Using new ARR products? Here are some helpful things to know

What are the ARRs?

Currency-specific working groups formed by global regulators have identified alternative reference rates (abbreviated as **ARRs**) to replace LIBOR. The terms "alternative reference rates", "near risk-free rates" and "risk-free rates" (or RFRs) can be used interchangeably.

Do the new ARRs align with LIBOR?

The key differences between LIBOR and the new ARRs:

Benchmark	LIBOR	ARRs
Methodology	Represents the rates at which large internationally active banks with access to the wholesale, unsecured funding market could fund themselves in that market in particular currencies for certain tenors.	Reflects the average of the interest rates that banks pay to borrow overnight from other financial institutions and other institutional investors either on an unsecured basis or secured by securities.
Input Data	Based on submissions from panel banks determined using a standard waterfall starting with transaction data and ending with expert judgement where transaction data is unavailable.	Based on actual transactions reported to central banks or clearing houses.
Term Structure	Set on a forward-looking basis for a range of specific tenors.	Daily overnight rate only.
Credit Component	Includes an element of bank credit risk.	Considered to be "nearly risk-free".
Publication Time	At 11.55am on the same day.	Next day publication.

In order to replace LIBOR in a product, the ARR will therefore need to be **averaged**, annualised and the day count convention adjusted to provide the term required (for example, 1 month, 3 month or 6 month).

There will also exist an implied margin difference between LIBOR and the relevant ARR, that represents the inherent higher credit risk between LIBOR, being a measure of term funding, and the ARRs, being a measure of overnight funding. In normal credit periods, LIBOR is expected to be higher than the relevant ARR. In some products, it may be necessary to add a **credit adjustment spread** to the compounded ARR in order to reintroduce a credit component into the pricing.

Benchmarks that provide a forward-looking measure of the ARRs based on market expectations implied from derivatives markets are referred to as term ARRs. Whilst term ARRs are operationally similar to LIBOR, they are in the early stages of development and Westpac is not currently offering any products using term ARRs.

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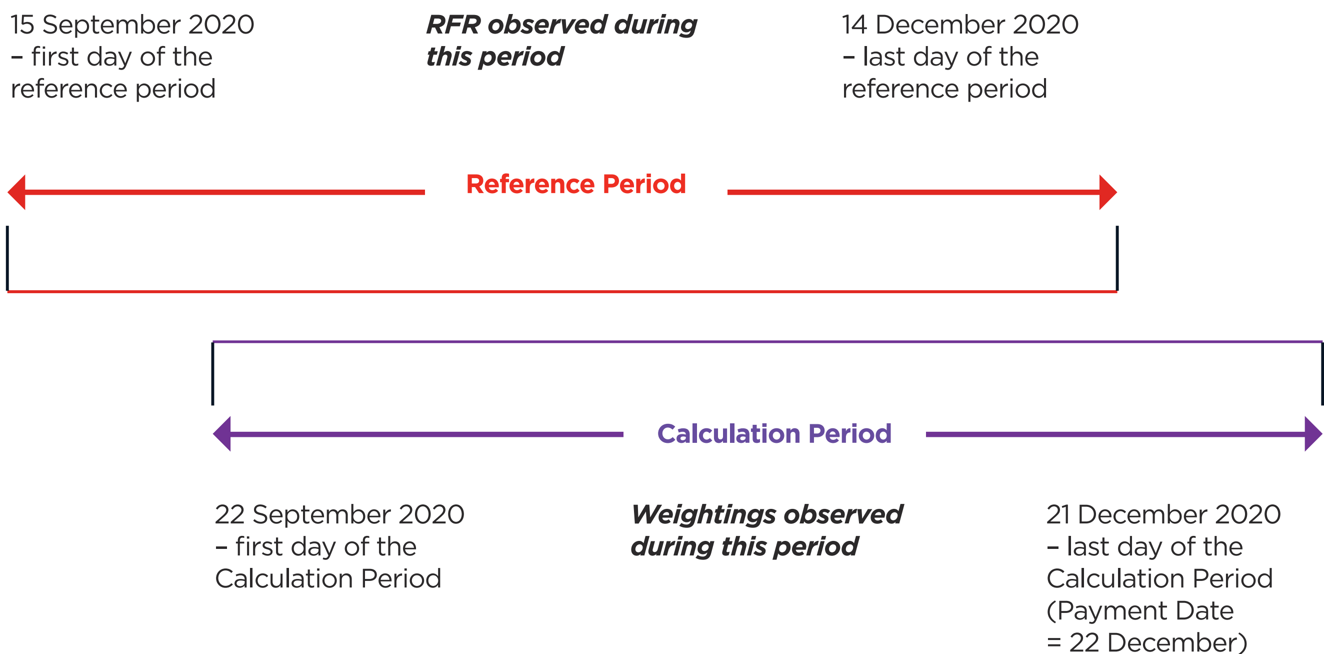
How will the new ARRs be averaged?

The ARR for a calculation period can be either a simple or compounded average of the fixings published for each day in the calculation period. In either case, the averaged ARR is only known and calculated at the end of the current interest period, so it is set in arrears. The calculation may involve a backward adjustment to permit the averaged ARR to be known a few days before the interest becomes due in order to provide time to process the payment amount due or, alternatively, the payment date may be delayed beyond the end of the calculation period. The backward adjustment may be by way of a 'lookback', 'lockout', or 'observation period shift'.

What is a Lookback?[1]

If the averaged ARR is adjusted by a lookback, the rate for each business day in a calculation period is determined on the basis of the rate observed for a certain number of business days prior to such date. The weighting to be given to the observed rate depends on the relevant day in the calculation period.

Note that the start and end dates of the 'reference period' assume no bank holidays.



[1-4] International Swaps and Derivatives Association, Inc
www.isda.org/a/nlzTE/Approaches-to-compounded-RFRs-under-the-2006-ISDA-Definitions.pdf

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What is an Observation Period Shift?[2]

If the average ARR is adjusted using an observation period shift, the averaged ARR for a calculation period is determined using rates observed during an **'observation period'** which starts before the beginning of the calculation period (e.g. 5 business days prior) and ends before the end of the calculation period (e.g. 5 business days prior).

Under this approach, both the observed rate and the weighting are determined on the basis of the relevant day of this observation period, rather than the weighting being determined based on the relevant day in the calculation period (as described for a lookback above).

An observation period shift may also be referred to in some markets as a 'lookback with observation period shift'.

Note that the start and end dates of the 'observation period' assume no bank holidays.

15 September 2020 – first day of the observation period

RFR and weightings observed during this period

14 December 2020 – last day of the observation period

22 September 2020 – first day of the Calculation Period

21 December 2020 – last day of the Calculation Period (Payment Date = 22 December)

[2] Ibid

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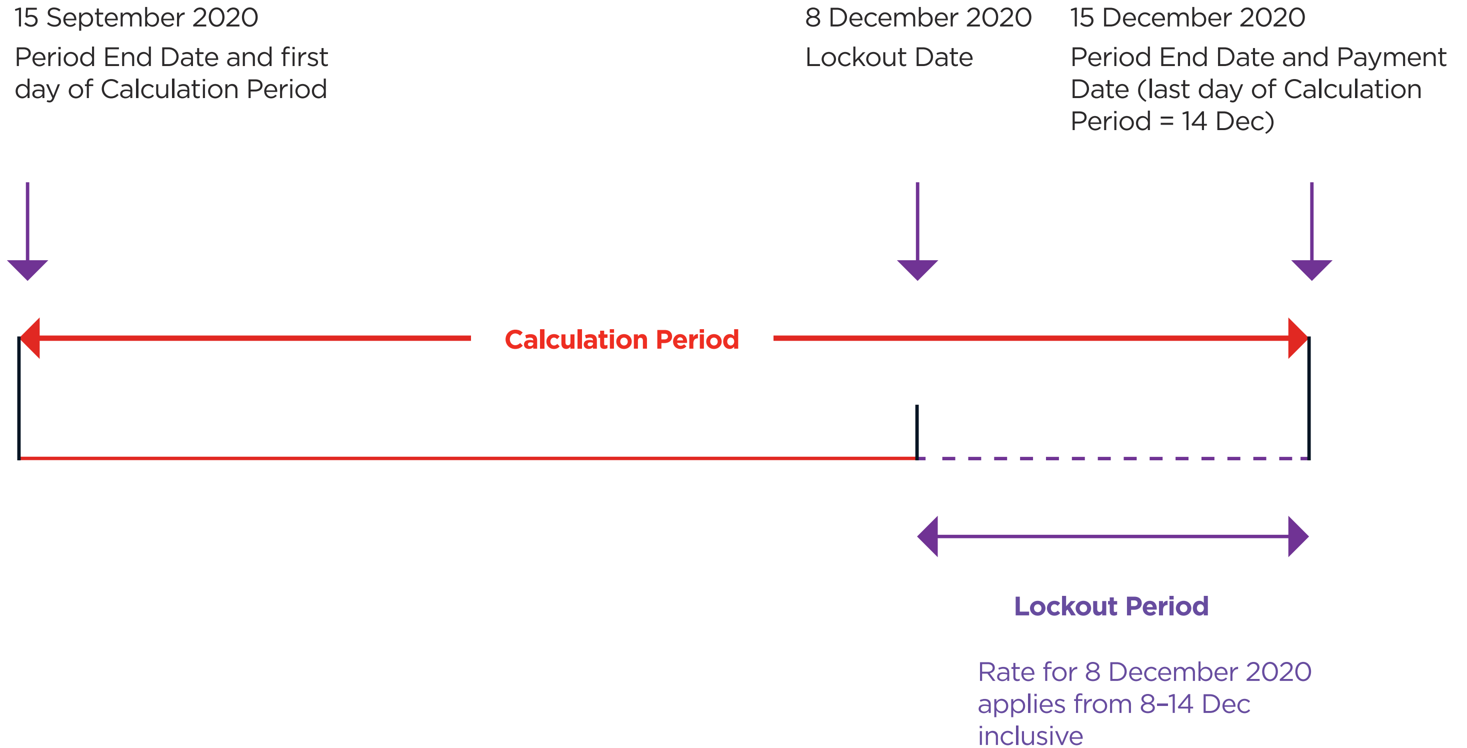
What is a Lockout?[3]

If the averaged ARR is adjusted using a lockout, the parties designate a certain period (e.g. 5 business days) prior to the end of the calculation period as the **'lockout period'**. The level of the ARR for each day in the lockout period is the ARR observed for the first day of that lockout period.



[3] Ibid

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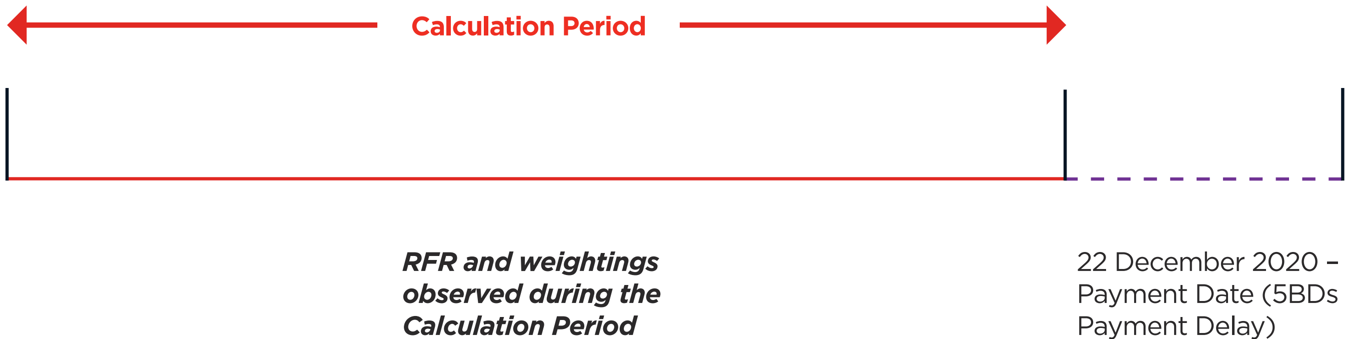
What is a Payment Delay?[4]

If the averaged ARR is calculated without adjustment, it is still possible to delay the payment date so that it falls a number of business days after the last day of the Calculation Period. As a result, the rate for each business day in the calculation period (and the weighting given to such rate in the averaging/compounding formula) is based on the rate observed for that day.



What is the difference between an observation period shift and a lookback?

An observation period shift effectively shifts the entire calculation period backwards meaning that the relative weighting of the ARR fixing for each day remains unchanged. Whereas a lookback shift results in the observation for each day in the calculation period being individually shifted backwards to a prior business day meaning that the relative weighting of the ARR fixing for each day may change.

[4] Ibid

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Are there any advantages and disadvantages of each compounding method?

In practical terms, each alternative for calculating the averaged ARR, does not result in material differences to the interest payments made (over the short term). From that lens of practicality, the method chosen could be unique to the product and asset class as well as considering any operational requirements that may be needed, to fulfil the payment obligations from a timing perspective.

Simple Average	Compounded Average
Easier to calculate. Already accommodated by many operational systems.	Recognises that interest is not paid daily and there is a time value of money. More complex calculation. Likely to require upgrades to operational systems.

Lookback	Observation Period Shift	Lockout	Delayed Payment
Does not retain the weighting of the calculation period. Increasing convergence on a 5 business day lookback for SONIA loans. Recommended for business loans by the ARRC in the US and the UK RFR WG.	Retains the weighting of the calculation period. ISDA IBOR Fallbacks adopt a 2 business day observation period shift. Considered a viable and robust alternative to lookback for business loans.	Does not reflect changes to interest rates during the lockout period. Could be applied to the final calculation period only with delayed payment applying to earlier calculation periods. Not currently recommended for business loans by the ARRC in the US and the UK RFR WG. Not considered compatible with prepayments for loans.	No adjustment to averaged ARR – aligns exactly with calculation period. Delay to final payment date will extend the term of the product. Historically this has been the market standard for overnight index and basis swaps.

How is the credit adjustment spread determined?

A credit adjustment spread can be added to the ARR in order to reintroduce a credit component into pricing. One option is to adopt the ISDA 5 year median spread adjustment. This rate represents the median of the difference between LIBOR and the relevant ARR over a 5 year period ending on 5 March 2021 and is calculated and published by Bloomberg. Other options are to use forward swap rates or an emerging credit index such as the ICE Bank Yield Index. Westpac is not offering any products using dynamic credit adjustment spreads at this time. (The method chosen for determining a credit adjustment spread for a new ARR product might reflect the market convention for the product and asset class, the timing of the transaction and operational requirements.)

Further Reading:

For more information on day count specifications please read the FAQ article on Westpac IBOR transition page. Click Here

For ARR calculation formulas and other information this link produced by the ARRC Committee is helpful:

www.newyorkfed.org/medialibrary/Microsites/arrc/files/2019/Users_Guide_to_SOFR.pdf

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