NZFMA
NEW ZEALAND
FINANCIAL MARKETS
ASSOCIATION

TE RŌPŪ MĀKETE PŪTEA O AOTEAROA

INTEREST RATE DERIVATIVE CONVENTIONS

CONTENTS

1. Description

The interest rate derivative market is an integral part of the capital markets. It drives and is driven by international bond issuance by both government and non-government entities. Interest rate derivatives enable borrowers and investors to alter the cash flow characteristics of instruments they use to better suit their individual circumstances. They can also take advantage of any market misalignments to achieve better results than would be possible without the swaps market.

The following interest rate derivative conventions cover the main over-the-counter "vanilla" instruments in the New Zealand interest rate derivatives market.

These conventions reflect current market practices and are maintained by the NZFMA's Rates Committee and its working groups.

2. Products

Interest Rate Swaps

A swap, as the name implies, is an exchange of financial obligations. It involves two parties contracting to swap their respective interest payment flows or their foreign exchange obligations.

A swap works by the dealer being able to value all the cash flows involved in the deal. In a swap the obligations exchanged can be in the same or different currencies and can be at fixed or floating rates of interest. There are many variations on this theme as per Appendix 1.

An overnight index swap (OIS) is a fixed for floating interest rate swap having a term of usually between one week and two years. The floating rate period is tied to the RBNZ's Official Cash Rate (OCR) located on Refinitiv page RBNZ02 and Bloomberg page RBNM3.

These conventions are specific to New Zealand Dollar swap products traded between NZFMA members, although they are applicable to all counterparties that trade or enter into NZD swap products. Swaps denominated in other currencies would be subject to the specific conventions/rules governing those markets.

Basis swaps

A basis swap is a form of interest rate swap where both sides of the swap are based on floating rates of interest. These can be denominated in the same currency or in different currencies.

These conventions refer to the following basis swap products:

1. LIBOR/BKBM basis swap;

2. RFR/BKBM basis swap;
3. RFR/RFR basis swap;
4. Single currency basis swap; and,
5. Cash/BKBM swap (BOBs)

CPI Linked swaps

A set of self-contained CPI linked swap conventions are detailed in Section 3.7. For CPI linked swaps conventions not covered conventions are the same as those for other interest rate swaps contained within this set of conventions.

3. Dealing

3.1. Methods of Dealing

Direct via telephone, broker or electronic platform.

3.2. Electronic Dealing

Some platforms to trade electronically exist.

3.3. Business Days

A good business day is defined as any 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, excluding Saturday and Sunday.

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

3.4. Standard Transaction Size (market parcels)

Unless specified otherwise the following dealing parcels will apply to New Zealand dollar products (Minimum market parcels sizes do not restrict trading in smaller volumes, however smaller volumes should be specified before trading):

Interest Rate Swaps; Overnight Indexed Swaps; NZD/USD Basis Swap; Single Currency Basis Swaps	
Maturity	*Notional Principal for Swaps on an Outright basis*
< 3 months	$1000 million
3 months	$500 million
6 to 11 months	$250 million
1 year	$ 200 million
2 years	$ 100 million
3 years	$ 75 million
4 to 5 years	$ 50 million
6 years	$ 40 million
7 to 8 years	$ 30 million
9 to 10 years	$ 25 million
11 to 15 years	$ 20 million
16 to 20 years	$ 15 million
21 to 30 years	$ 10 million

The minimum market parcel for all swaps in a fly is double the notional of the standard market parcel in the belly of the fly. This also applies to NZD/USD basis swap and single currency basis swaps.

Minimum parcels for OIS runs apply to the back leg amount, resulting in a smaller amount on the front leg.

For CPI linked swap standard transaction size (market parcel) refer to Section 3.7.

3.5. Two Way Pricing

No specific convention.

3.6. Quotation and Dealing

The margin on term basis swaps across all underlying tenor combinations is applied to the shorter leg.

3.7. Specific Instrument Conventions

3.7.1. CPI Linked Swap Conventions (self-contained)

Most conventions for CPI linked swaps are the same as those for standard interest rate swaps contained in these conventions.

The transactions can be dealt under an ISDA master agreement (the preferred dealing method) with all additional definitions required to be contained in the bilateral confirmations exchanged by the deal counterparties.

3.7.1.1. Standard Interbank CPI Swap Structures

Capital Indexed Swap *(CIS)* – Capital Indexed Bond (CIB) style swap vs nominal floating.

- The real leg follows the CIB profile.
- The nominal leg follows the standard nominal swap profile, but always quarterly.
- The quotation is on the basis of the fixed real rate that applies to the real leg calculations.

The quarterly payments are calculated as follows:

	CPI Leg	Floating Leg
Initial Exchange	$Notional$	$Notional$
Quarterly Payment	$Notional \times \frac{r}{4} \times \frac{K_{(n)}}{100}$	$Notional \times BKBM(3month) \times \frac{days}{365}$
Final Exchange	$Notional \times \frac{K_{(last)}}{100}$	$Notional$ (standard final principal exchange)

r = the dealing fixed real rate expressed as a percentage per annum

n = the number of full coupon periods since the start date

days count basis is actual days/365 fixed

$K_{(0)}$ factor is set at 100 at deal time and applies to swap start date. From then on $K_{(n)}$ is calculated as:

$$K_{(n)} = K_{(n-1)} \times \left(1 + \frac{P_{(n)}}{100}\right)$$

$$P_{(n)} = \left(\frac{CPI_{(n-1)}}{CPI_{(n-3)}} - 1\right)\frac{100}{2}$$

K is rounded to 2 decimal places

P is rounded to 2 decimal places

$CPI_{(n)}$ is the most recently available CPI at the time the n^{th} payment would be due

BKBM (3month) days defined as per standard swap

Index Annuity Swap *(IAS)* - CPI Indexing flow vs fixed indexing flow.

- The real leg is annuity style following the standard IAB profile (e.g., TCV 15/12/21 IAB).
- The nominal leg is an escalating nominal annuity at a fixed escalation rate.
- The quotation is on the basis of the fixed escalation rate for the nominal side.

The quarterly payments are calculated as follows:

	CPI Leg	Floating Leg
Quarterly Payment	$NotionalBasePayment \times \frac{CPI_{(n)}}{CPI_{(0)}}$	$NotionalBasePayment \times \left(1 + \frac{IndexFactor}{4}\right)$

n = the number of full coupon periods since the start date

$CPI_{(n)}$ = the most recently available CPI index at the time the nth payment is due

$CPI_{(0)}$ = the most recently available CPI index at the start date (base CPI)

Index Factor = the fixed escalation rate on which the swap is quoted

Notional Base Payment = the dealing notional payment size

Zero Coupon Swap *(ZCS)* - zero coupon CPI versus zero coupon fixed (ZCS).

- The CPI leg is notional increasing with CPI.
- The floating leg is notional increasing at an agreed fixed rate.
- Both legs have no interim interest payments and are netted upon exchange at maturity.
- The quotation is on the basis of the price for inflation quoted on the fixed leg for the term.

The payments are calculated as follows:

	CPI Leg	Fixed Leg
Initial Exchange	$Notional$	$Notional$
Final Exchange	$Notional \times \frac{CPI_{(n)}}{CPI_{(0)}}$	$Notional \times (1+x)^n$

All payments are netted, hence there is no initial payments exchanged

In all cases $CPI_{(n)}$ and $CPI_{(0)}$ are agreed between the two transacting counterparties

Rounding on CPI leg is to 8 decimal places

$CPI_{(n)}$ usually = the most recently available CPI index at maturity

$CPI_{(0)}$ = the most recently available CPI index at the start date (base CPI)

x = the dealing price for inflation quoted as an effective percentage per annum

n = the number of years between the start date and the end date

3.7.1.2. Definition of CPI

The definition and contingencies for non-publication, revisions, etc will come under the ISDA 2006 guidelines.

3.7.1.3. Standard Transaction Size (market parcel)

Zero Coupon Swaps [ZCS] (notional face value)	
3 months	$ 50 million
Between 1 and 10 years	$ 25 million
Greater than 10 years	$ 10 million

3.7.1.4. Standard Terms

Standard swaps are based on terms of 3 months, 1, 2, 3, 4, 5, 7, 10, 12, 15, 20, 25 and 30 years.

Unless otherwise stated, scheduled maturities will be rolled to the next quarterly date, being the 15th of March, June, September, and December, upon release of the quarterly CPI figure. Thus, a five-year trade on 10 October 2008 will terminate on 15 September 2013, and a five-year trade on 30 October 2008 will terminate on 15 December 2013.

3.7.1.5. Right to Break Clauses

Standard market right to break is at five years and annual thereafter on a Bermudan basis.

Bilateral arrangements between counterparties are to be organised for longer transactions, if necessary.

3.7.2. RFR Benchmarked Cross Currency Basis Swaps

NZFMA Conventions for Interdealer Cross-Currency Swap transactions are priced and executed based on an RFR/BKBM basis. Specifically, the USD leg is based on the Secured Overnight Financing Rate (SOFR), with the NZD floating rate benchmark based on BKBM. This form of swap is a move away from traditional LIBOR based pricing given the planned cessation of USD LIBOR and subsequent move to SOFR. The NZFMA expects that at some stage in the future Interdealer Cross Currency Swap transactions will transition to RFR/RFR.

A RFR/RFR basis swap represents a new form of cross currency interest rate swap in which one party pays a floating rate of interest in NZD based on a specific NZD principal in exchange for a floating rate of interest in USD based on a specified USD principal. Specifically, the USD leg is based on the Secured Overnight Financing Rate (SOFR), with the NZD floating rate RFR benchmark based on RBNZ's OCR located on Refinitiv page RBNZ02 and Bloomberg page RBNM3. In both instances the compounded in-arrears benchmarks are governed by ISDA defined definitions.

3.7.2.1. Exchange of Principal

Conventions governing principal exchange are largely unchanged with that of traditional LIBOR based cross currency swap conventions

Transactions should be priced on a spot (2 business day) settlement. Exchange of Principal payments should occur on designated Settlement and Maturity dates of the swap.

Transactions should be priced based on the principal of quarterly principal reset. Resetting the FX rate should occur 2 business days prior to each interest calculation period end date, with interim principal exchange occurring on the interest calculation period end date.

It is recognized principal resetting may not always be appropriate for client-based bilaterally negotiated transactions.

3.7.2.2. Exchange of Interest

Quarterly interest payment frequencies on both sides of the swap are observed.

Interest payment dates for each leg of a BKBM/RFR cross currency swap are on a T+2 basis from the interest calculation end-period date, unless mutually agreed by both parties.

For RFR/RFR interest should be calculated on compound daily settled in-arrears basis as per the existing ISDA definitions for the respective SOFR and NZIONA legs of the swap. Day count conventions of act/360 and act/365 should be applied to the USD and NZD legs of the swap respectively.

Interest payment dates for each leg of the swap should occur on a T+2 basis from the interest calculation end-period date.

3.7.2.3. Discounting

Interdealer prices should be quoted on USD currency collateral discounted on SOFR – noting that the form of Price Alignment Interest may evolve over time and USD Effective Fed Funds is still prevalent in the market.

3.8. Basis

Interest Rate Swaps

Swaps are quoted on a semi/quarterly basis for all maturities. Swaps can be quoted on any other basis if the terms are agreed to by both parties.

All rates are quoted on an actual/365-day fixed basis. The standard convention denominator doesn't adjust for leap years unless otherwise stated.

For overnight index swaps less than 12 months to maturity interest is payable and settled at maturity.

For overnight index swaps greater than 12 months to maturity net interest is payable at the end of the front-end stub period (if any) and annually in arrears thereafter until maturity.

Dealing Prices can be obtained on many different bases (e.g., "back end stub") and to avoid confusion the matter of settlement of the "broken" interest period or "stub period" should be clarified at the time of inquiry or quotation.

Bills/OIS basis swaps (BOBs) are traded for a single period and term. Single period BOBs trades are for 3 month runs while term BOBs are quoted on a quarterly/quarterly basis.

For Single Period Swaps/Exchange of Futures for Physical (SPS/EFP) trades out of futures dates the SPS is for a 3-month run on a quarterly/quarterly basis.

Basis Swaps

NZD/USD basis swap are quoted on a quarterly/quarterly basis.

Right to Break

For NZD the following default applies unless otherwise stated in the confirmation:

Earliest Exercise time: **9am Wellington time**
Latest Exercise time: **11am Wellington time**
Cash Settlement valuation Time/Expiration Time: **11am Wellington time**

Expiration Date Early termination: Five (5) exercise business days prior to cash settlement payment date.

3.9. Maturity Conventions

In general, the NZFMA recommends that transactions should not be negotiated for settlement or price fixing (rollover) on a non-business day.

3.10. Settlement Rate or Index

Most NZD interest rate swaps are settled against BKBM FRA and overnight index swaps settle against the RBNZ's OCR located on Refinitiv page RBNZ02 and Bloomberg page RBNM3.

3.11. Premium Payment Date(s)

Not applicable.

3.12. Expiry Conventions

Not applicable.

3.13. Broker Conventions

The following conventions should be followed when dealing through brokers:

- If a dealer provides a firm order with a broker and is hit on such an order the dealer must deal at the level specified for the minimum market parcel. If the dealer reneges on such a quote (i.e. drops the broker) the counterparty wishing to deal at the quoted price may request that the name of the other party be provided. After the broker informs the party who has reneged the broker is obliged to pass the party's name.

  If such a dispute cannot be resolved bilaterally between the 2 parties the party with the grievance may refer to NZFMA for assistance in resolving the matter.

- If an order is placed with a broker under reference, then the broker should refer to the dealer before dealing at the specified price.

- When providing quotes to brokers dealers should attempt to specify the basis on which they are prepared to deal, e.g. the curve must be trading at or within half a point from a specified price. If the curve moves more than half a point against the dealer the quote is no longer firm.

- When a dealer has a price with a broker it is expected that the dealer will deal at least the minimum market parcel if they have not specified a particular amount to the broker. It is then the responsibility of the broker to promulgate that information.

- If a dealer provides the same firm order in two or more brokerage firms, they will be obliged to deal at least market parcel (see Section 3.4) in each brokerage firm they have been dealt, subject to credit availability. The dealer cannot use the excuse that they have been dealt in another brokerage firm in order to renege on a trade.

3.14. Confidentiality

- Names of counterparties should not be passed by brokers prior to dealing unless both parties agree to the passing of names.

- Brokers should not pass counterparty names or the size of deals to other market participants.

- When dealers are trading directly or through a broker neither of the parties should disclose the name of the counterparty or the size of the transaction dealt to other market participants.

3.15. Credit

The ability to deal is subject to credit constraints/limits. Dealers should advise the counterparty if they are unable to deal because of credit limits as quickly as possible. The transaction is not finalised until

both parties have agreed with the other party that credit is available. Both parties have the right to request a change in price of the deal up until the time that credit limits have been finalised.

3.16. Exercise of Options

Not applicable.

3.17. Data Source

Interest rate swap prices can be found on NZdata NZ Swaps Close. Basis swap prices can be found on NZdata NZD/USD Basis Swap close.

Overnight index swaps reference index, the OCR, is available on Refinitiv page RBNZ02 and Bloomberg page RBNM3.

3.18. Pricing Formulae

Overnight index swaps fixed amount:

$$FixA = Notional \times \frac{D \times F}{365 \times 100}$$

FixA = fixed amount
Notional = notional amount
D = day count (between start date & maturity date)
F = fixed rate

Overnight index swaps floating amount:

$$FA = Notional \times FR$$

$$FR = \left[\left(1 + \frac{RBNZ_{(1)} \times D_{(1)}}{365 \times 100}\right)\left(1 + \frac{RBNZ_{(2)} \times D_{(2)}}{365 \times 100}\right) \ldots \left(1 + \frac{RBNZ_{(n)} \times D_{(n)}}{365 \times 100}\right)\right] - 1$$

FA = floating amount
FR = floating rate (rounded to 4 decimal places)
Notional = notional amount
$RBNZ_{(1)}$ = the NZD Official Cash Rate for the first reset day of the OIS transaction as shown on Reuters RBNZ02 or RBNM3
$RBNZ_{(n)}$ = the NZD Official Cash Rate for the last reset day of the OIS transaction as shown on RBNZ02 or RBNM3

$D_{(1)}$ = the day count on the first reset day of the OIS transaction

$D_{(n)}$ = the day count on the last reset day of the OIS transaction

Local non-business days are included as extra days in the day count of the previous local business day, e.g. the day count for a Friday preceding a normal weekend is 3 days.

Settlement is calculated as the difference between the fixed amount and the floating amount and is paid two business days after the maturing date.

Reset day means any good business day in accordance with contractual holiday conventions. The OCR for any business day is the rate specified for that business day on Refinitiv page RBNZ02 and Bloomberg page RBNM3 at or about 9am on that day. The OCR is quoted to 2 decimal places and the floating amount is rounded to the nearest cent.

4. Confirmations

4.1. Timing

Confirmations are to be provided as soon as possible after the details of the transaction are agreed. Generally, this should take place within one hour of dealing.

4.2. Confirmation Standards

The initial confirmation for this type of product supplements and forms part of the ISDA Master Agreement, and therefore the transaction must be confirmed using the standard form of confirmation.

4.3. Transaction Information

The complete transaction information must be confirmed.

- Trade Date
- Date of ISDA Master Agreement
- Fixed Rate Payer
- Floating Rate Payer
- Notional Amount(s) and Currencies
- Effective Date
- Termination Date
- Reset Date
- Payment Date for each Party
- Business Day Convention
- Day Count Fraction

- Floating Rate Option
- Designated Maturity
- Business Centres for each Party
- Office of each Party

5. Settlements

5.1. Physical Settlements

Not applicable.

5.2. Cash Settlements

Interest Rate Swaps and Basis Swaps

In general, NZFMA recommends that transactions should not be negotiated for settlement or price fixing (rollover) on a non-business day (see Section 3.9). Other conventions can be utilised if agreed at the time of dealing.

Adjustment of Settlement Date and Maturity Date - If the Settlement Date or the Maturity Date does not fall on a Business Day (see Section 3.3), then it is generally to be adjusted on a 'Modified Following Business Day' basis.

Interest payments of a NZD Interest Rate Swap referenced to BKBM (IRS) occur T+0 from the interest calculation end-period date.

Interest payments of a NZD Overnight Index Swap (OIS) occur T+2 from the interest calculation end-period date. For OIS greater than 12 months to maturity, net interest is payable at the end of the "front end stub" period (if any) and annually in arrears thereafter, until maturity (refer to Section 3.9).

Interest payments of a Bills/OIS basis swap (BOBs) occur T+2 from the interest calculation end-period date.

Interest payments of a NZDUSD Cross currency swap (BKBM/LIBOR) occur T+0 from the interest calculation end-period date.

Interest payments of a NZDUSD Cross currency swap (BKBM/SOFR) occur T+2 from the interest calculation end-period date, unless mutually agreed by both counterparties.

Interest payments of a NZDUSD Cross currency swap (NZOIS/SOFR) occur T+2 from the interest calculation end-period date.

Exchange of principal payments on a cross currency swap occurs on designated Settlement and Maturity dates.

Appendix 1 - Glossary

Accreting Swap - A swap whose notional principal increases over time.

Amortising Swap - An interest rate swap with a decreasing principal amount.

Annuity Swap - A swap involving an initial payment or receipt then an exchange of equal coupons during the life of the swap.

Asset Swap - A swap where the fixed payment stream of the swap is generated by an asset, e.g. a bond held by a party to the swap.

Basis Swap - An interest rate swap carried out between two floating rates set against two different reference rates.

Bills/OIS Basis Swap – A form of single currency floating/floating interest rate swap. There is no exchange of principal. The floating rate of the Cash side of the swap is tied to a daily Interbank Overnight Cash reference rate (RBNZ02). The other floating rate payment is based on BKBM. Settlement is the 2nd business day after termination date.

Coupon Swap - A conventional fixed for floating interest rate swap.

Cross Currency Swap - A swap where counterparties exchange equal principal amounts of 2 currencies at the spot exchange rate. During the life of the swap the counterparties exchange fixed or floating rate interest payments in the swapped currencies and at maturity. The principal amounts are again swapped at a predetermined rate of exchange (usually the initial spot rate).

Discount Swap - A swap with payments made on a discounted basis in advance.

Domestic Swap - An interest rate swap in the domestic currency.

Forward Swap - A swap that takes effect at a future date.

Interest Rate Swap - A basic fixed rate for floating rate swap organised in one currency with interest rate flows paid in arrears and settled on a net cash basis.

Long Dated Forward - A forward contract where settlement date is more than 365 days away.

Non-Par Swap - A swap where one or both of the securities underlying the swap sells at a discount or premium.

NZFMA Members – *The current list of NZFMA members can be found on the NZFMA website.*

Official Cash Rate (OCR) – *The official cash rate is an overnight rate and is one of the tools used by the RBNZ to implement monetary policy.*

Overnight Index Swap - A fixed/floating interest rate swap where the floating leg is fixed by reference to an overnight rate, the RBNZ's OCR. Both the fix and floating interest legs are calculated according to New Zealand money market conventions (act/365 fixed). The floating amount is calculated on a compounding basis using the OCR located on Refinitiv page RBNZ02and Bloomberg page RBNM3. Settlement is the 2nd business day after termination date.

Plain Vanilla Swap - A par value, generally same currency, swap with standard terms and conditions.

Roller Coaster Swap - A swap where the notional principal fluctuates over time.

Unmatched Swap - A swap not matched by an offsetting swap or asset/liability. The mismatch can be in the principal amount, date structure or both.

Zero Coupon Swap - A swap where the fixed coupon is discounted/accumulated to be paid at commencement/maturity.

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FURTHER INFORMATION

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