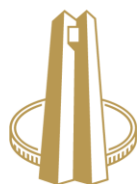


Principles for Financial Market Infrastructures (PFMI)

Public Disclosure for South Africa

**South African Multiple Option Settlement (SAMOS) Real-Time
Gross Settlement (RTGS) System Self-Assessment 2020**

Responding institution	South African Reserve Bank
Jurisdiction(s) in which the financial market infrastructure (FMI) operates	South Africa
Authority(-ies) regulating, supervising or overseeing the FMI	South African Reserve Bank
Version	3.0
Date of this disclosure	31 March 2021
Where to find this disclosure	http://www.resbank.co.za
Where to find further information	Email address: SAMOSOperations@resbank.co.za Telephone no.: +27 86 072 6672



SOUTH AFRICAN RESERVE BANK



A purposeful journey

Document control

Version	Date released	Remarks
1.0	7 May 2014	First self-assessment done for FMI against CPSS PMFIs
2.0	31 May 2018	Second self-assessment done for FMI against CPMI PMFIs
3.0	31 March 2021	Third self-assessment done for FMI against CPMI PMFIs



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Abbreviations

BCP	Business Continuity Plan
Banks Act	Banks Act 94 of 1990
BankservAfrica	BankservAfrica (Pty) Limited
BIS	Bank for International Settlements
Board	Board of Directors
BREC	Board Risk and Ethics Committee
BSTD	Business Solutions and Technology Department
CBMS	Central Bank Management System
CCP	Central Counterparty
CLS	continuous linked settlement
CPL	Continuous processing line
CPMI	Committee on Payments and Market Infrastructures
CRA	Credit Reserve Account
CSC	Customer Support Centre
CSD	Central Securities Depository
CSDP	central securities depository participant
CPSS	Committee on Payment and Settlement Systems
DR	Disaster Recovery
FMI	Financial Market Infrastructure
FMD	Financial Markets Department
FSCF	Financial Sector Contingency Forum
FSOC	Financial Stability Oversight Council
GEC	Governors' Executive Committee
IAD	Internal Audit Department
ICT	Information and Communications Technology
IOSCO	International Organization of Securities Commissions
IMMS	Immediate Settlement
LAR	Liquidity Asset Requirement
LSD	Legal Services Department
MoU	Memorandum of Understanding
Mutual Banks Act	Mutual Banks Act 124 of 1993
NKP	National Key Point
NPS	National Payment System
NPS Act	National Payment System Act 78 of 1998



NPSD	National Payment System Department
PA	Prudential Authority
PASA	Payments Association of South Africa
PCH	Payment Clearing House
PCH PG	Payment Clearing House Participant Group
PFMI	Principles for Financial Market Infrastructures
PSMB	Payment System Management Body
PSO	Payment System Operator
PvP	Payment versus Payment
Remco	Remuneration Committee
RMC	Risk Management Committee
RMCD	Risk Management and Compliance Department
RTGS	Real-Time Gross Settlement
RTL	Real-Time Line
SADC	Southern African Development Community
SLA	Service Level Agreement
SAMOS	South African Multiple Option Settlement (system)
SAMEX	SAMOS External Front-end System (before October 2013)
SAMEXWeb	SAMOS External Front-end System (since October 2013)
SAMMAN	SAMOS Management Application (internal reporting)
SARB	South African Reserve Bank
SARB Act	South African Reserve Bank Act 90 of 1989, as amended
SADC-RTGS	Southern African Development Community Real-Time Gross Settlement (system)
SSPG	Settlement System Participant Group
SUG	SAMOS User Group
TR	Trade Repository
ZAR	South African rand

Glossary

Term	Definition
beneficiary participant	A SAMOS participant that receives a settlement notification from the SARB and thereby incurs an obligation to credit the account of the beneficiary identified in the payment instruction to which the settlement notification relates.
clearing and settlement system	The interbank clearing and settlement environment in the Republic of South Africa, but it does not mean specifically any settlement system such as SAMOS implemented by the SARB, although such settlement system may, depending on the context in which it is used, be included in the term.
collateral	A participant's liquid assets recognised by the SARB as eligible assets for the purpose of the provision of loans.
financial market infrastructure	A multilateral system among participating institutions, including the operator of the system, which is used for the clearing, settling or recording of payments, securities, derivatives or other financial transactions.
Financial Sector Contingency Forum	A national coordination body that exists to identify potential threats of a systemic nature that may adversely impact the stability of the South African financial sector, tasked with developing and coordinating appropriate plans, mechanisms and structures to mitigate these threats and to manage systemic crises.
haircut	The valuation percentage applicable to each type of collateral, largely based on liquidity and price volatility of the underlying security.
immediate settlement agreement	The arrangement governing the clearing of cash for immediate settlement between the parties, which is constituted by this bilateral contractual relationship (not being a partnership) between the parties, and includes all such arrangements between each party and each other participant governing the clearing of credit payment instructions for immediate settlement in accordance with the terms thereof.
market infrastructure resilience service	A SAMOS system third-level contingency system.



Term	Definition
participant	Any bank that is a member of the SAMOS system. It can also be used in reference to any bank participating in a PCH and which undertakes the clearing and delivery of cash.
payment clearing house (PCH)	Payment clearing house arrangement constituted in terms of an agreement.
PCH agreement	A payment clearing house agreement governing the clearing of payment instructions between participants in a PCH.
PCH system operator	A person approved and authorised by PASA to provide clearing services to system participants.
PASA	The Payments Association of South Africa, recognised by the SARB as a payment system management body.
PASA Executive	The Chief Executive Officer (CEO) appointed by PASA's Council and any person appointed by the CEO to the PASA Executive.
payment obligation	Indebtedness that is owed by one party to another as a result of clearing of one or more payment instructions.
payer participant	A paying participant having a settlement obligation whose settlement account will be debited by the SARB in fulfilment of one or more settlement instructions received.
SAMOS	A South African real-time gross settlement system operated by the SARB.
SARB	The South African Reserve Bank as defined in sections 1 and 2 of the South African Reserve Bank Act 90 of 1989.
settlement	The final and irrevocable discharge of a settlement obligation, owed by one party to another pursuant to a settlement instruction, which has been effected in money or by means of entries passed in the settlement accounts of the relevant parties through the settlement system.
settlement account	An account maintained by a party with the SARB for settlement purposes.
settlement agreement	A multilateral contractual relationship entered into between the parties upon the terms and conditions.

Term	Definition
settlement bank	A SAMOS system participant.
settlement instruction	An instruction given to the SARB by a participant or by a PCH system operator on its behalf and under its authority, to effect settlement of one or more payment obligations or to discharge any other obligation of one participant to another participant.
settlement rules	The rules and procedures (if any) contained in this document as approved by PASA and/or prescribed by the SARB.
Strate	Strate Limited is licensed as South Africa's central securities depository (CSD). It provides post-trade products and services to the financial markets.
NPS starter pack	A starter pack document for participation within the NPS, published on 6 November 2008 and accessible on the SARB website.
system operator	According to the National Payment System Act 78 of 1998 (NPS Act), as system operator is "any person who provides payment services to two or more persons in respect of payment instructions". Payment instructions are typically from large retailers and banks.
transaction	The exchange of value, that is, the delivery and clearing of cash in exchange for payment (the generation of a settlement instruction by the recipient of the cash).

Preface

The South African Reserve Bank (SARB), in its role as the operator of the South African Multiple Option Settlement (SAMOS) system, the real-time gross settlement system that facilitates the settlement of domestic transactions in South Africa, publishes this Public Disclosure for Financial Market Infrastructures (FMIs) based on the disclosure framework and the self-assessment that was conducted in 2020.

The self-assessment was conducted against the Principles for Financial Market Infrastructures (PFMI) issued in April 2012 by the Bank for International Settlements' (BIS) Committee on Payments and Market Infrastructures (CPMI) – previously know as the Committee on Payment and Settlement Systems (CPSS) – and the Technical Committee of the International Organization of Securities Commissions (IOSCO) in a publication titled *Principles for financial market infrastructures* published in April 2012.

The self-assessment, and therefore this disclosure, outlines the observance of the PFMI based on the status of operations of the SAMOS system as of 31 December 2020.

This report has been compiled in line with the disclosure framework outlined in Principle 23 of the PFMI. As the process relating to compliance with the PFMI and adherence to the disclosure framework matures, the SARB expects to achieve transparency in discharging its obligations for the benefit of all stakeholders.

The next self-assessment will be undertaken in 2022 where a revised report will be published to disclose the updated status of compliance with the PFMI.

National Payment System Department

South African Reserve Bank

March 2021

1. Executive summary

1.1. Background

The purpose of this document (Public Disclosure for Financial Market Infrastructures) is to provide relevant disclosure to the market of the financial market infrastructure (FMI) services, measures and arrangements by the South African Multiple Options Settlement (SAMOS) real-time gross settlement (RTGS) system operator. The SAMOS operator manages the risks that the SAMOS system and its participants are exposed to, through the operations of the domestic settlement system.

The Committee on Payments and Market Infrastructures (CPMI)¹ of the Bank for International Settlements (BIS) as well as the Technical Committee of the International Organization of Securities Commissions (IOSCO) published the *Principles for financial market infrastructures* (collectively referred to as the 'PFMI' and each principle referred to as a 'Principle').

As defined by the BIS and the IOSCO, a 'financial market infrastructure' (FMI) is 'a multilateral system among participating institutions, including the operator of the system, that is used for the purposes of clearing, settling or recording payments, securities, derivatives or other financial transactions'.

The PFMI are designed to ensure that the infrastructures supporting domestic and global financial markets are robust and able to withstand financial shocks. The PFMI apply to all systemically important payment systems. Since 10 September 2013, the South African Reserve Bank (SARB) has endorsed the PFMI as the risk management standard for systemically important FMIs in South Africa.²

The FMI derives its mandate to provide the services in terms of section 10(1)(c) of the South African Reserve Bank Act 90 of 1989, as amended (SARB Act) and the National Payment System Act 78 of 1998 (NPS Act).

The SAMOS system was developed in-house and implemented on 9 March 1998. Participants in the SAMOS system include registered banks, payment clearing house (PCH) system operators (SOs) and designated settlement systems.

¹ This was previously known as the Committee on Payment and Settlement Systems (CPSS).

² See position paper NPS 01/2013 titled 'Position paper confirming the South African Reserve Bank's support for the Principles for Financial Market Infrastructures published by the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions', 10 September 2013, available on the SARB website at www.resbank.co.za under www.resbank.co.za/en/home/publications/Papers/position-papers

The types of risks that arise or are borne by the FMI include operational risk, settlement risk, legal risk, liquidity risk and reputational risk. Risk management is conducted in line with the SARB Risk Management Policy.

The last PFMI public disclosure prepared by the SARB as the SAMOS operator was published in 2018. The self-assessment includes a description of the SAMOS operations and describes how the SAMOS operator as an FMI complies with each Principle applicable to it. Consideration is also given to the independent assessments conducted by the regulators and oversight where recommendations to improve compliance to the PFMI are suggested.

1.2. Summary of major changes since the previous update of the disclosure

Since the last disclosure in 2018, no major changes have been effected in terms of the SAMOS system functionality, regulatory framework or rules of participation that impact the operation of the SAMOS system.

However, notable changes include improving key considerations in:

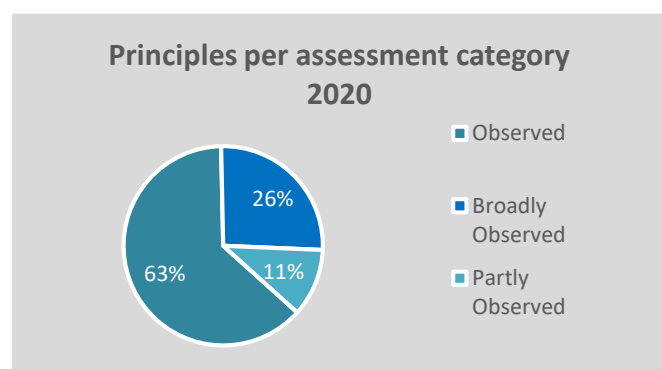
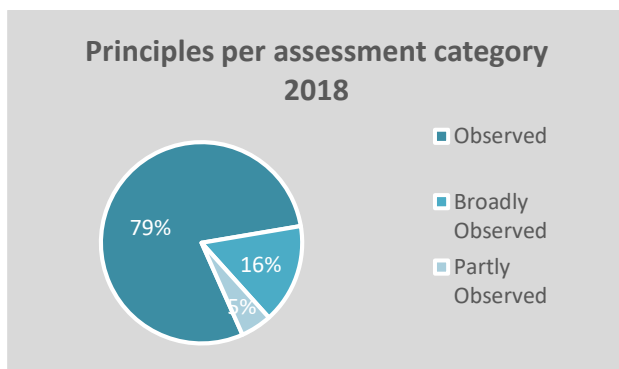
- Principle 17: Operational risk, by implementing a third level contingency system; and
- Principle 21: Efficiency and effectiveness, by the implementation of the SAMOS customer survey to assess the perceptions of the SAMOS operations by the participants in this regard.

The regression observed in Principle 7,17 and 21 is largely due to the delays experienced with the change in approach of the RTGS Renewal Programme. The impact of the coronavirus disease 2019 (COVID-19) pandemic has also resulted in significant delays on delivering strategic initiatives which would have improved compliance with the PFMI.

1.3. High-level summary of the self-assessment

1.3.1. Principles per assessment category

Assessment category	2018	2020
	(Independent assessment by the World Bank and NPSD oversight function)	(Self-assessment by the SAMOS operator)
	Principle	
Observed	1, 3, 4, 7, 8, 9, 12, 13, 15, 16, 17, 19, 20, 21, 22	1, 3, 4, 8, 9, 12, 15, 16, 19, 20, 22, 23
Broadly Observed	2, 5, 23	2, 5, 7, 17, 21
Partly observed	18	13, 18
Not observed		
Not applicable	Principles 6,10, 11,14, 24	Principles 6, 10, 11, 14, 24



1.3.2. Assessment category per principle

Principle	Description	Applicable	Observed	Broadly observed	Partly observed
Principle 1: Legal basis	An FMI should have a well-founded, clear, transparent and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.	Yes	√		
Principle 2: Governance	An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.	Yes		√	
Principle 3: Framework for the comprehensive management of risks	An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational and other risks.	Yes	√		

Principle	Description	Applicable	Observed	Broadly observed	Partly observed
Principle 4: Credit risk	An FMI should effectively measure, monitor and manage its credit exposure to participants and those arising from its payment, clearing and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a central counterparty (CCP) that is involved in activities with a more complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.	Yes	√		
Principle 5: Collateral	An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.	Yes		√	
Principle 6: Margin	A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.	No			
Principle 7: Liquidity risk	An FMI should effectively measure, monitor and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.	Yes		√	
Principle 8: Settlement finality	An FMI should provide clear and certain final settlement, at a minimum, by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.	Yes	√		
Principle 9: Money settlements	An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.	Yes	√		
Principle 10: Physical deliveries	An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor and manage the risks.	No			
Principle 11: Central securities depositories	A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.	No			



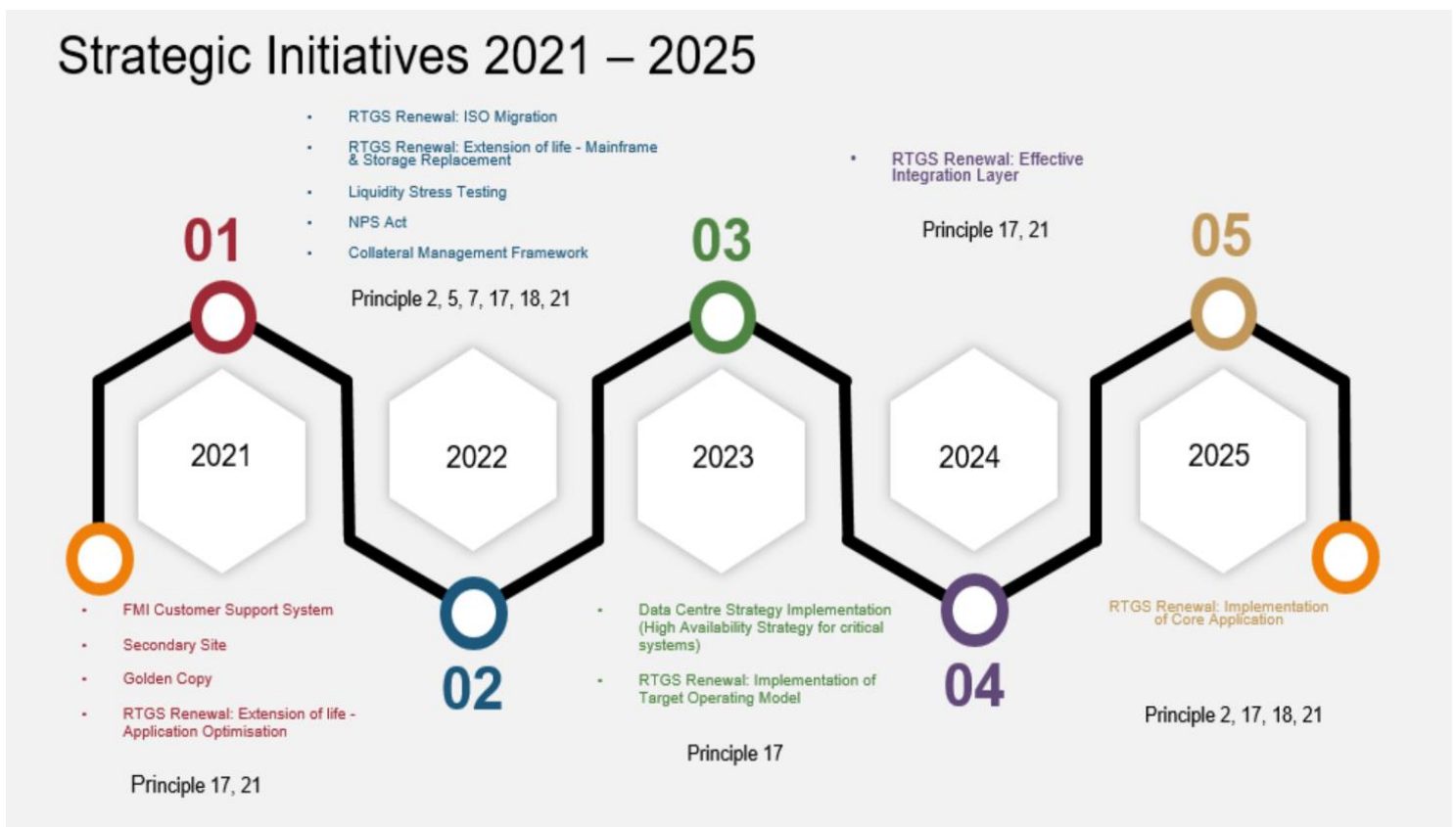
Principle	Description	Applicable	Observed	Broadly observed	Partly observed
Principle 12: Exchange of value settlement systems	If an FMI settles transactions that involve the settlement of two linked obligations (e.g. securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.	Yes	√		
Principle 13: Participant default rules and procedures	An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures, and continue to meet its obligations.	Yes			√
Principle 14: Segregation and portability	A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.	No			
Principle 15: General business risk	An FMI should identify, monitor and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind down of critical operations and services.	Yes	√		
Principle 16: Custody and investment risks	An FMI should safeguard its own and its participants' assets, and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market and liquidity risks.	Yes	√		
Principle 17: Operational risk	An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for the timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.	Yes		√	
Principle 18: Access and participation requirements	An FMI should have objective, risk-based and publicly disclosed criteria for participation, which permit fair and open access.	Yes			√
Principle 19: Tiered participation arrangements	An FMI should identify, monitor and manage the material risks to the FMI arising from tiered participation arrangements.	Yes	√		
Principle 20: FMI links	An FMI that establishes a link with one or more FMIs should identify, monitor and manage link-related risks.	Yes	√		
Principle 21: Efficiency and effectiveness	An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.	Yes		√	
Principle 22: Communication procedures and standards	An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement and recording.	Yes	√		
Principle 23: Disclosure of rules, key procedures and	An FMI should have clear and comprehensive rules and procedures, and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees and other material	Yes	√		



Principle	Description	Applicable	Observed	Broadly observed	Partly observed
market data	costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.				
Principle 24: Disclosure of market data by trade repositories	A trade repository (TR) should provide timely and accurate data to relevant authorities and the public in line with their respective needs.	No			

1.4. Conclusion

The FMI continuously strives to achieve full compliance with the key considerations of the PFMI. In the horizon, the strategic initiatives indicated below aim to improve compliance with the key considerations for various principles:



Principle	Principle rating	Steps taken to address the partly/broadly observed principles
2	Broadly observed	While this principle is being addressed in the NPS Act Review that is being facilitated by the Policy and Regulations Division of the NPSD, the SAMOS operator will be initiating a project to migrate the relevant functions from PASA as part of the new Target Operating Model.
5	Broadly observed	This principle is being addressed by the SARB's Financial Markets Department (FMD) to deliver a Collateral Management Framework which will focus on collateral management holistically within the SARB. The framework will include a periodic review of documentation of various variables such as haircuts.
7	Broadly observed	The necessary processes are ongoing to address the stress liquidity testing.
13	Partly observed	Key consideration 3 is not observed in line with the mandate of the SARB and Financial Stability Oversight Council (FSOC). Key consideration 4 is broadly observed as part of the Financial Sector Contingency Forum (FSCF) exercise. The SAMOS operator partakes in the ad hoc simulation exercises arranged by the FSCF and the FSOC.
17	Broadly observed	The SAMOS operator has embarked on projects to implement an application that will store, recover and replay data to the SAMOS database in cases of database contamination; replace the mainframe to prolong the lifespan of the current RTGS system; implement an effective integration layer; procure architecture advisory services to assist with the Target Operating Model; and eventually replace the current RTGS system to ensure operational efficiency and to address any potential risks.
18	Partly observed	This principle is being addressed in the NPS Act Review and the PASA Review facilitated by the Policy and Regulations Division of the NPSD. The RTGS Renewal Programme aims to provide wider access for participation by getting the central infrastructure ready with improved interoperability that utilises multiple integration mechanisms for the different participants.
21	Broadly observed	The SAMOS International Organization for Standardization (ISO) migration supports the participants' requirement to migrate to ISO 20022. The RTGS Renewal Programme will further address any participants' requirements that cannot be implemented as part of the SAMOS version upgrade.



2. General background of the FMI

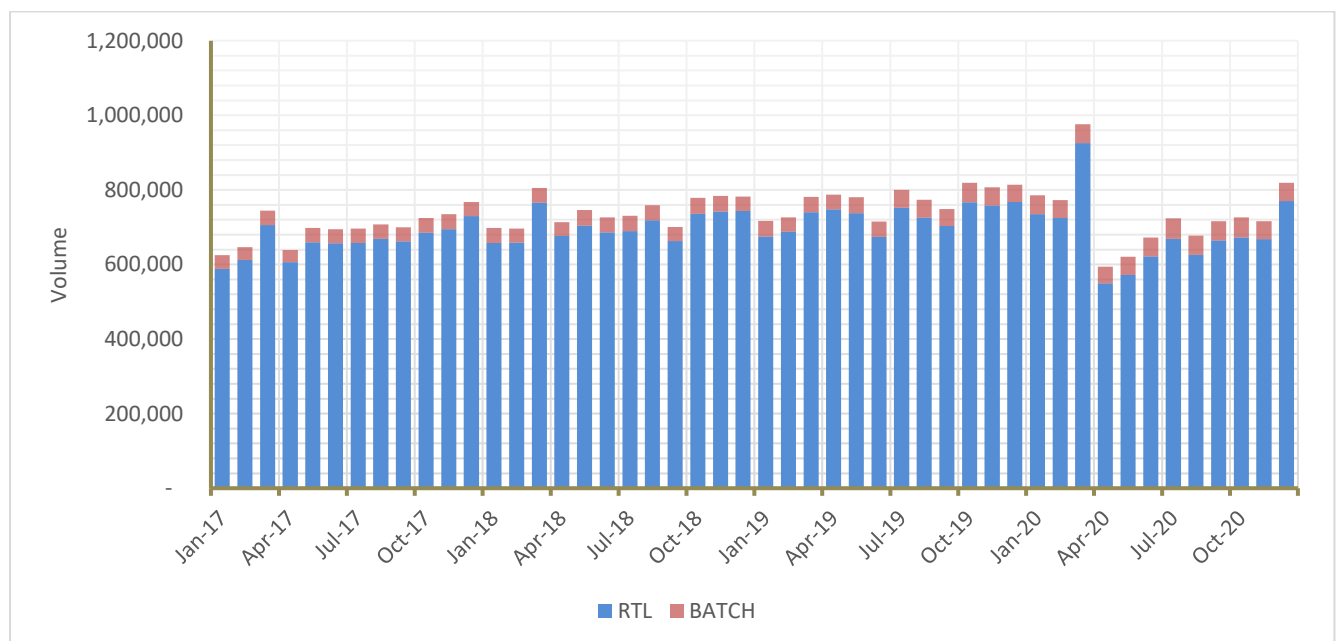
2.1. General description of the FMI and the market it serves

The national payment system (NPS) in South Africa is a broad concept which not only entails systems to clear payments (cheque, electronic and card payments) between banks, but encompasses the total payment process. This includes all the systems, mechanisms, institutions, agreements, procedures, rules and laws that come into play from the moment an end user issues an instruction to pay another person or a business, to the final settlement between banks at the SARB. The NPS therefore enables transacting parties to exchange value and to conduct business efficiently.

The key role players within the South African NPS are recognised in different layers of participation – from the highly regulated participants, consisting of SAMOS settlement participants (settlement banks), to the least regulated participants, including third-party payment providers (TPPPs) and other providers of payment services.³ Banks or designated participants that do not have settlement accounts may be sponsored by settlement participants, and this process is managed outside the SAMOS system as the system only caters for direct participation.

The following graphs depict basic data and performance statistics on operations and services provided:

Figure 1: RTL and retail batch settlement volume (January 2017 – December 2020)



³ See the PASA website: www.pasa.org.za, under the heading 'Key role players'.

Figure 2: RTL and retail batch settlement value (January 2017 – December 2020)

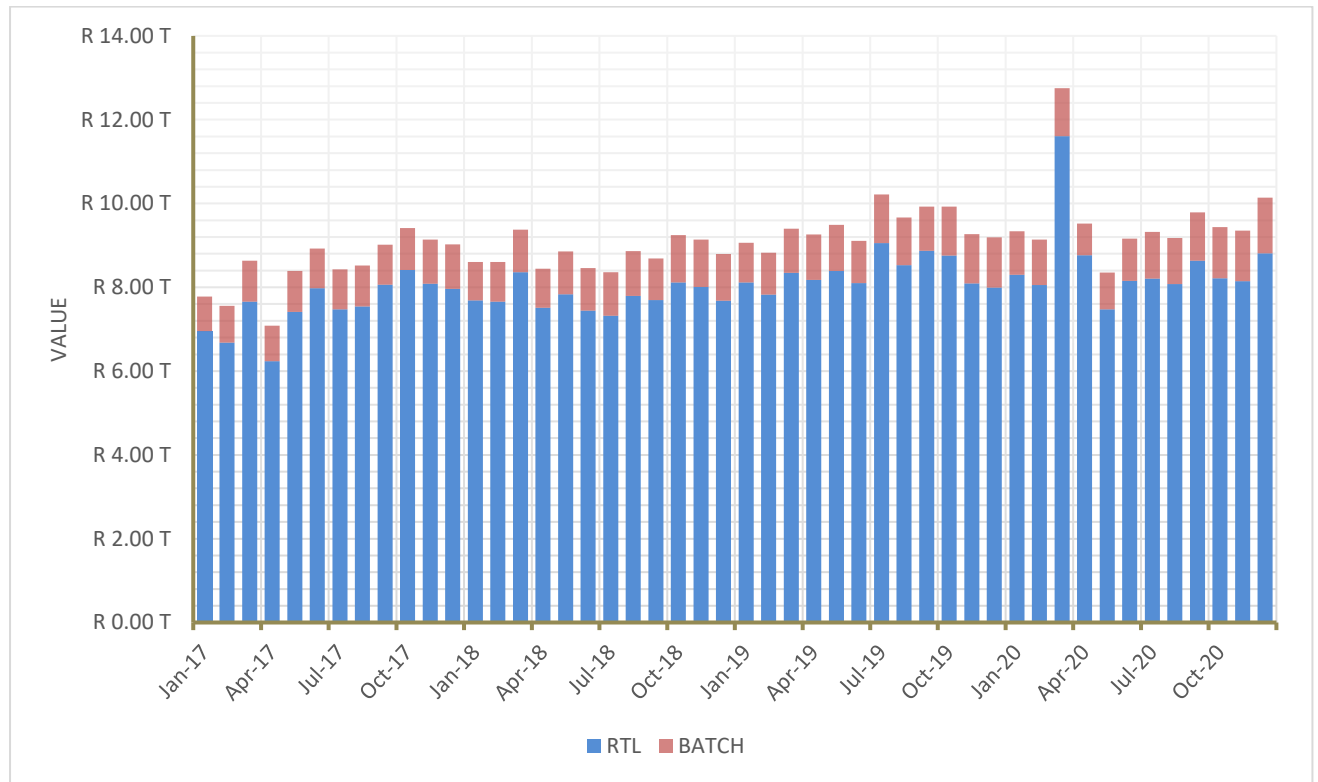
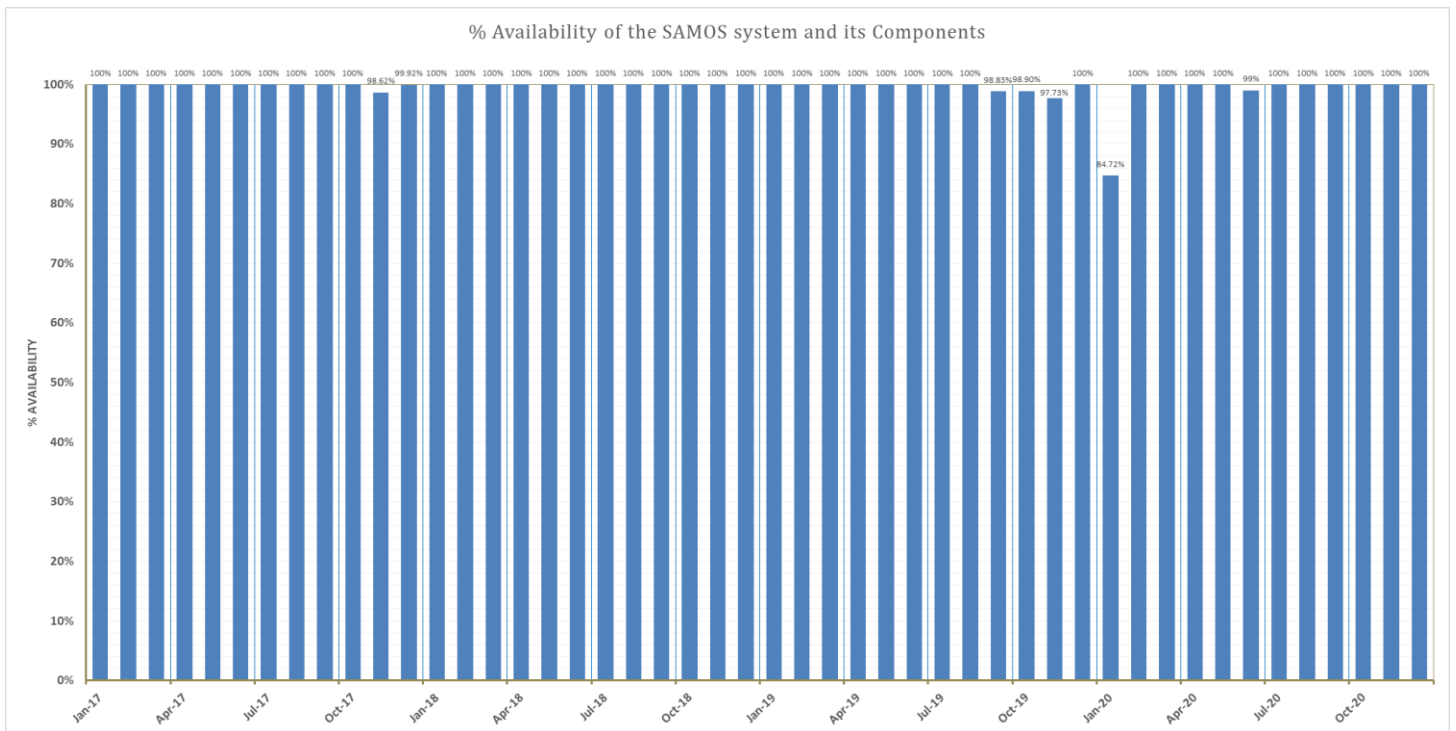


Figure 3: Percentage availability of the SAMOS system and its components (January 2017 – December 2020)



2.2. General organisation of the FMI

In South Africa, the responsibility for the management of the NPS and its oversight is entrenched in law. The SARB Act was amended in 1996 to clarify the role and responsibility of the SARB in the domestic payment system. Section 10(1)(c)(i) of the SARB Act empowers the SARB to “perform such functions, implement such rules and procedures and, in general, take such steps as may be necessary to establish, conduct, monitor, regulate and supervise the payment, clearing and/or settlement systems”.

The SARB has been given the power to govern the entire payment process, from the moment a payment is initiated until such time as the beneficiary receives the money.⁴ The NPS Act enables the SARB to perform the functions as provided for in the SARB Act. The NPS Act also provides for the regulatory and supervisory powers of the SARB to manage payment-related risks. The authority to perform these functions is vested in the SARB’s National Payment System Department (NPSD). The diagram depicting the governance structure of the NPSD is illustrated under Principle 2.

2.3. Legal and regulatory framework

The settlement service provision is supported by a well-established legal framework primarily based on rules, operating procedures, contractual agreements, laws and regulations. The SARB Act mandates the SARB to oversee the regulation of the NPS and to ensure its safety, soundness and efficiency. The NPS Act provides the legal framework for the payment system, which includes the management, administration, operation, regulation and supervision of the payment, clearing and settlement systems in the Republic of South Africa.

Section 3(1) of the NPS Act mandates the SARB to recognise a payment system management body (PSMB) to organise, manage and regulate its members participating in the NPS.⁵ The SARB currently recognises the Payment Association of South Africa (PASA)⁶ as the PSMB.

⁴ Information is available on the SARB website: www.resbank.co.za under <https://www.resbank.co.za/en/home/what-we-do/payments-and-settlements/regulation-oversight-and-supervision>.

⁵ Information is available in the NPS starter pack, which is available on the SARB website: www.resbank.co.za under <https://www.resbank.co.za/en/home/what-we-do/payments-and-settlements/regulation-oversight-and-supervision>.

⁶ Information is available on the PASA website: www.pasa.org.za

2.4. SAMOS system design and operations⁷

The SAMOS system, which was developed in-house, operates on the SARB's mainframe technology infrastructure with a web-based front-end application known as SAMEXWeb. It is a parameter-driven system and two authorisation levels are required for most parameter changes. Some of the major functionalities of the SAMOS system are explained below.

2.4.1. Settlement schedule

The SAMOS system is operational seven days a week and 24 hours a day. The system's settlement schedule is divided into different windows for weekdays and weekends. Participants are informed when a new processing window starts or when the schedule changes. The start and/or end times of settlement windows may be changed by the administrator of the SAMOS system.

All accounting controls and other system controls, including the producing of control reports, must be executed successfully before the next settlement cycle date (SCD) commences.

An example of a business day settlement schedule in a 24-hour cycle is as follows:

⁷ Excerpts from the SAMOS Business Process Model

Figure 4: SAMOS system operating hours: weekday schedule

SAMOS settlement schedule (weekday)							
Window 1	Window 2	Window 3		Position Window	Night Window		Start of new SCD
00:01 - 06:30	06:30 - 12:00	12:00 - 16:25	16:25 - 16:30	16:30 - 16:55	16:55 - 24:00		00:00 - 00:01
Normal settlement Batch settlement SAMOS charges + interest settled	Normal settlement Batch settlement CLS settlement CPD Tax + Loan	Normal settlement Batch settlement CLS settlement Main REPO (Wednesdays only) CPD Tax + Loan	F I N A L I S E W I N D O W	End-of-day (EOD) settlement instructions only Inter bank lending + borrowing Supplementary repo on exception Tax + Loan on exception CPD on exception	Interest calculated on Settlement and Loan Account balances RTL retail batch settlement only	M A I N T E N A N C E	ERP update SAMOS charges calculated SAMOS charges and applicable interest posted to participant accounts Settlement cycle day roll over

Figure 5: SAMOS system operating hours: weekend schedule

SAMOS settlement schedule (weekend)							
Window 1	Window 2	Window 3		Position Window	Night Window		Start of new SCD
00:01 - 07:00	07:00 - 09:00	09:00 - 12:00	12:00 - 12:05	12:05 - 12:07	12:07 Saturday 24:00 Sunday		00:00 Monday - 00:01
Normal settlement Retail Batch settlement SAMOS charges + interest settled	Normal settlement Retail Batch settlement CPL/CBPL settlement	Normal settlement Batch settlement CPL/CBPL settlement Tax and Loans	F I N A L I S E W I N D O W	End-of-day (EOD) settlement instructions only	RTL retail batch settlement only	M A I N T E N A N C E	ERP update SAMOS charges calculated SAMOS charges and applicable interest posted to participant accounts Settlement cycle day roll over

2.4.2. Settlement options

The system provides two settlement options, namely real time line (RTL) and the continuous processing line (CPL) settlement. A description of each option is outlined below:

1. The RTL is a facility for settling single or batched settlement instructions in real-time on a gross basis. Settlement is prefunded with funds in the settlement account or collateral is reserved for an automatic loan facility. An instruction is rejected if there is insufficient funds/liquidity.
2. The CPL is a settlement facility provided to settle single or batched settlement instructions on a gross basis utilising net liquidity, and if liquidity is not available, the settlement instructions are queued. Funding for this facility is effected from the settlement account.

The system also provides for the scheduling of payment instructions for a future settlement date.

2.4.3. Collateral management

The system provides for an automated liquidity provision by providing loans secured by financial instruments reserved in the SAMOS system. Acceptable financial instruments are defined by the Monetary Policy Operational Notice as government stock, SARB debentures and Treasury bills. Collateral is automatically pledged for securing SAMOS loans, on the conditions determined by the SARB from time to time, to facilitate settlement through the SAMOS system if there is a shortage of funds in a participant's settlement account.

2.4.4. Reporting

A comprehensive set of reports is available in the SAMOS system. Participants are able to access two years of data through the SAMEXWeb front-end application. Data for the past five years is available through SAMMANWeb, which is an internally managed SAMOS reporting front-end application.

2.4.5. Fees/charges

It has been agreed between the SARB and the banking industry that the operational costs of the SAMOS system would be recovered from participants. Capital costs are depreciated by the SARB using generally accepted accounting principles. The fees charged for the use of the SAMOS system are based on the operational costs associated with the processing capacity required to operate the system.

Fees/charges are divided into three distinct categories, namely (i) account management fee; (ii) instruction processing fee; and (iii) exception charges. Different fees/charges are levied for different processing periods of the day where discounts and surcharges are applicable. The processing periods are based on the processing window in which the processing was done.

2.4.6. SAMOS operations and support

The SAMOS system is operational on a 24/7 basis where a dedicated SAMOS Customer Support Centre (CSC) team is available to monitor the system during business hours. This team ensures the following:

1. Business validation:
 - a. All SAMOS processors are up and running.
 - b. Possible system errors are attended to.
 - c. Message flows from or to SAMOS are monitored.
 - d. Problems reported by the participants are promptly attended to.
 - e. Incidents reported to the SAMOS technical support team are monitored and escalated as per operational procedures.
 - f. A positive continuous linked settlement (CLS) handshake report is sent out to the CLS Bank.

2. Technical validation:
 - a. Technical reports are received from the technical support team.
 - b. Technical problems are identified and attended to by the SAMOS technical support team.
 - c. SWIFT connections are up and running.

PRINCIPLE-BY-PRINCIPLE NARRATIVE DISCLOSURE

Principle 1: Legal basis

An FMI should have a well-founded, clear, transparent and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

As a robust legal basis for an FMI's activities in all relevant jurisdictions is critical to an FMI's overall soundness, this principle should be reviewed holistically with the other principles.

The SARB, as the SAMOS operator, observes Principle 1.

1.1. Material aspects and relevant jurisdictions

- (a) The SAMOS material aspects that require a high degree of legal certainty include:
- i. the mandate to provide the service and powers to issue regulations, instructions, procedures and other similar regulatory instruments to participants;
 - ii. settlement finality and irrevocability of payments settled through the SAMOS system;
 - iii. legal recognition of electronic funds transfers and the ordering of such transfers via electronic means; and
 - iv. the rights to assets (financial instruments) that are used as collateral for loans provided in the SAMOS system.
- (b) Other aspects that could be material for a systemically important payment system, such as netting arrangements, are not relevant for the SAMOS system as all settlement instructions within the system are processed on a gross basis.
- (c) Although the SAMOS system is hosted and operated within the South African borders and subject to the domestic legal framework, its real-time settlement extends services to international jurisdictions such as the CLS system and the Southern African Development Community (SADC) Real-Time Gross Settlement (RTGS) system (SADC-RTGS).

1.2. Legal basis for each material aspect

The SARB Act mandates the SARB to oversee the regulation of the NPS and to ensure its safety, soundness and efficiency. Following this amendment of the SARB Act in 1996, the role and responsibility of the SARB were entrenched in law as described in section 10(1) (c) (i) of the SARB Act.



This section of the SARB Act empowers the SARB to “perform such functions, implement such rules and procedures and, in general, take such steps as may be necessary to establish, conduct, monitor, regulate and supervise the payment, clearing or settlement systems”. This can be interpreted as the SARB, in its role as the SAMOS operator, having legal powers to establish the methods through which system participants must communicate their settlement instructions, as well as the means through which it will effect settlements (credit and debits in the settlement accounts of those participants) in the system.

Section 5 (2) of the NPS Act (as amended) states: “A settlement that has been effected in money or by means of an entry to the credit of the account maintained by a settlement system participant in the Reserve Bank settlement system or a designated settlement system is final and irrevocable and may not be reversed or set aside.” This provision in statutory law covers SAMOS as the SARB’s settlement system.

Further, section 8 of this same Act states that a curator or similar official that has been appointed to a clearing system participant or a settlement system participant is bound by any payment or settlement that is final and irrevocable in terms of section 5(2) or 5(3). This provision applies despite anything to the contrary in the law relating to insolvency, or law in the Companies Act 71 of 2008 or the Banks Act 94 of 1990 (Banks Act) (among others).

The settlement agreement, SAMOS service agreement, service level agreements (SLAs), memorandum of understanding (MoU) and the CLS Coordination Manual are bilateral legally binding agreements governed by the laws of the South African central bank’s jurisdiction, and are entered into between the SARB and the settlement banks, payment system operators (PSOs), internal stakeholders, and CLS Bank respectively. These agreements stipulate the terms and conditions of settlement and the provision of settlement services by the SARB as well as the utilisation of these services by the respective parties.

The rights to assets (financial instruments) that are used as collateral for loans provided in the SAMOS system:

Despite anything to the contrary in any law relating to insolvency, any asset of a settlement system participant that was provided prior to the issue of any order for that settlement system participant's winding-up by that participant to the SARB or the designated settlement system operator as security for a loan in respect of its settlement

obligations, may be utilised by the SARB or the designated settlement system operator, as the case may be, to the extent required for the discharge of those settlement obligations of the settlement system participant.

1.3. SAMOS rules, procedures and contracts

The legal basis for the SARB's activities includes certain rules, operating procedures and contractual agreements with which participants in the settlement service are required to abide by. The material aspects of the activities in which the SARB engages in providing the settlement service are supported by these rules and contractual provisions which, together with relevant legislation and directives in the South African jurisdiction, establish the terms upon which the settlement service is provided to its participants. The SAMOS operator is readily available to provide consultation on any issues that are not clear. The SAMOS operator also collaborates with stakeholders regarding any rules, procedures and contracts to ensure that they understand and agree to them.

The applicable law in terms of provisions for the settlement management, services and operations of SAMOS is the South African law and the jurisdiction of the High Court of South Africa. By signing the service agreement with the SARB as the SAMOS operator, participants formally accept the rules and conditions governing the system. This includes the Operational and Service Level Manual. In this sense, all system regulations, rules, procedures and contracts are legally binding for all SAMOS participants and the SARB as the SAMOS operator, and compliance is monitored by the NPSD and by PASA.

To date, no inconsistency has been identified in respect of the SAMOS rules, procedures or contracts that might give rise to a conflict of laws and might subsequently require attention from the central banks' jurisdictions.

1.4. The FMI collaborates with stakeholders regarding any rules, procedures and contracts to ensure that they understand and agree to them: degree of certainty for rules and procedures

The SAMOS operator's rules are clear on what is required for an institution to qualify and be registered as a settlement participant in the SAMOS system. All new SAMOS participants must comply with the rules and legislative requirements applicable to new entrants as well as adopt the immediate settlement (IMMS) PCH settlement rules and IMMS PCH clearing rules managed by PASA.

The reviewing of rules, procedures and contracts are always subject to legal opinion and confirmation from the relevant legal bodies (e.g. SARB's Legal Service Department (LSD)). Furthermore, the SAMOS operator also considers any comments or proposals recommended by the participants. Whenever new system rules, procedures and contracts are drafted, the SARB's LSD reviews them to ensure that they comply with South African legislation.

To date, no court of law has ever held any of the FMI's relevant activities or arrangements under its rules and procedures as unenforceable.

1.5. Mitigation of risks arising from any potential conflict of laws across jurisdictions

This consideration does not apply to SAMOS. SAMOS as an FMI is only valid in the jurisdiction of South Africa.



Principle 2: Governance

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

In reviewing this principle, it should be noted that if an FMI is wholly owned or controlled by another entity, the governance arrangements of that entity should also be reviewed to ensure that they do not have adverse effects on the FMI's observance of this principle. As governance provides the processes through which an organisation sets its objectives, determines the means for achieving those objectives and monitors performance against those objectives, this principle should be reviewed holistically with the other principles.

The SARB, as the SAMOS operator, broadly observes Principle 2.

All the key considerations are observed. The SAMOS system is operated by the SARB and has wide public-policy objectives and responsibilities, including monetary policy. It is subject to the governance arrangements as per the NPS Act, and is driven by the mission statement of the NPSD, as well as clearly defined NPS industry objectives. The NPSD is primarily focused on the domestic NPS, but also plays a vital role in the development of the payment systems in SADC.

The SARB Act states that the Board of Directors (Board) shall be responsible for the corporate governance of the SARB by ensuring compliance with principles of good corporate governance as well as by adopting rules and determining policies for the sound accounting, administration and functioning of the SARB.

2.1. The FMI and its governance structure objectives

The NPSD supports the mission of the SARB by ensuring the overall effectiveness and integrity of the NPS. The mission of the NPSD within the SARB is to ensure the safety and efficiency of the NPS. Thus, it plays a significant role in supporting the SARB to maintain the financial stability of the country through the SARB's strategic focus area number 2 (SFA 2), which is to: 'Protect and enhance financial stability'.

The FMI assesses its performance in meeting its objectives based on the effectiveness and efficiency of the system and participants' feedback. It tracks the progress of initiatives identified to meet the objectives, and as such regularly reports back to the executives of the NPSD and the SARB.

In support of financial stability, the SARB has formulated risk management policies to manage risks in a coordinated, comprehensive and systematic manner, consistent with international standards and best practices. The FMI manages risks with the aim of achieving the safety and efficiency of the NPS by ensuring that the settlement of financial obligations in the economy takes place in central bank money, and ensuring that a national coordination body exists for the management of risks impacting the financial system to support the safety and efficiency of the NPS.

2.2. Governance arrangements

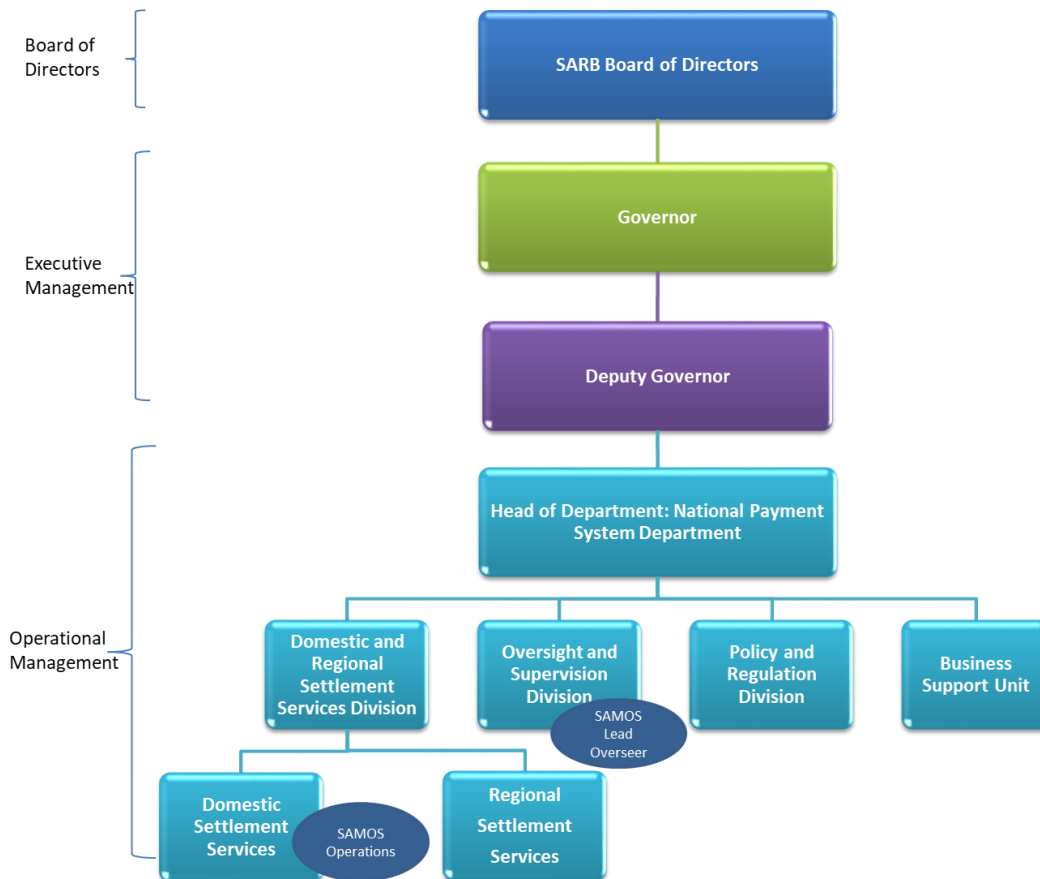
The SARB Board is ultimately responsible for corporate governance arrangements in the SARB. The SARB Act provides for the SARB Board to consist of 15 directors. The Governor is the Chairperson of the SARB Board. Heads of department report either to the Governor, a Deputy Governor, Group Executive Currency Cluster or the Chief Operating Officer.

The Deputy Governor responsible for the NPS has delegated the responsibility for managing FMI operations to the head of the NPSD. These responsibilities are clearly defined in the instrument of the delegation of powers approved by the Governor. The management, operation, supervision and oversight of the FMI are located under the same head of the NPSD and, as a result, report to the same Deputy Governor.

To manage any potential conflict of interest between the supervision and operations functions, a dotted line has been created directly from supervision to report directly to the Deputy Governor responsible for NPSD.

Each divisional head has a separate performance agreement with the head of the NPSD and assigned delegation and areas of responsibility. The structure of the NPSD is depicted in the diagram below:

Figure 6: NPSD governance structure



Furthermore, the SARB recognises the obligations and powers of PASA as a PSMB established with the objective of organising and managing the participation of banks and operators in the payment system. These include all matters affecting payment instructions as well as the rights and obligations of members of PASA. The NPS Act provides for the powers and duties of the SARB and PSMB regarding the settlement system.

The operations and management of the SAMOS system are governed through the SLAs, SAMOS service agreements entered into with each participating bank, settlement agreements and PASA PCH agreements. A user group is also established to allow the FMI to engage participants and operators on any matter that impacts on the FMI operations. The PASA constitution and the regulatory framework for the NPS, including fiduciary duties of PASA Council members, are reviewed on a needs basis.

2.3. Disclosure of governance arrangements

The SARB Annual Report outlines the arrangements relating to governance arrangements, the key functions of the SARB, and how these have been implemented, and the main outcomes and achievements during the reporting period. A general reference is made to the NPSD and its role but no specific reference is made to FMI governance. However, it is discussed with participants through existing engagement structures.

This self-assessment allows the FMI to disclose its governance arrangements.

2.4. Roles and responsibilities of the SARB Board of Directors

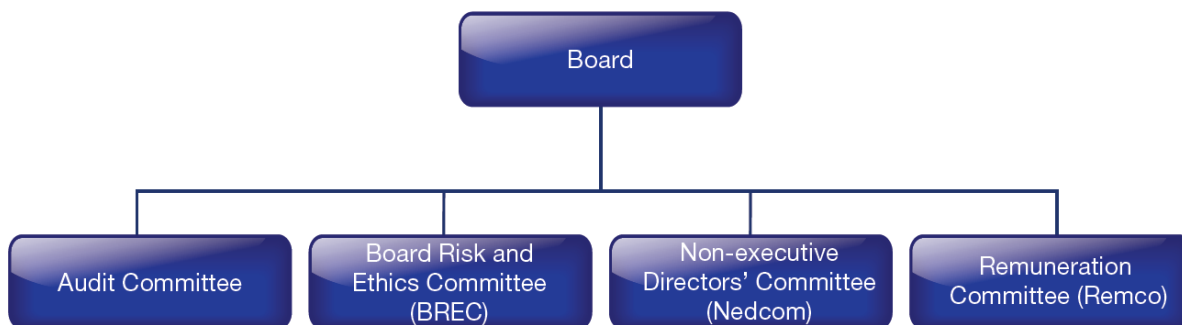
The SARB's Board is a unitary body that functions in terms of the SARB Act and a Board Charter. The terms of reference of the Board Charter and all the committees are reviewed every three years unless otherwise required. Section 4A of the SARB Act explicitly specifies the roles and responsibilities of the SARB Board of Directors.

The SARB Board is constituted by 15 directors in line with the provisions of the SARB Act. The SARB Governor and three Deputy Governors are appointed by the President of the Republic of South Africa, after consultation with the Board and the Minister of Finance, initially for five-year terms which may be renewed. Four other directors are appointed by the President for three-year terms, after consultation with the Minister of Finance. The remaining seven directors are elected by shareholders at their ordinary annual general meeting (AGM).

The SARB Board ensures compliance with the principles of good corporate governance by, among other things, adopting rules and determining policies for the sound accounting, administration and functioning of the SARB, as well as by exercising the other tasks reserved for it in terms of the SARB Act.

The Board utilises various committees as depicted in the figure below, all of which are chaired by non-executive directors.

Figure 7: SARB Board and committee structure



The Audit Committee assists the Board in fulfilling its oversight responsibilities for the financial reporting process, the system of internal control, the audit process and, as appropriate, the SARB's process for monitoring compliance with laws and regulations as they relate to financial reporting.

To identify, address and manage potential conflicts of interest, the Board has established a Board Risk and Ethics Committee (BREC) that is responsible for overseeing risk management in the SARB, including ethical risk.

The Non-executive Directors' Committee (Nedcom) assists the Board in fulfilling its legal and supervisory obligations and responsibilities, enhancing corporate governance practices, ensuring ongoing director training and development, and annually evaluating the performance of the Governor, Deputy Governors, and the Secretary of the Bank and the Assistant Secretary of the Bank. All non-executive directors are members of this committee.

The Remuneration Committee (Remco) reviews the SARB-wide framework for human resources as well as the remuneration policies and practices for the Governor and Deputy Governors, and the structure of the remuneration of, and incentives for, other employees.

Board members perform annual self-assessments to evaluate how the Board and its committees are functioning.⁸

⁸ See the SARB's *Annual Report 2019/2020*, available at www.reservebank.co.za under Publications

2.5. Skills and incentives for the Board to fulfill its multiple roles

The directors' terms of office are prescribed in the SARB Act. Section 4(e) of the SARB Act provides for 'fit and proper' criteria for directors as well as the establishment of a Panel to evaluate prospective non-executive directors, while section 4(f) states the required background for the directors that are elected by shareholders. The Panel evaluates these directors in terms of skill, knowledge and diversity to ensure that the Board consists of members with integrity and diverse knowledge and skills. The needs and skills of the Board are assessed on an annual basis.

The SARB does not have a share incentive scheme and, as such, the executive directors do not participate in any incentive or performance bonus scheme. Shareholders do not approve the fees of the non-executive directors in advance by special resolution since the SARB is not governed by the Companies Act.

The Remco establishes the remuneration guidelines and package for the Governor and the three Deputy Governors. In turn, the latter four, in their role as executive directors, recommend the remuneration of non-executive directors, for confirmation by the Board. The SARB Annual Report, in accordance with the SARB Act, specifies which directors are considered executive directors and which are non-executive directors.

2.6. Roles and responsibilities of management

The delegation of authority provides for the roles and responsibilities, or line functions, that the Governor delegates to the head of the NPSD and the management team. These include day-to-day operations and management of the FMI, including the oversight and application of policies, principles and best practice. The NPSD management team is therefore responsible for monitoring developments in the settlement environment and, among other things, making strategic decisions on the future developments of the settlement system, at least through a review of the system in a five-year cycle.

Performance of staff charged with responsibilities in this area is evaluated based on a formal performance contract.

2.7. Experience, skills and integrity

Recruitment, selection and skills development intervention are formally undertaken and led by the Human Resource Department within the SARB. To ensure a high level of public confidence in the SARB, new executives, management and employees are subjected to a security clearance. This is to examine the integrity of the staff members through, among other things, education (skills and competency) and criminal



background checks in order to mitigate against any potential security risks relating to FMI operations.

To promote the highest ethical standards in the SARB, employees' conduct is governed by the SARB Ethics Policy. This policy is endorsed by the SARB Board and approved by the Governors' Executive Committee (GEC). The fundamental principle underpinning this policy is that business in the SARB should be conducted with honesty, fairness and according to the law.

A disciplinary code and procedures are in place to manage any misconduct by management or any other employees of the SARB. The head of the NPSD is appointed (and eventually dismissed) by the GEC. Divisional managers and other middle management staff are appointed (and eventually demoted or dismissed) by the head of the NPSD, abiding by the human resources policies on the selection of managers and senior officials.

2.8. Risk management framework

The Board is ultimately responsible for directing and monitoring the entire process of risk management as well as forming its own opinion on the adequacy and effectiveness of this process. The SARB Group Risk Management Policy, as approved by the GEC, is in place (for details, see Principle 3) and is reviewed biennially by the Risk Management and Compliance Department (RMCD) and tabled for the Risk Management Committee (RMC), GEC and BREC's consideration for approval. This policy sets out the non-financial risk tolerance of the SARB Group.

The FMI management team is accountable to the RMC, GEC and BREC. The business continuity plan (BCP) for the FMI sets out escalation and crisis management procedures to manage operational risks. The operator has developed an operational risk management framework which allows for the proactive management of operational risks in the FMI environment. This framework is reviewed and approved by the management responsible for the FMI.

2.9. Authority and independence of risk management and audit functions

RMCD is responsible for a central coordinating risk management function in the SARB Group. This include coordinating the governance, risk management and compliance-related activities. The RMCD is functionally accountable to the GEC and reports on behalf of line management to the RMC and BREC. The operational risk management function mentioned above is managed by the NPSD.

The Internal Audit Department (IAD) provides objective, independent assurance on the adequacy and effectiveness of the SARB Group's governance, risk management and control processes. The Chief Internal Auditor reports to the Governor and the Chairperson of the Audit Committee. The IAD and external auditors conduct audits on the controls, systems and processes of the FMI.

2.10. Identification and consideration of stakeholder interests

The SAMOS operator has adopted a collaborative approach to identifying and considering the interests of the SAMOS participants and other relevant stakeholders in its decision-making processes. This includes the SAMOS User Group (SUG), the customer survey, stakeholder engagement matrix, engagement policy, Settlement System Participant Group (SSPG), PASA, and all the relevant legal instruments, as well as position papers and other publications that are taken into consideration.

The SUG meetings held with the participants and the payment system operators (PSOs) provide a platform for the SAMOS operator to discuss any issues that impact the stakeholders. The SAMOS operator can also convene special meetings to discuss issues that have an impact on the stakeholders.

2.11. Disclosure

The SARB complies with the Promotion of Access to Information Act 2 of 2000. This is, however, subject to the limitation of rights in terms of the Constitution and section 33 of the SARB Act. In response to this, the Promotion of Access to Information Manual was published by the SARB. In this manual, the purpose and functions of the SARB, its structures and subsidiaries are voluntarily disclosed. In addition to the manual, the SARB holds different forums as platforms to disclose major decisions to its stakeholders.

The mandate, mission, objectives and functions of the SARB and its Board are published on the SARB website. The role of the NPS as well as the role and responsibilities of the SARB, through the NPSD, are also published on the SARB website. The SARB maintains the confidentiality of its SAMOS members and therefore member information is published on a secure site. All relevant legislation and the regulatory frameworks, including position papers, information papers, directives and strategic documents, are published on the SARB website. The SAMOS operator holds the SUG Forum, which is a formal meeting to engage all active SAMOS participants, PSOs and other identified stakeholders.



Principle 3: Framework for the comprehensive management of risks

An FMI should have a sound risk management framework for comprehensively managing legal, credit, liquidity, operational and other risks.

The SARB, as the SAMOS operator, observes Principle 3.

3.1. Risks that arise in, or are borne by, the FMI

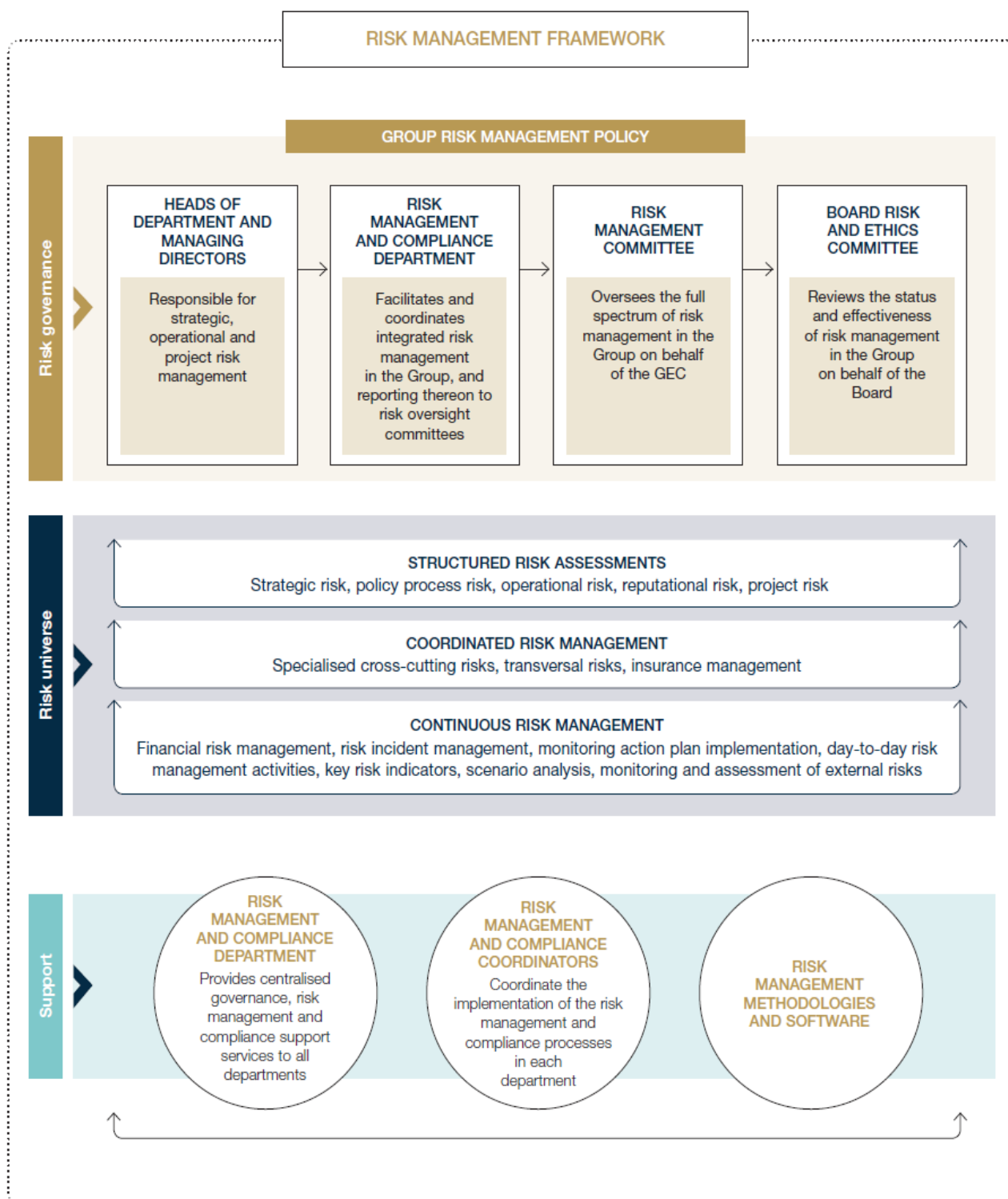
The types of risk arising in, or borne by, the FMI include systemic risk, operational risk, settlement risk, legal risk, liquidity risk and reputational risk.

3.2. Risk management policies, procedures and systems

The SARB views risk management as an essential element of good corporate governance. The risk management processes and activities within the FMI operations are conducted in terms of the SARB Group Risk Management Policy. This policy details the SARB Group's governance processes, risk management framework, and support structures and processes. This is illustrated in the figure below:



Figure 8: SARB Risk Management Framework ⁹



Business continuity management, as well as centralised coordination and services, is supported by this policy and framework. The RMCD facilitates business impact assessments and the compilation of business continuity plans for the FMI. The SARB Group resilience is strengthened through appropriate backup infrastructure and

⁹ See the SARB's *Annual Report 2019/2020*, available at www.reservebank.co.za under Publications\Reports\Annual Reports.

facilities, and the RMCD liaises closely with the Cyber and Information Security Unit (CISU), which is responsible for ensuring holistic governance and management of the SARB Group's cyber and information security programme.

The FMI is well designed and well structured to minimise applicable risks to its participants and all other stakeholders. Strategic and operational risk matrices assist in recording, monitoring and reporting strategic and operational risks. These matrices are updated at least monthly to ensure that action plans identified for implementation are reviewed for reporting.

Rigorous change management processes are implemented to assist with the management of risks. A crisis management procedure is in place to assist with managing any emergencies or operational disruptions. SLAs and MoUs are completed with relevant stakeholders to manage risks emanating in their environment and the FMI operations.

A risk management system is used to record risks and controls, including those of the FMI. The NPSD also uses the call logging system to record operational incidents reported that might affect the smooth functioning of FMI operations.

3.3. Review of risk management policies, procedures and systems

The FMI aligns its processes and systems with the SARB Group Risk Management Policy and, where required, works together with the RMCD to develop and maintain risk management systems and processes. Procedures are developed by the NPSD's operations and approved by the departmental management team and, where applicable, the GEC. These procedures are regularly updated and audited by both the SARB's external and internal auditors.

In line with the SARB Group Risk Management Policy, strategic and operational risk self-assessments are reviewed on an annual basis to identify new risks and assess existing controls. The strategic and operational risk profiles of the FMI are monitored and reported to the relevant risk oversight structures. Emerging risks form part of the monthly management team meetings and are reported to RMCD to be tabled at the various risk oversight structures.

A monthly operations report is prepared and distributed to the head of the NPSD, the head of the NPSD oversight function, and the relevant Deputy Governor to whom the FMI reports. The SAMOS operator participates in the Financial Sector Contingency Forum (FSCF) and related subcommittees.

The SARB provides the SAMOS participants with real-time information on the status of each individual payment instruction submitted by the participant as well as access to a front-end application that reflects their account balances, the collateral reserved balance, eligible collateral, liquid assets requirement (LAR), and reserve account holdings batch positions. Reports are made available to the participants. Information is retained to comply with the requirements for record retention prescribed in the NPS Act.

The SAMOS system provides an intraday liquidity facility to the participants at no cost. To foster liquidity risk management, participants may use 70% of the balance of their cash reserve account (CRA) for settlement purposes and 50% of their LAR as collateral for intraday loans. To foster adequate management of credit risks, participants that take intraday collateralised loans need to repay those loans by the end of the day.

The SAMOS operator holds meetings with the participants to identify emerging risks. Participants are required to notify the SAMOS operator of any change that might have an impact on its settlement process. Participants are also fully aware of the system validations that govern the settlement of their payment instructions, and the times by which payment settlement requirements must be satisfied.

3.4. Material risks

Material risks identified include liquidity and system availability. Any disruption will have an impact on the rand settlement through CLS, funding of South African settlement accounts in the SADC-RTGS as well as on the settlement of equities and bonds. Reliance on SWIFT as the only message network carrier might pose a material risk to the FMI operations. The NPSD participates in the review of strategic and operational risks, facilitated by the RMCD, on an annual basis.

3.5. Risk management tools

The risk management application of the SARB and the NPS call logging system are used to log and manage identified risks and risk incidents. The FMI's BCP document is reviewed annually to ensure risks are mitigated by processes and procedures. The SAMOS operator manages the risks of interdependencies mainly through SLAs established between the SAMOS operator with the various FMIs and with SWIFT. The SARB and CLS Bank have developed a Coordination Manual, to document operational and contingency procedures for a coordinated approach to problem and change management. The IAD conducts audits on tools used by the NPSD for effectiveness and adequacy.



3.6. Scenarios that may prevent an FMI from providing critical operations and services

The FMI BCP details various scenarios that may prevent the FMI from providing its critical operations and services. The scenarios are identified as part of the business impact assessment conducted with the specialised operational risk function in the RMCD. Among other things, the scenarios identified include the loss of the primary information and communications technology (ICT) infrastructure, loss of facilities, and the unavailability of monitoring and support personnel.

3.7. Recovery or orderly wind-down plans

This does not apply to the SAMOS system as SAMOS is operated by a central bank. Together with the central bank's inherent financial soundness, SAMOS is considered a critical function/service of the SARB.



Principle 4: Credit risk

An FMI should effectively measure, monitor and manage its credit exposure to participants and those arising from its payment, clearing and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

The SARB, as the SAMOS operator, observes Principle 4.

As a general principle, the FMI is an RTGS system that operates strictly on a prefunded principle. The SARB credit risk management framework and associated processes ensure that the modest residual credit risk exposures arising from participation in the SAMOS system are mitigated and kept at a minimal level by the SARB.

The FMI, however, has very limited credit exposure. It provides loans against collateral reserved as financial instruments for a participant as per the Banks Act and SAMOS service agreement which is entered into between the SARB and participants when joining SAMOS. One of the SARB's functions, namely the 'lender of last resort' activity, is to provide liquidity to banks during periods of temporary shortages of cash.¹⁰

The Financial Markets Department (FMD) manages credit risk by setting minimum criteria that an institution must meet before being approved as a counterparty. The Prudential Authority (PA) promotes the safety and soundness of banks by, among other things, confirming compliance with the minimum regulatory requirements as specified in terms of

¹⁰ See Position Paper: 2/2006 titled 'Position paper on the intraday monitoring and utilisation of the liquid asset requirement holdings and the cash reserve account', 1 December 2006, available on the SARB website at www.resbank.co.za under <https://www.resbank.co.za/en/home/publications/Papers/position-papers>.



the Regulations relating to Banks. An MoU is in place between the SAMOS operator and FMD and the PA to manage risks and other responsibilities between the parties.

The framework is reviewed every three years and on an ad hoc basis, as and when required.

The FMI was designed with an automated capability to grant loans subject to the available collateral value. The collateral value is revalued per the current market value daily to ensure optimum credit allowance protection. The instruments acceptable as collateral by the FMI are managed through FMD and the LAR is managed by the PA. Haircuts are implemented on all instruments and the market value is revalued and marked to market daily.

4.1. Coverage of exposures to each participant

Credit risk is limited in the SAMOS system due to the prefunding requirement and collateralised loans. Only banks registered in terms of the Banks Act or a mutual bank registered in terms of the Mutual Banks Act 124 of 1993 (Mutual Banks Act), or a branch of a foreign institution registered in terms of the SARB Act, may clear and settle in the SAMOS system. PCH agreements govern the clearing of payment instructions between participants. The SARB will manage any liquidity and credit issues that may arise from PCH settlements in terms of the circumstances and conditions that prevail at the time.

The SARB does not, however, guarantee settlement in SAMOS. No loans are granted without collateral, which is subject to haircuts and limitations on eligible instruments, but not limited to these two.

4.2. Allocation of credit losses

According to the collateral management principle, the FMI will not incur any credit losses as the loan granted is covered by the financial instruments reserved in the SAMOS system. FMD is responsible for ensuring that the market value and applied haircut will be sufficient to protect the SAMOS system from any possible credit losses.

4.3. Replenishment of financial resources

There are no rules and procedures for the replenishment of losses because the SARB is the central bank of issue of the South African rand (ZAR). The SAMOS Operational Procedures and Service Level Manual and the curatorship guidelines have clearly defined procedures, should a participant default.

Principle 5: Collateral

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

The SARB, as the SAMOS operator, broadly observes Principle 5.

To secure any loans in the SAMOS system, collateral in the form of government stock, Treasury bills and SARB debentures are utilised. These assets carry minimal or no liquidity or credit risk. The SAMOS settlement agreement states that the participant cedes collateral in *securitatem debiti* to the SARB, as security for the proper and timeous performance by the participant of all its obligations which it may incur to the SARB arising from the participant's utilisation of the SAMOS system. FMD is responsible for the safekeeping of collateral reserved for use in SAMOS. Strate, as the local central securities depository (CSD) is responsible for the management of securities. It is important to note that the SAMOS operator does not accept cross-border collateral for operations in SAMOS.

Acceptable financial instruments are defined in the FMD's Money Market Operations Operational Notice as defined in the Banks Act, which is published on the SARB website.

The FMD operates the Central Bank Management System (CBMS). Through the CBMS, FMD monitors that the collateral that banks have reserved for collateral purposes in SAMOS meets the eligibility criteria. The LAR is regulated by the PA. The SAMOS operator monitors the reserving of instruments in SAMOS and will not allow the processing of loans if the regulation is violated.

The SAMOS operator limits the chance of incurring wrong-way risk as it has a strict collateral acceptance in which only the collateral in the form of rand-denominated government stock, Treasury bills and SARB debentures are accepted.

5.1. Valuation practices

The SAMOS acceptable instruments are marked to the market daily and the market value of the financial instruments is revalued daily. The FMI has no authority to set market prices. However, the previous day's rates may be reloaded and accepted as current if the loaded data is not acceptable or timeously available.



5.2. Haircutting practices

Haircuts are implemented on all securities accepted as collateral. FMD's collateral management process describes the type of acceptable collateral and the haircut levels allowable, taking into consideration the risk profile of that collateral. The risk profile is related to the type of instrument, credit ratings, currency and maturity of the paper. A higher minimum rating for acceptable collateral is assigned. If the collateral is in the same currency as the loan, then a lower haircut versus a cross-currency collateral transaction will be applied. The sufficiency of the haircuts on collateral accepted in the open market operations is not periodically tested. However, the haircuts have been compared with the haircuts applicable to securities accepted by the Bank of England (BoE) in its operations.

The types of securities that are accepted as collateral establish stable and conservative haircuts. The existing haircuts provide a sufficient buffer, even in extreme market scenarios. FMD is responsible for the identification and evaluation of the potential procyclicality of the haircut calibrations. Furthermore, the FMI is operated by the central bank, and as such the evaluation of securities is used in a much wider context as this is part of the evaluation of securities that are used in the execution of monetary policy by the SARB. A standing agreement between the SAMOS operator and FMD exists. Therefore, any discussions to identify and evaluate the haircut calibrations must be communicated to the SAMOS operator.

FMD determines the policies for identifying and avoiding concentrated holdings for the SARB in the execution of its monetary policy. The SAMOS operator is not responsible for the review or evaluation of such policies; however, it must comply with the policies to enforce participants' compliance.

5.3. Collateral management system design

Only financial instruments (FIs) lodged at an recognised CSD and reserved for exclusive use by the SAMOS system are utilised as collateral in the SAMOS system. Collateral reserved for SAMOS settlement purposes may not be traded. SAMOS provides functionality to pledge collateral to secure loans, which in turn funds the settlement accounts. All collateral calculations in the SAMOS system use the collateral value of FIs, which is the market value of the collateral plus a collateral premium as determined by the SARB. Calculations for the LARs are done with the nominal values of the instruments reserved.



The PA regulates the LAR and monitors the LAR holdings amount, which must be the same as the amount on the BA 310 form submitted by participants. If the LAR percentages are lowered to allow a participant to remove a certain script, the SAMOS CSC monitors this to ensure that a new script with at least the same value is reserved in SAMOS.

Notifications are also sent to a participant when the removal of a matured instrument results in the collateral reserved in SAMOS being less than the LAR holdings.

5.4. Operational flexibility

The SAMOS system has functionality that allows participants to obtain information on their collateral available in SAMOS. Operations in the CBMS and the SAMOS collateral module are highly automated and therefore require a relatively small number of staff to monitor these operations.

Principle 6: Margin

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

This principle does not apply to the SAMOS system as the FMI.



Principle 7: Liquidity risk

An FMI should effectively measure, monitor and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

The SARB, as the SAMOS operator, broadly observes Principle 7.

In providing a settlement service, liquidity and market risks are linked. The SARB defines liquidity risk as the risk of a participant's inability to fund obligations as scheduled because of liquidity constraints, resulting in losses to other SAMOS participants, unexpected calls on liquidity facilities, and/or PCH batch obligations. The SARB, in its wider mandate, endeavours to promote financial stability by managing the liquidity needs of the banking system as a whole. It also contributes to the development and efficiency of the domestic financial markets, in particular the interbank market.

The SAMOS system is a single-currency system that settles only in ZAR. As funds are required for settlement, funds are drawn first from the settlement account balance as a base account, and then from a loan against the LAR and excess collateral, or in the case of a PCH batch, from the CRA balance only at night window. A successful settlement depends on sufficient funds or collateral available in the system.

Liquidity within the SAMOS system is managed and monitored based on the established settlement rules that demand the settlement account in which funds are sourced during settlement to have sufficient funds to ensure successful settlement. The SAMOS settlement agreement states that each participant must manage the risks they introduce to the settlement system. Therefore, participants have a responsibility to manage and monitor their liquidity in the system. The SAMOS system also provides participants with a position monitor facility through the front-end application where they can view their respective positions.



Participants in SAMOS do not play multiple roles with respect to the FMI (i.e. they are not liquidity providers for SAMOS, they are not issuers of eligible securities for use as collateral in SAMOS, and their subsidiaries are not direct participants in the systems, to name a few).

The SAMOS operator monitors the system to ensure that there is a continuous flow of settlement and funding messages. The intraday collateralisation measures provide ample opportunities for banks to settle in real time. The SAMOS system facilitates transfers of interbank funds and allows banks to monitor their settlement exposures through the position monitor with a single view of participants' liquidity positions. This improves the overall risk management in the interbank settlement system and enables the SARB to improve the settlement risk management and, therefore, reduce the potential for crises.

Currently, the SAMOS system does not have any documented liquidity stress-test scenarios. However, the participants need to plan these liquidity stress scenarios that are coordinated between themselves and the banking regulator. SAMOS is a single-currency system that trades in the South African (rand) currency. The SAMOS system does not have to cover any estimated liquidity shortfall. In the event of a liquidity shortfall, the decision to provide additional liquidity will be made by the Governors of the SARB after thorough consultation with the National Treasury and the Minister of Finance.

Key consideration 4 does not apply to the SAMOS system as the FMI.

7.1. Size and composition of qualifying liquid resources

The SAMOS system as an FMI does not have liquidity needs or hold liquidity in its name. Liquidity is held for each participant's account in the system. Therefore, it is the responsibility of the participant to ensure sufficient liquidity is available for all its settlement obligations.¹¹

7.2. Availability and coverage of qualifying liquid resources

The SAMOS system as an FMI does not have liquidity needs; therefore, no potential barriers to access liquid resources have been identified.

¹¹ See Position Paper: 2/2006 titled 'Position paper on the intraday monitoring and utilisation of the liquid asset requirement holdings and the cash reserve account', 1 December 2006, available on the SARB website at www.resbank.co.za under <https://www.resbank.co.za/en/home/publications/Papers/position-papers>.

Key considerations 6, 7 and 8 do not apply to the SAMOS system as the FMI.

7.3. Stress-test programme

There is no stress-test programme for measuring liquidity risk in SAMOS. Liquidity provisioning by the SARB is rules-based, dependent on the availability of eligible collateral. The sufficiency of this liquidity tool under a variety of scenarios has not been tested.

7.4. Stress-test scenarios

A liquidity stress test has not been carried out for SAMOS.

7.5. Review and validation

This is not applicable as a liquidity stress test has not been carried out for SAMOS.

7.6. Same-day settlement

Settlement in the SAMOS system is based on the pre-funding principle, in terms of which any interbank fund transfer will be effected only if sufficient funds are available in the paying bank's settlement account. All instructions submitted by the participants are received and settled on the same day. The SAMOS system includes a dynamic collateral management component, which enables a bank to automatically obtain an intraday loan from the SARB if it has reserved the necessary acceptable assets in the system for use as collateral. The Registrar of Banks has allowed the participants to use up to 50% of their LAR holdings during the day as collateral for intraday SAMOS loans to facilitate interbank settlements. Participants may also use up to 70% of their required CRA balance during the day for intraday liquidity by transferring an amount not greater than 70% of the balance of their CRA to their settlement account.

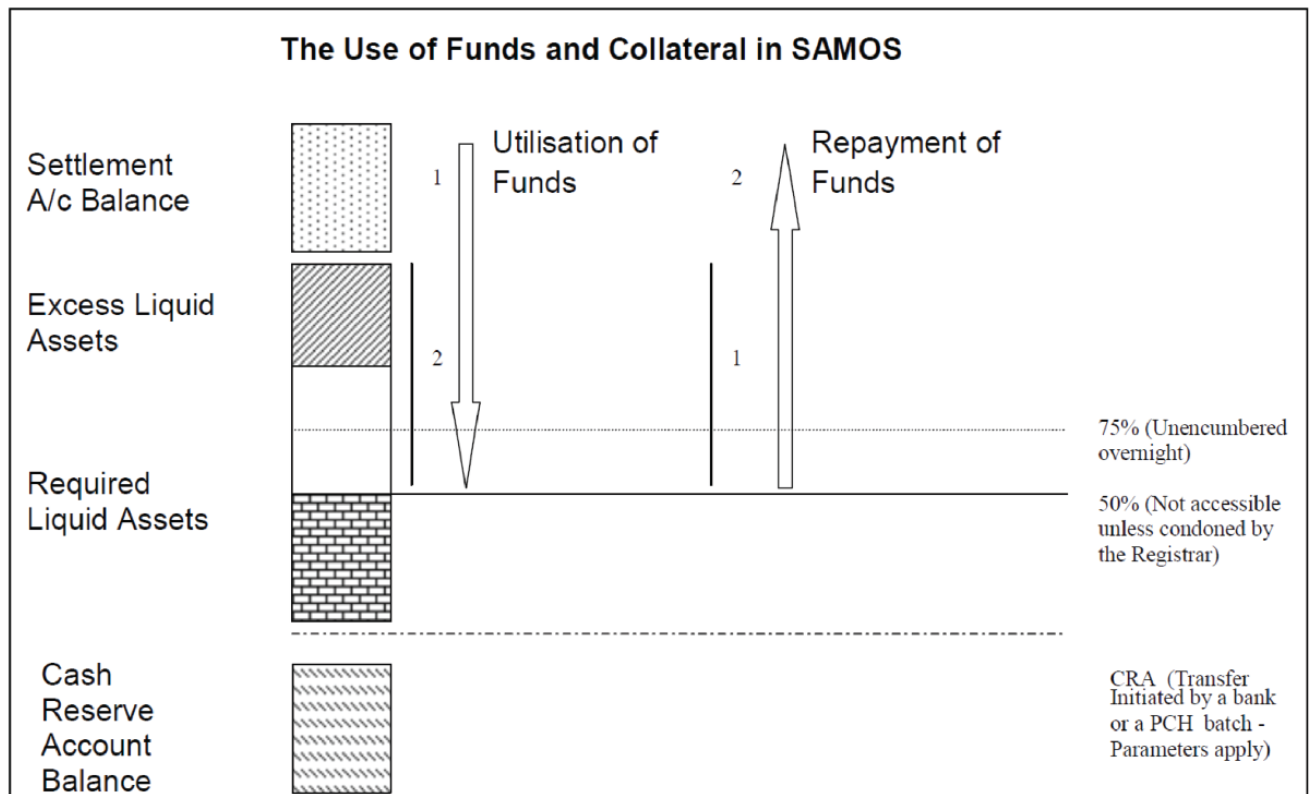
Unforeseen liquidity shortfalls may happen for some batches that settle during the night window. To address the liquidity shortfall, the SAMOS system first utilises all funds from the participant's settlement account. If there are not enough funds in the settlement account, it uses the collateral available. If there is not sufficient collateral, it then utilises funds from the CRA of the relevant participant. This mechanism is used to enable same day batch settlement. An audit trail of such transactions is kept in the system.

7.7. Replenishment of financial resources

The use of liquidity in the SAMOS system, as depicted in the figure below, is managed by the system in the following manner:

- As funds are required for settlement (real-time or PCH batches), funds are drawn from or against the following sources: (i) the settlement account balance; (ii) a loan against the reserved liquid assets, including the available portion of the LAR holdings as allowed by the Registrar of Banks; and (iii) in the case of a PCH batch, from the CRA balance.
- The receipt of the funds is applied in the following order: (i) for loans against reserved liquid assets, including the LAR holdings; (ii) the settlement account; and (iii) in the case where funds have been utilised from the CRA, the bank concerned will be responsible for transferring the funds from its settlement account to the CRA.

Figure 9: Liquidity utilisation in SAMOS



Principle 8: Settlement finality

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

The SARB, as the SAMOS operator, observes Principle 8.

8.1. Point of settlement finality

The settlement of payment instructions across the books of the SARB as well as funding between participants and the SARB via central bank accounts is final and irrevocable once the relevant accounts have been appropriately debited and credited. This means that once payments are settled between banks they cannot be revoked, even by a liquidator.

Therefore, the point of finality is the point at which both relevant accounts have been appropriately debited and credited upon successful settlement. This information is disclosed to all participants and the public.

Settlement finality is described and protected in the NPS Act. This is supported with explicit reference in the SAMOS service agreement and the settlement agreement. This provides a high degree of legal certainty that finality of all settlement instructions made through SAMOS will be achieved in South Africa.

8.2. Finality in the case of links

The linked FMI receives a notification from the SAMOS system to confirm that settlement has taken place. A service level agreement is signed with the linked FMI, which manages the operations and links between SAMOS and the linked FMI. Settlement finality of payment instructions made from the FMI to SAMOS or vice versa is also protected by the NPS Act.

SAMOS is designed to ensure final settlement in real time, on the value date. Settlement is continuous throughout the operational day. The SAMOS system has never experienced deferral of the final settlement. Retail batches may settle on the next day with interest; however, these transactions are not backdated. A participant may submit payment instructions indicating the settlement date to the SAMOS system at any time before or on the specified settlement date, subject to the operational timeline discussed.



8.3. Intraday or real-time final settlement

A paying bank submits single settlement instructions on a gross basis. A PCH operator submits settlement instructions on behalf of the paying banks participating in concurrent batch agreements or CPL agreements. Any credit payment that settles in SAMOS is irrevocable and may not be withdrawn by the paying bank. Should the paying bank require the funds to be returned, this can only be done by mutual agreement between the two transacting parties. Although settlement in SAMOS is final and irrevocable, only scheduled transactions or transactions queued in the CPL can be removed, and only by the originator of the transaction. Once successful settlement is achieved, the payer receives a confirmation and the beneficiary receives a notification.



Principle 9: Money settlements

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

The SARB, as the SAMOS operator, observes Principle 9.

The SAMOS system is owned and operated by the SARB. Funding and settlement in the SAMOS system are separate and distinct but related processes. Payment instructions are settled across the books of the SARB and payment is made to and from the SARB via the central bank accounts the SARB has allocated to each participating settlement participant. Settlement in the SAMOS system occurs in central bank money. It is currently a single-currency settlement system in the South African domestic currency, the rand.

Settlement in the SAMOS system happens in central bank money. Settlement instructions are settled across prefunded SAMOS accounts, and therefore the FMI is not exposed to credit or liquidity risks. However, participants are exposed to some credit and liquidity risk concerning the funds due to them from other participants. These risks are limited due to the design of the SAMOS system which uses carefully tested algorithms to ensure the efficient use of funds during settlements. The SAMOS system is a prefunded system and therefore it is the responsibility of the participants to monitor their respective positions as determined by their exposure.

Principle 10: Physical deliveries

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor and manage the risks.

This principle does not apply to the SAMOS system as the FMI.



Principle 11: Central securities depositories

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues, and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.

This principle does not apply to the SAMOS system as the FMI.

Principle 12: Exchange of value settlement systems

If an FMI settles transactions that involve the settlement of two linked obligations (e.g. securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

The SARB, as the SAMOS operator, observes Principle 12.

The CLS Bank is a direct participant in the SAMOS system to enable the settlement of the rand in the CLS system. It is responsible for the arrangements to eliminate settlement risk in the foreign exchange market for participating currencies. In the securities environment, Strate as the CSD is responsible for managing the delivery versus payment (DvP) process by first freezing securities, obtaining settlement of the payment leg, and then transferring ownership. The settlement of payment instructions across the SARB's books as well as funding between SAMOS participants and the SARB in central bank funds is final and irrevocable, as discussed under Principle 8. The SAMOS system settles all obligations on a gross basis.

Foreign exchange risk is caused by timing mismatches on foreign exchange transactions, primarily but equally by the failure of counterparties.¹² From a payment system perspective, this type of risk can only be eliminated or managed by participants in a payment system implementing or insisting on the implementation of payment versus payment (PvP) principles.¹³

¹² Information on the PASA Regulatory Framework is available on the PASA website at www.pasa.org.za.

¹³ This PvP process enables member banks to trade foreign currencies without assuming the settlement risk associated with the process, whereby a counterparty could fail before delivering its leg of the transaction.

The CLS, an arrangement designed to eliminate such settlement risk, is a simultaneous PVP settlement of each of the payment instructions related to an underlying foreign exchange transaction. This process ensures that the principal amounts relating to underlying foreign exchange transactions are protected.

Principle 13: Participant-default rules and procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures, and continue to meet its obligations.

The SARB, as the SAMOS operator, partly observes Principle 13.

Key consideration 3 is not observed in line with the mandate of the SARB and Financial Stability Oversight Council (FSOC). Key consideration 4 is broadly observed as part of the FSCF exercise. An annual test is not conducted by the FMI.

13.1. Participant default rules and procedures

The NPS Act and the SAMOS settlement agreement provide for processes and procedures to be followed in the event of a participant's failure due to insolvency, curatorship or business rescue. As discussed in detail under Principle 7, the SARB maintains liquidity facilities for each participating bank in the SAMOS system as LAR, and will draw on its liquidity facilities in the event of a 'default' by granting the bank a collateralised loan to satisfy its payment obligations to its beneficiary bank in the system.

Should a default be declared, the SAMOS system has been designed with the functionality to immediately suspend a participant temporarily or permanently and the issue will be discussed with applicable parties and PASA. A bank default notification will be received from the PA who will drive the process with the curator in consultation with the NPSD's oversight function. The curatorship guidelines will be used in the decision-making process. The SAMOS system is, however, designed to always dispatch failed payment results to the defaulting participant and/or the PSO as the originator of the settlement instruction to notify whether the settlement was successful or had failed.



The management of transactions at different stages of processing is clearly defined in section 7.3 of the SAMOS Business Process Model. The PASA IMMS BCP makes provision for the management of an operational situation. The SAMOS operator deals with the liquidity/collateral requirements as stipulated in the IMMS BCP document. Procedures are in place that address the sequence of events, which are documented in the SAMOS Operations Manual and curatorship guidelines.

13.2. Use of financial resources

The SARB, in its role as SAMOS operator, does not guarantee settlement. Therefore, it does not maintain any financial resources for covering losses arising from a participant default. The SARB maintains liquidity facilities for each participating bank in the SAMOS system as LAR, and will draw on its liquidity facilities in the event of a 'default' by granting the bank a collateralised loan to satisfy its payment obligations to its beneficiary bank in the system.

The roles and responsibilities of the parties involved to address a participant's default are documented in the SAMOS Operational Procedures and Service Level Manual, and the curatorship guidelines have clearly defined procedures should a participant default.

In line with the mandate of the SARB and the FSOC process, the default rules and procedures are not publicly available. The existence of default procedures is stated in public documents as detailed under Principle 23. The participants do, however, have access to the default rules which are stipulated in the SAMOS service agreement and settlement agreement signed by participants. At the time of a default, communication is done via email, phone calls and a SAMOS Operational Notice to reach the relevant stakeholders timeously. These procedures are reviewed when regulation changes or when systems are renewed and functionality changes.

Simulation exercises on participant defaults are arranged by the FSCF and the FSOC and are attended by a SAMOS representative, individual participants and system operators (e.g. Strate) on an ad hoc basis.

Principle 14: Segregation and portability

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

This principle does not apply to the SAMOS system as the FMI.

Principle 15: General business risk

An FMI should identify, monitor and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

The SARB, as the SAMOS operator, observes Principle 15.

It should be noted that since the services are provided by the central bank, key considerations 2 to 5 do not apply to the SAMOS system as the FMI. The requirement to hold ring-fenced liquid net assets funded by equity to cover business risk and support recovery or wind-down plans does not apply to the central bank, given the central bank's inherent financial soundness.

The main general business risks for the SARB in its role as the SAMOS operator would be financial losses due to the cost of running the system being higher than the service fees that the SARB charges for the provision of those services. As a result, the SAMOS operator has developed a robust costing methodology to ensure service fees are appropriate to cover all operational costs (i.e. direct costs, including capital expenditure, and some of the indirect costs). The cost and revenue are monitored each month, and then summarised on an annual basis and submitted to the GEC. This information is used as input to determine the charge structure for the following year.

In addition, the SARB has a robust framework to identify, monitor and manage its general business risks under the overall risk management framework, as discussed under principles 3 and 17.



Principle 16: Custody and investment risks

An FMI should safeguard its own and its participants' assets and minimise the risk of loss on, and delay in, access to these assets. An FMI's investments should be in instruments with minimal credit, market and liquidity risks.

The SARB, as the SAMOS operator, observes Principle 16.

All the assets that participants use for collateral in the SAMOS system are held with the central securities depository participant (CSDP) within the SARB's FMD. The SARB is a direct CSDP in Strate, the CSD in South Africa, and is governed by the rules and regulations enforced by the FSCA.

Each participant that joins the SAMOS system is strictly required to sign the SAMOS service agreement. This agreement, among other things, outlines the cession requirement governing the ownership of the financial instruments pledged as collateral by the participant in the SAMOS system against a loan provided to facilitate settlement. For as long as the financial instruments are reserved in the SAMOS system, they shall be regarded as ceded in *securitatem debiti* to the SARB, including all the rights, interest, income, benefits or monies to become due at any time in respect thereof. The cession requirement has been finalised through the SARB's LSD to ensure a sound legal basis.

The SARB, via the FMD, has immediate access to its assets and the assets provided to it by participants through the securities depository account it holds with Strate. Strate is a registered CSD in South Africa and is therefore subject to the same legal jurisdiction and same time zone as the FMI.

Key considerations 3 and 4 do not apply to the SAMOS system as the FMI.



Principle 17: Operational risk

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for the timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

The SARB, as the SAMOS operator, broadly observes Principle 17.

17.1. Identification and management of operational risk

As set out in Principle 3, the SARB Group Risk Management Policy forms the basis for governing and integrating risk management in the SARB as endorsed by the SARB Board. This policy provides a framework for managing operational risk in respect of all functions and activities of the SARB Group. An operational risk function is in place within the NPSD which provides for a systematic, structured and transparent approach to managing operational risks in the SAMOS system. The risk management framework enables the SAMOS operator to identify core processes and implement controls to mitigate risk causes and potential residual risks.

Operational risk in the SAMOS operator's environment is mitigated through the design and architecture of the system and processes, which provides for system integrity and security as well as the availability of SAMOS system operations. The SAMOS system has a high degree of operational reliability due to the resilience of its technical architecture and infrastructure, which enables it to render settlement services to participating institutions.

All the risks identified are recorded in a risk matrix to allow the NPSD and RMCD to monitor the risks. The matrix is updated on a monthly basis with follow-up actions or any new developments in managing the risks. The results of these processes are reported by the RMCD and to the relevant risk oversight committees of the SARB and monitored through the risk management process of the SARB.



The SAMOS operator is accountable to the BREC and related structures to provide follow-up actions identified for implementation to manage residual risks. The SAMOS operating procedures are documented in the Settlement Operational Manual that outlines all procedures used by the NPSD operations in its daily, weekly, monthly and annual tasks performed on and for the RTGS system.

The SAMOS operator also participates in various national and international initiatives, which allows for new standards and best practices to be adopted or implemented to enhance operational risk management. The SAMOS operator's human resources policies are embedded in the SARB Group's human resource policies.

A strict recruitment process is followed by the SARB's human resources function in processing the appointment of new recruits. Skill set, knowledge and human capacity of the SAMOS staff are designed in such a way that the risk of key-person dependencies is mitigated. The SAMOS operator is governed by the ethical standards espoused through the SARB ethics policy.

All changes directly and indirectly impacting the SAMOS operations must follow change management processes as outlined in the change management procedures.

17.2. Roles, responsibilities and framework

The roles and responsibilities for operational risk management are clearly defined in the SARB Group Risk Management Policy. The SARB Board is ultimately responsible for directing and monitoring the total process of risk management as well as forming its own opinion on the adequacy and effectiveness of the process. The GEC approves any changes to this policy.

The RMCD coordinates the entire risk management process in the SARB and reports to the GEC and relevant risk oversight structures. Responsibility for day-to-day operational risk management lies with the line departments. As per the NPSD's Operational Risk Management Framework, the SAMOS operator provides the first line of defence, while system participants and system operators are responsible for managing operational risks that they introduce in their environment.

17.3. Review, audit and testing

The SARB Group follows a combined assurance approach to risk management and control. This approach aims to integrate, coordinate and align the assurance processes within the SARB Group and to optimise the level of risk, governance and control oversight.

The SAMOS operations, policies, procedures and controls are audited annually or as and when required by internal audit. This audit also covers arrangements that the SAMOS operator has with participants. All the SAMOS critical business processes are tested on a quarterly basis with participants.

The service standard provides for an incident management procedure that is followed by the SAMOS operator and the SARB's Business Solutions and Technology Department (BSTD) in managing an incident and ensuring that the agreed service levels and recovery time objective are maintained. This procedure also allows for a multi-disciplinary approach in managing incidents that negatively impact on other processes or functions in the SARB that interface or are integrated with the SAMOS operations.

The SAMOS system is subjected to external auditors as part of a general independent review of systems, processes and controls in line with the SARB's corporate governance processes. This is done as part of the annual general audit of the SARB.

17.4. Physical security

The SARB Group Security Policy and related framework provide a framework within which physical and information security risks are managed in the FMI. These allow for the management of physical security (i.e. at the facilities), which includes assets and processes; information security in any form (i.e. written, spoken and electronic) as well as the security for staff, contractors and visitors.

The SARB is an organ of state and all its facilities are declared as national key points (NKPs) in respect of critical infrastructure protection legislation. As such, the SARB's security is subject to external oversight and review by official entities. In support of this, an annual NKP security assessment is conducted, and an information security audit is done.

The SARB Group Security Management Department establishes processes, structures and technologies to provide continual situational awareness in terms of threats to all its assets, and liaises closely with external stakeholders to identify and address new or emerging threats.

17.5. Information security

The SARB Group Security Policy is in place to ensure that assets belonging to the SARB Group are protected and secured. According to this policy, the definition of assets includes, among other things, information, applications, networks and systems. The SARB Group Security Policy mainly provides for information security management principles, the roles and responsibilities of various stakeholders, and the risk management process to be followed to secure and protect assets in the SARB.

Regular audits are performed by external and internal auditors on these policies, processes and procedures.

17.6. Objectives of a business continuity plan

The SARB has in place a BCP which aims to provide a framework for the effective management of a BCM programme. This policy allows each department, including the SAMOS operator, to establish a BCP which is specific and appropriate to its own operations. In this context, business continuity management is supported by the NPSD Operational Risk Management Framework, and more specifically by the NPSD BCP.

The BCP in place defines the roles and responsibilities of the recovery team, including governance arrangements, to clarify the level of authority required to invoke the plan. Operational procedures are documented to support the recovery of the SAMOS operator's critical business processes. The operational reliability objectives are documented and agreed to with BSTD in the service standard and the BCP, which indicate that the critical business processes should be recovered within two hours after an operational disruption has occurred.

17.7. Design of a business continuity plan

The BCP is designed in such a way that the time for the recovery of systems should be less than two hours. It also specifies the recovery procedures in the case of the risk events causing the suspension of the settlement operations. These procedures include those for the business operations and the switch to the disaster recovery (DR) site.

The failover mechanisms protect against hardware and telecommunications failures so that there are no possibilities for data losses.

The SAMOS operator has implemented third-level contingency, widely known as the Market Infrastructure Resiliency Service (MIRS), as an essential resiliency service. It is designed to supplement the operational resilience of the FMI by serving as a contingency site in addition to current primary and secondary sites. This contingency payment settlement system processes and settles payments in real time, and serves as a technical and operational component of the FMI as a market infrastructure's business continuity plan.

17.8. Secondary site

The SARB has a DR site as a secondary data center and as secondary business offices for SAMOS operations. The business continuity arrangements in place provide for the monitoring and support function for the SAMOS operations to take place at dual sites (i.e. primary and secondary sites). Critical teams for the SAMOS operations are located at each site on a daily basis to monitor RTGS operations and provide support to the participating institutions. This allows for the immediate availability of the SAMOS operations staff and for access to the system within the agreed recovery time if the SAMOS system were to switch production to the information and communications technology (ICT) infrastructure at the secondary site. However, there is adequate remote support capability to switch these critical business processes within the agreed service levels.

17.9. Review and testing

The BCP arrangements are tested at least three times a year. Any anomalies, weaknesses and malfunctions encountered are viewed as an opportunity to review the business continuity arrangements. Based on the outcomes of these tests and the reports submitted to the executive management, the arrangements are deemed to be reviewed. The business continuity arrangements are also audited by the SARB's IAD. In line with the FMI's BCP, a walk-through exercise is conducted to identify gaps



or risks and to provide solutions or alternatives to manage or mitigate the risks. As part of the resilience test, the SAMOS operator is able to conduct an ICT systems failover to the secondary site and be fully operational for an extended period as part of the BCP.

17.10. Risks to the FMI's own operations

As set out in Principle 3, SAMOS has interdependencies with the following FMIs: CLS, SADC-RTGS, Strate and BankservAfrica. The SAMOS operator manages the risks of the interdependencies mainly through the respective SLAs with the related FMIs and through SWIFT.

The risks arising from system support, skills and electricity are managed and monitored as part of the service standard agreement entered into between the FMI and BSTD. SLAs with penalty clauses are in place with service providers to protect critical services. The SAMOS BCP document is reviewed annually to ensure risks are mitigated with adequate processes and procedures.

17.11. Risks posed to other FMIs

The risks identified are managed through the SLA entered into with each interdependent FMI. Service level meetings are held at least on a quarterly basis. Changes to the FMI processes and systems are also discussed with interdependent FMIs. These changes are also tested with the interdependent FMIs before being implemented in the live environment.

Each interdependent FMI participates in the BCP/DR tests conducted by the FMI. Contingency arrangements are discussed and agreed upon with each interdependent FMI and documented in the SLAs and the FMI's operating procedures. These arrangements are also tested on a regular basis for review and awareness.



Principle 18: Access and participation requirements

An FMI should have objective, risk-based and publicly disclosed criteria for participation, which permit fair and open access.

The SARB, as the SAMOS operator, partly observes Principle 18.

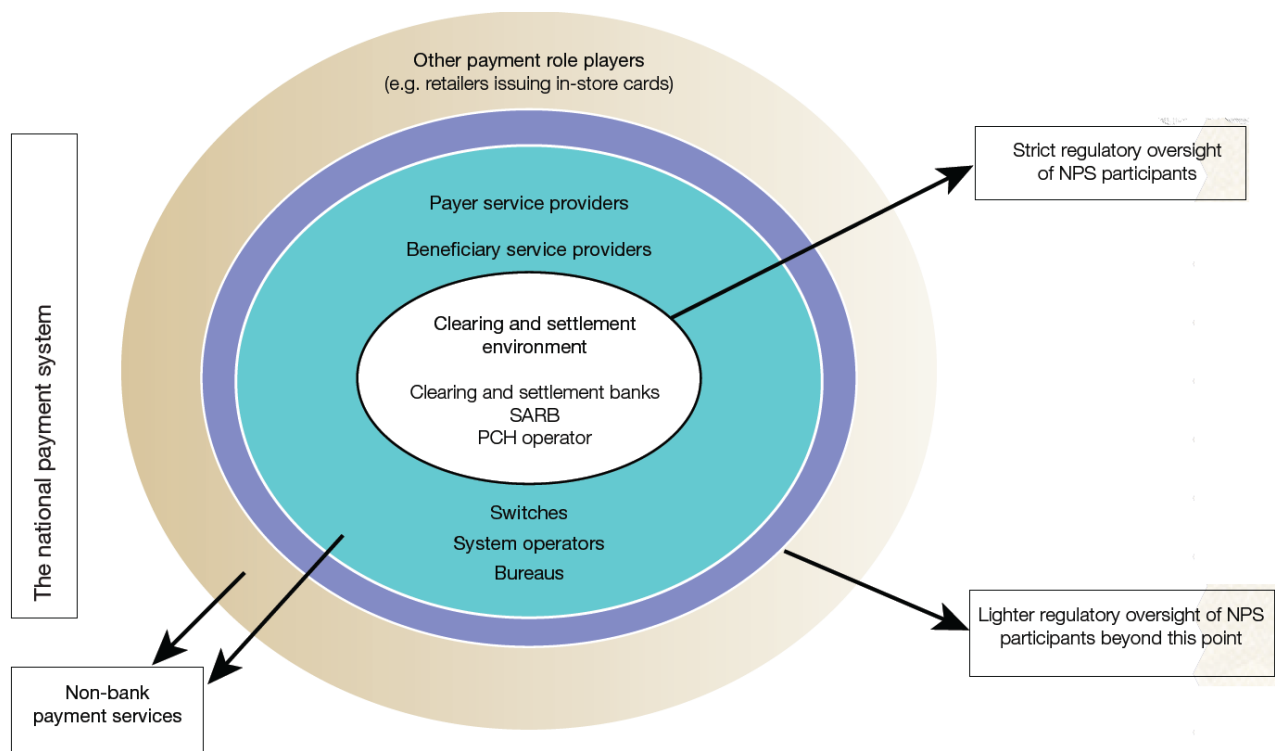
18.1. Participation criteria and requirements

The SARB's Position Paper NPS 02/2011 on access to the NPS¹⁴ states that only South African registered banks and designated settlement system operators are allowed to participate in the settlement domain. Registered banks include the SARB, a commercial bank registered in terms of the Banks Act, a mutual bank registered in terms of the Mutual Banks Act, a cooperative bank, and a branch of a foreign institution. The management of the NPS by the SARB includes the provision of participation access to the industry and ensures that requirements are set and adhered to. Categories for service providers in the NPS include non-clearing banks, clearing banks, settlement banks, designated clearing system participants, PCH system operators, system operators and third-party payment service providers. The South African payment system environment as a whole is depicted in the diagram below:

¹⁴ See Position Paper NPS 02/2011 titled 'Position paper on access to the national payment system', June 2011, available on the SARB website at www.resbank.co.za under <https://www.resbank.co.za/en/home/publications/Papers/position-papers>



Figure 10: South African payment system environment¹⁵



The entry criteria are summarised and published in the starter pack for participation and provide information on the liquidity, operational, credit, settlement, legal, systemic and reputational risks for the entry criteria that are taken into account for bank and non-bank participation in the SAMOS system. These criteria are designed to permit fair and open access based on the goal of protecting the integrity of the settlement and payment processes and mitigating any relevant risks associated with participation in the SAMOS system.

The SARB is also empowered to designate a settlement system as a designated settlement system in terms of section 4A (4) of the NPS Act, as amended by the National Payment System Amendment Act 22 of 2004. Such designation may be made if the designation is in the interest of the integrity, effectiveness, efficiency or security of the payment system. Currently, the designated settlement systems in SAMOS are CLS and the SADC-RTGS. These designated settlement systems have an account in SAMOS, although they do not have access to intraday loan facilities or CRA.

¹⁵ The illustration is from the NPS participant starter pack. Information on the NPS starter pack is available on the SARB website at www.resbank.co.za, under <https://www.resbank.co.za/en/home/what-we-do/payments-and-settlements>.

As at the end of December 2020, there were 29 direct participants, 2 designated settlement systems (CLS and SADC-RTGS) with active accounts in SAMOS, and 2 designated clearing system participants that were sponsored into settlement.

18.2. Justification and rationale of participation criteria

As stated above, all participants in the SAMOS system must be a bank or mutual bank or be a designated settlement participant, as stipulated in the NPS Act. No unregulated entities participate in SAMOS. The SARB's membership credit criteria are objective, risk-based and publicly disclosed.

18.3. Least restrictive access

Participation requirements are reviewed when legislation changes and as part of the review of the vision of the NPS every five years. However, since the enactment of the NPS Act in 1998, access criteria for SAMOS have essentially remained unchanged. The NPS Act is currently under review.

18.4. Disclosure of criteria

The SAMOS system participation criteria are open and publicly disclosed. The participation criteria are documented in the NPS starter pack and the NPS Act. The 'Starter Pack' is a summarised handbook of the regulatory requirements for a new entrant. It describes certain procedural requirements and other information relating to participation in SAMOS. Restrictions in participation are evident from the NPS Act. These documents are publicly available on the SARB website.

18.5. Monitoring compliance

The monitoring of compliance is done against the SAMOS service agreement and the settlement agreement. The NPSD oversight framework also includes the monitoring of participants. PASA is responsible for promoting good practice by all its members by ensuring observance of the terms of the PASA Constitution, the PASA policies and the regulatory framework of the NPS, and has the power to investigate alleged non-compliance and to enforce compliance by imposing sanctions. PASA has directed and mandated the PCH participant groups to manage, monitor and consider matters of non-compliance and to impose certain fines. The PASA Council has the power to impose any sanction deemed appropriate under the circumstances. The SAMOS operator works together with the PA and the NPSD oversight function to ensure participant compliance.



18.6. Suspension and orderly exit

The SAMOS operator may suspend a participant from taking part in the payment settlement services in certain circumstances where: (i) the participant has violated any material provision in its settlement agreement, the settlement rules or per the Registrar's authorisation; (ii) suspension is in the best interests of the SARB or SAMOS participants; (iii) there has been a material adverse change concerning the participant; or (iv) upon confirmation of insolvency.

The SAMOS system has been designed with the functionality to immediately suspend a participant temporarily or permanently. Once a failure occurs, the NPS oversight team, together with the FSOC, will decide on the process to be followed. Formal communications are dealt with through the Executive Management Department of the SARB.

Clear SAMOS procedures exist for managing the suspension and orderly exit of a participant. The suspension and orderly exit of a participant is not publicly disclosed on the website as communication is done to current participants via NPSD notices. PASA is responsible for distributing a notification in this regard to all relevant PCHs. Curatorship guidelines are also used for managing the suspension/exit of a participant.



Principle 19: Tiered participation arrangements

An FMI should identify, monitor and manage the material risks to the FMI arising from tiered participation arrangements.

The SARB, as the SAMOS operator, observes Principle 19.

The SAMOS system does not have tiered participation arrangements. It caters only for direct settlement banks, but allows for sponsored settlement in terms of the NPS Act and sponsorship criteria. PASA manages the sponsorship arrangements between participants. For this reason, the SAMOS operator does not collect any third-party information.

One of the fundamental principles according to the PASA Regulatory Framework, is that South African NPS participants, individually and, where applicable, jointly, are responsible for managing the risks that they introduce into the NPS. Third-party settlement risks are not monitored by the SAMOS operator as an FMI. It is the responsibility of the sponsoring bank to manage credit risk exposure to the sponsored entity's obligations and to determine dependencies and/or conditions of sponsoring relationship in addition to sponsoring criteria approved by the SARB. It is also the participants' responsibility to communicate any problems arising from third-party arrangements to the SARB and PASA.



Principle 20: FMI links

An FMI that establishes a link with one or more FMI should identify, monitor and manage link-related risks.

The SARB, as the SAMOS operator, observes Principle 20.

The SAMOS system is currently linked to the clearing and settlement FMIs such as:

1. BankservAfrica, which conducts clearing for retail batch settlements;
2. Strate, which conducts securities settlement;
3. CLS, which conducts foreign exchange settlement; and
4. SADC-RTGS, which conducts cross-border settlement within the SADC countries.

These links do not pose any unidentified risks to the SAMOS system.

Principle 21: Efficiency and effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

The SARB, as the SAMOS operator, broadly observes Principle 21.

The SAMOS system was specifically designed to effectively and efficiently improve and address settlement risk in the South African payments system. It efficiently and effectively meets the requirements of its participants and the industry it serves by providing a high-quality settlement service. The SAMOS operator regularly seeks feedback from its participants and system operators, actively monitor industry and market developments, and responds accordingly to improve performance or provide additional services that meet the needs of the payment system industry.

The SAMOS operator holds a SUG Forum at least every quarter, which seeks to unite itself with all participating members, communicate planned activities, share organisational changes impacting the NPS, establish customer satisfaction, address complaints, and improve an interactive relationship between members. Members are formally requested to comment on any proposed operational, information technology, risk and/or legal changes that may affect their participation in the SAMOS system.

The goals on effectiveness are stipulated in the SAMOS service agreement and SLA, and can be measured by either the NPSD or a SAMOS system participant. Although payment technologies are developing at a significant pace, the SARB is cautious not to stifle development and has always maintained a position that regulation will follow innovation. However, as the service provider, it is the priority of the SAMOS operator, through the NPSD, to ensure that the quality and standard of the SAMOS system is high in terms of availability, interoperability and integrity.

To provide the industry with the best service, the SAMOS system availability is paramount. The NPSD therefore has a service standard with BSTD and this includes areas of minimum service levels, risk management expectations and business priorities.

Monthly operational statistical reports are provided to the NPSD management team and used as a mechanism to determine the use of the infrastructure by the participating members and to assess incidents, system downtime/availability and the resolutions thereof.

The SAMOS system review includes functionality and technology, and is conducted every five years. In February 2020 the executives approved the RTGS Renewal Programme to review the core systems but also to review the Target Operating Model and relevant architectures of the SAMOS system. The project will run over multiple years and form part of the strategic objectives of the NPSD.



Principle 22: Communication procedures and standards

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement and recording.

The SARB, as the SAMOS operator, observes Principle 22.

The SAMOS system uses internationally accepted message standards and communication protocols with participants and system operators. The SWIFT FIN service, which is compliant with ISO15022 standards, is utilised for the messaging. SAMOS supports the appropriate internationally accepted standards for the communication of financial instructions. All message formats comply with the SWIFT messaging standards and utilise the SWIFT FIN service for the messaging.

Principle 23: Disclosure of rules, key procedures and market data

An FMI should have clear and comprehensive rules and procedures, and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

The SARB, as the SAMOS operator, observes Principle 23.

With reference to key consideration 5, the SARB has completed the CPMI-IOSCO Public Disclosure for the FMI.

The SARB recognises the need for transparency and appreciates the need for participants to fully comprehend the risks of participating in the settlement service. To facilitate this, the SARB maintains comprehensive rules and procedures made available to the SAMOS participants and, where appropriate, to the public.

The following published documents contain the rules and procedures:

- (i) The SAMOS service agreement, with the Service Level Manual as an addendum to the SAMOS service agreement, and the Operational Procedures, which are published under the Participants Forum site on the SARB website.
- (ii) NPSD position papers, which are published on the SARB website.



- (iii) Documents that are not published publically but are available to participants, which include the IMMS clearing rules, IMMS BCP procedure, compensation rules and settlement agreements.

The procedures and rules are discussed at industry meetings and participants can raise issues for clarification. Compliance checks are done on an ad hoc basis. In cases where the documents are being reviewed, feedback received is considered during decision-making before a final document is adopted and published.

The FMI's rules and procedure documents contain the procedures to be followed in non-routine, though foreseeable, events. These documents include:

- (i) the Immediate Settlement BCP Procedure document, which stipulates that each participant will ensure that its systems are adequate to operate the transactions contemplated in the relevant PCH agreement and its backup systems are an adequate alternative to the systems upon the occurrence of a disaster event;
- (ii) the SAMOS Operation Manual, which has documented the critical business/system failure scenarios; and
- (iii) the business contingency tests procedures that have been documented to ensure an effective and practical BCP, recovery procedures and human resources roles and responsibilities, to ensure the readiness of its settlement service delivery.

The key rules and procedures of the payment and settlement services are outlined in the PASA regulatory framework and settlement rules, which are publicly disclosed on the PASA website. All changes to the rules and procedures are consulted with the advisory committees and facilitated through PASA. Some changes to rules and procedures are advised in the SUG and SAMOS Operational Notices are published on the secure website.

The SARB, in its role as the SAMOS operator, does not undertake public consultations for new or amended rules. However, SAMOS participants are consulted through various structures, including the IMMS PCH Group (PG) and the SUG. The SARB has publicly disclosed on its website the 2016 self-assessment of SAMOS, which includes the responses to each of the detailed questions of the CPMI-IOSCO Assessment Methodology. This provides a reasonable amount of information to individuals, businesses or government agencies with a general interest in SAMOS.

The SAMOS business process and the template models detail the design and message layout of the SAMOS system and can be accessed on the SARB website.¹⁶ Any decision and/or information is shared with SAMOS participants through the IMMS PG and PASA. A degree of discretion can only be exercised concerning exception charges and penalties. All participants' rights, obligations and risks are documented in the SAMOS service agreement and the settlement agreement. These documents also specify the degree of discretion that the operator can exercise on decisions that directly affect the operation of the system.

To ensure that the participants understand the SAMOS system's rules and mandatory operations, training is provided to all new SAMOS participants as well as new employees. Clarification is provided at the SUG meetings, SSPG meetings and individual sessions held with a participant. A relationship manager is assigned to each participant to support and manage the relationship between the NPSD and the SAMOS participants. Over and above the signing of the SAMOS service and settlement agreements, the SAMOS operator conducts monthly statistics message trends received from the participants to evaluate their understanding of the settlement rules and procedures. When participants demonstrate a lack of understanding, meetings are held between the NPSD and the participants to clarify any misunderstandings. Training is also offered to these participants to address any misunderstandings.

NPSD Position Paper 01/2003 on the Cost-recovery policy for the SAMOS system as well as the SAMOS charge structure has been publicly disclosed and published on the SARB website.¹⁷ These matters are reviewed annually and shared with the participants at the SUG meetings. SAMOS Operational Notices and official letters are also sent to participants individually. The SAMOS technical and communications elements that affect the costs of operating the SAMOS system are also described and disclosed in the public domain of the SARB website in Position Paper 01/2014.¹⁸

The SAMOS operator completed and published the first self-assessment in 2015, the second self-assessment was published in 2018 and this paper is the third self-assessment report for the period ending December 2020. All these self-assessments are based on the CPMI-IOSCO assessment methodology and are therefore comparable to the CPMI-IOSCO

¹⁶ These documents are only accessible by SAMOS participants, available under the SAMOS participants' secure forum site on the SARB website.

¹⁷ See NPSD Position Paper 01/2003 titled 'Position paper - cost-recovery policy for the South African Multiple Option Settlement (SAMOS) system', 7 May 2003, available on the SARB website at www.resbank.co.za under <https://www.resbank.co.za/en/home/publications/Papers/position-papers>.

¹⁸ See Position Paper 01/2014 titled 'Position Paper on the interbank settlement application interfaces, 16 April 2014, available on the SARB website at www.resbank.co.za under <https://www.resbank.co.za/en/home/publications/Papers/position-papers>

Disclosure Framework. The quantitative information disclosed includes the message values and volumes as well as the statistics around system downtime. All information is published in English.

Principle 24: Disclosure of market data by trade repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

Principle 24 does not apply to the SAMOS operator as an FMI.

