
1.4	Purpose and Use of the Benchmark	3
1.5	Potential Cessation of the Benchmark	3
1.6	Intended Readership	4
1.7	Document Publication	4
2.	INPUT DATA	5
2.1	Tokyo Swap Rate (for Swaps Referencing TIBOR®) Benchmark	5
3.	DETERMINATION OF THE BENCHMARK	6
3.1	Waterfall Methodology	6
3.2	Level One Determination	6
3.2.1	Contributions	6
3.2.2	Benchmark Determination	6
3.3	Integrated Fallback Determination	6
3.3.1	Spread Adjustment	6
3.3.2	Benchmark Determination	7
3.4	Expert Judgment	7
4.	PUBLICATION AND REFIX POLICY	8
4.1	Publication	8
4.2	Delayed Publication	8
4.3	Refix Policy	8
4.4	Publication RIC Identifiers	9
5.	BENCHMARK METHODOLOGY REVIEWS AND CHANGE PROCEDURES	10
5.1	Review of the Methodology and Input Data Providers	10
5.2	Changes to the Methodology	10
5.3	Objective of the Methodology	10
5.4	Identification of Potential Limitations of the Benchmark	10
6.	FURTHER INFORMATION	11
6.1	Further Information	11
7.	DISCLAIMER	12
	ANNEX: DEFINITIONS OF KEY TERMS	13

2022 © Refinitiv. All rights reserved. See disclaimer in Section 7.

1. INTRODUCTION

1.1 Overview

This document specifies the methodology (“Methodology”) of the Tokyo Swap Rate¹ (for swaps referencing TIBOR®) benchmark (“Benchmark”).

1.2 Benchmark Administrator

Refinitiv is the Administrator of the TSR (for swaps referencing TIBOR®) benchmark. As Administrator, Refinitiv is responsible for collecting input data, determining and publishing the Benchmark, and for all aspects of governance, oversight and integrity of the Benchmark.

1.3 Description of the Benchmark

The TSR (for swaps referencing TIBOR®) benchmark was developed to establish a daily reference for the fixed rate of interest rate swaps that reference 6M Z-TIBOR® (also known as Euroyen TIBOR®) for their floating legs. The Benchmark is calculated using a waterfall methodology that comprises the following levels:

- Level 1: Submissions from active Market Participants and the resulting arithmetic mean becomes the Benchmark setting, and
- Integrated Fallback: spread-adjusted TSR (for swaps referencing TONA).

The Benchmark comprises of the following 11 tenors: 1 year, 18 months and 2-10 years.

1.4 Purpose and Use of the Benchmark

The purpose of the TSR (for swaps referencing TIBOR®) benchmark is to provide a representative benchmark rate for the fixed rate of Japanese yen (JPY) interest rate swap contracts that reference TIBOR®.

1.5 Potential Cessation of the Benchmark

Pursuant to the [January 2022 consultation](#) on the Benchmark and subsequent [Outcome Statement](#)², Refinitiv has not yet announced a cessation of TSR (for swaps referencing TIBOR®) but intends to do so following a consultation on a D-TIBOR (also known as Japanese Yen TIBOR®) version of TSR.

This statement is not a cessation notice for Tokyo Swap Rate (for swaps referencing TIBOR®), but TSR (for swaps referencing TIBOR®) is not intended for use as a reference in new financial products and users

¹ “Tokyo Swap Rate” is abbreviated as “TSR” throughout this Methodology

² https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/tokyo-swap-rate-consultation-outcome-statement-jan-2022.pdf

of the Benchmark should consider alternatives and prepare for a possible permanent cessation of the Benchmark.

Any financial contracts or other financial instruments that reference the index or investment funds which use the Benchmark to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the Benchmark.

1.6 Intended Readership

This document is intended for Stakeholders of the Benchmark.

1.7 Document Publication

This document is available on the Refinitiv website and on request.

2. INPUT DATA

2.1 Tokyo Swap Rate (for Swaps Referencing TIBOR®) Benchmark

Level 1 of the TSR (for swaps referencing TIBOR®) benchmark methodology is calculated based on the Submissions (“Contributions”) from a panel of Submitters (“Contributor Banks”).

The Contribution for each tenor by a Contributor Bank should be the best available in accordance with the IOSCO Principles for Financial Benchmarks hierarchy of data inputs (starting with Contributor Bank’s own concluded Arm’s-length Transactions in the underlying interest or related markets).

Each Contributor Bank shall determine to what extent, if any, a Contribution should be subject to a review prior to its submission to the Administrator in addition to the post-submission review required under the “Oversight” provisions of the Submitter Code of Conduct.

The Contributor Banks are active participants in the market for interest rate swaps that reference TIBOR®. The universe of Contributor Banks eligible for consideration for inclusion in the panel will be banks that are:

- Active in the Japanese interest rate swap market,
- Willing to accept and implement the Submitter Code of Conduct,
- Willing to agree to regulation by relevant authorities, should the Benchmark become regulated.

The list of panel banks may be updated from time to time and is available on request (to the extent that level 1 is used).

The Integrated Fallback of the TSR (for swaps referencing TIBOR®) benchmark methodology is calculated using a spread-adjusted TSR (for swaps referencing TONA). The spread adjustment for each tenor is equal to the trimmed average difference between TSR (for swaps referencing TONA) and TSR (for swaps referencing TIBOR®) for the 10 Tokyo business days up to and including 31 January 2022 (and subject to review).

3. DETERMINATION OF THE BENCHMARK

3.1 Waterfall Methodology

The TSR (for swaps referencing TIBOR®) benchmark is calculated using Level 1 of the Methodology subject to a threshold. If the threshold is not reached, the benchmark is calculated using the Integrated Fallback of the Methodology.

If the Integrated Fallback is used in the determination of the TSR (for swaps referencing TIBOR®) benchmark, it remains in use for all subsequent daily determinations of the Benchmark until the contribution of rates from Contributor Banks has resumed and those rates have been assessed as being adequate, sustainable and representative. Subject to satisfying such assessment, use of Level 1 of the Methodology in the determination of the Benchmark will resume.

3.2 Level One Determination

3.2.1 Contributions

Contributor Banks contribute rates between 15:00 and 15:30 Tokyo time on each Tokyo business day. There is no limitation on the number of decimal places for Contributions. Contributor Banks can make changes to their Contributions as many times as required up until 15:30 Tokyo time. Any new Contribution will overwrite the previous Contribution.

The last Contribution received from each Contributor Bank before the Contribution window is closed will be taken for use in the Benchmark calculation. Contributions or changes after 15:30 Tokyo time will not be included in the Benchmark calculation.

3.2.2 Benchmark Determination

Where 4, 5 or 6 Contributions are received, the Contributions will be ranked with the single highest and single lowest rates discarded and the remaining rates averaged to determine the Benchmark. Where 7 or more Contributions are received, the Contributions will be ranked with the highest 2 and lowest 2 rates discarded and the remaining rates averaged. Where 3 Contributions are received, the rates will be averaged (without trimming).

If fewer than 3 Contributions are received, the Integrated Fallback is used in the Benchmark calculation.

3.3 Integrated Fallback Determination

3.3.1 Spread Adjustment

The adjustment ("Spread Adjustment") is calculated for each tenor of the TSR (for swaps referencing TIBOR®) as the trimmed average difference between TSR (for swaps referencing TONA) and TSR (for swaps referencing TIBOR®) over the 10 Tokyo business days up to and including 31 January 2022. The

two largest and two smallest daily differences between the two rates will be discarded and the remainder averaged to produce the Spread Adjustment for each tenor.

The Spread Adjustment for each tenor is therefore:

Tenor	Spread Adjustment (%)
1-Year	0.000
18-Months	0.000
2-Years	0.001
3-Years	0.006
4-Years	0.014
5-Years	0.025
6-Years	0.032
7-Years	0.039
8-Years	0.045
9-Years	0.050
10-Years	0.054

The Spread Adjustment will be reviewed from time to time and, subject to continuous and sustained use of Level 1 of the Methodology exceeding 10 Tokyo business days, the 10 Tokyo business day period use to calculate the Spread Adjustment may be updated. Such review and update will not constitute a change of this Methodology.

3.3.2 Benchmark Determination

The Spread Adjustment for each Benchmark tenor is added to the TSR (for swaps referencing TONA) setting of equivalent tenor to determine the Benchmark.

3.4 Expert Judgment

Refinitiv, as Administrator, will not exercise expert judgment or discretion in the determination of the TSR (for swaps referencing TIBOR®) benchmark.

4. PUBLICATION AND REFIX POLICY

4.1 Publication

The Tokyo Swap Rate (for swaps referencing TIBOR®) benchmark is published at approximately 15:30 Tokyo time on each Tokyo business day subject to the fallback arrangement in section 3.3. The Benchmark is published as a percentage rounded to three decimal places.

4.2 Delayed Publication

The Administrator, Refinitiv, may at its discretion delay publication of the TSR (for swaps referencing TIBOR®) benchmark in the event that technical difficulties prevent receipt of input data or if Refinitiv has reason to believe that either the input data or the determination of the Benchmark includes a potential error. In such cases, all reasonable efforts will be made to publish the Benchmark at the earliest opportunity. If the potential error cannot be resolved or rectified, rates for the previous Tokyo business day will be published for the affected tenor(s) and an alert will be published on the FIXALERTASIA page to alert Market Participants.

4.3 Refix Policy

The Benchmark will not be re-fixed if a Contributor Bank identifies an error to its Contributions after the publication time.

If a material error is identified in the calculation or published Benchmark before 16:00 Tokyo time, Refinitiv will publish an alert on the Refinitiv FIXALERTASIA page to alert Market Participants and will use reasonable efforts to re-fix and republish the Benchmark by 16:30 Tokyo time. Material means having an effect on the level of the Benchmark within the first three decimal places i.e. one that results in a change of + or – 0.1 basis points to the published value of the affected tenor(s) of the Benchmark.

If the Benchmark is re-fixed and republished, the Administrator will publish an alert on the FIXALERTASIA page to alert Market Participants.

4.4 Publication RIC Identifiers

The TSR (for swaps referencing TIBOR®) benchmark will be made available on the Refinitiv RICs listed below.

Tenor	Identifier
Composite Display	< 27143> and JPYTSRT=
1-Year	JPYTSRT1Y=
18-Months	JPYTSRT18M=
2-Years	JPYTSRT2Y=
3-Years	JPYTSRT3Y=
4-Years	JPYTSRT4Y=
5-Years	JPYTSRT5Y=
6-Years	JPYTSRT6Y=
7-Years	JPYTSRT7Y=
8-Years	JPYTSRT8Y=
9-Years	JPYTSRT9Y=
10-Years	JPYTSRT10Y=

5. BENCHMARK METHODOLOGY REVIEWS AND CHANGE PROCEDURES

5.1 Review of the Methodology and Input Data Providers

Refinitiv will carry out a review of the Methodology in respect of the Tokyo Swap Rate (for swaps referencing TIBOR®) benchmark on at least an annual basis. Additional reviews may be conducted at Refinitiv's discretion. Reviews will include an analysis of the underlying market that the Benchmark seeks to represent, the availability and sufficiency of input data from Contributor Banks and a review of other potential Contributor Banks.

The aim of the review will be to ensure that the Benchmark is still representative of the underlying market, that the input data sufficiently represents the underlying market, and that the Contributor Banks have been providing input data in an accurate and timely manner.

5.2 Changes to the Methodology

Except in cases of force majeure, the Administrator expects to consult with Stakeholders in relation to any material Methodology changes.

5.3 Objective of the Methodology

The objective of this Methodology in respect of the Tokyo Swap Rate (for swaps referencing TIBOR®) benchmark is to reflect best practice across the industry for the calculation and Administration of benchmarks that seek to represent the behaviour of markets showing similar characteristics as the market for TIBOR® interest rate swaps.

5.4 Identification of Potential Limitations of the Benchmark

The Benchmark is based upon rates collected from Contributor Banks; the content of which is reliant upon there being a liquid TIBOR® interest rate swap market plus the ability of Contributor Banks to provide input data to Refinitiv.

In the absence of sufficient rates collected from Contributor Banks, the Benchmark is dependent on the publication of TSR (for swaps referencing TONA) in order for the Integrated Fallback of the Methodology to be used. Over a long period of time the fixed Spread Adjustment may not accurately capture the basis between TSR (for swaps referencing TONA) and TSR (for swaps referencing TIBOR®).

See section 1.5 regarding the potential cessation of the Benchmark.

6. FURTHER INFORMATION

6.1 Further Information

Further information for all members of the Tokyo Swap Rate family is available at <http://refinitiv.com/tokyoswaprate>.

Refinitiv welcomes feedback. Any comments or questions regarding this Methodology, the Tokyo Swap Rate (for swaps referencing TIBOR®) benchmark or the Tokyo Swap Rate family of benchmarks should be sent to index_queries@refinitiv.com and include 'Tokyo Swap Rate' in the email subject line.

7. DISCLAIMER

2022 © Refinitiv. All rights reserved.

Refinitiv Limited, its affiliates (“**Refinitiv**”) and its third party providers (together “**Refinitiv and Third Parties**”) do not guarantee the quality, accuracy and/or completeness of the Tokyo Swap Rate (for swaps referencing TIBOR®) (“TSR”) or any data included therein. Refinitiv and Third Parties make no express or implied warranties, representations or guarantees concerning the accuracy or completeness of the TSR or as to the results to be obtained by you, or any other person or entity from the use of the TSR or any data included therein. In no event shall Refinitiv and Third Parties have any liability for any loss of profits, special, punitive indirect, incidental or consequential relating to any use of the TSR.

ANNEX: DEFINITIONS OF KEY TERMS

Capitalized terms used in this document but not otherwise defined are defined in the following table. Definitions are sourced from the IOSCO Principles for Financial Benchmarks³.

Glossary of Defined Terms & Acronyms	
Term	Definition
Administration	Includes all stages and processes involved in the production and dissemination of a Benchmark, including: a) Collecting, analysing and/or processing information or expressions of opinion for the purposes of the determination of a Benchmark; b) Determining a Benchmark through the application of a formula or another method of calculating the information or expressions of opinions provided for that purpose; and c) Dissemination to users, including any review, adjustment and modification to this process.
Administrator	An organisation or legal person that controls the creation and operation of the Benchmark Administration process, whether or not it owns the intellectual property relating to the Benchmark. In particular, it has responsibility for all stages of the Benchmark Administration process, including: a) The calculation of the Benchmark; b) Determining and applying the Benchmark Methodology; and c) Disseminating the Benchmark.
Arm's-length Transaction	A transaction between two parties that is concluded on terms that are not influenced by a conflict of interest (e.g., conflicts of interest that arise from a relationship such as a transaction between affiliates).
Expert Judgment	Refers to the exercise of discretion by a Submitter with respect to the use of data in determining a Benchmark. Expert Judgment includes extrapolating values from prior or related transactions, adjusting values for factors that might influence the quality of data such as market events or impairment of a buyer or seller's credit quality, or weighting firm bids or offers greater than a particular concluded transaction.
Market Participants	Legal entities involved in the production, structuring, use or trading of financial contracts or financial instruments used to inform the Benchmark, or which reference the Benchmark.
Methodology	The written rules and procedures according to which information is collected and the Benchmark is determined.
Panel	Subset of Market Participants who are Benchmark Contributors.
Regulated Market or Exchange	A market or exchange that is regulated and/or supervised by a Regulatory Authority.
Self-Regulatory Organisation or "SRO"	An organisation that has been given the power or responsibility to regulate itself, whose rules are subject to meaningful sanctions regarding any part of the securities market or industry. This authority may be derived from a statutory delegation of power to a non-governmental entity or through a contract between an SRO and its members as is authorized or recognized by the governmental regulator.
Stakeholder	Refers to Subscribers and other persons or entities who own contracts or financial instruments that reference a Benchmark.
Submission(s)	Prices, estimates, values, rates or other information that is provided by a Submitter to an Administrator for the purposes of determining a Benchmark. This excludes data sourced from Regulated Markets or Exchanges with mandatory post-trade transparency requirements.
Submitter	A legal person providing information to an Administrator or Calculation Agent required in connection with the determination of a Benchmark.
Subscriber	A person or entity that purchases Benchmark determination services from an Administrator.

³ www.iosco.org/library/pubdocs/pdf/IOSCOPD415.pdf

Refinitiv is one of the world's largest providers of financial markets data and infrastructure, serving over 40,000 institutions in approximately 190 countries. It provides leading data and insights, trading platforms, and open data and technology platforms that connect a thriving global financial markets community – driving performance in trading, investment, wealth management, regulatory compliance, market data management, enterprise risk and fighting financial crime.