Feedback on the statement of methodology and policies governing the SARB-administered interest rate benchmarks

November 2021

Contents

1   Introduction

1.1.   On 19 June 2020, the South African Reserve Bank (SARB) published the *Draft statement of methodology and the policies governing the SARB-administered interest rate benchmarks* (hereafter referred to as the Technical Specification Paper (TSP)). The TSP detailed the calculation methodologies, contingency arrangements, and policies for four new benchmarks and a reformed version of the existing overnight benchmark rate – the South African Benchmark Overnight Rate (SABOR). The benchmarks contained therein are, namely, the:

- South African Rand Interbank Overnight Rate (ZARIBOR),
- South African Secured Overnight Financing Rate (ZASFR),
- South African Rand Overnight Index Average (ZARONIA),
- Term Wholesale Financial Corporate Fixed Deposit Benchmark Rate, and
- Term Wholesale Non-Financial Corporate Fixed Deposit Benchmark Rate

ZARONIA is the reformed version of SABOR and will most likely replace the benchmark in due time. The SARB requested the public to consider the proposed benchmarks and submit comments by 19 September 2020.

1.2.   Some of the proposed benchmarks will play a major role in the reform of reference rates in the South African financial markets. The Market Practitioners Group (MPG)[1] has identified and recommended two benchmarks that could potentially be used as reference rates, namely the Unsecured Overnight Reference Rate and the Secured Overnight Reference Rate. The Unsecured Overnight Reference Rate's statement of underlying interest and calculation methodology are aligned with the methodology that has been specified for ZARONIA, while those for the Secured Overnight Reference Rate are aligned with ZASFR's specification. The SARB will be the administrator for all the proposed benchmarks.

1.3.   The MPG has indicated ZARONIA as the preferred successor rate that will most likely replace the Johannesburg Interbank Average Rate (Jibar), which currently underpins a significant number of financial contracts. Consequently, it was deemed critical that

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[1] The MPG is a joint public and private sector body, comprising of representatives from the SARB, the Financial Sector Conduct Authority (FSCA), and senior professionals from a variety of institutions from different market interest groups active in the domestic money market. The primary purpose of the MPG is to facilitate final decisions on the choice of interest rate benchmarks to be used as reference interest rates for financial and derivative contracts, as well as to provide input to the SARB and the FSCA on the operationalisation of the interest rate benchmark

the conceptual design of this benchmark be rigorously tested to ensure that it is reliable, robust, and sufficiently stable.

1.4.   Furthermore, the SARB has indicated that the benchmarks will be used internally to assess the transmission of monetary policy and the stability of the financial system. Market participants could also find the benchmarks useful for purposes other than their use as reference rates, e.g., benchmarking money market fund performance. Therefore, it is essential that all the benchmarks are tested to enable the SARB and the MPG to decide on whether the benchmarks will be fit for public consumption.

1.5.   The SARB collected 5-year historical transactions data from the four largest commercial banks and the Johannesburg Stock Exchange (JSE) to enable the back-testing of the proposed benchmarks[2]. The main objective was to calculate the historical benchmark rates to observe their behavior and examine whether the parameters that guide their calculation are appropriate. Furthermore, the collected data allowed the SARB to evaluate whether the contingency arrangements specified for each benchmark are likely to suffice in the event where the normal calculation methodologies cannot be applied.

1.6.   This document details the comments received from the public and the findings from the back-testing exercise. Section 2 outlines the comments received that apply to all the benchmarks. The remaining sections capture the comments that apply to specific benchmarks and provide a summary of the findings from the back-testing exercise at the benchmark level.

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[2] The SARB initially collected a 3-month data set in March 2021 and used it to refine the specification of the data request. The 5-year data set was collected in May 2021. It covered the period between 1 September 2015 and 31 August 2020.

## 2	General feedback on public comments

The TSP detailed the statement of methodology for each benchmark, which consisted of the criteria for eligible transactions and the calculation methodology. Furthermore, it specified the contingency arrangements that will apply when the benchmark rates cannot be calculated reliably. This section captures the salient points of the comments that were submitted to the SARB pertaining to the criteria for eligible transactions, calculation methodology, and contingency arrangements.

### 2.1	Eligible transactions

2.1.1.	Some respondents indicated that the stipulated minimum sizes of eligible transactions seemed reasonable. However, others raised a concern that some institutional trades would get reallocated to multiple client accounts, which may result in their exclusion even though they would have otherwise qualified had such reallocation not occurred.

2.1.2.	Furthermore, it was suggested that the SARB should reconsider the exclusion of intra-group transactions in the eligibility criteria, which stipulates that only transactions that are concluded at arm's length should be reported. It was argued that intragroup transactions are in fact concluded at arms' length for tax transfer pricing purposes.

2.1.3.	Intragroup transactions are effectively transactions that are concluded within the same organisation. The SARB acknowledges that they could be susceptible to company policies and practices, which could influence the economics of the trades, resulting in the pricing deviating significantly from market-related prices. This does not preclude the possibility that intragroup transactions could very well be concluded at arm's length. However, it is prudent to exclude such transactions completely as it would be impractical to assess whether intra-group transactions concluded by all reporting institutions meet the arm's length criterion daily.

2.1.4.	The SARB is aware of the common practice of bulking up transactions to negotiate better trade terms and subsequently reallocating them to multiple accounts and may need to assess its impact. It may result in the exclusion of transactions that would

otherwise influence the level of the calculated benchmark rates. Nonetheless, there may be difficulties in accessing the information pertaining to the original deal agreements, which will be necessary to conduct a meaningful assessment of the issue. Alternatively, the SARB could decrease the stipulated minimum transaction size in order capture these transactions. However, that may not be desirable as smaller transactions tend to attract lower deal rates and could put downward pressure on the benchmark rates.

2.2 Calculation methodology

2.2.1. The TSP specified the same calculation methodology for all the benchmarks contained therein, which entailed determining the trimmed, volume weighted mean, whereby only the central 80% of the distribution of transactional rates would be used to calculate the level of the benchmark. While the calculation methodology was noted as reasonable, some respondents recommended that the parameters should be tested during the design, calibration, and observation period, i.e., prior to market adoption. Other respondents suggested that, instead of trimming the transactions with the rates falling within the top and bottom 10th percentile, all transactions should be included in the benchmark rate calculation, except for those whose transactional rates fall outside of an acceptable standard deviation range from the mean.

2.2.2. The SARB would prefer to retain the use of the trimmed, volume weighted mean method as it is simpler to apply daily and is less susceptible to being influenced by outliers that could introduce undesirable volatility to the rates.

2.3 Contingency arrangements

2.3.1. The TSP detailed various contingency arrangements that would be triggered in the event that a benchmark rate could not be determined reliably due to technical difficulties and/or insufficient data. Some respondents sought clarity on what would constitute 'data insufficiency' for each benchmark. Furthermore, the three-month period for which contingency measures would apply in the case of data insufficiency was noted as exceptionally long and, hence, may compromise the credibility of the benchmark. Consequently, the respondents recommended that the period should be

reduced to one month and that the SARB should implement an escalation process, which would require that any instance where a contingency arrangement remains in effect for a period that is longer than one week is escalated to a senior official and a market notice is issued.

2.3.2. The SARB will not provide absolute measures of data insufficiency as they could be problematic when market structure and conditions change. However, it will be deemed that data insufficiency exists when contingency measures are triggered in the manner specified in the TSP. This includes instances where the number of contributing banks is three or less and/or the volume of transactions submitted by one commercial bank constitutes more than two-thirds of the total volume submitted. The SARB will report whether the published headline rate has been determined according to the standard calculation methodology or a contingency arrangement.

2.3.3. Furthermore, the SARB appreciates that a three-month period may be too long for a contingency measure to be in effect. Therefore, the period in which a substitute rate may be used uninterrupted will be limited to one (1) month. Should data insufficiency persist beyond this period, the SARB, in consultation with the market, will devise a long-term solution, which may include introducing changes to the methodology, among other things.

2.4   Data collection and the benchmark determination process

2.4.1. The TSP indicated that the implementation of a SARB-administered benchmark determination process would place a significant obligation on commercial banks and other institutions to supply the underlying transactions data daily. Therefore, respondents enquired about various issues pertaining to data collection, including:
   a)   the definition of the population of institutions that will be required to submit transactional data to the SARB daily and whether it will include all commercial banks;
   b)   the time by which such reporting institutions would be required to submit their transactional data given the complexities that may exist in processing large amounts of data;
   c)   the contingency arrangements that will be put in place to enable manual intervention in the transmission of data to the SARB in the case where automated processes fail;

d)	the treatment of weekends and public holidays;
e)	the controls that will be put in place to ensure data quality and accessibility; and
f)	the governance structures and a generic statement of conduct for all benchmarks to govern reporting institutions.

2.4.2. The SARB will publish a set of *Reporting Instructions*, which will specify the population of reporting institutions, scope of qualifying money market transactions, fields and their related definitions, arrangements for the transmission of data, and the controls and governance procedures that will be applied. The Reporting Instructions will address the requirements for a broader money market statistical reporting framework. The SARB is working with the Data Collection and Infrastructure (DCI) Work Stream of the Market Practitioners Group (MPG) and affected institutions to finalise the details.

2.4.3. Currently, the SARB envisages that all commercial banks and other selected institutions will form part of the reporting institutions population. Reporting institutions will be governed by a code of conduct, which will be drafted by the Governance Work Stream of the MPG.

3 ZARONIA

ZARONIA aims to measure the interest rate at which rand-denominated overnight wholesale funds in South Africa are obtained by banks. The calculation methodology for the benchmark is specified as a trimmed, volume-weighted mean of the central 80% of the distribution of interest rates paid on eligible unsecured overnight deposits. This section provides the specific comments made on the statement of methodology and the contingency arrangements for ZARONIA. It also provides the results of the back-testing exercise for the benchmark and its contingency arrangement.

3.1 Commentary on the statement of methodology

3.1.1. Respondents noted that certain terms or concepts would benefit from a definition or further clarification. These included:

a) the determination of conditions where 'credit, liquidity and other risks are minimal' as denoted in the statement of the underlying interest;

b) the definition of eligible counterparty types; and

c) the definition of call deposits and whether balances on transactions should exclude accrued interest.

3.1.2. The condition of minimal 'credit, liquidity and other risks' aims to characterise the essence of a deep unsecured overnight deposit market, where the borrowing parties to the transactions are credible commercial banks, whose credit risk is relatively low. It is envisaged that the risk premium charged on such transactions would be minimal relative to longer term unsecured transactions and other unsecured transactions that are concluded between parties that are non-commercial banks.

3.1.3. Eligible counterparty types relate to institutional sector classifications, which include commercial banks, non-bank financial corporates, non-financial corporates, public sector institutions, and central banks. These categories are broad and may require further decomposition to enable more information to be derived from the data. However, the application of a unified approach that is in line with the SARB's *Institutional Sector Classification Guide for South Africa* (2017) across all reporting institutions would require sometime to implement.

3.1.4. The SARB would need to monitor the impact of including call deposit account balances in the determination of ZARONIA. Call account balances may prove sticky and less responsive to market conditions or the policy rate and could make ZARONIA susceptible to bank-specific conditions and introduce complexity in terms of the treatment of the accrued interest. Nonetheless, the SARB would prefer to clarify that the definition states that ZARONIA is based on unsecured overnight deposits, rather than overnight call deposits exclusively.

3.1.5. The final draft of the TSP will clarify and include the definitions for the terms referred to in 3.1.1.

3.1.6. Some respondents recommended that fallback criteria for commercial-bank-specific stress should be considered. Hence, there should be a set of criteria to determine the inclusion or exclusion of the relevant transactions from the benchmark rate calculation if the rates provided breach a certain historic average threshold for a reporting institution. While the SARB appreciates the ultimate objective of the recommendation, it is of the view that the trimmed, volume weighted calculation methodology should address the impact of bank-specific stress on the rates as it aims to exclude outliers.

3.2 Back-testing the benchmark calculation methodology

3.2.1. The 5-year sample of transactions data suggests that ZARONIA would most likely be supported by a significant number of *bona fide* transactions. The four participating banks reported a daily average of 1102 eligible transactions, with a mean value of R160.3 billion. The minimum total number of transactions observed on any given day over the sample period was 311 (worth an aggregate value of R55 billion), which is sufficiently large for determining the benchmark rate reliably (see Figure 3.1(a)).

3.2.2. The calculation methodology requires the aggregation of transactions that share the same deal rate. This allows the transactions to be ranked according to the deal rate and for the top and bottom 10% to be trimmed off. The remaining central 80% are then used to determine the benchmark rate for a particular day. Based on the 5-year sample data, the daily average number of eligible transactions got reduced to an average of about 50 transactions once aggregated, which is a notable decline from

the daily average number of 1102 transactions. This most likely reflects commercial banks' pricing behaviour that segments the market according to an institutional sector classification.

3.2.3.   Nonetheless, after trimming the transactions that fall within the top and bottom 10%, the number of transactions that were used to determine the benchmark rate averaged to about 40 transactions, with a mean value of R54.3 billion, which is sufficiently large to ensure that the calculated benchmark rates are credible and reliable (see Figure 3(a)(iii)). Therefore, the benchmark design principles of data sufficiency, representativeness, reliability, and credibility espoused in the IOSCO Principles of Financial Benchmarks were largely satisfied.

3.2.4.   The benchmark rates for ZARONIA were successfully calculated in accordance with the specifications contained in the TSP. Figure 3(b)(i) depicts the ZARONIA rate over the sample period and compares it to the SARB's policy rate, the repo rate, and SABOR. The calculated ZARONIA rate tended to be lower than the repo rate, which is a secured overnight rate. The spread between the repo rate and ZARONIA averaged 36 basis points and only declined considerably during the height of the coronavirus pandemic, most likely in response to the interventions by SARB (see Figure 3(b)(ii)). This is similar to the experience in other jurisdictions. The Sterling overnight index average (SONIA) and Euro short-term rate (ESTER) tended to be lower than the Bank of England (BOE) and the European Central Bank (ECB's) policy rates, respectively.

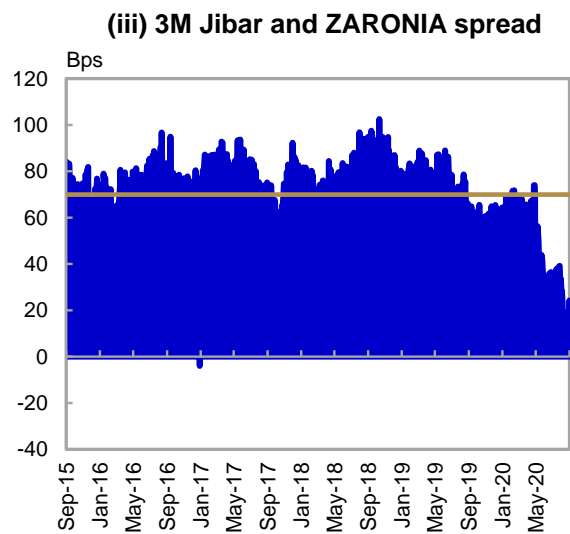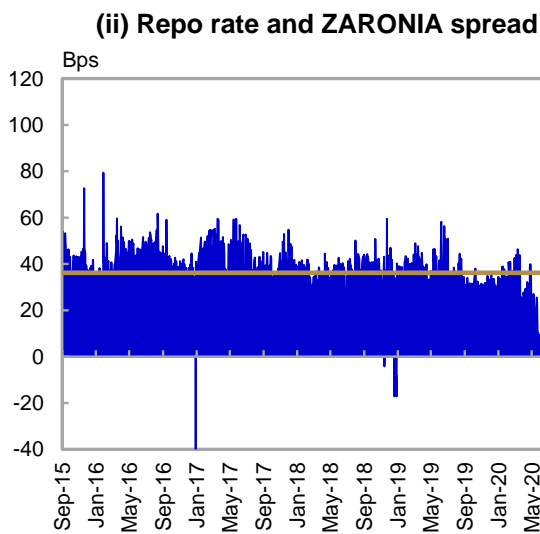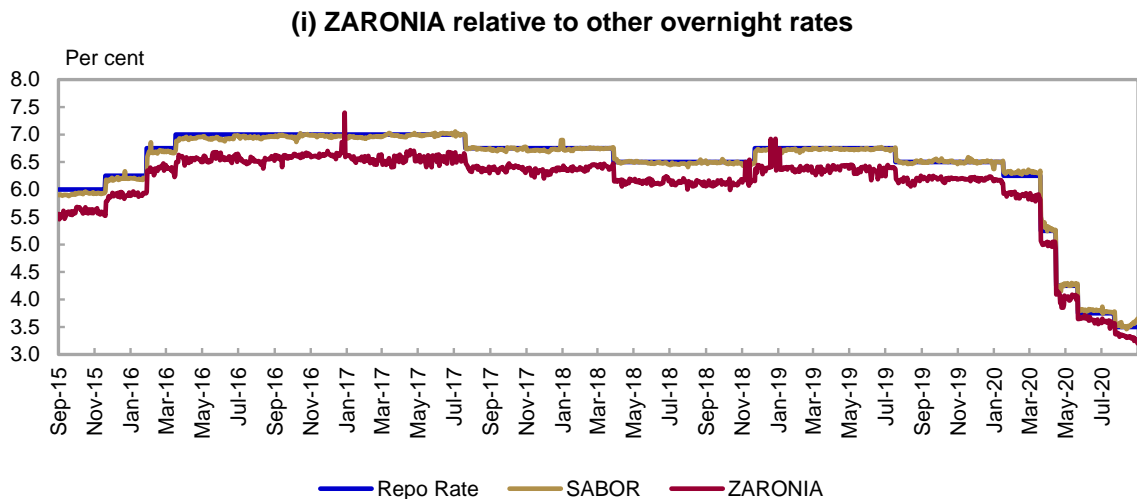**Figure 3(a): Volume of reported transactions for ZARONIA**

(i) Eligible transactions for ZARONIA

(ii) Value of eligible transactions
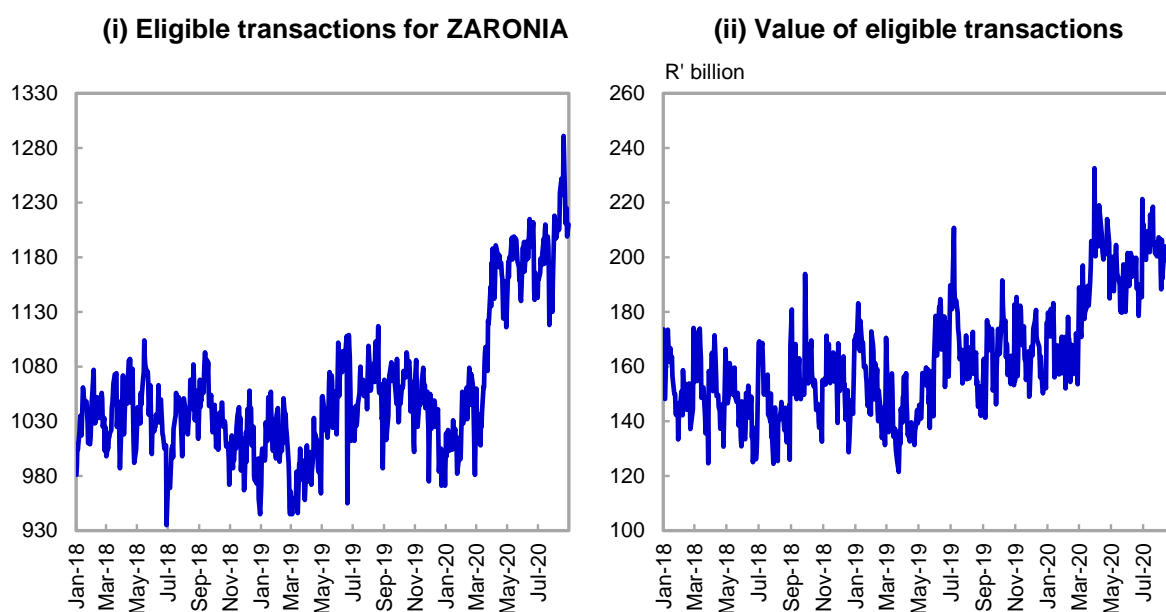
(iii) Transactions before and after aggregation and trimming

	Before		After	
	Transactions	R' billion	Transactions	R' billion
Mean	1,102.22	160.35	40.23	50.29
Standard Error	5.49	0.80	0.09	0.09
Median	1,046.00	155.06	40.00	50.00
Mode	1,029.00		40.00	51.00
Standard Deviation	194.12	28.44	3.17	3.22
Sample Variance	37,682.46	808.81	10.04	10.38
Kurtosis	32.78	42.59	3.52	8.21
Skewness	4.53	3.98	-0.19	-0.52
Range	3,176.00	522.39	38.00	45.00
Minimum	311.00	55.66	14.00	18.00
Maximum	3,487.00	578.05	52.00	63.00

3.2.5.   The calculated ZARONIA rates were relatively stable over the 5-year period and evolved within a wide range of 4.2%, contained between 3.20% and 7.40%. The size of the range is largely due the SARB's policy rate cuts that were effected to cushion the impact of the coronavirus pandemic. Prior to the 2020 policy rate cuts, the benchmark trudged within a narrower range of 1.94%, contained between 5.46% and 7.4%. The standard deviation of the rates over that period was 0.27%, which is significantly lower than the standard deviation of 1.16% for the period covering the

pandemic. Essentially, 0.27% represents about 4.3% of the mean rate value of 6.3%. This suggests that the volatility of the rate was somewhat low.

Figure 3(b): Performance of ZARONIA rates prior to publication

(i) ZARONIA relative to other overnight rates

(ii) Repo rate and ZARONIA spread

(iii) 3M Jibar and ZARONIA spread

3.2.6.   While the volatility of the benchmark seemed low, it was relatively higher than the volatility of SABOR. The realised volatility[3] of SABOR tended to be less than 5% about 76% of the time, whereas ZARONIA's realised volatility was less than 5% about 41% of the time. Furthermore, the benchmark's realised volatility laid between 5 and 15% about 35% of the time. It is anticipated that the volatility will decline once the rate is published and used by market participants, as the publication of ZARONIA will

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[3] This refers to one day, annualized historical volatility, which measures the percentage changes of the benchmark and assumes a mean return of zero.

make available a common point of reference that should shape the pricing behaviour of banks.

3.2.7. Finally, ZARONIA appears to adjust well to changes to the repo rate. The responsiveness of the benchmark to changes in the policy rate is desirable as it suggests that it will most probably be effective in transmitting monetary policy.
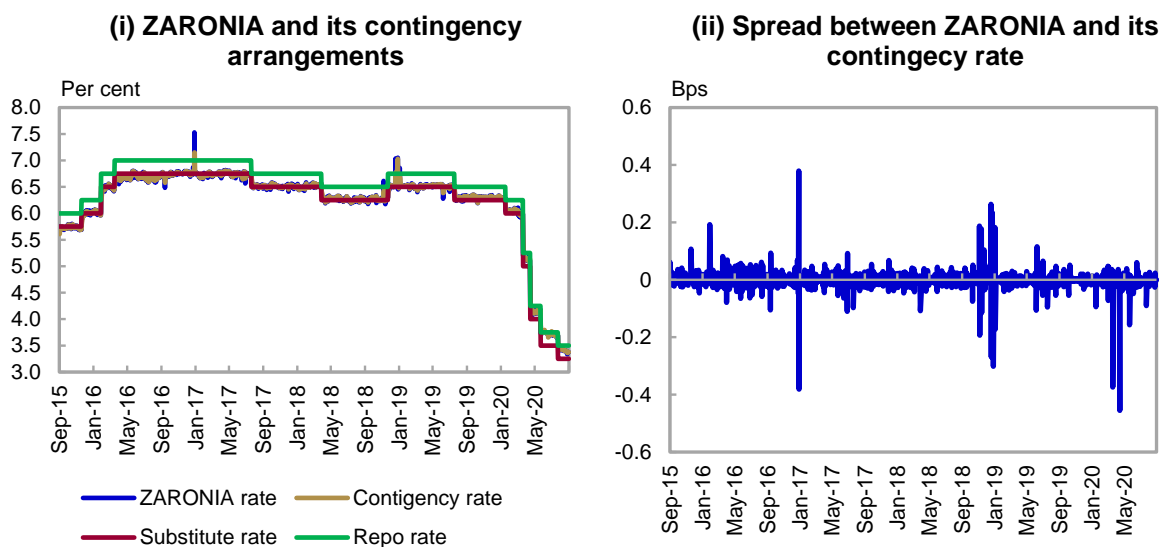
3.3   Contingency arrangements for ZARONIA

3.3.1. The contingency arrangements for ZARONIA consist of two levels, namely, the contingency rate and the substitute rate. The contingency rate is determined by combining the transactions for the day concerned with the transactions of the previous day, which must be adjusted for changes in relevant interest rates. When the first level cannot be applied, the TSP requires that the overnight benchmark rate be determined as the repo rate plus a historical long-term spread. This forms the second level of the contingency arrangements, which is referred to as the substitute rate.

3.3.2. Respondents noted that the contingency rate measure of adjusting the rate of the previous day's transactions with changes in relevant market rates could be expressed more definitively. They suggested the wording *"any changes in relevant market rates"* introduces subjectivity and, thus, recommended that it should be omitted and only changes in the repo rate should be allowed. Furthermore, they indicated that the length of the look back period used to determine the long term spread for the substitute rate should be specified.

3.3.3. The SARB agrees that removing the term '*any changes in relevant market rates'* and referring to the policy rate alone would make the arrangement more definitive. However, it would be prudent to add that the SARB may consider *'any changes in relevant market rates'* should circumstances demand, and that the SARB will disclose the instance and reasons for using such rates.

3.3.4. In order to operationalize the concept of the long-term spread for the purpose of back-testing the contingency arrangement, the spread was determined as the preceding 2-year average of the changes in the repo rate. The period of two years was deemed sufficiently long to capture most of the relevant information contained in interest rate

dynamics and minimise the inclusion of information that bears very little explanatory power.

3.3.5.   The results from the back-testing exercise were encouraging. It was evident that the specifications for both the contingency and substitute rates for ZARONIA were fit for purpose as they yielded stable rates, which closely followed the benchmark rate levels in terms of magnitude and direction. The average spread between ZARONIA and the contingency rate was significantly small at about 0.12 basis points (see Figure 3(c)).

Figure 3 (c): Performance of contingency arrangements

(i) ZARONIA and its contingency arrangements

(ii) Spread between ZARONIA and its contingecy rate

3.3.6.   Given the level of activity in the unsecured overnight deposit market, it is unlikely that the contingency arrangements would be triggered as result of there being no eligible transactions concluded on a particular business day. However, the 5-year data sample indicated that market concentration could potentially be an issue as one bank tended to account for over 50% of the reported transactions for most of the sample period. Fortunately, it is only about 4% of the time that the volume of the commercial banks' reported transactions exceeded the two-thirds threshold, which would be deemed as indicative of data insufficiency (see Figure 3(d)). Consequently, it would be necessary to assess how often the contingency arrangement is triggered during the observation period for ZARONIA, when all the commercial banks supposedly report transactions to the SARB. The SARB may also increase the threshold from

66.6% to 70%, which would minimise the instances where the contingency arrangements are triggered.

Figure 3(d): The volume of the dominant commercial bank as a % of total volume of reported transactions
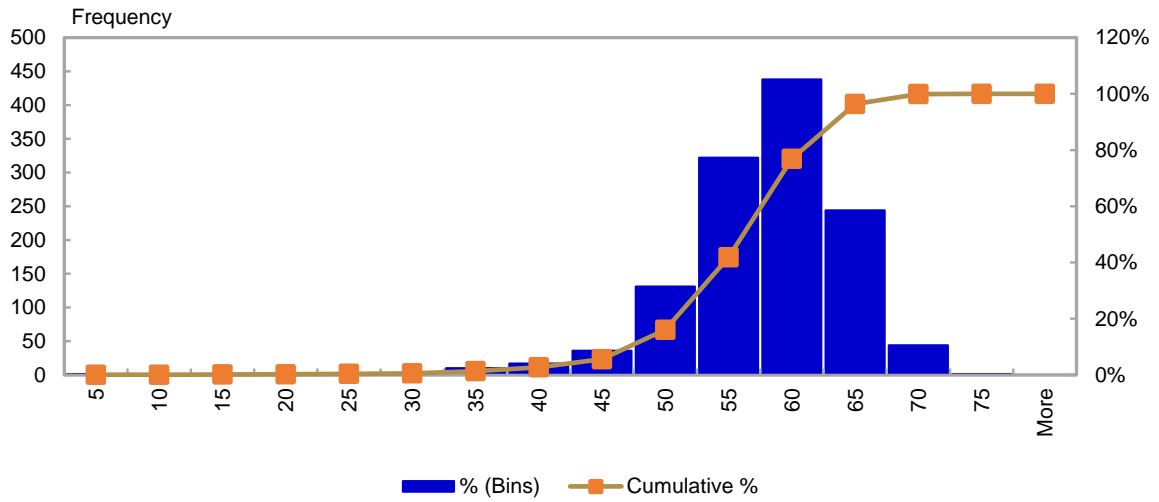
4 ZARIBOR

ZARIBOR intends to capture the interest rate at which rand-denominated interbank overnight deposits in South Africa are obtained. The benchmark is essentially a subset of ZARONIA, with a focus on the interbank market and higher minimum transactions size criterion for eligible transactions. This section provides a summary of the comments made on the statement of methodology and the contingency arrangements for ZARIBOR. It also provides the results of the back-testing exercise for the benchmark and its contingency arrangement.

4.1 Commentary on the statement of methodology

4.1.1. Respondents provided some comments regarding the specified methodology for ZARIBOR. They noted the need to consider changes to the criteria for eligible transactions that may be necessary should the Large Exposure Directive result in secured interbank trading becoming more relevant than unsecured interbank trading. Also, they sought clarity on the appropriate treatment of interest on call accounts, i.e., whether accrued interest should be included or excluded on account balances, and what the appropriate interest compounding frequency should be.

4.1.2. The SARB will monitor the level of activity in the interbank market for overnight unsecured deposits. Should the level of activity decline to an extent that it no longer represents fairly the underlying interest that it is meant to capture, the SARB may consider changing the criteria for eligible transactions or the calculation methodology.

4.1.3. The interest that accrues to a call account balance should be included only if it is compounded over the period. The interest should form part of the rolled over amount reported the following day. Effectively, this would result in the most correct amount borrowed overnight being reported to the SARB daily.

4.2 Results from the benchmark back-testing exercise

4.3.1. Similar to ZARONIA, the historical data indicates that ZARIBOR should be well supported by a significant volume of eligible transactions. The daily volume of reported transactions averaged R59.4 billion and comprised of about 206

transactions. The lowest activity level reported over the sample period had 36 transactions, with an aggregate value of R12.9 billion (see Figure 4(a)(i)). This was encouraging as the interbank activity exhibited weekly seasonality, with volumes declining sharply towards the end of the week (see Figure 4(a)(ii)).

4.3.2. Once aggregated and trimmed, the daily volume remained substantial, averaging R28.9 billion, with circa 60% of the daily aggregate volumes averaging between R25 billion and R40 billion (see Figure 4(a)(iii)). These statistics are sufficiently large to ensure that the calculated benchmark rates are credible and reliable, which should satisfy the IOSCO Principles.

**Figure 4(a): Summary statistics for reported transactions for ZARIBOR**

(i) Transactions before and after trimming

| | Before | | | After | |
| | | Aggregated | | Aggregated | |
	Transactions	transactions	R' billion	transactions	R' billion
Mean	206.81	24.82	59.37	19.85	28.76
Standard Error	2.29	0.20	0.68	0.15	0.24
Median	233.00	28.00	64.87	22.00	29.66
Mode	239.00	28.00		22.00	
Standard Deviation	82.55	7.34	24.65	5.49	8.79
Sample Variance	6,815.33	53.84	607.61	30.15	77.28
Kurtosis	0.65	-0.54	5.33	-0.52	-0.47
Skewness	-0.31	-0.97	0.39	-0.81	-0.20
Range	557.00	28.00	274.91	24.00	48.23
Minimum	36.00	8.00	12.91	7.00	6.93
Maximum	593.00	36.00	287.82	31.00	55.15

(ii) Aggregated and trimmed transactions
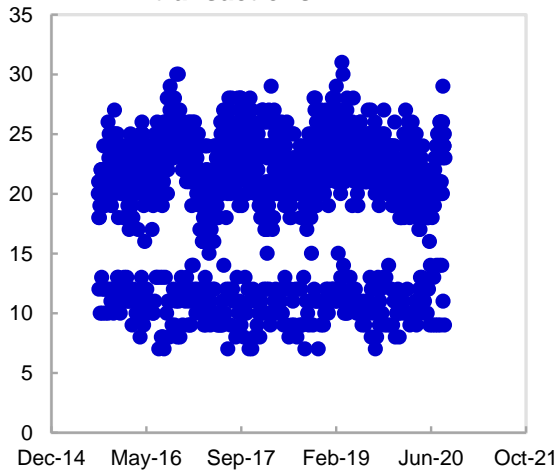
(iii) Frequency distribution of trimmed transactions volume
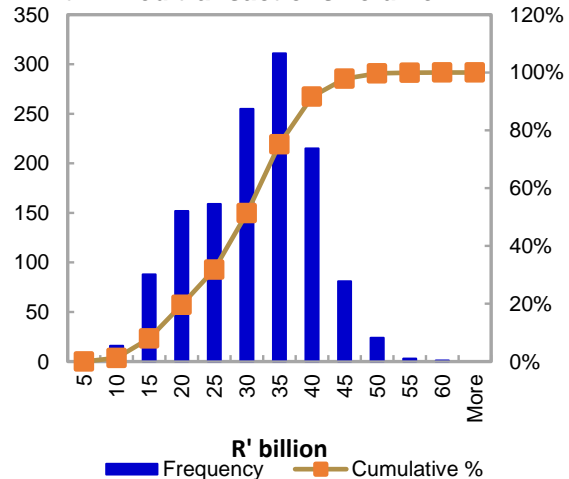
4.3.3.   The calculated ZARIBOR followed a similar trend as ZARONIA, with the benchmark rates largely tracking below the repo rates. While the benchmark exhibited relatively higher volatility compared to ZARONIA, it was relatively stable (see Figure 4(b)). Prior to the pandemic, the standard deviation of the benchmark rates was 0.31% over the sample period, which amounts to 4.8% of the mean rate value of 6.5%. Therefore, it could be concluded that the benchmark's volatility was sufficiently low over the period, despite some notable spikes in June 2019, where the rate plummeted temporarily to 4.87%.

4.3.4.   The drastic decrease in the benchmark rate was evident throughout 2020 as the rate responded to the significant policy rate cuts that were effected in light of the coronavirus pandemic. Overall, ZARIBOR seemed responsive to policy rate changes, which is a desirable characteristic of the benchmark.

Figure 4(b): Performance of ZARIBOR prior to publication

(i) ZARIBOR and the policy rate

(ii) Repo rate and ZARIBOR spread
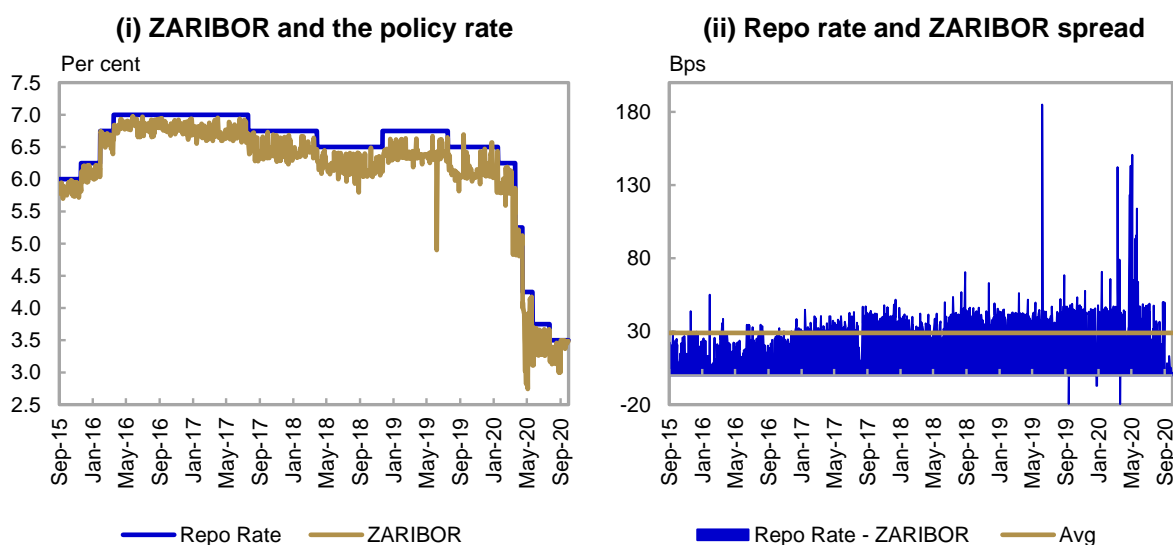
4.3   Contingency arrangements

4.4.1.   The contingency arrangements for ZARIBOR are like those that are specified for ZARONIA (refer to section 3.3.1). Consequently, respondents raised the same issues as described in section 3.3.2.

4.4.2. Both the contingency rate and substitute rate seem to make for an acceptable contingency arrangement for the benchmark. The contingency rate seemed to closely follow the level of ZARIBOR, including the spikes on certain days. The substitute rate followed suit, however, it seemed to mimic the repo rate more. The spread between ZARIBOR and the contingency rate averaged 0.61 basis point.

5 ZASFR

ZASFR is designed to measure the cost of raising secured overnight funding using government securities as collateral. Similar to the unsecured overnight deposit rates, ZASFR is determined as a trimmed, volume-weighted mean of the central 80% of the distribution of interest rates paid on eligible transactions. This section details the specific comments made on the statement of methodology and the contingency arrangements for ZASFR. It also provides the results on the of the back-testing exercise for the benchmark and its contingency arrangement.

5.1   Commentary on the statement of methodology

5.1.1.   Respondents focused more on the criteria for the collateral that could be used for eligible transactions. They noted that eligible collateral should be clearly defined and, if appropriate, there should be a reference to minimum haircuts per collateral type. Furthermore, some suggested that only South African rand securities that have been issued by National Treasury or the SARB should be considered as eligible collateral.

5.1.2.   Respondents also recommended that a wider set of transactions should be considered for this rate. These could include securities lending transactions and collateralised loan transactions.

5.1.3.   The TSP specified that eligible transactions for ZASFR include repo transactions and sell-buy backs that are collateralized with government securities. It may be necessary to specify that such securities relate to National Treasury and SARB issued instruments. The final draft of the TSP will include that distinction.

5.2   Results from the benchmark back-testing exercise

5.2.1.   The reported eligible transactions for ZASFR indicated that the determination of the benchmark is likely to be fraught with data sufficiency issues. The daily volumes recorded were low, with an average value of R4 billion. There were many days where no activity was recorded. Furthermore, the transaction flow was largely dominated by one bank, suggesting that the market is largely concentrated. Consequently, the

benchmark would be prone to rely heavily on the contingency arrangements, which would undermine the credibility of the benchmark in the long run.

5.2.2. The calculated ZASFR seemed to fluctuate in close alignment with ZARIBOR and ZARONIA, exhibiting a similar trend. Due to the scant trading activity, it displayed regular discontinuities and higher volatility when compared to ZARIBOR and ZARONIA. The relative instability of the rate could largely be attributed to low market depth and liquidity.

5.2.3. Nonetheless, the benchmark may contain useful information for the SARB. And thus, the SARB may continue to calculate it and not necessarily publish it on a regular basis.

5.3   Contingency arrangements

5.3.1. Respondents also identified data sufficiency as the biggest challenge for ZASFR given that transactions in the repo market are generally concluded on a one week to one month basis. As such, there could be insufficient contributors for overnight transactions to comply with the IOSCO principles of data sufficiency, which would lead to significant reliance placed on the contingency arrangements. The SARB has noted this point, which has been corroborated by the sample data.

5.3.2. Some respondents suggested that fallback spreads should be published daily to provide additional transparency to the market.

5.3.3. The SARB agrees that the fallback spreads should be published, however, only in instances where the contingency measure is triggered, and a substitute rate is required. The fallback spreads should not be published under normal circumstances or on a daily basis alongside the headline rate.

6 Term Rates

The TSP details the methodologies for two term rates, which measure the interest rate at which unsecured rand-denominated term wholesale funds are obtained in South Africa. The Term Wholesale Financial Corporate Fixed Deposit rate refers to funds obtained by banks from other commercial banks and/or non-bank financial corporates, while the Term Wholesale Non-Financial Corporate Fixed Deposit rate funds are obtained from non-financial corporates and public sector deposits. Both benchmarks are calculated as a trimmed, volume-weighted mean of the central 80% of the distribution of interest rates paid on eligible term deposit transactions.

6.1 Eligible transaction

6.1.1. Comments offered regarding the statement of methodology for term rates were sparse. Respondents suggested that the tenor bucketing for the 6, 9 and 12-month tenors should be reduced to ±5 business days. The TSP specified ±10 days for the 6 and 9-month tenors and ±15 days for the 12-month tenor to ensure that the tenor buckets were wide enough to capture all relevant transactions.

6.2 Results from the benchmark back-testing exercise

6.2.1. Activity in the fixed deposit wholesale corporate market was relatively low, with numerous days having no activity recorded for most tenors. Therefore, the term rates exhibited numerous discontinuities in the trend. The longer-term rates, in particular the 6- and 12-months tenors, exhibited extreme spikes and high volatility. Consequently, the benchmarks would be prone to rely heavily on the contingency arrangements, which would undermine the credibility of the benchmarks in the long run.

6.2.2. Nonetheless, the benchmark may contain useful information for the SARB. Hence, the SARB will continue to calculate it and not necessarily publish it on a regular basis.

6.3 Contingency arrangements

6.3.1. Respondents noted that the ordering of contingency measures should be amended, with Contingency Level 2 preceding Contingency Level 1 as the use of linearly interpolated rates using adjacent defined tenors may lead to unreliable rates. It was suggested that data points that are closer to the standard maturities should be used before using defined tenors.

6.3.2. The TSP specifies that the final rate obtained from applying the Contingency Level 1 arrangement would be the sum of two components, namely, the interpolated rate and a spread adjustment factor (SAF). The SAF would capture the information loss due to the use of linear interpolation between two adjacent standard tenors. This should bring the rate closer to what would be estimated by the money market yield curve. Contingency Level 2 is less ideal as it does not adjust for the curvature of the money market yield curve directly

6.3.3. Some respondents suggested that in the event that contingency measures are triggered and the use of eligible transactions from prior dates is required, dates that occurred during market stress events should be excluded.

7 Next steps

7.1. The SARB thanks all stakeholders for their participation in the reference rate reform project. The feedback provided to the draft TSP, together with the outcomes of the benchmark back-testing exercise, has informed revisions to the draft TSP. To the extent that the outcomes of this exercise influence the design of ZARONIA, which has been identified by the MPG as the preferred alternative for JIBAR, these outcomes will inform further deliberations of the MPG as it makes its final choice.

7.2. Most of the issues raised relating to data collection and infrastructure are being addressed. The SARB will soon publish Reporting Instructions, with details of the population of reporting institutions, scope of qualifying money market transactions, fields and their related definitions, arrangements for the transmission of data, and the controls as well as governance procedures that will be applied.

7.3. A final TSP will be published after the abovementioned work of the MPG has been completed and is expected to coincide with the beginning of the observation period for ZARONIA.