

Jibar transition and fallback credit adjustment spreads for the South African interest rate market

prepared by

The Market Practitioners Group's
Transition Planning and Coordination
Workstream



SOUTH AFRICAN RESERVE BANK



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1. Executive summary

The Market Practitioners Group (MPG) aims to achieve a broad-based transition from the Johannesburg Interbank Average Rate (Jibar) to the South African Rand Overnight Index Average (ZARONIA) and minimise risks associated with Jibar's cessation. To ensure a smooth Jibar transition, firms should include robust fallback provisions in financial contracts to ensure that they continue to operate effectively when the SARB discontinues Jibar and/or declares that the benchmark is no longer representative.

The Transition Planning and Coordination Workstream (TPCW) considered several methodologies for determining Jibar fallback rates. In particular, the workstream examined the suitability of International Swaps and Derivatives Association's (ISDA) approaches for adjusted risk-free rates and spread adjustments used to form replacement rates for discontinued interbank offered rates (IBORs).

Using proxy and published ZARONIA rates, the TPCW calculated spread adjustments and analysed the impact of changes in the South Africa Reserve Bank's (SARB) Monetary Policy Implementation Framework, interest rate cycles, and the impact of the COVID period. The results of the analyses did not suggest any material reason to deviate from the standard ISDA fallback methodology. Consequently, the MPG recommends that, where appropriate, the Jibar fallback provisions should specify compounded ZARONIA and a spread that accounts for the differences between Jibar and ZARONIA. The spread should be based on a historical median of the differences between Jibar and compounded ZARONIA over a five-year lookback period.

2. Background

The main objective of the MPG is to enable a broad-based transition of Jibar-linked transactions to the preferred successor rate, ZARONIA, across bond, loan and derivative markets. This will reduce financial stability risks arising from the widespread reliance on Jibar.

To ensure a smooth Jibar transition, firms should include robust fallback provisions in financial contracts to ensure that they continue to operate effectively when the SARB discontinues Jibar and/or declares that the benchmark is no longer representative. Fallback provisions should specify compounded ZARONIA and a spread that accounts for the differences between Jibar and ZARONIA. The spread should be based on a historical median of the differences between Jibar and compounded ZARONIA over a five-year lookback period.¹

There are inherent structural differences between Jibar and ZARONIA. Jibar is available in multiple tenors while ZARONIA is an overnight rate. Also, Jibar incorporates a bank credit risk premium and other factors. As such, it would be necessary that a ZARONIA-linked replacement rate includes a spread adjustment to ensure that there is minimal economic value transfer and contracts continue to meet the original objectives of the counterparties to the greatest extent possible.

Firms will also need to consider whether any contract term relied on to amend a Jibar-linked-related transaction results in the fair treatment of its customers as required in financial regulation. Firms are more likely to be able to demonstrate they have fulfilled their duty to treat customers fairly where they adopt a replacement rate that aligns with the established market consensus, reached through appropriate consultation, and recognised by relevant national working groups as an appropriate solution.

Internationally, methods to adjust for the spread difference between interbank offered rates (IBORs) and alternative reference rates were established to facilitate the transition and a broad consensus was reached, which was endorsed by the relevant working groups on the IBOR transition. Following the TPCWs [initial proposal](#) in November 2024 and the subsequent public consultation process, this document confirms the MPG's endorsement of the approach recommended by the TPCW.

The rest of this document outlines the recommendation and methodology for the adoption of Jibar fallback spreads.

¹ The MPG has designated ZARONIA as its preferred successor rate for Jibar.

3. Mandate of the Transition Planning and Coordination Workstream

The MPG requested the TPCW to consider methodologies for determining the spread that would account for differences between Jibar and ZARONIA, hereafter referred to as the credit adjustment spread. Furthermore, the workstream had to consider international best practice and to consult widely on its recommendations. The TPCW formed a dedicated sub-working group to carry out the technical work and to draft a consultation paper for the MPG and market participants' consideration.

4. Approach

The TPCW considered how authorities and national working groups on IBOR reforms dealt with credit adjustment spreads during the LIBOR transition. In particular, the TPCW reviewed several methodologies for calculating IBOR fallbacks as defined by ISDA. The workstream considered whether any of the specified methodologies would be appropriate for the South African interest rate market. Alternative approaches had been highlighted based on certain idiosyncratic factors identified. The TPCW compared the approaches and results of the alternatives and considered them against the internationally adopted ISDA approach.

4.1 Background to the ISDA approach

In 2018, ISDA initiated an industry consultation to critique several methodologies proposed for IBOR fallbacks as detailed in *Interbank Offered Rate (IBOR) Fallbacks for 2006 ISDA Definitions* (ISDA, 2018) [1]. The fallback methodology was broken down into an adjusted risk-free rate (RFR) and a spread adjustment. Notably, the adjustment to the RFR needed to account for the fact that RFRs are overnight rates, while IBORs are term rates. The spread adjustment would account for various premiums included within IBORs such as credit and liquidity premiums, which the RFR would not ordinarily include.

To account for the adjustment of the overnight rate to form a term rate the choice of methodology was based on the following criteria:

- simplicity and ease of calculating;
- data requirements; and
- similarity with the structure of overnight index swaps that reference the RFRs.

ISDA proposed four approaches for determining the adjusted RFR, namely:

1. spot overnight rate;
2. convexity-adjusted overnight rate;
3. compounded setting in arrears rate; and
4. compounded setting in advance rate.

The chosen methodology for determining the spread adjustment considered the following objectives:

- eliminating or minimising value transfer at the time the fallback is applied;
- eliminating or minimising any potential for manipulation; and
- eliminating or mitigating against the impact of market disruption at the time the fallback is applied.

ISDA proposed three approaches for the calculation of a spread adjustment:

1. Forward approach
2. Historical mean/median approach
3. Spot-spread approach

For each of the adjusted RFR and spread adjustment approaches, ISDA defined the calculation and provided a list of potential advantages and disadvantages, noting that the different approaches satisfy these criteria to differing degrees. Market participants' feedback on the ISDA consultation indicated a strong preference for using the *compounded setting in arrears rate* for the adjusted RFR² and the *historical mean/median approach* for the spread adjustment [2].

In September 2019, ISDA launched a second industry consultation to finalise the technical detail for this fallback methodology. The results of this consultation highlighted that most participants preferred:³

- the calculation of a spread adjustment based on a historical median over a five-year lookback period;
- not to include a transitional period in the spread adjustment calculation;

² The adjusted risk-free rate (RFR) is defined as the relevant RFR observed over the relevant interbank offered rate (IBOR) tenor and compounded daily for that period.

³ Approximately 61% of all respondents preferred this approach, 29% preferred a historical trimmed mean over a 10-year lookback period, while the remaining 10% selected both options or did not provide a preference. Respondents cited the median as being a simple, transparent and more stable method that is less sensitive to outliers and would not require complicated data treatments like trimming. Respondents also stated that a historical median approach over a five-year lookback period would be more reflective of current market conditions, would not include data from the financial crisis and would minimise the reliance on proxy or indicative data.

- not to exclude outliers;
- not to exclude any negative spreads; and
- a two-banking-day backward shift adjustment for operational and payment purposes when calculating the compounded rate [3][4].

Having finalised the fallback methodology, in July 2019, Bloomberg was selected as the vendor to calculate and distribute the adjusted RFR, the spread adjustment and resulting fallback rates. The Bloomberg IBOR Fallback Rate Adjustment Rule Book [5] (Bloomberg Rule Book) provides the formulas, definition, rules and conventions implemented to align with the ISDA consultations. An example of the Bloomberg calculation for adjustments and fallback rates is provided in Appendix 1 of Bloomberg's 'Fact Sheet IBOR Fallbacks', version 5.1, June 2023 [6].

On 21 July 2020, Bloomberg began calculating and publishing fallbacks for key IBORs, noting that prior to the spread adjustment being fixed (which took place on 5 March 2021), fallbacks could not be used as a primary reference rate within a financial contract other than as a contractual fallback. Publishing fallback values in the seven months leading up to the cessation announcement date provided transparency for market participants while the stability afforded by the five-year lookback median methodology allowed market participants to anticipate the fixing of the fallbacks leading up to the cessation date.

For the historical median approach, the spread adjustment is the median spread between the relevant IBOR and adjusted RFR calculated over a five-year lookback period. The five-year lookback period is specified relative to the respective IBOR's cessation announcement date (spread adjustment fixing date), after subtracting both the tenor for the relevant IBOR and the two-banking-day payment delay, as per Appendix 1 of [6]. For example, if the cessation announcement date is 16 October 2019 for the three-month tenor IBOR, then the three-month tenor is subtracted from this date to obtain 16 July 2019, after which two business days are subtracted for the payment delay to calculate the median period end date of 12 July 2019. Finally, the five-year lookback period is subtracted from the median period end date to calculate the median period start date of 12 July 2014.

4.2 Use of the ISDA approach in derivative contracts

On 25 January 2021, the benchmark fallback provisions published under the 2006 ISDA

Definitions for certain 'key' IBORs became effective (IBOR fallback methodology). This ensured that IBOR-linked derivative contracts entered into on or after this date and that referenced the 2006 ISDA Definitions would automatically incorporate and apply the IBOR fallback methodology upon the permanent discontinuation of an IBOR.

ISDA also published the IBOR fallback methodology under a protocol, the ISDA 2020 IBOR Fallback Protocol (Protocol), to cover legacy derivative contracts as well as other legacy master agreements, such as the Global Master Repurchase Agreement (GMRA) and the Global Master Securities Lending Agreement (GMSLA). Once both counterparties to any of these 'covered' contracts adhered to the Protocol, the IBOR fallback methodology was automatically incorporated into the legacy derivative contracts or any other 'covered' contracts, without the need to bilaterally amend each of these contracts. In other words, the bilateral negotiation of each 'covered' contract entered into by adhering parties was not required.

4.3 Importance of the ISDA approach

Given the significant volumes of impacted legacy IBOR-linked derivatives contracts, the approach taken in respect of the IBOR fallback methodology, which was based on a clear, consistent and standardised fallback approach, operated as an important safety net during a transition and was believed to have significantly reduced the risk of market disruption upon the discontinuation of IBORs. Over 16 300 entities globally have adhered to the Protocol since being published.

Many learnings can be taken from the successes that other offshore jurisdictions have had in transitioning from certain IBORs to a new replacement rate, including the importance of adopting the robust ISDA fallback methodology to achieve a smooth transition process and a viable safety net for derivative contracts.

ISDA has indicated its willingness to include the Jibar fallback methodology under the 2021 ISDA Interest Rate Derivative Definitions, with ZARONIA as the replacement rate, and creating a Jibar fallback protocol. It is noted that ZARONIA and ZARONIA-OIS Compound have already been added to the 2021 ISDA Interest Rate Derivative Definitions Floating Rate Matrix. The ISDA fallback protocol will provide for legacy derivative transactions referencing either the 2006 ISDA Definitions or the 2021 ISDA Definitions.

ISDA has also ceased to publish any new updates or amendments under its 2006 ISDA Definitions. All such changes, such as the Jibar fallback provisions, will only be added under the 2021 ISDA Definitions. Therefore, any entity that wishes to apply the Jibar fallback methodology to new contracts once they are published by ISDA and made effective, will need to ensure that their derivative contracts reference the 2021 ISDA Definitions from such date.

The MPG prefers the use of the ISDA fallback protocol to ensure maximum participation in the Jibar transition and eliminate the need for market participants to bilaterally renegotiate derivative and other “covered” contracts.

5. Quantitative analysis

5.1 Quantitative approach

Referring to the Jibar transition plan published by the MPG, a formal announcement on the Jibar cessation is expected in December 2025. This would serve as the Jibar cessation trigger date. This is important as credit adjustment spreads would be fixed at this date (or possibly earlier should Jibar no longer be considered representative).

The TPCW considered several aspects relevant to the spread adjustment methodology, including:

- the lookback period for the methodology;
- choice between the median and the mean over the lookback period;
- tenor for the Jibar rate; and
- fixing date for the spread adjustment calculation.

We restrict ourselves to a data set extending back to 4 January 2016 (where proxy data for ZARONIA is available). As we consider the appropriateness of the ISDA standard five-year lookback period, we note the calculated spread adjustment tends to increase as the lookback period increases beyond five years.

The choice between the median and the mean over a specified lookback period is also of interest in our analysis. In general, results can vary between the median and the mean as stress periods roll in and out of the lookback period.

The Jibar market includes index tenors of 1-month (M), 3M, 6M, 9M and 12M Jibar. Exposure to 3M Jibar dominates the market with limited exposure to 6M, 9M and 12M Jibar. The working group’s attention has been focused on appropriateness of the fallback methodology for shorter tenors.

Finally, the expected spread adjustment fixing date plays an important role as, together with the lookback period, this determines whether the COVID stress period is in scope. It is important to note that should the proposed cessation announcement date change, the period covered would change to cover the five-year lookback period from the amended cessation date.

5.2 ISDA spread adjustment calculations and projections for the South African market

The ISDA fallback methodology requires the calculation of the difference between Jibar and the corresponding compounded ZARONIA rate for a five-year lookback period. The median value of this spread within the lookback period is taken as the fallback spread. A five-year period corresponds to a five-year period of Jibar observations and a ‘five-year plus the Jibar tenor’ period of ZARONIA observations.

Calculated for 5 August 2024, Table 1 below presents spread adjustments for all Jibar tenors. The difference between the mean and median for 3M Jibar was deemed material by the working group while acknowledging that the results could look very different for a spread adjustment calculated in December 2025.

Table 1:

| Jibar tenor: | Median 5Y | Mean 5Y | Basis point difference |
|--------------|--------------|------------|------------------------|
| 1M | 15 | 17 | 2 |
| 3M | 19 | 27 | 8 |
| 6M | 59 | 74 | 15 |
| 9M | 74 | 97 | 23 |
| 12M | 92 | 123 | 31 |

To demonstrate this point and highlight the impact of moving beyond the COVID stress period, we have projected forward for each Monetary Policy Committee (MPC) meeting date between August 2024 and December 2025, assuming the repurchase (repo) rate jumps to a

rate implied by the forward rate agreement (FRA) market and fixed spreads between rates. Spread adjustments are then calculated for the end of December 2025 and presented in Table 2 below:³

Table 2:

| Jibar tenor | Median 5Y | Mean 5Y | Basis point difference |
|-------------|-----------|---------|------------------------|
| 1M | 13 | 11 | -2 |
| 3M | 18 | 15 | -3 |
| 6M | 46 | 46 | 0 |
| 9M | 60 | 65 | 5 |
| 12M | 77 | 91 | 14 |

We have also stressed rates implied by the FRA market in subsequent tests. We see the difference between a mean and median fallback spread for 3M Jibar vary by up to three basis points in absolute value, highlighting that simply moving past the COVID stress period reduces the difference between the mean and median to a range where there is limited value in considering the mean as an alternative to the median, at least for shorter Jibar tenors where there is significant market exposure.

5.3 Market considerations for South Africa

To assess possible reasons for deviating from ISDA’s standard fallback methodology, various factors have been considered based on inputs from MPG workstreams, industry bodies and market participants.

5.3.1 Historical ZARONIA data

As an overnight index, ZARONIA has been published by the SARB since 1 August 2022. The SARB has provided proxy data backdated to 4 January 2016.

³ An Excel calculation for the fallback spread at the end of December 2025 was provided to the working group to allow members to consider the impact of various scenarios. The calculation does not consider lag effects and holiday calendars as the impact on a methodology choice is immaterial.

A five-year lookback period avoids a scenario where fallback spreads calculated in December 2025 are overly impacted by proxy data. In this case, approximately a third of the lookback period relies on proxy data. Extending the lookback period beyond five years would increase the reliance on proxy data.

5.3.2 Changes in the SARB Monetary Policy Implementation Framework

The adoption of a new Monetary Policy Implementation Framework (MPIF) phased in from June 2022, redefines what was previously an overnight market with a liquidity shortage policy (maintained by the SARB) as an overnight market with a liquidity surplus policy and a tiered flooring system. This has impacted the level of ZARONIA relative to the repo rate and the spread between Jibar and ZARONIA. For longer Jibar tenors, bank term funding spreads have narrowed as the need to lock in term funding becomes less pressing under this liquidity surplus regime.

A five-year lookback period allows this new regime to contribute two-thirds of the data set required to calculate the fallback spread in December 2025. Extending the lookback period beyond five years would increase the contribution of funding spreads from a regime that no longer applies.

5.3.3 Interest rate cycles and the impact on the spread adjustment

The methodology for calculating compounded ZARONIA requires that we compare the Jibar rate at the start of a specified period to the compounded ZARONIA rate over this period (ignoring lag effects). The period is defined by the tenor of the Jibar rate. Any overnight rate hikes or cuts that materialise within this compounding period will contribute to the compounded ZARONIA rate but not the Jibar rate (to the extent that the rate hike or cut was not anticipated by the market as a whole and accounted for before the event), creating a disconnect between the two rates. As the overnight rate is cut and continues to drop, the compounded rate exaggerates this disconnect and similarly so with a rate hike and a continued rise in rates. The impact on the spread between Jibar and the compounded ZARONIA rate is such that a cycle of rate cuts widens this spread while a cycle of rate hikes narrows this spread with no floor (meaning the compounded ZARONIA rate can be higher than Jibar at times). The sharper the cycle of cuts or hikes the more extreme the effect on the spread. Consequently, the lookback period should, ideally, include offsetting periods of rate hikes and cuts to offset these effects on the fallback spread. However, for the period

leading up to December 2025, the absolute value of any expected rate cuts may not match that of the rate hikes in 2022 and 2023, considering the level of the repo rate coming out of the COVID stress period.

A five-year lookback period allows the impact of the rate hiking cycle in 2022 and 2023 to be offset to some degree by the expected rate cutting cycle in the remaining period leading up to December 2025. Extending the lookback period beyond five years would introduce another rate cutting cycle (the COVID stress period), creating more instability in the offsetting of cycle effects.

5.3.4 The impact of the COVID period

Focusing further on the COVID period, avoiding the uncertainty of this stress period has a significant impact on reducing the difference between mean and median fallback values. In general, when including the COVID stress period, the mean fallback value includes the contribution from this stress period while the median does not. As the stress period drops out of the lookback period, the difference between the mean and median is less material.

5.4 Summary results of quantitative analysis

Based on the considerations above, the working group has not identified any material reason to deviate from the standard ISDA fallback methodology.

To reiterate, working with 31 December 2025 as the cessation announcement date or trigger date, the start of a five-year lookback period would be 1 October 2020 for 3M Jibar (ignoring lags and calendar effects). For this historical period and 3M Jibar in particular:

- the contribution of proxy data for ZARONIA is limited (the index has been published by the SARB since 1 August 2022 with proxy data backdated to 4 January 2016);
- the full tenure of the new MPIF for overnight liquidity is captured (phased in from June 2022);
- the rate cutting cycle in 2020 (the COVID stress period) is excluded with the repo rate dropping from 6% to 3.5%;
- the rate hiking cycle that followed in 2022 and 2023 is included with the repo rate increasing from 3.5% to 8.25%; and

- an expected rate cutting cycle in 2024 and 2025 is captured.

In Table 3 we present the five-year lookback median fallback spreads from Table 1 and Table 2, side by side. For 1M and 3M Jibar the results appear stable.

Table 3: five-year lookback median fallback spreads

| Jibar tenor | Median 5Y Aug 2024 | Median 5Y Dec 2025 |
|-------------|-----------------------|-----------------------|
| 1M | 15 | 13 |
| 3M | 19 | 18 |
| 6M | 59 | 46 |
| 9M | 74 | 60 |
| 12M | 92 | 77 |

6. Recommendation

It is recommended that the Jibar fallback rate comprises a compounded South African Rand Overnight Index Average (ZARONIA) rate and a spread that accounts for the differences between Jibar and ZARONIA. The spread should be based on a historical median of the differences between Jibar and compounded ZARONIA over a five-year lookback period. This methodology aligns with the standard fallback methodology in the ISDA documentation for derivatives.

7. Abbreviations

| | |
|-------------|---|
| FRA | forward rate agreement |
| GMRA | Global Master Repurchase Agreement |
| GMSLA | Global Master Securities Lending Agreement |
| IBOR | interbank offered rates |
| ISDA | International Swaps and Derivatives Association |
| Jibar | Johannesburg Interbank Average Rate |
| M | month |
| MPC | Monetary Policy Committee |
| MPG | Market Practitioners Group |
| MPIF | Monetary Policy Implementation Framework |
| Protocol | ISDA IBOR Fallback Protocol |
| repo (rate) | repurchase (rate) |
| RFR | risk-free rate |
| SARB | South African Reserve Bank |
| TPCW | Transition Planning and Coordination Workstream |
| Y | year |
| ZAR | South African rand |
| ZARONIA | South African Rand Overnight Index Average |

8. References

- [1] ISDA, *Interbank Offered Rate (IBOR) Fallbacks for 2006 ISDA Definitions*, 2018.
- [2] ISDA, *ISDA Publishes Final Results of Benchmark Fallbacks Consultation*, 20 December 2018.
- [3] ISDA, *ISDA Publishes Results of Consultation on Final Parameters for Benchmark Fallback Adjustments*, 15 November 2019.
- [4] The Brattle Group, *Summary of Responses to the ISDA Consultation on Final Parameters for the Spread and Term Adjustments*, 15 November 2019.
- [5] Bloomberg, *IBOR Fallback Rate Adjustments Rule Book version 3*, December 2021.
- [6] Bloomberg, *Fact Sheet IBOR Fallbacks version 5.1*, June 2023.
- [7] Transition and Coordination and Planning Workstream, 'Discussion Document: Jibar fallback methodology', MPG Conference, 2024.