

NZFBF

NEW ZEALAND
FINANCIAL BENCHMARK
FACILITY



TE POU HERENGA PŪTEA O AOTEAROA

Official Cash Rate Compound Index and Realised NZONIA Operating Principles and Methodology

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NEW ZEALAND FINANCIAL BENCHMARK FACILITY

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Official Cash Rate Compound Index & Realised NZONIA

Operating Principles and Methodology

1.0 INTRODUCTION

The Operating Principles and Methodology outlined in this document have been derived with the objective of ensuring:

- Compliance with the New Zealand benchmark administration licensing regime overseen by the FMA.
- Alignment with the IOSCO Principles for Financial Benchmarks (to the extent applicable).
- Conformance with global best practice.

The Official Cash Rate (OCR) compound index simplifies the calculation of compound interest rates providing a standardised basis that is published by a recognised benchmark administrator. The OCR compound index is equivalent to a series of daily data representing the returns from a rolling unit of investment earning compound interest each day at the OCR. The change in the OCR Compound Index between any two dates can be used to calculate the interest rate payable over that period.

The interest rate payable over that period would be realised New Zealand Overnight Index Average (NZONIA) which is a term risk free rate. Realised NZONIA is a backward-looking rate based on the OCR, compounded daily in arrears over the relevant period.

The OCR is one of the tools the Reserve Bank of New Zealand (RBNZ) uses to implement monetary policy and meet its statutory requirements in terms of the Policy Targets Agreement it signs with the New Zealand Government. The RBNZ reviews the OCR approximately six times a year and provides an advanced calendar of announcement dates. For more information on the OCR please see the RBNZ's [website](#).

This document should be read in conjunction with the following NZFBF publications, all of which can be found on the NZFBF website ([Governance](#)):

- NZFBF Board Charter;
- NZFBF Constitution;
- NZFBF Code of Conduct & Conflicts of Interest;
- NZFBF Conflict Management Plan;
- NZFBF Complaint Process; and,
- NZFBF Whistle Blowing Process.

2.0 GOVERNANCE

NZFBF is the administrator and calculation agent for key New Zealand financial market benchmarks. NZFBF provides transparent governance, oversight, and accountability procedures for benchmark determination processes.

NZFBF is a wholly owned subsidiary of the New Zealand Financial Markets Association (NZFMA).

NZFMA was formed in 2007 as the industry association for institutional participants in New Zealand's wholesale financial markets. NZFMA is a not-for-profit incorporated society that operates in accordance with its Rules of Association, primarily to represent the common interests of its members as institutional participants in New Zealand's wholesale financial markets. One of NZFMA's key services is facilitating the provision of financial benchmarks that support the operation of New Zealand's wholesale financial markets.

NZFBF was established by NZFMA in 2021 to provide independent financial benchmark administration services exclusively for the NZFMA. NZFBF's objective is to deliver effective and efficient calculation and publication of the Benchmarks, ensuring, to the extent applicable, compliance with the New Zealand administrators of financial benchmarks regime, as provided for in the Financial Markets Conduct Act 2013 and the Financial Markets Conduct Regulations 2014, and alignment with the International Organization of Securities Commissions (IOSCO) Principles for Financial Benchmarks.

NZFBF is governed by a board of directors, which comprises a majority of independent directors.

If you wish to subscribe to any of the key New Zealand financial market benchmarks, please find the link [here](#).

2.1 Overall Responsibility of the Administrator

As Administrator, NZFBF maintains responsibility for all aspects of the capture and calculation process and overall governance surrounding the Benchmark. This includes the following:

- a) Development: The definition of OCR Compound Index and Realised NZONIA, as well as the determination methodology (as outlined in this document);
- b) Determination and Dissemination: Accurate and timely compilation, publication and distribution of the Benchmark;
- c) Operation: Ensuring appropriate transparency in respect of significant decisions affecting the compilation of the Benchmark and any related determination process, including contingency measures in the event of absence of or insufficient inputs, market stress or disruption, failure of critical infrastructure, or other relevant factors; and
- d) Governance: Establishing credible and transparent governance, oversight, and accountability procedures for the Benchmark determination process, including an identifiable oversight function accountable for the development, issuance and operation of the Benchmark process.

2.2 Internal Oversight

NZFBF governance, which includes policies and processes for the calculation and control of the Benchmark, as noted above, is coordinated through its NZFBF Board, in consultation with relevant NZFBF committees and/or working groups.

2.2.1 NZFBF Board

NZFBF has an oversight function via the Board (i.e., the board of directors of NZFBF) to review and challenge all aspects of the Benchmark determination process. NZFBF's Board Charter details the Board's oversight function. This is available on the NZFBF website.

The NZFBF Board will consist of at least three Directors, at least two of which are required to be independent Directors, at least one non-independent Director with financial markets experience, and one non-voting observer from the Government sector. The roles of the Chair and Deputy Chair will be filled by independent Directors.

2.3 Code of Conduct

The NZFMA requires that NZFMA members included in the Benchmark determination process agree to comply with the NZFMA Code of Conduct & Principles. This Code sets out ethical principles for acceptable standards of behaviour in the over the counter (OTC) financial markets and promotes responsible decision-making by Participants.

For further information, please refer to the [NZFMA Code of Conduct & Principles](#).

2.4 Conflicts of Interest

Identifying and disclosing existing and potential conflicts of interest is a standing agenda item at NZFBF Board meetings. Employees and contractors of the Administrator must disclose any existing or potential conflicts of interest to the Chair of the NZFBF Board as soon as they arise in line with the Conflict Management Plan and the Code of Conduct and Conflicts of Interest.

Once disclosed, it is the responsibility of the Chair (or, where the Chair has the conflict, the Deputy Chair) to ensure that conflict does not inappropriately influence the calculation of the Benchmark.

2.5 Staff Training

NZFBF ensures staff have the necessary skills and ongoing training to perform their duties to the highest standard and ensure benchmark outputs comply with the New Zealand benchmark administration licensing regime overseen by the FMA and align with the IOSCO Principles for Financial Benchmarks (to the extent applicable). Staff training is governed by the NZFBF Recruitment and Workplace Policies. Training will consist of in-house training and the use of external providers in relevant fields. Topics covered will be benchmark administration, NZ financial markets, and securities law & market regulation. Staff will also be required to be familiar with the contents of the NZFMA's Accreditation programme.

3.0 QUALITY OF BENCHMARK

3.1 Benchmark design

The OCR Compound Index and Realised NZONIA are subject to ongoing monitoring by the Administrator in consultation with NZFBF Committees and/or working groups, and the NZFBF Board. Should there be any significant developments to the market dynamics, a review process will be conducted to determine if the process remains appropriate and produces a robust representation of the interest that it seeks to measure.

The NZFBF Board shall also review the design of the OCR Compound Index process (upon recommendation from NZFBF) in accordance with IOSCO Principle 5 (Refer 3.2 for more detail).

3.2 Periodic Review

NZFBF will review the benchmark annually. Any recommendations following each review will be forwarded to the NZFBF Board for consideration and approval. The Board will also review all methodologies and the Operating Principles and Methodology on an annual basis. If any changes are required, the Board will determine if a consultation is needed (see section 4.2).

NZFBF will publish or make available a summary of such reviews where material revisions have been made to the methodology, including the rationale for the revisions with appropriate time frames for implementation.

4.0 QUALITY OF METHODOLOGY

4.1 Content of Methodology

The methodology is outlined in section 6.0 for the OCR Compound Index and Realised NZONIA. The methodology documents include the following:

- a) Definitions of key terms;
- b) All criteria and procedures used to develop the Benchmark;
- c) The procedures which govern a Benchmark determination in periods of market stress or disruption, including technology issues;
- d) Information regarding the frequency of internal and external reviews of methodologies – as specified in section 3.2; and,
- e) The circumstances in, and procedures under, which, the Administrator will consult with Stakeholders.

4.2 Changes to the Methodology

NZFBF, in consultation with the NZFBF Board, will publish or make available the rationale of any proposed material change in its Methodology. A material change would be defined as, but not limited to, any change to the methodology that would alter the definition or representativeness of the benchmark, the calculation of the benchmark, the format in which it is released and/or the timing of that release.

NZFBF must notify the FMA if they propose to make a material change to the financial benchmark methodology or final stage methodology of the benchmark. This is a requirement of section 22 of the Financial Markets Conduct (Licensing of Administrators of Financial Benchmarks) Amendment Regulations 2020.

Material changes to the methodology will be communicated to benchmark users and stakeholders via a consultation with adequate time for response. Following the consultation's close, NZFBF and the appropriate NZFBF committee and/or working group will consider the feedback. A summary of the feedback and proposed next steps will be published following this process, for further comment before a final decision is made by the NZFBF Board.

NZFBF will provide, at a minimum, one month's notice, via a market notice, for the implementation of the change which would be guided by consultation feedback.

Minor changes that do not meet the material change definition above will be discussed by NZFBF, in consultation with NZFBF committees and/or working groups, and the NZFBF Board before being implemented. These non-material changes would be implemented via a market notice, with a minimum two-week notice period.

The above processes may not apply if the Financial Markets Authority (FMA) has given written notice that a change is required.

4.3 Internal Controls over Data Collection

As NZFBF collects data from an external source, appropriate internal controls have been put in place regarding data collection and transmission processes. These controls address the process for selecting the source, collecting the data, and protecting the integrity and confidentiality of the data.

A Master Services Agreement has been signed by the NZFMA with Bloomberg Finance LP which outlines the terms and conditions of the data license between the two entities. Permission has been obtained to access and use the quotation information that the RBNZ publishes on the relevant Bloomberg page.

4.4 Transition

When a possible cessation event has been identified, or at any other time by the NZFBF Board, be that due to the Benchmark no longer being representative or where NZFBF and NZFMA can no longer act as the Benchmark Administrator, the process in section 6.7 of the methodology below is to be followed.

5.0 ACCOUNTABILITY

5.1 Complaints Procedures

NZFBF has a complaints procedure by which Stakeholders may submit complaints.

Where a complaint involves a request for a review and possible re-publication of the OCR Compound Index and Realised NZONIA, the complaint will be handled in accordance with the NZFBF's Complaints Policy and the following procedures:

- Any user can request a review if it believes that the rate is materially incorrect, such requests will be investigated by the NZFBF;
- A request to review the Index must be lodged by phone or email to the NZFBF before 3:00pm NZ time. Please call 0800 693 282 or email helpdesk@nzfbf.co.nz;
- NZFBF will take steps to verify the basis of the complaint. If it is identified that a re-calculation is warranted, a recommendation will be made as per the procedures of the methodology documents, available on the NZFBF website; and,
- NZFBF will maintain a log of all reviews of the Index, including the entities which requested it, the investigations undertaken, and the reasons for the decision taken by the NZFBF.

5.2 Reporting and Audits

Daily data integrity checks will be conducted pre-publication and retrospective reviews undertaken to ensure the methodology remains robust. This integrity check will be performed by NZFBF as part of its obligations as Administrator.

From time to time, the NZFBF Board may appoint an independent external auditor with appropriate experience and skill to review and report the NZFBF's adherence to its stated Operating Principles and Methodology.

5.3 Audit Trail

Written records will be retained by NZFBF for a minimum of seven years. These will include:

- All market data, any other data and information sources relied upon for OCR Compound Index determinations.
- Details surrounding deviations from standard procedures and methodologies.
- Any queries and/or complaints with appropriate responses relating to the process.

The above information is available to the FMA on request.

5.4 Co-operation with Regulatory Authorities

Where required by law, data, audit trails and other documents subject to these Operating Principles and Methodology shall be made readily available by NZFBF to the FMA.

6.0 CALCULATION METHODOLOGY

6.1 Background

Most major jurisdictions have identified, and implemented, overnight risk-free rates (RFR), for example SOFR in the US and SONIA in the UK. Some wholesale financial market transactions are being written against the new RFR benchmarks. Some Benchmark Administrators have also commenced calculating the compound index of the risk-free rates and in some cases publish realised risk-free rates, compounded in arrears, from the overnight risk-free rates that have been implemented. Regulators, such as the FCA in England, have encouraged the use of these realised risk-free rates for pricing some wholesale financial market instruments.

6.2 New Zealand Interest Rate Benchmarks

NZFBF has developed the OCR Compound Index and calculates and publishes the index each business day. NZFBF will provide a history of the OCR Compound Index, back to 17 March 1999, on its website along with a calculator to determine a term risk free rate in arrears (NZONIA).

6.3 OCR Compound Index conventions

Component	Detail
Data input	The Reserve Bank of New Zealand Official Cash Rate as published on Refinitiv page RBNZ02 and Bloomberg page <RBNM3> each business day at 9.00am. The rate is applicable to the current business day (T+0). The index will have a base of 100 as of 17 March 1999.
Tenors	The OCR Compound Index is calculated and published, via email and information vendors ¹ , each business day and is an overnight index. Term risk free compound rates in-arrears can be calculated for any period using the calculator provided in the daily email or on the NZFMA website.
Business day	A 'good' business day is defined as a day on which banks in New Zealand are generally open for business, or a day other than one on which banks in New Zealand are obliged or permitted to close - specifically excluding Saturday and Sunday. Essentially, good business days are weekdays (Monday to Friday) other than public holidays. Wellington and Auckland Anniversary days are considered public holidays as per NZFMA OIS conventions.
Day count	Actual/365
Start date	The start date for the OCR compound Index will be the previous 'good' business day.
End date	The day on which OCR compound index is calculated and published. The end date will always be a good business day.
Settlement convention	The settlement convention will be T+0.
Rounding	OCR Compound Index is rounded to 12 decimal places.
Publication	OCR Compound Index will be published at 10.41am NZST/NZDT via email and information vendors to existing benchmark users from 01 December 2020. The OCR Compound Index will be free to air with a 24-hour delay on the NZFMA's website.

6.4 OCR Compound Index methodology

¹ For example, Bloomberg and Refinitiv.

The OCR Compound Index will be calculated as:

$$\text{OCR Compound Index}_i = \text{OCR Compound Index}_{i-1} \times \left(1 + \frac{\text{OCR}_i \times a_{i-1}}{365}\right)$$

Where:

OCR Compound Index_i = The index for the date i, calculated and published on date 1, published to 12 decimal places (OCR Compound Index_i = 100.000000000000 on 17 March 1999)

OCR Compound Index_{i-1} = The OCR Compound Index for the business day i-1, calculated on business day i-1, rounded to 12 decimal places

a_{i-1} = The number of calendar days for which OCR_i applies. This is equal to the number of calendar days between business day i and business day i-1

Calculating compounded term OCR rates in arrears (NZONIA) from the index

The NZFMA has chosen, at this point, not to publish tenor based NZONIA rates, preferring instead to provide a calculator that can be used to calculate NZONIA in-arrears across any user defined tenor.

To calculate the compounded OCR in arrears rate for any tenor, the following formula should be used:

$$\text{Compounded OCR rate between x and y} = \left(\frac{\text{OCR Compound Index}_y}{\text{OCR Compound Index}_x} - 1\right) \times \frac{365}{d}$$

Where:

x = start day of the reference period

y = end day of the reference period

d = the number of days in the calendar period

This calculation methodology can also be used to calculate a lookback using observation shift should it be required. The index does not support simple lookback calculations.

6.5 Calculation Scenarios

OCR value date	OCR rate	OCR Compound Index
Mon 20 May 2024	5.50%	267.728537364734
Tues 21 May 2024	5.50%	267.768880021049
Weds 22 May 2024	5.50%	267.809228756395
Thurs 23 May 2024	5.50%	267.849583571687
Fri 24 May 2024	5.50%	267.889944467842
Mon 27 May 2024	5.50%	268.011045401643
Tues 28 May 2024	5.50%	268.051430627662
Weds 29 May 2024	5.50%	268.091821939126
Thurs 30 May 2024	5.50%	268.132219336953

Example one – start and end date for the period 23 May 2024 to 30 May 2024:

$$\begin{aligned}
 \text{NZONIA} &= \left(\frac{\text{OCR Compound Index}_y}{\text{OCR Compound Index}_x} - 1 \right) \times \frac{365}{d} \\
 &= \left(\frac{268.132219336953}{267.849583571687} - 1 \right) \times \frac{365}{7} \\
 &= 5.5021315080\%
 \end{aligned}$$

Example two – start and end date for the period 23 May 2024 to 30 May 2024 with a two-day observation shift (21 May to 28 May):

$$\begin{aligned}
 \text{NZONIA} &= \left(\frac{\text{OCR Compound Index}_y}{\text{OCR Compound Index}_x} - 1 \right) \times \frac{365}{d} \\
 &= \left(\frac{268.051430627662}{267.768880021049} - 1 \right) \times \frac{365}{7} \\
 &= 5.5021315080\%
 \end{aligned}$$

6.6 Publication

The OCR Compound Index and Realised NZONIA information will be published in accordance with the following protocol:

- Display of OCR Compound Index and Realised NZONIA on NZdata pages will be distributed via NZdata email.
- Calculated OCR Index will be disseminated to all participating Information Vendors by no later than 10:41am NZST on the Business Day to which they apply.

The data is distributed to benchmark users via:

- An XML feed to the information vendors. Vendors are obligated to display the OCR Compound Index on their vendor screens upon immediate receipt of the XML data;
- Spreadsheet distribution for users to the OCR Compound Index service.
- The data noted above is also available free-to-air with a 24-hour delay on the NZFMA website

6.7 OCR Compound Index Cessation Procedures

These procedures concern the actions that will be taken by NZFBF, in the event of cessation of a benchmark, in this case OCR Compound Index and Realised NZONIA.

Various factors, including external factors beyond the control of NZFBF, might necessitate material changes to the OCR Compound Index. Benchmark users and stakeholders of the OCR Compound Index should have robust fall-back provisions in place in the event of material change or cessation of this benchmark rate. For example,

cessation can be invoked by NZFBF if they believe they are no longer in a position to calculate and publish the Index and/or the benchmark is no longer representative.

Other entities within New Zealand can also invoke the cessation of the OCR Compound Index if they believe NZFBF is not in a position to calculate and publish OCR Compound Index and/or the benchmark is no longer representative. For example, the Financial Markets Authority (FMA) or RBNZ. These procedures do not refer to their actions or procedures.

Prior to cessation, notice will be provided to the necessary stakeholders and benchmark users that there were issues pertaining to the calculation and publication of the OCR Compound Index. However, if cessation was to occur, NZFBF would notify:

- NZFBF Board;
- NZFMA Board;
- Financial Markets Authority;
- Reserve Bank of New Zealand; and,
- Benchmark users and other stakeholders of the OCR Compound Index.

Such notice would include:

- A description of the issue;
- When cessation would likely occur;
- The potential to use other benchmarks be they a fallback benchmark interest rate or some other benchmark. The time required to implement a new benchmark if one is available;
- NZFBF's ability to continue as New Zealand's Benchmark Administrator; and,
- Options for an alternate Benchmark Administrator, if NZFBF were unable to continue.

6.8 Voluntary discontinuation

If NZFBF determined it could no longer continue as the Benchmark Administrator, for whatever reason, it would notify the stakeholders noted above. Following this a market notification would be made giving at least six-month's notice.

NZFBF would work with stakeholders to identify expressions of interest from other administrators in publishing the OCR Compound Index and NZFBF would be prepared to work with the successful administrator to transition the benchmark.

7.0 APPENDIX I²

Key Definitions

Administration: Includes all stages and processes involved in the production and dissemination of the Benchmark, including:

- a) Collecting, analysing and/or processing information or expressions of opinion for the purposes of the determination of the Benchmark;
- b) Determining the 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.

Audit trail: For the purposes of the Benchmark determination process, the documentation and retention of all relevant data, submissions, other information, judgments (including the rationale for any exclusions of data), analyses and identities of Submitters used in the Benchmark setting process for an appropriate period.

Benchmark: The Benchmark in scope of this document are prices, estimates, rates, indices or values that are:

- a) Made available to users, whether free of charge or for payment;
- b) Calculated periodically, entirely or partially by the application of a formula or another method of calculation to, or an assessment of, the value of one or more underlying Interests;
- c) Used for reference for purposes that include one or more of the following:
 - determining the interest payable, or other sums due, under loan agreements or under other financial contracts or instruments;
 - determining the price at which a financial instrument may be bought or sold or traded or redeemed, or the value of a financial instrument; and/or
 - measuring the performance of a financial instrument.

Benchmark Administrator (“Administrator”): An entity 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:

1. The calculation of the Benchmark;
2. Determining and applying the Benchmark methodology; and
3. Disseminating the Benchmark.

The Benchmark Administrator is NZFBF.

Benchmark User: A person or entity that purchases Benchmark determination services from the Administrator.

Bloomberg: A third party platform that provides a real time source of market data, pricing information and news.

Calculation Agent: An entity with delegated responsibility for determining the Benchmark through the application of a formula or other method of calculating the information or expressions of opinions provided for that purpose, in accordance with the methodology set out by the Administrator.

‘Good’ Business Day: A 'good' business day is defined as a day on which banks in New Zealand are generally open for business, or a day other than one on which banks in New Zealand are obliged or permitted to close - specifically excluding Saturday and Sunday.

Essentially, good business days are weekdays (Monday to Friday) other than public holidays.

² Source: IOSCO Principles for Financial Benchmarks July 2013 and NZFBF internal documents.

In general, NZFMA recommends that transactions should not be negotiated for settlement or price fixing (rollover) on a non-business day. Other conventions can be utilised, if agreed upon at the time of dealing.

Methodology: The written rules and procedures according to which information is collected and the Benchmark is determined.

Participants: Legal entities involved in the production, structuring, use or trading of financial contracts or financial instruments used to form the Benchmark, or which reference the Benchmark.

Publish or make available: Refers to the expectation that a party such as an Administrator should provide a document or notice to Stakeholders. The means by which such notice is made should be proportionate to the breadth and depth of the Benchmark used by Stakeholders, as determined by the Administrator on a “best efforts” basis. Ordinarily, posting a document or notice on the Administrator’s website will meet this expectation.

Stakeholder: Refers to benchmark users and other persons or entities who own contracts or financial instruments that reference the Benchmark.