# EXECUTIVE SUMMARY

**The South African financial markets are the most developed and liquid in Africa and well developed by global standards, as well, reflecting credible and independent policy making, a diverse economy and strong financial institutions.** Foreign exchange market turnover is consistently among the top 20 in the world according to the Bank for International Settlement (BIS) triennial survey. The government bond and interest rate swap yield curves go out to 20 years. The size of the domestic bond market is around 85 percent of GDP, and stock market capitalization is about 300 percent of the GDP. Supporting financial market infrastructure is broadly adequate for the size and turnover of the markets. The central bank (SARB) operates independently and at a high capacity, providing a sound footing for market functioning.

**Systemic liquidity is highly vulnerable to portfolio flows.** While in normal times the active participation of foreign market players is a great source of liquidity, in times of internal and external shocks the appearance of sudden stops is a major risk. 30.1 percent of government bonds (as at June 2021, down from a peak of 42.8 percent in 2018) and around half of the market value of the Johannesburg Stock Exchange (JSE)-traded equities are in foreign hands. Also, the South African rand is a popular carry-trade currency, which can add to the volatility of foreign positioning considerably.

**Unsecured money market and the secondary market in Treasury bills (T-bills) are two market segments that are less liquid relative to their size and importance and taking steps to develop these markets is a priority.** The interbank market is primarily unsecured which increases credit risk in transactions and tend to close banks with less strong credit standing out of the market. Low liquidity of T-bills and the lack of unsecured benchmark indices increase interconnectedness between banks and money market funds by directing fund managers away from risk-free investments toward bank assets. Further improving market infrastructure related to collateral management, harmonizing tax treatment of buy-sell and classic repos, and introducing market-making requirements on T-bills for the primary dealers would further develop and deepen these markets. The planned review of Sabor to comply with IOSCO Principals to Financial Benchmarks will also contribute to market transparency. Transparency could be further increased by the introduction of a longer-term benchmark interest rates, based on interest rate swap quotations.

**The monetary policy operational framework targeting pre-set liquidity shortage served SARB well, but the inadequacy of policy instruments became evident during the COVID-19 crisis pointing to a need for reforms.** Transparency of operations can be improved by the timely reporting of the outstanding amounts of all the monetary instruments, in line with the IMF Central Bank Transparency Code[1]. Due to a suddenly increased liquidity surplus, SARB faced considerable challenges in achieving the targeted level of liquidity shortage, as its available instruments proved inadequate resulting in increased interest rate volatility in different segments of the money market. Realizing the challenges, SARB is in the process of shifting its operational target to short-term

[1] It is a voluntary code, composed of a comprehensive, central bank-focused set of principles and practices. The 5-pillar framework covers central bank governance, policies, operations, outcome, and official relations; thereby covering transparency in every area of central banking.

interest rates. The transition will need to include a thorough review of the whole applied monetary policy operational framework.

**The National Treasury (NT) holds almost all of its operational rand liquidity at the four big banks, creating risks to the system, which should be addressed through a gradual unwinding of these arrangements.** NT balances are volatile and large, ranging from 50–250 billion rand, which complicates the banks' liquidity management. At the same time, keeping deposits in commercial banks exposes the government to very high credit risk. The arrangements create potential moral hazard as well, since these banks become in practice too important to fail. NT's balances exhibit high volatility, exposing the banks to considerable liquidity management challenges. SARB and NT should consider gradually concentrating NT's liquidity directly in SARB. Primarily for public finance management purposes, in line with international best practice, NT may consider setting up a treasury single account at the SARB. It would contribute to systemic financial stability by decreasing the government's credit risk toward the four biggest banks, decrease the operational risk of the government's cash management, alleviate the four big banks daily liquidity management and would contribute to the equal treatment of the financial institutions.

**SARB's liquidity management is complicated with being responsible for the investments of the Corporation of Public Deposits (CPD), a quasi-fiscal function**. Beyond being potentially in conflict between SARB's liquidity management objectives and CPD's investment interest, this practice also decreased the transparency of SARB's monetary operations. CPD's investments should be handled separately.

**The SARB Act gives SARB wide lending powers for general central banking purposes, including ELA, but should be revised, to clarify objectives and criteria for granting ELA.** The lack of specific ELA provisions in the legislation, and the associated wide empowerment for SARB to lend, leaves too much discretion at technical levels potentially exposing staff to outside pressure to support entities that do not necessarily fully meet all the preconditions for ELA (e.g., not systemically important, or already insolvent and not viable). In August 2020, the Financial Stability Committee of the SARB adopted a new Framework for the Provision of Emergency Liquidity Assistance to Banks. The internal framework was designed primarily for lending in resolution (or near-resolution) situations and covers only the systematically important banks. Thus, further attention needs to be devoted to fleshing out ELA framework for solvent but temporarily illiquid banks and potentially non-bank financial institutions, outside of resolution. The next step would be to set out the internal guidance needed to undertake solvency, liquidity and viability assessments by the Prudential Authority (PA), and periodically testing the entire ELA function through simulations. Inter-agency arrangements can be strengthened further by updating the existing MOUs between the SARB, PA, and the National Treasury to include references to procedures in ELA situations.

**Table 1. South Africa: Key Recommendations on Systemic Liquidity Management**

| Recommendation | To be adopted by | I/ST/MT* |
|---|---|---|
| **Money Market Development** | | |
| Harmonize regulatory, accounting and tax treatments of different types of collateral and repos. Promote the wide-spread use of classic repos under Global Master Repo Agreement (GMRA) (¶12) | SARB | ST |
| Improve the financial market's collateral management system by establishing interoperatability between different pools of collateral and increasing flexibility of collateral substitution. (¶13) | SARB, Strate, | MT |
| Introduce market-making requirements for primary dealers on Treasury bills for selected maturities on the Electronic Trading Platform (ETP) (¶15) | SARB, NT, PDs, JSE, Strate | I |
| **Benchmark Interest Rates and Indices** | | |
| Renew Sabor calculation in line with the IOSCO Principles for Financial Benchmarks, by basing it on interbank unsecured transactions and strengthening its governance framework. (¶20) | SARB | ST |
| Promote the establishment of SA Treasury bill benchmark indices in 1, 3, 6 and12-month maturities (¶22) | SARB, NT | ST |
| Consider introducing the benchmark interest rate curve beyond one year, based on interbank interest rate swap quotations (¶25) | SARB, NT | MT |
| **SARB Liquidity Management Operations** | | |
| Optimize monetary operations by using short-term interest rates as operational target instead of predetermined level of liquidity shortage (¶36) | SARB | ST |
| Review all applied monetary policy instruments, phase out unused and superfluous instruments. Use FX swaps only for managing FX liquidity or in the lack of rand denominated collateral (¶37-39) | SARB | ST |
| Gradually redirect NT's rand liquidity from the tax & loan accounts at commercial banks to its settlement account with SARB (Treasury Single Account) and pay market-conform interest rate on it above a certain working balance (¶33-34) | SARB, NT | MT |
| Harmonize Corporation for Public Deposit's (CPD) money market placements with SARB's liquidity management and keep SARB's balance sheet immune from CPD's credit related losses by fully integrating the function into the National Treasury's cash management framework (¶41-42) | SARB, NT | MT |
| Increase transparency of monetary operations by providing aggregate and timely information about the outstanding amounts of all liquidity management operations and by preferring auction format to bilateral transactions. (¶43) | SARB | I |
| **Management of Liquidity in Times of Stress** | | |
| Formalize the legal framework for ELA, including its specific objectives and preconditions, through an amendment of the SARB Act. (¶45-46) | SARB | MT |
| Extend the SARB's ELA framework to include exceptional liquidity support to solvent but temporarily illiquid banks, outside of resolution, with further clarity of technical details (e.g., eligible entities, lending rates, etc.). (¶48) | SARB, PA | ST |
| The PA should set out the internal guidance needed to undertake solvency, liquidity and viability assessments to the satisfaction of the SARB, for ELA purposes. (¶52) | SARB, PA | ST |
| Update the existing MOUs and other formal arrangements between the SARB, PA and NT to include references to procedures in ELA situations. (¶52 ) | SARB, PA, NT | ST |
| SARB and PA to jointly undertake regular testing of ELA arrangements. (¶57) | SARB, PA | ST |
| *I: Immediately; ST: short term = less than 1 year; MT: medium term = 1–5 years | | |

# FINANCIAL MARKET LIQUIDITY AND DEVELOPMENT

## A. General Financial Market Development

1. **The South African financial markets are by far the most developed and liquid in Africa.** The Absa Africa Financial Market Index[2] shows both the absolute and relative level of development compared to the other countries in the continent. South Africa's high score is to a large extent attributable to the market depth subcomponent, (which includes market liquidity) showing consistantly a near perfect 99–100 score. The overall index is somewhat pulled down by the excess to foreign exchange and macroeconomic opportunities subcomponents (80 and 78, respectively).

2. **The South African financial markets are well developed according the global standards.** Foreign exchange market turnover is consistently among the top 20 in the world according to Bank for International Settlement (BIS) triennial survey. The government bond and interest rate swap yield curves go out to 20 years. The size of domestic bond market is around 85 percent of GDP. Stock market capitalization is about 300 percent of the GDP.

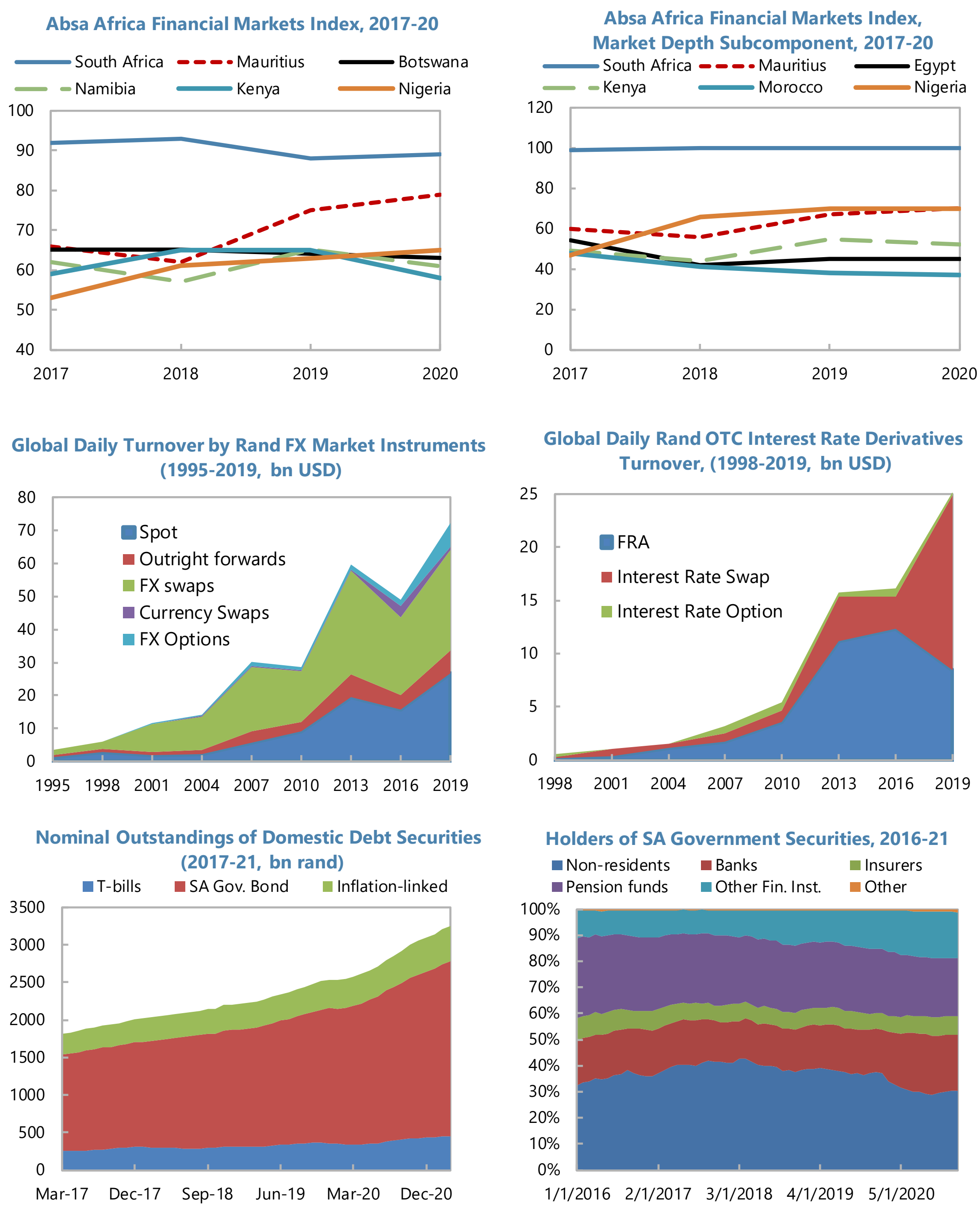
3. **The derivatives markets are dominated by interest rate derivatives, mainly forward rate agreements and interest rate swaps.** These are dominated by foreign investors and global banks. ISDA Market Agreements with Credit Support Annex (CSA) and Global Repo Market Agreements (GMRA) are market standards among major market participants, but a significant portion of transactions between local banks and their domestic counterparts are under-documented. The SARB has recently signed a GMRA with South African Annex with local banks.

4. **The supporting financial market infrastructure is broadly adequate for the size and turnover of the markets.** There is a local real-time gross settlement system (RTGS), the South African Multiple Option Settlement system (SAMOS), and the SARB operates a regional cross-border real-time gross settlement system as well. The rand is part of the Continuous Linked Settlement[3] (CLS) system since 2004. The Johannesburg Stock Exchange (JSE) serves as the central clearing counterparty for exchange traded derivatives. However, currently there is no central clearing counterparty for OTC derivative trades. Also, there is room for further development concerning collateral management (e.g., tri-party arrangements), for which work is already ongoing.

[2] The index is produced annually by OMFIF in association with Absa Group Limited. The index countries are scored on a scale of 10-100 based on six fundamental pillars comprised of over 40 qualitative and quantitative indicators, covering market depth, access to foreign exchange, openness, transparency, legal environment and macroeconomic opportunity.

[3] Continuous Linked Settlement (CLS) is an international payment system which was launched in September 2002 for the settlement of foreign exchange transactions.

## Figure 1. South Africa: Financial Markets Development

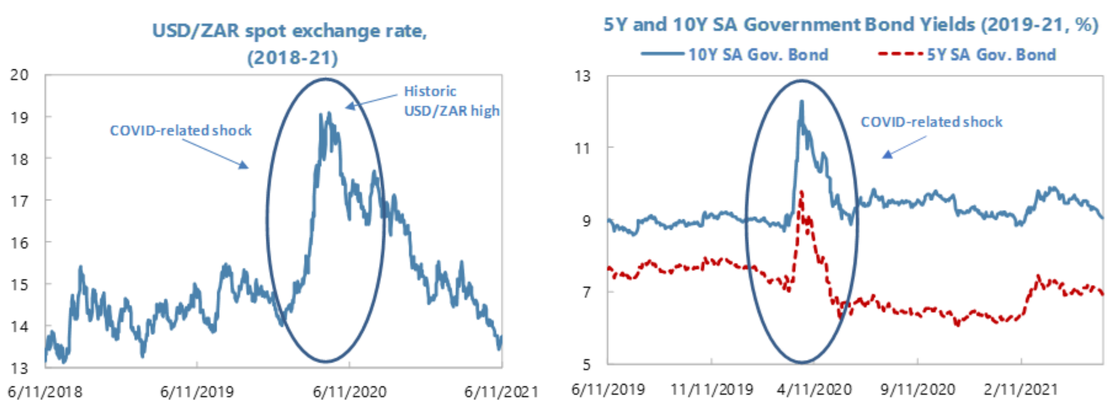



Source: SARB, NT, BIS Triennal Surveys.

**5. Systemic liquidity is highly vulnerable to portfolio flows.** While in normal times the active participation of foreign market players is a substantial source of liquidity, in times of internal and external shocks the appearance of sudden stops is a major risk. As of June 2021, 30.1 percent of government bonds (down from the peak of 42.8 percent in 2018) and around half of the market value of the JSE-traded equities are in foreign hands. The South African rand is also a popular carry trade currency, which can add to the volatility of foreign positioning considerably, in line with global risk appetite.

**6. Throughout 2020 the local markets saw high volatility in comparison with international peers, which abated only with the timely intervention of the SARB in the government bond market.** The rand exchange rate weakened close to 30 percent to a historic low and the 10 year government bond yield jumped by 3.5 percentage points, into double digits, in less than a month. SARB's firm and timely intervention in the government bond market was needed to prevent further market disorder.

**Figure 2. South Africa: USD/ZAR Exchange Rate and SA Government Bond Yields During the COVID-19 Crisis**




Source: Bloomberg

## B. Liquidity of the Money Markets

**7. South African banks are mostly funded by corporate and institutional deposits, which together with a smaller retail base, make up around 70 percent of total funding**. There is a substantial reliance on deposits from financial corporates, including money market and pension funds, rather than retail deposits, which is somewhat unusual. Much of the corporate and institutional funding is in turn underpinned by a strong retail deposit base. Refinancing risks are rendered more manageable by this pool of rand savings, since institutional investors such as money market funds and pensions are required to keep a certain level of savings in rand (the closed rand system), which mitigates potential outflows from the financial system. The domestic money market is dominated by the big five banks.

**8. A considerable part of bank funding takes the form of the issuance of Negotiable Certificate of Deposits (NCDs) of the individual banks**. These marketable securities are sold daily

up to 8-year maturity (sometimes even longer). There are fixed and floating rate NCD. The outstanding amount of all NCDs were 362 billion rand in June 2021,[4] out of which more than 80 percent were floating rate notes. The notes are mainly fixed against different maturities of JIBAR, mostly 3 months. There is an active secondary market supported by daily market-making by the main issuers. The five main issuers are the five largest banks.

9. **The interbank money market relies primarily on unsecured transactions.** It is clearly a source of vulnerability. It not only increases credit risk between parties to transactions but hinders the development of interbank money market, as the big banks prefer to trade mainly with each other as they have narrower credit limits to smaller financial institutions.

10. **One reason for the preference for unsecured transaction is that most of the interbank transactions are very short term and the perceived credit risk in this time horizon is negligible**. Bank treasuries prefer the simpler interbank deposit to repos which involve the movement of collateral and daily margining. This might change is the near future, thanks to the introduction of a new Prudential Authority (PA) directive concerning the limits imposed on exposures to global systemically important banks and domestic systemically important banks. To limit the amount of capital charges, banks will be incentivized to move toward secured transactions.

11. **Trading in secured transactions is confined mainly to the securities dealers financing their holdings with some big banks**. Most of these transaction happen during the so-called "weekly roll" when, on Tuesdays, the securities dealers roll their positions with only a few banks. While the volume of the secured transaction is high—up to 100 billion rand at the weekly roll[5]—its use is dominant only in a specific segment of the money market and for a specific purpose (demand for cash financing of long bond positions). As a result, short government bond repo rates are higher than the unsecured interbank rates.

12. **Most of the secured transaction take the form of buy-sell back (B/S) repos as opposed to classic repos.**[6] B/S repos have an operational disadvantage to classic repos in that they are linked to specific collateral, therefore collateral substitution and margin maintenance is more challenging. However, different local tax treatment favors the use of B/S repos compared to classic repos. While B/S repos are also covered by the South African GMRA, the local legislation ensures enforceabilty only if the trade is executed under a master agreement. Reportedly, a high proportion of B/S repos are undocumented, which greatly increases the legal risk to exercise the right to the collateral in case of a counterparty deault.

13. **The development of the secured (repo) market is also hindered by some inefficiencies in the collateral management systems**. The collateral available for repo transactions is divided into different pockets inside the banks' own account at Strate, and their SARB account for SARB collateral and liquid asset requirement purposes. Further, SARB keeps up three separate collateral pools for its

[4] As a comparison, the outstanding amount of treasury bills is 450 billion rand.

[5] According a SARB 2017 data collection survey.

[6] It is difficult to identify the proportion of buy/sell and classic repos as by practice all repo transactions are reported to Strate as separate purchase and sale transactions.

monetary operations (weekly repo, standing landing facility), the Committed Liquidity Facility (CLF) and prudential purposes.[7] The movement of securities between these pockets is possible but cumbersome and slow due to its manual nature. The banks, Strate and SARB are actively working on a solution. With its Clearstream triparty repo platform, Strate is operationally prepared to support greater interoperatability between different pools of collateral and increased flexibility of collateral substitution.

14. **Currently JSE margin requirements can only be fulfilled with cash**. The amount of liquidity tied up as a result ranges between 45–50 billion rand (including the derivatives contracts). Considerable liquidity could be freed up for the money markets if some securities were accepted, or partly accepted. The JSE is currently examining the issue and possible solutions.

15. **The secondary market for Treasury Bills is underdeveloped compared to its size and importance.** Although the outstanding amount is high, around 450 billion rand, there are no market making arrangements in place—despite the presence of a primary dealer (PD) system in South Africa. The lack of market making results in a lack of reliable daily closing prices,[8] and in turn there are no performance benchmark indices for different maturity T-bills, which the money market funds could follow. These factors dampen interest of foreign investors and domestic money market funds in treasury bills.

16. **Most of the outstanding T-bills are held by banks to comply with the liquid asset requirement (LAR) and the liquidity coverage ratio (LCR), and for use as collateral for the SARB's refinancing operations.** It largely explains why banks follow a buy-and-hold strategy, are less sensitive to low liquidity and have little interest to make active market to T-bills. The consequence of low liquidity, however, is that T-bill yields can be more volatile, compared to for example to NCD yields. This could be observed during the COVID-crisis when for several month T-bill yields rose 25–30 basispoints above the respective NCD yields. A further consequence is the higher liquidity premium the government has to pay for investors.

17. **The domestic banking sector has limited exposure to foreign-currency loans and funding and therefore foreign currency funding risk is low.** Banks' exposures are predominantly domestic and in rand. Financial soundness indicators at end 2020 showed that proportion of foreign-currency funding of the banking sector was below 10 percent of total liabilities. By local regulation, banks cannot hold net foreign-currency positions greater than 25 percent of equity, and banks are typically well below this limit. Regulatory reporting shows that the average net open foreign currency position to capital averaged between 0.5–1.5 percent in the last few years.

18. **The FX swap market is liquid, however, as the banks' funding need in foreign currency is limited, it is not necessarily deep.** On one side of the market, the domestic banks finance their foreign currency lending, on the other side branches of foreign banks finance their rand lending and foreign investors finance their rand holdings and roll their long rand positions. SARB is active in the

[7] The facility is planned to be phased out by December 1, 2021.

[8] On Bloomberg only the latest T-bill auction rates can be found and SARB also provides only the latest auction rates for collateral valuation purposes.

FX swap market and able to provide FX liquidity promptly in the unlikely case it is needed in an emergency situation. However, currently the primary purpose of SARB's observed FX swap operation is to manage the *rand* liquidity. As occasionally the size of these transactions are too high compared to the liquidity of the market, it can cause undue volatility in the implied rand interest rates (see in more details below).

## C. Benchmark Money Market Interest Rates and Indices

**19. The main money market interest rates and indices are Sabor, JIBAR and STeFI.** The South African Benchmark Overnight Rate (Sabor) is basically the only O/N benchmark rate, it is currently a composite of several money market rates, calculated by the SARB. The Johannesburg Interbank Average Rate (JIBAR) reflects the funding costs of the big 5 banks, available in 1, 3, 6, 9 and 12-month maturities and compiled and published by the JSE. The Short-Term Fixed Income Index (SteFI) is the most popular non-tradable composite index used for benchmarking money market investment portfolios. It consists of the Sabor and different maturity NCD rates. (See Box.1)

**20. The Sabor plays an important role in monetary transmission as many retail bank products and remuneration of demand accounts are linked to it.** SARB has been successful in keeping Sabor around its key monetary policy interest rate, the repo rate, which greatly contributes to effective monetary transmission. However, in several aspects Sabor does not satisfy the new IOSCO Principles for Financial Benchmarks, as with many benchmarks used around the world. The main issue is its design, as it mixes different type of interest rates (both secured and unsecured ones). Also, there are some more technical issues concerning data collection and validation.

### Box 1. Calculation of the Main South African Benchmark Rates and Indices

**Sabor—South African Benchmark Overnight Rate**

Sabor is currently calculated as a volume-weighted average interest rate of overnight funding. The SARB, as a calculation agent, determines and publishes Sabor on a daily basis, based on transactions the day before.

Sabor is compiled using three different interest rate elements, namely:

- the interest rate paid on overnight funding in the interbank market (excluding any funding at the repo rate);
- the interest rate paid on call deposits of each contributing bank's top 20 non-bank clients (excluding deposits with a fixed link to the prime rate and other term rates);
- interest rates paid on overnight and tomorrow/next day rand funding in the FX swap market (the implied rand interest rate).

Weighted average rates are calculated separately from the first 2 element and the third one. In the last step, Sabor is calculated by giving 95 percent weight to the first 2 elements and 5 percent weight to the third one.

**JIBAR—Johannesburg Interbank Average[1] Rate**

JIBAR is constructed daily using quoted live rates for NCDs on Refinitiv/Bloomberg by the 5 JIBAR contributing banks, Standard Bank, Absa, FirstRand, Nedbank, and Investec. The quoted rates should be good for a trade size of between R20 million and R500million, for NCD issuances of up to and including 12 months and settling within seven business days following the trade date. The recommended spread under normal conditions should be a maximum of 25 basis points (in practice it is mostly 15 bp).

### Box 1. Calculation of the Main South African Benchmark Rates and Indices (concluded)

The JIBAR rates are determined between 9.15 and 9.45 am and published at 10.00 am. The highest and lowest 25 percentile of the mid-rates are excluded from the calculation (in practice the 1-1 highest and lowest mid-rates out of the 5). The remaining bid and offer interest rates are averaged to calculate a mid-rate. JIBAR rates are calculated for 1, 3, 6, 9 and 12-month maturities, with the 3-month being the most widely used. JIBAR is compiled and published by the JSE (the calculation agent). SARB is the administrator of JIBAR.

**SteFI—Short-Term Fixed-Interest Index**

The Alexander Forbes Short-term Fixed Interest (STeFI) Composite Index is a benchmark index constructed by Alexander Forbes, calculated and published daily by the South African Futures Exchange (SAFEX) since 2000. SteFI is a non-tradable index used for benchmarking money market portfolios. It consists of Sabor (15 percent) and the 3, 6 and 12-month NCD rates (30, 35 and 20 percent weight, respectively).

STeFI is used as the primary benchmark by almost 16 percent of the number of collective investment scheme (CIS) funds domiciled in South Africa, which amounts to 29.4 percent of funds invested in South African-domiciled CISs (SARB Consultation Paper on Selected Interest Rate Benchmarks, 2018).

[1] Sometime also referred to as Johannesburg Interbank Agreed Rate.

**21. Compared to other similar benchmark rates in other countries, JIBAR's role is somewhat less prevalent in monetary transmission, as wholesale lending rates are mostly linked to the Prime rate**, (currently SARB repo plus 350 bp). Also, a large portion of retail transactions are priced to Sabor. However, as JIBAR corresponds to NCD rates (Box 1), it is an important indicator of the banks' funding rate. Further, most interest rate derivatives are linked to JIBAR. Around two-third of these derivatives are forward rate agreements, which are important indicators of interest rate expectations. SARB's 2017 data collection exercise showed that the outstanding notional amount of derivatives reset against JIBAR was 38 trillion rand, while the same figure for non-derivative assets and liabilities was close to 2 trillion rand. It shows how important a credible JIBAR is to derivatives markets and therefore to financial stability and integrity.

**22. The lack of a risk-free benchmark money market index creates a potential financial stability risk.** In terms of credit exposure, the most widely used index, STeFI contains only bank risk (85 percent NCD rates, 15 percent Sabor). Most of the money market funds' performance is benchmarked to STeFI indices, which creates a strong incentive for the asset managers to invest in bank assets, in order to maintain a neutral position against their benchmark. This further increases the already high interconnectedness risk among banks and investment funds.[9] These risks could be mitigated by the establishment of risk free money market benchmark indices constructed using T-Bill rates. However, as it was highlighted above, in the lack of organized market making and credible daily closing prices it is not possible to compile a reliable benchmark index.

**23. SARB has been making significant efforts to renew the system of reference rates during the last 10 years, with the only main result so far being the strengthened JIBAR**

[9] Indeed, according to SARB, 90 percent of money market funds' assets were invested in instruments issued by banks at the end of 2016 (Consultation Paper on Selected Interest Rate Benchmarks in SA, 2018).

**framework**. A Reference Rate Working Group (RRWG) was set up in 2011 and released a Jibar Code of Conduct, Governance Process and Operating Rules (Jibar Code) in March 2013. Proposals regarding Sabor and Jibar were tabled at Financial Market Liaison Group (FMLG) in 2014 and 2016, respectively, but they were not deemed adequate. In August 2018, the SARB published a Consultation Paper on Selected Interest Rate Benchmarks in South Africa, with specific proposals on potential new benchmark interest rates. It was discussed thoroughly with the market participants.[10] However, the only main result so far is the further strengthening of the JIBAR governance and operational framework in April 2021.[11]

24. **In the longer term, SARB's intention is to phase JIBAR out and replace it with a more widely based money market interest rate.** The main challenge with the current JIBAR is that only the big five banks are eligible as contributors. Also, SARB found that the volumes of the underlying three-month NCD markets (especially relative to other types of funding) are not high enough and JIBAR is based on indicative prices not actual transactions.[12] The renewed JIBAR setting is now based on live quotations on increased transaction amounts and a very strong governance framework, fully in line with the IOSCO Principles for Financial Benchmarks.

25. **There is a case for setting up longer term benchmark reference rates.** There is currently a benchmark government bond rate curve, however, it not suitable for pricing longer term corporate loans. The banks longer term funding cost is better reflected by the interest rate swap (IRS) curve. However, in South Africa the IRS curve is way below the government yield curve and the spread between the two curves exhibits high volatility. The IRS market shows sufficient liquidity for the establishment of a daily reference rate curve. It would increase transparency, help pricing longer maturity loans and the pricing of relevant balance sheet items.

[10] To this end, the SARB has established the Market Practitioners Group (MPG) in 2019 that comprises representatives from the Financial Sector Conduct Authority (FSCA), the Association of Corporate Treasurers of South Africa, the Association of Savings and Investments of South Africa, the Banking Association of South Africa, and the SARB. The MPG is still active and has 5 works streams: risk-free reference rates; unsecured reference rates; data collection; governance; and transitioning.

[11] Jibar: Code of Conduct, Governance Process and Operating Rules—April 2021.

[12] SARB Consultation Paper on Selected Interest Rate Benchmarks in South Africa, August 2018.

## D. Detailed Recommendations

**Table 2. South Africa: Detailed Recommendations—Financial Market Liquidity and Development**

| Recommendation | To be adopted by | I/ST/MT* |
|---|---|---|
| **Money Market Development** | | |
| Harmonize regulatory, accounting and tax treatments of different types of collateral and repos in close cooperation with the market participants. | SARB, | MT |
| Improve the financial market's collateral management system by establishing interoperatability between different pools of collateral, increase flexibility of collateral subtitution. | SARB, Strate | ST |
| Promote the wide-spread use of classic repos under Global Master Repo Agreement (GMRA), as opposed to buy-sell backs, using also moral suasion. | SARB | ST |
| Introduce market making requirement for primary dealers in Treasury bills on the Electronic Trading Platform. Focus only on selected maturities (at the minimum, 1, 3, 6 and 12-month) with the selected maturities distributed among the primary dealers. Beyond increasing liquidity, the main purpose of the market making is to improve the price discovery function in this segment of the government security market. | SARB, NT, JSE | ST |
| **Benchmark Interest Rates and Indices** | | |
| Renew Sabor calculation in line with the IOSCO Principles for Financial Benchmarks.<br>SARB has already worked out several alternatives for benchmark interest rates. The final choice needs to be carefully decided and communicated, specifying which rates are to be used as reference interest rates and which ones for analytical purposes only. It is recommended that for the renewed Sabor is based on unsecured interbank overnight rates. The recently strengthened JIBAR can serve as a good example how to improve the governance framework of the renewed Sabor. | SARB | ST |
| Promote the establishment of SA Treasury bill benchmark indices in 1, 3, 6 and 12-month maturities and for the overall T-bill market, as soon as regular market making begins.<br>As soon as market making begins and reliable market prices are available, benchmark indices can be compiled and published daily by each designated maturity by the NT. Using these indices as performance benchmarks, fund manager can launch new, fully or partially risk-free money market portfolios to more risk-averse investors easier, as alternative to the STeFI-linked portfolios. | SARB, NT | ST |
| Consider introducing benchmark interest rate curve beyond one year, based on interbank interest rate swap quotations.<br>The Johannesburg Interest Rate Swap rate (JIRS) can serve many uses—it can be used to price longer term fixed rate customer loans (e.g., retail mortgage loans), risk managers can use it for pricing positions, customers who wish to change fixed to floating interest rates and vice versa. Altogether, it would considerably increase transparency and would help customers in negotiating with their banks. | SARB | MT |

* I: Immediately; ST: short term= less than 1 year; MT: medium term= 1-5 years

# SARB'S OPERATIONAL FRAMEWORK IN NORMAL TIMES

## A. SARB's Standard Operational Framework

**26. According to the SARB Act, the primary objective of the central bank is to protect the value of the South African currency in the interest of balanced and sustainable economic growth.** An additional objective is to protect and maintain financial stability. In practice, the SARB has been following an inflation targeting policy regime since 2000. The inflation target is currently 3–6 percent for the headline consumer price inflation. The inflation target is set through a process of consultation between the Minister of Finance and the Governor of the SARB. Since 2017, the Monetary Policy Committee (MPC) has emphasized that it would, in general, like to see inflation close to the 4.5 percent midpoint of the 3–6 percent target range. The success of the IT framework and monetary policy implementation has rested on strong capacity at SARB and its independence from political and commercial influence in making and implementing policy.

**27. In the current implementation framework, the operational target is a predetermined liquidity shortage.** It is achieved with the combination the cash reserve requirement system, open market operations such as SARB debenture and reverse repo auctions, FX swaps and moving public sector funds between the market and the SARB. Short-term market interest rates are steered around the key monetary policy rate (the SARB repo rate) primarily by funding the liquidity shortage of the banks at the SARB repo rate.

**28. The main refinancing operation is the weekly 7-day repo auction,[13] with its rate fixed at the SARB repo rate.** The auction amount is based on the average daily liquidity requirement for the week, calculated by the FMD, typically at or around the targeted level of liquidity shortage, (56 billion rand pre-COVID). The transactions are in the form of classic repos, the SARB has recently signed Global Master Repurchase Agreement (GMRA) with the local commercial banks eligible to participate in the auction.

**29. The overnight standing facility deposit and lending rates are normally set 100 bp below and above the repo rate, respectively**. As a fine-tuning instrument, the SARB also uses end-of-day supplementary overnight repo or reverse repo auctions to inject or drain liquidity, respectively. This is initiated by the SARB for the SAMOS clearing banks, based on the daily liquidity position of the system. The rate of the auction is fixed at the repo rate. In addition, there is an automatic square-off mechanism which entails that any positive and negative balances on the SAMOS clearing accounts are settled at the prevailing standing facility rates at the end of the position window period.

**30. In order to drain liquidity and achieve the targeted liquidity shortage, SARB issues its own debentures weekly on Wednesdays, in 7, 14, 28, and 56-day maturities.** SARB debentures

[13] Except on the week of the MPC meetings when technically there are two auctions in order to reflect the potential interest rate decision of the MPC.

qualify as statutory liquid assets. The amount offered at each maturity is preannounced by SARB. In a similar way, liquidity absorption is also supported by weekly reserve repo auctions held on Mondays, also in four different maturities (7, 14, 28, and 56 days), but with a T+3 settlement, to match the value date of the government auction. The usage of the reverse repo facilities is very low in absolute term, and also in comparison with the debentures. It is not clear why the SARB applies weekly an instrument which is hardly used by the market participants.

31. **The more structural liquidity management operations are mainly carried out with 3–6 months maturity FX swap transactions, carried out bilaterally with domestic and foreign banks.** These FX swaps are typically used to sterilize bigger FX inflows related to government foreign borrowing, privatization revenues etc., converted with the SARB to rand. The main purpose of these structural operations is to "immunize" the core system of targeting a shortage from bigger liquidity shocks which are perceived temporary. The SARB also uses swaps for normal liquidity management and for shorter tenors than 3–6 months. As per the current legislation, the cost of FX swaps is covered by the National Treasury's Gold and Foreign Exchange Contingency Reserve Account,[14] while the interest rate cost of debentures affects SARB's profit and loss account directly.

32. **The minimum reserve requirement ratio for banks is 2.5 percent, and this also contributes to the establishment of the liquidity shortage**. The reserve maintenance period is one month, going from the 15th business day of a month up until the 14th business day of the following month. Banks have a separate settlement account and cash reserve account, but averaging is allowed by moving balances to a cash reserve utilization account. While averaging is possible, it is not encouraged, and funds are expected to be moved back to cash reserve account as soon as it is possible. The extra operational work and regulatory expectations to minimize its use limit the positive impact of the averaging feature on banks' internal liquidity management.

33. **The National Treasury holds almost all of its operational rand liquidity at the four big banks, which entails considerable risk.** These balances are volatile and large, ranging from 50–250 billion rand, which complicates the banks' liquidity management and exposes the government to high credit risk. This may also create moral hazard since these banks become in practice 'too important to fail'. In times of stress the government is not in the position to move their holdings to another bank, without severely undermining the position of a bank already in trouble. Keeping the balances at only few banks also puts these banks in a privileged position, providing them an income transfer[15] and an information advantage.

34. **Supporting SARB's systemic liquidity management, NT also holds a Sterilization Deposit Account at the SARB.** It is a legacy item from 2010 related to the conversion of a bigger foreign direct investment inflow. For sterilization purposes, NT agreed to keep the converted rand amount in a separate account at SARB. According to the agreement the rand deposit pays in rand the equivalent foregone foreign currency return to the NT. Due to the increased liquidity need, in

[14] See Article 27 of SARB Act, Forward Exchange Contracts Adjustment Account

[15] The NT's tax&loan call accounts pay the SARB repo rate, but the banks can safely invest at least part of it at longer maturities, earning higher yields, e.g. by buying Treasury bills.

2020 the NT started to withdraw balances from this account and plans to use the whole amount in the next few years, which will add further 41 billion rand to the systemic liquidity.

## B. Assessment of the Efficiency of SARB's Liquidity Management

**35. Until recently, the monetary policy operational system of targeting a liquidity shortage has served SARB well.** The central bank was successful in keeping the short-term interest rates (Sabor) very close to the repo rate. The 3-month Johannesburg Interbank Average Rate (JIBAR) moved in line with the key monetary policy interest rate. Success was also attributable to the fact that during most of the time the systemic liquidity was characterized by a shortage or only a minor and manageable surplus, and overall exhibited moderate volatility.

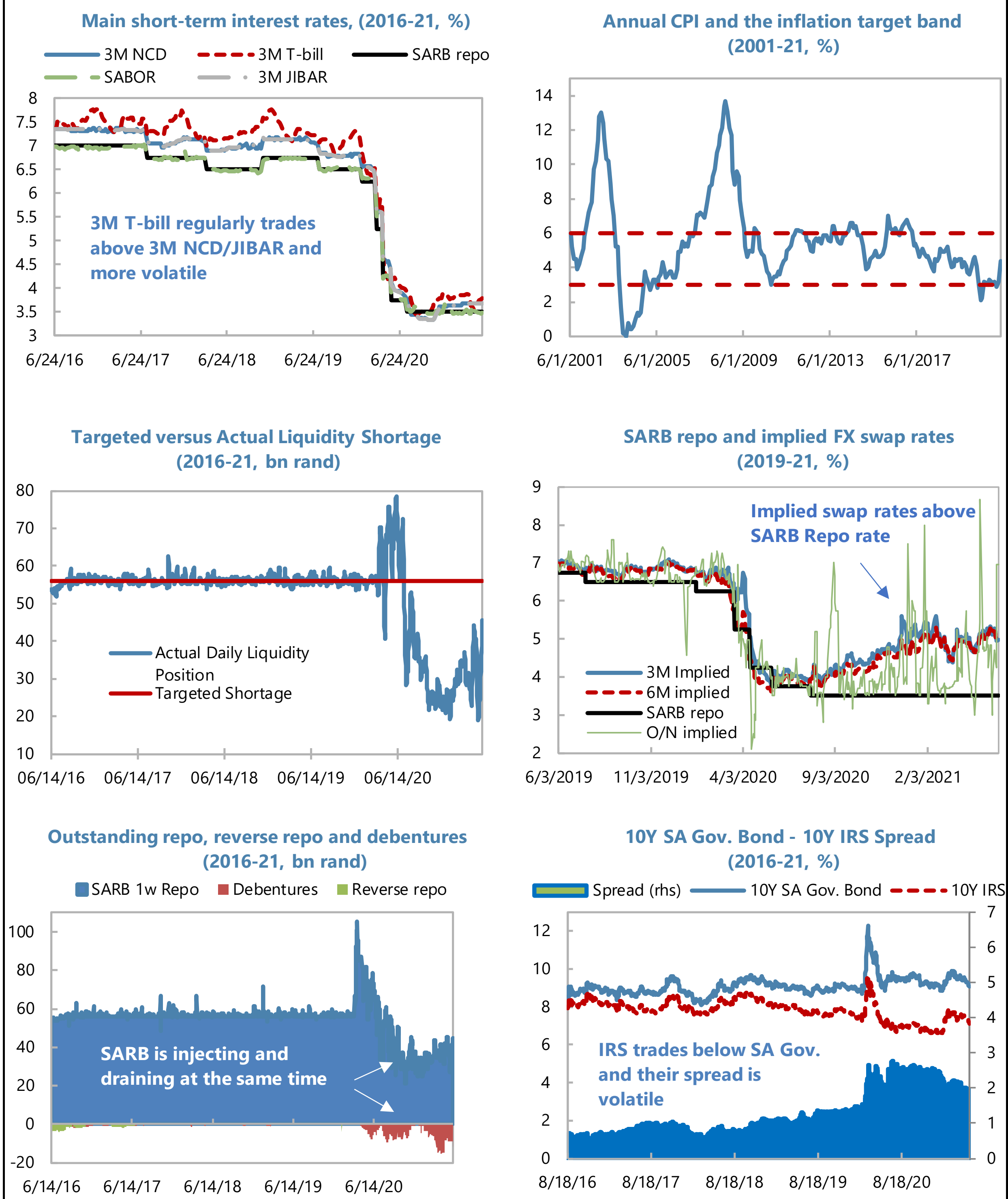
**36. The weaknesses of targeting the shortage became evident during the COVID-19 crisis when structural liquidity shifted into a surplus in a short period of time.** The main items increasing structural liquidity were (i) the conversion of the IMF and other foreign currency loans (around 65 billion rand); (ii) SARB's government securities purchase program (more than 30 billion); and (iii) the use of part of the NT special sterilization deposit account (26 billion); and (iv) the Loan Guarantee Scheme. It became increasingly difficult to keep the targeted level of shortage, the actual level started to fluctuate below the target, between 20 and 40 billion rand, creating uncertainty for market participants about SARB's intention and exposed SARB to communication challenges. Reacting to the situation, SARB lowered its liquidity shortage target to 30–35 billion rand.

**37. The suboptimal choice of sterilization instruments in the new environment led to increased volatility of short-term interest rates for an extended period of time.** It became evident that FX swap are not ideal tools for rand liquidity management. When, according to the standard practice, the central bank sterilized the inflows from the World Bank and IMF loans with FX swaps, the amount proved to be too high for the market to digest. In spite of the best efforts of FMD to spread out the execution in time, by counterparties and by maturities, the rand interest rates implied in the FX swaps spiked on all maturities below one year. The implied rand rates deviated from the SARB repo rate and stayed well above ever since,[16] which might have had an albeit minor but negative impact on monetary transmission.

**38. The extensive use of FX swaps as sterilization instruments might have an impact on government borrowing, and on the banks' LCR ratios.** The tenor of the sterilization swaps overlaps with the government T-bill issuance, meaning that government and SARB are competing for the same funds.[17] It might have been one of the reasons why T-bills rates rose well above the NCD rates, as the government in this period also tried to increase its issuance to cover their

[16] To the extent that early 2021 the SARB had to carry out FX swaps again but now with the opposite sign to prevent the implied rand rates from rising further. At the same, realizing the limitations of using FX swaps for sterilization purposes, SARB started to decrease the outstanding amount of its FX swaps by not renewing some of the maturing transactions and began relying more on the issuance of debentures instead for sterilization purposes.

## Figure 3. South Africa: Developments in Monetary Policy Implementation




Source: SARB, Bloomberg.

pandemic-related expenses. This is another sign of increased short-term interest rate volatility. A further unintended consequence, the banks reportedly faced a challenge meeting their rand LCR requirements, because—as opposed to SARB debentures—the foreign exchange received in the FX swaps does not count as rand high-quality liquid assets (HQLA) under the LCR requirement.

**39. The regular structure of SARB's applied liquidity management instruments may have a negative impact on interbank market liquidity and development.** Each week the central bank offers instruments in 4 different maturities (debentures and reverse repos up to 2 months), potentially taking away some room from interbank dealing in all these maturities. Further, each week SARB offers one-week repo (injecting) and one-week debenture (draining) as well, basically at the same interest rate. It might lead to a situation in which SARB takes on the role of market intermediation, banks will tend to deal with SARB instead of each other, which is suboptimal for both market functioning and central bank balance sheet management.

**40. In line with the current operational framework, SARB's internal liquidity forecasting is very short term in nature.** It is also supported by the practice whereby NT keeps all its operational rand liquidity at the commercial banks. It is convenient from SARB's liquidity management point of view as this autonomous liquidity factor is typically the most challenging to forecast. However, the end result of this arrangement is that the problem of forecasting the government's flows is actually exported to the four big banks rather than carried out at the central bank. In general, SARB is in better position to forecast revenues and payments of the NT, than the individual banks.

**41. SARB's liquidity management is complicated with being responsible for the investments of the Corporation for Public Deposits (CPD), a quasi-fiscal function.** The arrangement raises a potential conflict of interest, wherein SARB is responsible for investing CPD's assets at the best rates available, and at the same time to inject or withdraw liquidity at around its repo rate, in order to steer short-term interest rates around it. In practice, CPD's balances were actively used to achieve the targeted liquidity shortage, by moving them in and out to the market, as current liquidity situation requested. Beyond being potentially in conflict with CPD's investment interest,[18] this practice also decreased the transparency of SARB's monetary operations.

[18] SARB pays 3-month T-bill minus 10 basispoints on CPD's call account, which is an off-market rate for a call account.

### Box 2. Corporation for Public Deposits

The Corporation for Public Deposits (CPD) was established as a subsidiary of the SARB in 1984 after the dissolution of the National Finance Corporation. The CPD is governed by the Corporation for Public Deposits Act 46 of 1984. The CPD accepts call deposits from the public sector and invests the funds in short-term money-market instruments and special Treasury bills. With the permission of the Minister of Finance, the CPD may also accept call deposits from other depositors. All funds invested with the CPD, and the interest earned on these funds, are payable on demand.

The activities of the CPD are managed and controlled by a four-member Board, two from SARB, two from NT, appointed by the Minister of Finance. SARB is responsible for the investments and administration of the daily business operations of the CPD. CPD's liabilities consist of primarily deposit accounts. The margin accounts of ETP are also placed at the CPD. CPD's assets consist of cash, money market investments, short-term deposits and loans and advances. The loans are advanced as part of the national government's Inter-Governmental Cash Coordination (IGCC) arrangement in terms of which some state-owned entities and treasuries of provincial governments deposit excess funds with the CPD to form a pool of funds from the public sector. The national and the provincial treasuries are allowed to borrow money from the IGCC pool of funds. National Treasury guarantees that the deposits will be made available to depositors on demand. The actual market investments of CPD are carried out by the FMD. In Q1 2020, the size of the balance sheet was around 70 billion rand, the operating cost to run the CPD is about 4 million rand.

According to CPD's 2020 Financial Statements, "the significant increase in credit risk to the value of R2.3 billion, the impact of COVID-19 and counterparty defaults has rendered the CPD technically insolvent as its liabilities exceed its assets. As a remedy, the SARB has issued a guarantee in favor of the CPD to the value of R3.45 billion for all amounts required by it for the due and punctual performance of its obligations under the CPD Act."

42. **A further complication is that managing the CPD portfolio exposes SARB to unnecessary credit risk which might hinder it focusing on its core central bank functions.** According to the SARB Act, except some specific cases, the central bank cannot lend without adequate collateral. However, CPD's investment guidelines allow unsecured lending, too. As CPD is fully owned by SARB, this guideline is not in line with the spirit of the central bank act. Further, losses emanating from unsecured lending (bank deposits, promissory notes) are a potential burden of SARB's balance sheet, threatening its capacity to carry out its main central bank functions.[19]

43. **While overall SARB is a very transparent central bank, enhancements to transparency can be made to some of its liquidity management operations, including FX swaps.** Highly detailed daily information is available about some core operations (repos, debentures auction) and values of important variables such bank balances compared to reserve requirement, currency in circulation or outstanding amounts of repos and debentures. However, there is little and late information about SARB's FX swaps or the use of government (CPD) funds for liquidity management. Also, in some cases SARB prefers OTC transactions, even when the tender format could also be considered, for example, in case of FX swaps or government bond purchases.[20]

[19] As a matter of fact, due to the accumulated credit losses, according CPD's 2020 Financial Statements, "SARB has issued a guarantee in favour of the CPD to the value of R3.45 billion for all amounts required by it for the due and punctual performance of its obligations under the CPD Act."

[20] Also, on July 31, 2020, in a media statement about Enhancements to the South African Reserve Bank's open market operations, it was announced that "SARB will commence conducting short-term buy-sell backs, of up to one month, with commercial banks on a bilateral basis for the purposes of managing money market liquidity."

## C. Detailed Recommendations

**Table 3. South Africa: Recommendations—SARB Regular Liquidity Management Operations**

| Recommendations | To be adopted by | I/ST/MT* |
|---|---|---|
| SARB could increase the efficiency of its monetary policy operation by targeting directly the short-term interest rates instead of a predetermined liquidity shortage.[1] While there is an ongoing comprehensive project of reviewing the structure of reference interest rates, reforms in the operational framework can be introduced prior to the completion of this project, since a change in benchmark/reference rate setting would not change the observable short-term rates, just make the established reference rates more in line with the IOSCO Principals for Financial Benchmarks.<br>In the new framework, it is important to work out a different set of tools for structural liquidity surplus and shortage situations, and to work out strategies for the transition between the two, if circumstances change. Instead of managing pockets of liquidity separately, (e.g., FX swaps for FX conversion-related rand flows), systemic liquidity should be managed in a holistic approach. | SARB | ST |
| The shift to the new operational framework could be used to review and optimize the applied monetary policy instruments. The main changes suggested for consideration are as follows<br>• Use the FX swaps for rand liquidity management purposes only or in case there is insufficient amount of available rand denominated collateral.<br>• Phase out unused and unnecessary instruments to keep the operational framework more efficient and transparent. There seem to be no need for liquidity absorbing reverse repos as this function can be more efficiently fulfilled with the debentures. In order to give more room for interbank transactions, there is no need to be present in the market in four different maturities every week.<br>• In order to support the banks' liquidity management, and encourage more active interbank dealing, allow full use the averaging feature of the cash reserve requirement system for the whole maintenance period. For operational efficiency, consider unifying the settlement and cash reserve account (under averaging there is no need for keeping separate accounts). | SARB | ST |
| Gradually concentrate NT's liquidity at SARB. Primarily for public finance management purposes, in line with international best practice, NT may consider setting up a treasury single account (TSA) at the SARB. It would contribute to systemic financial stability by decreasing the government's credit risk toward the four biggest banks, decrease the operational risk of the government's cash management, alleviate the four big banks daily liquidity management and would contribute to the equal treatment of the financial institutions. | | |

**Table 3. South Africa: Recommendations—SARB Regular Liquidity Management Operations (concluded)**

| Recommendations | To be adopted by | I/ST/MT* |
|---|---|---|
| The move should be gradual and in the transition period temporary daily liquidity providing facilities can be set up for the affected banks in order to ensure smooth transition. Above a certain working balance, liquidity held at SARB should be remunerated via a market-conform interest rate, linked to the repo rate. | SARB, NT | MT |
| There is a need for a thorough review of SARB's role in the government entities cash flow management. Ideally, CPD's activity (pooling and redistributing liquidity among public entities) could be fully integrated in the National Treasury's cash management framework.[2] Until the review is carried out, in order to avoid conflict of interest situation and mitigate SARB's indirect credit risk, CPD's investment guidelines should be modified by CPD Board to constrain the money market investments to the call account at SARB, with an interest rate in line with market conditions.[3] | SARB, NT, CPD | MT |
| SARB would benefit from extending the horizon of its liquidity forecasting at least until the end of reserve maintenance period. In case NT's operational liquidity will be concentrated to SARB and full reserve averaging will be better tolerated, there will be a need for strengthening the liquidity forecasting capacity. Improved liquidity forecasting will help understanding main drivers of short-term interest rate changes. Long term liquidity forecasting will also help planning ahead the cost of monetary operations. | SARB | I |
| The transparency of SARB's monetary operations could be improved by disclosing the outstanding amounts of *all* liquidity management transaction, in a timely manner. This is to be in line with The Central Bank Transparency Code,[4] Pillar IV, Transparency in Outcome: "The outstanding volumes per instrument are published frequently and in a timely manner on the central bank's website." In order to increase transparency and also efficiency of the liquidity management operations, SARB could consider more frequent use of tenders instead of bilateral OTC transactions. | SARB | ST |

* I: Immediately; ST: short term = less than 1 year; MT: medium term = 1-5 years

[1] The SARB is already working on a system like this.

[2] In May 2021 the NT launched a new money market module to its electronic cash management system which can considerably cut the manual work involved.

[3] SARB currently pays the 3-month T-bill rate on CPD's call account, which is an off-market rate.

[4] In July 2020, the Executive Board of the IMF approved the new IMF Central Bank Transparency Code (CBT). The development of the CBT followed on the Board's direction in April 2019 to update the 1999 Monetary and Financial Policies Transparency Code.

# MANAGEMENT OF LIQUIDITY IN TIMES OF STRESS

**44. Liquidity stress events can be distinguished by type of event—idiosyncratic or systemic—and whether stress is in domestic or foreign currency (Table 4.).** Idiosyncratic events are dealt with through traditional lender of last resort actions—or Emergency Liquidity Assistance (ELA)—whereas general disruptions to the pricing and distribution of liquidity across the financial sector including in securities markets, require a different approach and set of responses.

**Table 4. South Africa: Liquidity Events and Instruments**

| | Idiosyncratic—ELA | Systemic |
|---|---|---|
| **South African rand** | SARB/PA: lending to systematically important domestic banks—ELA policy | ***Institutions*** SARB: Expanding monetary tools compared to normal times, accepting wider range of collateral |
| | | ***Markets*** SARB: Expanding direct intervention in securities markets |
| **Foreign Currency** | SARB/PA: SARB Act allows but the ELA policy is not explicit concerning lending in foreign currency | SARB: Foreign exchange swaps (against U.S. dollar) |

Source: IMF Staff.

## A. Managing Idiosyncratic Liquidity Event—ELA

**45. There are no detailed provisions in the SARB Act that set out the objectives, powers and preconditions in relation to ELA.** The only statutory power is in section 10(1)(f), which states that the SARB may "*grant loans and advances, provided that unsecured loans and advances may be granted only in the following cases …*". The relevant case allowing for unsecured loans is where the loan is to the government or to a company established and owned by the SARB in connection with issuance of banknotes and coins, or with the approval of the SARB Board to any company in which the SARB owns shares. Moreover, section 10(1)(s) empowers the SARB to "*perform such other functions of bankers and financial agents as central banks customarily may perform*". SARB's authorization to provide ELA to banks (as lender of last resort), by means of collateralized loans, and subject to the caveats imposed in section 13 ("Prohibited business"), is derived from these provisions. However, the authority is expressed in the legislation such that the SARB could lend to any entity (and not just to banks or other supervised financial institutions), without any solvency requirements.

**46. The lack of ELA provisions and broad empowerment for SARB lending in the legislation entails risks, as it leaves too much discretion at technical levels.** There is greater room for political pressure on the SARB to support entities that do not necessarily fully meet all the preconditions for ELA (e.g., not systemically important, or already insolvent and not viable), and

(legal) safeguards to protect the SARB's balance sheet are weaker than what is envisaged in international best practices.

**47. SARB has actual experience in ELA-type lending, albeit not from the recent past.** Based on SARB reporting, there was no new ELA provisioning in the last five years. The most recent example was the case of African Bank in 2014, which was a funding in resolution exercise. While it was not a classic ELA provision, as SARB also acquired a 50 percent stake as part of the resolution in African Bank Holdings Limited (ABHL), it provided valuable experiences in testing decision making and operational procedures, which worked sufficiently well but brought to the fore the need to strengthen the framework.

**48. Recently SARB has achieved notable progress in strengthening its ELA framework.** In August 2020, the Financial Stability Committee of the SARB accepted a new Framework for the Provision of Emergency Liquidity Assistance to Banks. The guideline covers important aspects for the provision of emergency liquidity support to banks but, importantly, focuses on lending in (or close to) resolution, whereby SARB funding is provided in support of a resolution strategy. At a definition level, the Framework mentions other operations such as providing system-wide liquidity support and liquidity for individual financial institutions with temporary liquidity needs that are not approaching resolution. However, it does not provide specific provisions for these type of stress events and should hence be further broadened. It is worth noting that SARB's terminology concerning ELA and LOLR is different from the usual convention, see further in Box 3.

### Box 3. Terminology—ELA versus LOLR

Central banks (CB) and academic literature use different terms when describing CB lending beyond their standard monetary policy framework. The terms Lender of Last Resort (LOLR) and Emergency Liquidity Assistance (ELA) are commonly used. These terms are sometimes used interchangeably. For our purposes in this technical note, a lender of last resort is whoever an entity turns to when they urgently need funds and they've exhausted all other options. In the case of banks and other systematically important financial institution, this role is traditionally played by their central banks because central banks are primarily the ones responsible for ensuring that financial markets function smoothly, and the financial system is stable. To this end, ELA is a type of LOLR facility, provided by the central banks. It also means the two terms can be used synonymously.

Occasionally, there appears to be particular confusion around the use of the terms LOLR and ELA. Some CBs use the term LOLR to describe discretionary lending to address an idiosyncratic problem (temporary strains mainly in individual banks or a group of similar banks). While some also use the term Emergency Liquidity Assistance to describe this, for others the term ELA relates solely to the provision of liquidity in response to a systemic need. A CB's regular standing credit facility—part of its regular monetary operations framework—is not included here as a LOLR instrument: the standing facility is typically for overnight use only and is non-discretionary (see also IMF WP/16/10 The Lender of Last Resort Function after the Global Financial Crisis).

It is worth noting that in its internal ELA framework document SARB's uses a definition different from all of the above. In SARB's framework, ELA means liquidity assistance provided to a bank that has either been placed in resolution, or that is approaching resolution. LOLR means the provision of additional liquidity by the SARB to protect the smooth functioning of the national payment system. LOLR operations could include either the creation of additional system-wide liquidity through special operations, or the provision of additional liquidity to a specific institution that is not in resolution or approaching resolution. In other words, in case of system-wide stress event and when an individual bank is in an idiosyncratic situation. While, if used consequently, this terminology can also be used, it can still be a source of confusion in external communication which should be avoided.

**49. The decision-making mechanism, while allowing for a timely response to ELA requests, would benefit from a stronger role for SARB's core functions.** Under SARB's new framework, all requests for ELA are to be submitted to the PA's frontline supervisory team of the particular bank in a predetermined format. The Asset Liability Management Division (ALM) of Prudential Authority (PA) and Resolution Planning Division (RPD) of SARB are notified immediately. The Resolution Planning Working Group (RPWG) meets to assess eligibility. Subsequently, the Resolution Policy Panel (RPP) prepares the recommendation to the Financial Stability Committee which makes the decision regarding the provision of an ELA. While the mechanism ensures that all interested parties are immediately notified, the Financial Stability Department would be better positioned to be the first contact and to coordinate the decision-making process—with escalation to the PA for the necessary solvency and viability assessment—and the Financial Markets Departments handling operational execution.

**50. According to the framework, the NT is informed about an ELA application to keep it informed should the bank be facing resolution, or a guarantee be required.** The resolution decision is made by the Minister of Finance, so the notification is essential for timely decision making. The Framework specifies a specific point at which the NT should be contacted in case a guarantee is needed due to insufficient level of available collateral by the bank. However, the provision of such guarantees—in cases whereby the provision of liquidity support is necessary to maintain financial stability but concerns exist about the counterparty's solvency of viability, the adequacy of the collateral or the exit strategy—has not been operationalized through tangible protocols between the SARB and NT.

**51. SARB has a monitoring framework in place to detect emerging liquidity problems among financial institutions that qualify for ELA.** The PA monitors liquidity ratios and other risk ratios, the Financial Markets Department of the SARB monitors daily usage of its standing facilities and the National Payment System Department (NPSD) in the SARB monitors settlement activity. The indicators considered by the SARB include:

- A system-wide shortage of rand liquidity;
- Rand liquidity shortages at one bank;
- Dysfunctional circulation of rand liquidity in the banking system;
- Foreign exchange liquidity shortages of authorized dealers; and
- Liquidity shortage in the Continuous Linked Settlement System.

**52. The inter-agency arrangements are satisfactory with regard to roles and responsibilities for the actual implementation of liquidity support in case of a stress event.** The SARB, PA and NT exchange information on relevant financial sector and market developments regularly. Representatives of PA are also members of the Financial Stability Committee and representatives of SARB are members of the Prudential Committee. The Financial Stability Oversight Committee (FSOC) includes representatives from the SARB, National Treasury and all financial regulators. The Financial Sector Contingency Forum (FSCF), with the broad participation of all stakeholder groups assists the FSOC with identifying risks that could lead to a systemic event. The SARB and the JSE have entered into a Memorandum of Understanding (MoU) that sets out their respective responsibilities and the processes that should be followed in a case where a JSE member

defaults. While currently there is no formal MoU between SARB, PA and NT concerning cooperation in case of an ELA requests, the recently accepted internal guidelines clearly delineate roles and responsibilities.

**53. The ELA framework is primarily designed for systemically important domestic banks as eligible entities.** The framework is not explicit about other eligible entities for ELA. SARB has the intention to extend the ELA guidelines to non-bank financial institutions (NBFIs) such as systematically important financial market infrastructures (FMIs).[21] There is no explicit policy on it, but it is understood SARB would provide ELA to branches of foreign banks only in very specific cases and on exceptional basis. ELA in foreign currency is allowed by the SARB Act, however, the guidelines are silent about it.

**54. The industry's ability to mobilize non-standard collateral has been aided by the Committed Liquidity Facility (CLF).** The CLF has a number of operational similarities to ELA, but its purpose is different, it is to provide temporary support to banks to be able the meet the Liquidity Coverage Ratio (LCR) requirements. Under the CLF, several additional collateral pools were developed and tested in practice, mainly marketable debt securities with minimum investment grade, collateralized and self-collateralized residential home loans, commercial loans and vehicle finance. The new ELA Framework adds the use of performing loans less portfolio credit impairments, such as home loans, credit cards, wholesale and retail term loans. The guidelines also contain provisions about the applicable haircuts. To ensure the effectiveness of the ELA framework, it would be important that these 'prepositioning' capabilities are effectively retained, to ensure that banks will still be able to mobilize non-standard collateral on a timely basis.

**55. The indicative terms of the ELA framework leave wide room for discretion for SARB in determining the interest rate and the tenor of the loan provided.** With respect to interest rates, the guidelines only specify that ELA should not be in subsidized form—implying that any rate at or above the repo rate is acceptable. The guidelines also do not determine any initial tenor for the loan and rules about how and under what preconditions the loan can be extended. As a result, in the current form the indicative guidelines do not ensure that (i) the banks request ELA only when all other funding sources have been fully exhausted; and (ii) stay in the program only temporarily.

**56. The guidelines follow international best practice on disclosure of actual ELA operations.** SARB is ready to provide the necessary level of information, keeping the confidentiality a priority, with a reasonable time lag, without jeopardizing the success of the operation. The guidelines specify in sufficient detail the general preconditions for the disclosure, as well as the types of situations that would justify delayed disclosures (e.g., when market participants are not aware of temporary liquidity shortfalls and premature dissemination thereof could generate adverse market responses). With regards to communication of the ELA framework itself, the SARB is currently preparing a public document which will outline the main guidelines, without going into confidential and technical details.

[21] In case they become designated institutions in terms of the Financial Sector Laws Amendment Bill (FSLAB), expected to be passed in 2021. The FSLAB contains proposed amendments to the Financial Sector Regulation Act 9 of 2017, including a chapter providing for the orderly resolution of designated institutions.

**57. SARB and PA have not undertaken simulation exercises or other testing procedures to evaluate the adequacy of ELA policies and procedures.** In a stress situation time for quick decision making and implementation is essential. Prior testing of certain elements or the whole process can greatly enhance efficiency in a real-life situation. While SARB has some experience in emergency liquidity assistance situation (African Bank), it was already quite some time ago.

## B. Managing System-Wide Liquidity Stress

### Systemic Liquidity Providing in Domestic Currency

**58. SARB has broad capacity and ability to efficiently expand its regular liquidity providing tools in the event of systemic liquidity stress.** At the outbreak of the COVID-19 pandemic the SARB was quick to announce a comprehensive set of measures to ensure smooth flow of liquidity. These included:

- Introduction of Overnight Supplementary Repurchase Operations. These were offered at the SARB's repo rate, the amount determined in line with the prevailing money market liquidity conditions.
- Expanding the weekly Main Refinancing Operation (MRO). SARB explicitly expressed readiness to increase the regular size of the MRO (56 billion rand) in case it is needed.
- Decrease of the O/N Standing Facility (SF) rates by 100 bp. As a result, the SF lending facility became equal with the repo rate. Lower O/N deposit rates decreased incentives for hoarding liquidity while the purpose of lowering the O/N lending rate was to facilitate the flow of money market liquidity without borrowers being penalized.
- Introduction of a weekly longer-term refinancing operation (LTRO) with 3-month maturity at repo plus 30bp. At the same time the SARB expressed readiness to extend the maturity up to 12 months in case it was necessary.
- Announcement of a secondary market government securities purchasing program, across the yield curve, with no pre-set target amount.

SARB was careful to emphasize that these changes should not be interpreted as providing any signals concerning the future monetary policy stance. The measures were overall successful, with strong announcement effect, due to SARB's high credibility in the markets. The longer-term government bond yields, already at double digits, fell about 150–200 bp right after the publication of the media statement.

**59. SARB is also prepared to flexibly extend its list of eligible collaterals for its liquidity providing operations.** This did not become necessary during the COVID-19 crisis, but as highlighted above, both the SARB and market participants are well pre-positioned to mobilize not only more marketable but non-marketable assets as well.

**60. While the intervention in the government bond market achieved its objectives, SARB faced challenges finding the optimal level of transparency around it.** SARB carried out the bond purchases via bilateral over-the-counter (OTC) market transactions as opposed to tenders—giving

the market little information on when and how much SARB was buying—and provided little and late information about its actual purchases.[22] These from time to time gave ground to unfounded speculations in the market.[23] More than one year after the start of purchases, SARB still has not announced the end of its interventions, contributing to market uncertainty about the central bank's intentions.

**61. SARB's market monitoring and analyzing functions are highly developed but could be further improved by the collection of more granular market data.** The Financial Market Department (FMD) continuously monitor all relevant markets and provides well-structured and focused information to its management. SARB has built excellent informal and formal relations with market participants, ranging from daily calls to monthly meetings with the bank treasurers or the Financial Market Liaison Group (FMLG). Timeliness and depth of analyses could be increased by the collection of more granular transactional information from the market.[24] Currently SARB collects a limited amount of transactional data on the FX and OTC derivatives markets. Availability of this information could help identify market trends, anomalies and the build-up of speculative positions even earlier and would allow deeper analysis of market micro-structure.

### Systemic Liquidity Providing in Foreign Currency

**62. As it was highlighted above, the foreign currency loan portfolio of domestic banks is small relative to their balance sheet which implies limited systemic liquidity risk.** It was evidenced during the Great Financial Crisis[25] (GFC) and at the outbreak of the COVID-19 pandemic as well, when FX swap markets continued to function without any need of central bank intervention. Nevertheless, the fact that all the big banks are based in South Africa (there is no foreign mother company to provide emergency lines) increases SARB's responsibility in case of liquidity stress in the international and local FX swap markets.

**63. SARB has sufficient level of foreign reserves and institutional capacity to inject temporary USD liquidity to the system in the unlikely case it would be needed.** SARB currently does not have and never had an FX swap line with the Fed,[26] but has access to the Fed's Foreign and International Monetary Authorities (FIMA) Repo Facility. In 2015 SARB set up a bilateral swap facility with the People's Bank of China (PBoC) for the exchange of US$4.75 billion in local currency terms. However, the stated purpose of the agreement is not general liquidity provision but to support

[22] As a primary source, tarket participants were estimating SARB's monthly government bond purchases from the monthly balance sheets, published on SARB's website.

[23] SARB had to make great communication efforts to prove the bond purchases is to restore normal market conditions and neither quantitative easing nor implicit government financing.

[24] Mainly in relation to the renewal of benchmark interest rates structure, SARB has plans to collect more transaction based daily data in the money market and the FX market.

[25] FX market turnover grew by 1.8 percent 2008. The share of FX swaps declined to 68 percent from 70 percent and the share of forward exchange turnover remained unchanged at 7.0 percent. (BIS papers 54)

[26] On March 19, 2020 the Fed extended the list of temporary U.S. dollar swap lines with nine more central banks, including a handful of emerging market economies, South Africa was not among them.

trade and investment between South Africa and China, and also to act as a mitigating resource for short-term balance of payment pressures. The facility has not been actively used yet.

**64. SARB's policy of intervening in the foreign exchange market only as a last resort has served it well so far, as it could be observed during the GFC and COVID-19 crises, too.** SARB has no formal published FX intervention strategy but in practice it follows a no-intervention policy while not excluding stepping in the market to smooth extreme market volatility and filling up foreign reserves. Foreign reserves are USD 52 billion, which is above 6-month import cover[27] and the Guidotti-rule but below IMF's ARA metric. It needs to be seen that successful management of recent shocks was also due to remaining capital restrictions and the closed rand system. As South Africa intends to move gradually toward more capital account liberalization, the intervention policy and adequate size of reserves need to be reviewed at least annually.

## C. Detailed Recommendations

**Table 5. South Africa: Recommendations—Management of Liquidity in Times of Stress**

| Recommendation | To be adopted by | I/ST/MT* |
|---|---|---|
| **ELA/LOLR** | | |
| Formalize the legal framework for ELA, including its specific objectives and preconditions, through an amendment of the SARB Act.<br><br>At a minimum, this section should contain:<br><br>**Preconditions,** such as requiring the financial institution to have exhausted all private sector sources of liquidity; and meets minimum capital adequacy requirements or is expected to meet such requirements within a short timeframe as a result of recovery or resolution initiatives; and has sufficient collateral to cover the SARB's credit and market risk exposures associated with lending; and has the capacity to repay any amounts lent to it by the SARB.<br><br>**Collateral.** The law should empower the SARB to lend without collateral if the other preconditions are met and the SARB is indemnified by the government.<br><br>**Eligible entities for ELA.** It is suggested that section 10 of SARB Act be amended to confine the ability to lend to only those entities that are: (i) entities licensed and supervised by the PA; (ii) entities designated by the SARB under the proposed designation power in the Resolution Bill; and (iii) entities otherwise deemed by the SARB to be systemically important (e.g., systematically important financial market infrastructure); | SARB | MT |

[27] Six-month import cover is the convergence criterion of the Southern African Development Community (SACD).

| Table 5. South Africa: Recommendations—Management of Liquidity in Times of Stress (continued) | | |
|---|---|---|
| **Recommendation** | **To be adopted by** | **I/ST/MT*** |
| Develop further the ELA Framework covering, among others, the following aspects:<br>• conditions governing the provision of exceptional liquidity support in case of idiosyncratic events, when the potential ELA recipient is not, and not expected to be, in resolution—keeping in mind that ELA may need to be provided before the bank's recovery measures have been wholly exhausted (e.g., to avoid fire sales or excessive asset encumbrance that could do lasting damage or unduly delay access to SARB's liquidity support;<br>• safeguards when providing ELA to foreign-owned entities, including branches of a foreign bank (e.g., enhanced oversight, strict limits on intragroup transactions);<br>• when the request for ELA would include liquidity provision in foreign currency; | SARB, PA | ST |
| Instead of the front-desk supervisory team, the Financial Stability Department (FSD) would be the appropriate organizational unit in SARB to coordinate the ELA decision-making process. Requests for ELA should be addressed normally to a central bank's governor or deputy governor by the bank's chief executive officer (CEO), via the FSD, and not via the prudential supervisors. | SARB | I |
| Consider updating the existing MOUs and other formal arrangements between the SARB and PA, and SARB and National Treasury to include references to procedures in ELA situations. Beyond the necessary exchange of information requirement, the amended MoU with PA should cover primarily the cooperation in the assessment of solvency and viability, while with NT the procedure and decision-making mechanism concerning government guarantee in case of insufficient collateral, or other concerns associated with the recipient (e.g., solvency, exit strategy). In general, SARB's indemnification against potential losses arising from ELA should be a more integral part of the Framework. | SARB, PA, NT | MT |
| The PA should set out the internal guidance needed to undertake solvency, liquidity and viability assessments to the satisfaction of the SARB, for ELA purposes. It can focus, among others, on the detailed list of information required for the assessment, distribution of work among different units, internal deadlines, assessment methodologies, decision making trees etc. | PA | ST |

| Table 5. South Africa: Recommendations—Management of Liquidity in Times of Stress (continued) | | |
|---|---|---|
| **Recommendation** | **To be adopted by** | **I/ST/MT*** |
| There is need to firm up the indicative terms of ELA concerning applicable interest rate, initial maturity and conditions for the loan extension. In line with general ELA principals, the guidelines should state that the cost of loan should be high enough to encourage banks to seek other funding, but not so high as to exacerbate liquidity strains and make repayment less likely. To ensure that ELA is temporary and provided only as long as it is absolutely needed, the guidelines could usefully suggest an initial maturity (e.g., four weeks) and the preconditions for the extensions of the loan. Remuneration schedules that initially apply higher rates while allowing for gradual reductions as long as banks comply with repayment plans can strike the right balance between discouraging reliance on ELA and avoiding excessive (longer-term) costs that can undermine the recovery of ELA recipients. | SARB | ST |
| Continue the work on widening further the available pools of collateral. In line with the accepted framework, it is important that SARB have banks to preposition themselves to enable loan portfolios to be accessed as collateral—e.g., via repo arrangements. Prepositioning allows the SARB time to examine documentation and conduct any necessary valuations before the collateral is used. | SARB | MT |
| Additional risk control measures (e.g., overcollateralization, concentration limits, exclusion of loans to related parties, etc.) and broader conditionality that seeks to ensure enhanced oversight of ELA recipients while reducing moral hazard. Measures could include enhanced reporting obligations, audits and asset quality reviews (with an obligation to share their results with the central bank), prohibition of the distribution of dividends and bonuses as long as ELA is received, restrictions on new investments and other de-risking requirements, etc. | SARB, PA | ST |

**Table 5. South Africa: Recommendations—Management of Liquidity in Times of Stress (concluded)**

| Recommendation | To be adopted by | I/ST/MT* |
|---|---|---|
| It is recommended that the SARB and PA to jointly undertake regular testing of ELA arrangements. Testing can cover specific or all parts of the procedure and may involve a broader circle of stakeholders:<br>• Simulating procedures related to the assessment of the ELA request: such interaction of business areas should include a solvency and viability assessment, the determination of ELA parameters (amount, duration, applicable interest rate, other conditions) and related decision making.<br>• Simulating procedures related to the mobilization of non-standard ELA collateral: such simulation should include mobilization and legal transfer of non-standard ELA collateral (such assets as individual credit claims and loan portfolios, or equities), collateral eligibility assessment by SARB, and the pricing and haircut determination of such collateral.<br>• Involvement of domestic systemically important banks to simulate procedural aspects of an ELA assessment and its provision. The involvement of counterparties should increase ex ante transparency on SARB's ELA framework. The information available to counterparties on ELA procedures could be broadened to improve operational preparedness for ELA, also on the side of counterparties, e.g., in the area of horizon scanning. | SARB, PA, NT | ST |
| SARB may decide to disclose the general rules, parameters, and conditions for each form of liquidity support in order to increase the general public's awareness. In the lack of ELA provisions in the SARB Act, as a minimum the published guidelines should contain what a standard ELA section in central bank acts typically cover: purpose, eligible entities, preconditions and the principal of lending against collateral or government guarantee. It is, however, not recommended (and may raise practical concerns) to disclose haircuts likely to be applied to the various collateral categories, considering that the determination thereof will need to reflect SARB's assessment of the relative risks of the specific ELA operation. Further details about the optimal level of transparency can be found in IMF's Central Bank Transparency Code, (July 2020). | SARB | ST |
| For a clearer communication and to avoid potential confusion, it is recommended that SARB uses the standard LOLR—ELA definitions, as described above in Box 3. | SARB | I |
| Market monitoring can be improved by collecting more granular daily data about the ongoing foreign exchange and money market transactions, by different products (including derivatives), maturities and type of counterparties. Special care need to be given to automate data provision and data management, in order to minimize manual work and burden on reporting banks. For increased transparency, collected data need to be distributed in an aggregated format regularly with the market participants. | SARB | MT |

*I: Immediately; ST: short term = less than 1 year; MT: medium term = 1–5 years.

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