SAMOS self-assessment of FMI principles

Responding institution	South African Reserve Bank
Jurisdiction(s) in which the FMI operates	South Africa
Authority(ies) regulating, supervising or overseeing the FMI	South African Reserve Bank
Version	2
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This disclosure can also be found at	www.resbank.co.za
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South African Reserve Bank

Document control

Date released	Version	Remarks
2014-05-07	1.0	First self-assessment done for FMI against CPSS and IOSCO's Principles for Financial Market Infrastructures
May 2018	2.0	Second self-assessment done for FMI against CPSS and IOSCO's Principles for Financial Market Infrastructures

Abbreviations

BCMC	Business Continuity Management Committee
BCP	business continuity planning
Bankserv Africa	BankservAfrica (Pty) Limited
BIS	Bank for International Settlements
BREC	Board Risk and Ethics Committee
BSD	Bank Supervision Department
BSTD	Business Systems and Technology Department
CBMS	Central Bank Collateral Management System
CBPL	Continuous Batch Processing Line
CCBG	Committee of Central Bank Governors
CCP	central counterparty
CLF	committed liquidity facility
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
CPSS	Committee on Payment and Settlement Systems
DNS	deferred net settlement
DR	disaster recovery
DvD	delivery versus delivery
DvP	delivery versus payment
FMI	financial market infrastructure
FMD	Financial Markets Department
FSC	Financial Stability Committee
FSCF	Financial Sector Contingency Forum
FSD	Financial Services Department
FSOC	Financial Stability Oversight Council
GEC	Governors' Executive Committee
HoD	head of department
IAD	Internal Audit Department
ICT	information and communications technology
IOSCO	International Organization of Securities Commissions
IMMS	immediate settlement
King IV	King IV Report on Corporate Governance for South Africa 2016
LAR	liquidity asset requirement
LSD	Legal Services Department
LVPS	large-value payment system
MoU	memorandum of understanding
NKP	national key point
NPS	national payment system
NPS Act	National Payment System Act 78 of 1998
NPSAB	National Payment System Advisory Body
NPSD	National Payment System Department
NPSSB	National Payment System Strategy Body
ORM	operational risk management
PASA	Payments Association of South Africa
PCH	payment clearing house
PCH PG	payment clearing house participant group
PFMIs	Principles for Financial Market Infrastructures
PS	payment system
PSMB	payment system management body
PSO	PCH system operator
PvP	payment versus payment
RMC	Risk Management Committee
RMCD	Risk Management and Compliance Department

RTGS	real-time gross settlement
RTL	real-time line
RTO	recovery time objective
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)
SAMSEC	SAMEX Security Application
SARB	South African Reserve Bank
SARB Act	South African Reserve Bank Act 90 of 1989, as amended
SCD	settlement cycle date
SIRESS	SADC Integrated Regional Electronic Settlement System
SO	system operator
SSPG	Settlement System Participant Group
SSS	securities settlement system
SUG	SAMOS User Group
TPPP	third-party payment provider
TR	trade repository

Definitions

Term	Definition
Beneficiary participant	SAMOS participant receiving 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	Interbank clearing and settlement environment in the Republic of South Africa, but 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	Participant's liquid assets recognised by the SARB as eligible assets for the purposes of the provision of loans.
Financial markets infrastructure	A multilateral system among participating institutions, including the operator of the system that is used for the purpose of clearing, settling or recording 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; to develop and coordinate 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.
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 clearing and delivery of cash.
Payment clearing house	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	Person approved and authorised by PASA to provide clearing services to system participants.
PASA	Payments Association of South Africa recognised by the SARB as a payment system management body.
PASA Executive	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 the clearing of one or more payment instructions.
Payer participant	A paying participant with a settlement obligation whose settlement account will be debited by the SARB in fulfilment of one or more settlement instructions received.
SAMOS system	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, as amended.
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	SAMOS system participant.
Settlement agreement	Multilateral contractual relationship entered into between the parties upon the terms and conditions.
Settlement bank	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	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) providing post-trade products and services to the financial markets.
NPS starter pack	Starter pack document for participation within the national payment system, 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), "any person to provide 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).

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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, is required to report on its operations; this document is the second self-assessment report, conducted in 2017, published by the SARB. The self-assessment was conducted against the Principles for Financial Market Infrastructures (PFMIs) issued in April 2012 by the Bank for International Settlements' (BIS) Committee on Payments and Market Infrastructures and the Technical Committee of the International Organization of Securities Commissions.

The self-assessment, and therefore this report, outlines the observance of the principles based on the status of operations of the SAMOS system as at 31 December 2016. All actions that will be undertaken by the SAMOS operator to ensure continued or full observance of the principles subsequent to this report will therefore be disclosed in self-assessment reports to be published in the coming years.

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

It is a BIS requirement that a self-assessment against financial market infrastructure (FMI) principles be conducted every two years; therefore, a revised report will be published to disclose the updated status of compliance with the principles.

National Payment System Department
South African Reserve Bank

Executive summary

In April 2012, the Bank for International Settlements' (BIS) Committee on Payment and Settlement Systems (CPSS) – now referred to as the Committee on Payments and Market Infrastructures (CPMI) – and the Technical Committee of the International Organization of Securities Commissions (IOSCO) published the Principles for Financial Market Infrastructures (PFMIs) (collectively, the PFMI and each principle a 'Principle'). As defined by the BIS and 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 PFMIs are designed to ensure that the infrastructure supporting global financial markets is robust and able to withstand financial shocks. The PFMIs apply to all systemically important payment systems. As at 10 September 2013, the South African Reserve Bank (SARB) had adopted the PFMIs as the risk management standard for systemically important FMIs in South Africa.[1] The PFMIs replace the 2001 Core Principles for Systemically Important Payment Systems (Core Principles), the standards previously applicable to the SARB and against which the SARB performed a self-assessment in 2005.

1. See Position Paper NPS 01/2013 published on 10 September 2013, available at http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Documents/Position%20Paper/PPNPS01_2013PFMIs.pdf.

This document assesses the SARB's operations of the South African domestic real-time gross settlement (RTGS) system, named the South African Multiple Option Settlement (SAMOS) system, against the applicable principles. 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. 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 type of risks arising or borne by the FMI include systemic risk, operational risk, settlement risk, legal risk, liquidity risk, credit risk and reputational risk. Risk management is conducted in line with the comprehensive SARB Group Risk Management Policy.

This document presents a review of the first self-assessment document that was conducted in April 2014 and published in February 2017. It includes a description of the SAMOS operations and describes how the SARB complies with each principle applicable to its services. The self-assessment was conducted and documented by the SARB National Payment System Department (NPSD), as the operator of the FMI, in consultation with other relevant departments such as the Business Systems and Technology Department (BSTD), Bank Supervision Department (BSD), Financial Markets Department (FMD), Legal Services Department (LSD), and the Risk Management and Compliance Department (RMCD) of the SARB; and the Payments Association of South Africa (PASA) as the payment system management body (PSMB) in South Africa.

Below is a high-level summary of the self-assessment against the PFMIs

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 central securities depository (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 12: Exchange-of-value settlement systems	If an FMI settles transactions that involve the settlement of two linked obligations, for example 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	Description	Applicable	Observed	Broadly observed	Partly observed
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 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.	Yes	√		
Principle 24: Disclosure of market data by trade repositories	A trade repository should provide timely and accurate data to relevant authorities and the public in line with their respective needs.	No			

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

In September 2005 the SARB completed a self-assessment of the SAMOS system against the Core Principles. The first self-assessment against the PFMIs was conducted in April 2014 – this document presents a review of the first self-assessment. Since the first self-assessment, no major changes have been made in terms of the national payment system (NPS) regulatory framework or rules of participation that impact the operation of the SAMOS system. However, the system itself has gone through some notable changes, as follows:

Version	Date implemented	Description of functionality
Version 7.1	2013 October	• Replacement of the SAMEX Front-end running on MQ and SAMSEC infrastructure with the SAMEXWeb SWIFTNet Browse
Version 7.3	2014 October	• SAMEXWeb Version 2 • Replacement of SAMEX PCH NT with SAMEXWeb PCH application
Version 7.4	2015 October	• SAMEXWeb Version 3 • Replacement of SAMMAN NT with SAMMANWeb • Removing of the silo SAMOS participants billing application to an integrated functionality within the SAMOS system • Removal of network charges

2. General background on the FMI

2.1 General description of the FMI and the markets it serves

The 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 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.[2] 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.

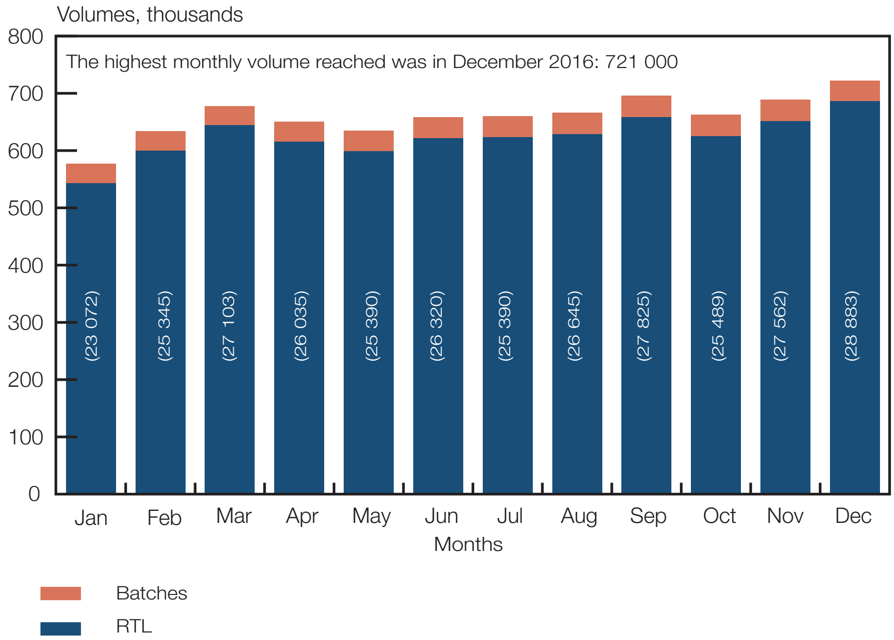
2. See the key role players on the PASA website, available at http://www.pasa.org.za/national-payment-system/key-role-players.

2.2 General description of the FMI and the markets it serves

The RTGS system in South Africa is called the SAMOS system; an automated interbank settlement system provided by the SARB for banks to settle their payment obligations on an immediate real-time basis. The SAMOS system settles on a prefunded basis in central bank money. Transactions are settled as single or batched interbank settlement instructions arising from either retail payments (e.g. cheques and cards) clearing; or wholesale, equities or bond markets. The system provides settlement in the real-time line (RTL) or the continuous processing line (CPL) as two settlement options to participants.

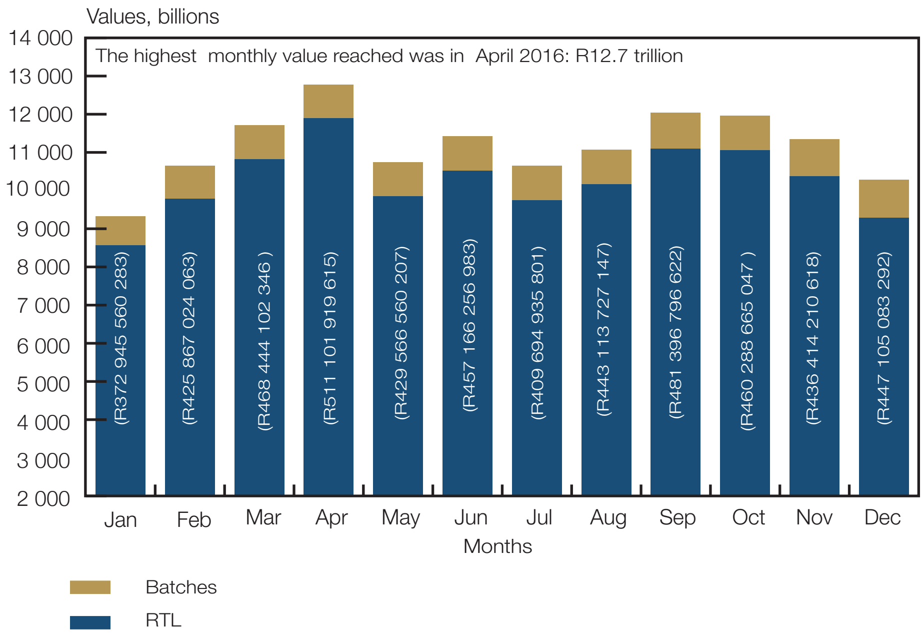
The following figures depict basic data and performance statistics on its services and operations:

Figure 1 Volume of RTL and retail batch settlement, January 2016 to December 2016



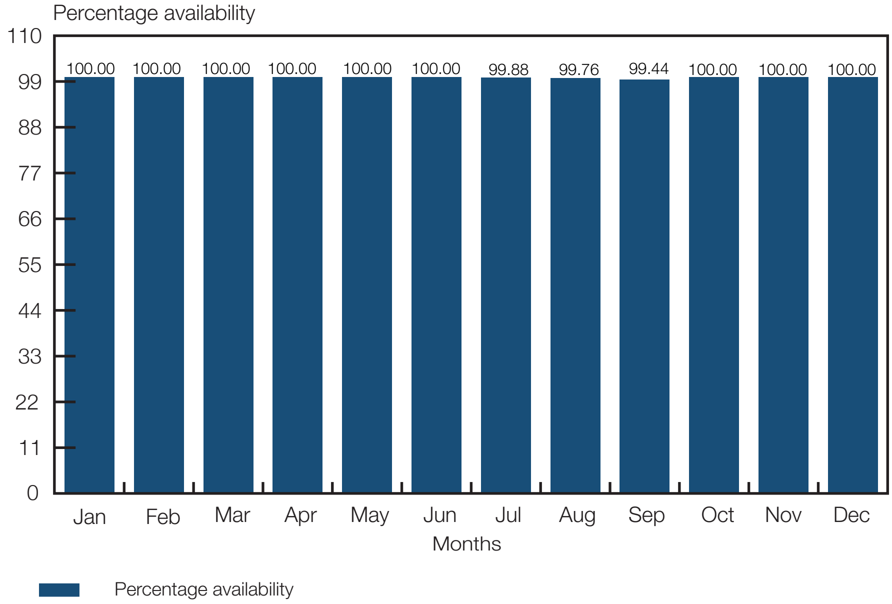
*Amounts in brackets are the daily average (working days) volumes settled for the month

Figure 2 Value of RTL and retail batch settlement, January 2016 to December 2016



* Amounts in brackets are the daily average (working days) values settled for the month

Figure 3 Percentage availability of the SAMOS system and its components, January 2016 to December 2016



* According to the SLA between BSTD and NPSD, only percentage availability lower than 99.50% is classified as 'not met' and is reported on.

2.3 General organisation of the FMI

In South Africa, the responsibility for the NPS and its oversight are 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 process, from the moment a payment is initiated until such time as the beneficiary receives the money.[3] 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 NPSD. The diagram depicting the governance structure of the NPSD is illustrated under Principle 2.

2.4 Legal and regulatory framework

The settlement service 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 PSMB in order to organise, manage and regulate its members participating in the NPS.[4] The SARB currently recognises PASA[5] as the PSMB.

2.5 SAMOS system design and operations[6]

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

3. Information is available on the SARB website at www.resbank.co.za, under Regulation and supervision\National Payment System (NPS).

4. Information on the NPS starter pack is available on the SARB website at www.resbank.co.za, under Regulation and supervision\National Payment System (NPS)\Access to the NPS.

5. Information is available on the PASA website at www.pasa.org.za.

6. Excerpts from the SAMOS Business Process Model.

system and two authorisation levels are required for most parameter changes. Some of the major components of the SAMOS system are explained below.

2.5.1 Settlement schedule

The SAMOS system is operational seven days a week and 24 hours a day. The settlement schedule of the system is divided into windows with different window schedules for weekdays and Saturdays. Banks 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) continues. An example of a business day settlement schedule in a 24-hour cycle is as follows:

Figure 4 SAMOS: settlement cycle day (SCD) (weekday)

Window 1	Window 2	Window 3	Fin Win	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 • CPL/CBPL settlement • SAMOS charges + interest settled	• Normal settlement • Batch settlement • CPL/CBPL settlement • CLS settlement • CPD • Tax and loan	• Normal settlement • Batch settlement • CPL/CBPL settlement • CLS settlement	FINALISE WINDOW	• End-of-day (EOD) settlement instructions only	• Interest calculated on settlement and Loan Account balances • RTL retail batch settlement only	MAINTENANCE	• ERPupdate • SAMOS charges calculated • SAMOS charges and applicable interest posted to participant accounts • SCD roll over

Figure 5 SAMOS: settlement cycle day (SCD) (weekend)

Window 1	Window 2	Window 3	Fin Win	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	• Normal settlement • Retail batch settlement • Tax and loan	FINALISE WINDOW	• End-of-day (EOD) settlement instructions • Interbank lending + borrowing • Final square-off REPO (when applicable)	• RTL retail batch settlement only	MAINTENANCE	

2.5.2 Settlement options

The system provides two settlement options, namely RTL and the 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.
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.

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

2.5.3 Collateral management

The system provides for 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, Treasury bills and Land Bank bills. Collateral is automatically pledged for securing SAMOS loans, on the conditions determined by the SARB from time to time, in order to facilitate settlement through the SAMOS system if there is a shortage of funds in a bank's settlement account.

2.5.4 Reporting

A comprehensive set of reports are available in the SAMOS system. Data for the past five years is available through SAMMANWeb, which is the internally managed SAMOS reporting front-end application.

2.5.5 Fees/charges

It was 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.

2.5.6 SAMOS operations and support

As the SAMOS system is operational on a 24/7 basis, a fully 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. Message flows from or to SAMOS are monitored.
   c. Problems reported by any of the participants are attended to.
   d. 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 IT support team.
   c. SWIFT connections are up and running.

3. 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.

Assessment of compliance

The SARB was established by section 9 of the Currency and Banking Act 31 of 1920.[7] The SARB is governed by the laws of the Republic of South Africa, thus the settlement service is supported by a well-established legal foundation primarily based on rules, operating procedures, contractual agreements, laws and regulations. Section 10(1)(c) of the SARB Act makes provision for 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 payment, clearing or settlement systems. The NPS Act provides the legal framework for the payment system.[8] The framework and strategic document cover all aspects of the payment system in South Africa, that is, the complete process, from the moment an end user issues an instruction to pay another person, through to the final settlement between banks at the SARB and the receipt of the payment by the ultimate beneficiary is addressed.

Settlement of interbank claims

The SARB provides services for the final real-time electronic settlement of interbank obligations and payments via the SAMOS system. In addition, the SARB oversees the safety and soundness of the payment system and has introduced settlement risk reduction measures as and when required. The settlement risk reduction measures are aimed at minimising possible systemic risk emanating from, inter alia, settlement default (inability or lack of funds to settle obligations) of one or more settlement banks.

Key consideration 1

The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.

Material aspects and relevant jurisdictions

Q.1.1.1: What are the material aspects of the FMI's activities that require a high degree of legal certainty (for example, rights and interests in financial instruments; settlement finality; netting; interoperability; immobilisation and dematerialisation of securities; arrangements for DvP, PvP or DvD; collateral arrangements (including margin arrangements); and default procedures)?

South Africa is the relevant jurisdiction for all material aspects of the FMI's activities, which include: (i) the mandate to provide the service; (ii) settlement finality of payments settled through the SAMOS system; and (iii) the rights to assets (financial instruments) that are used as collateral for loans provided in the SAMOS system.

The SAMOS service agreement stipulates where settlement instructions should be delivered and the process followed for settlement. It also contains settlement procedures as well as finality and irrevocability. The Operational Manual and SLA, which is an addendum to the SAMOS service agreement, specifies the technical and business requirements.

The memorandum of understanding (MoU) with FMD deals with the functionality to use collateral in the Central Bank Collateral Management System (CBMS). PASA manages the criteria documents that specify criteria that prospective PSO and SO's must comply with before they can join the payment system. An SLA setting out the responsibilities has been entered into between the SAMOS system (the FMI) and MasterCard.

Visa has an agreement with BankservAfrica to submit instructions to SAMOS on its behalf. SAMOS (the FMI) and BankservAfrica entered into an SLA to set out their responsibilities.

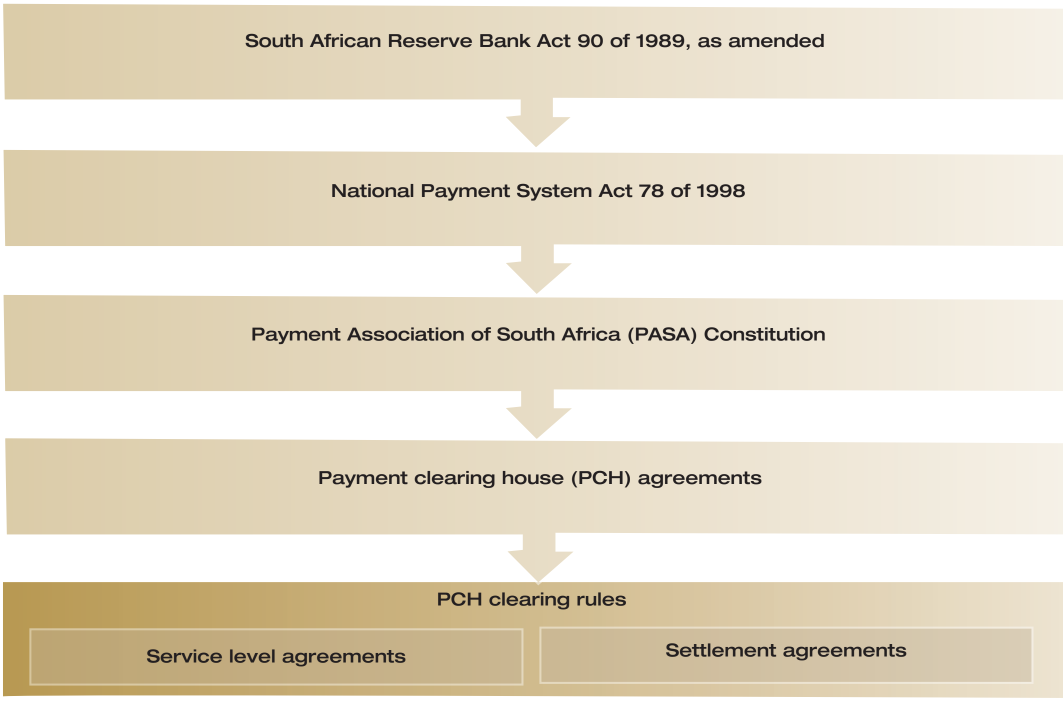
7. Information on the SARB Act is available on the SARB website at www.resbank.co.za, under About us\Legislation. The SARB act states that the primary objective of the SARB shall be to protect the value of the currency of the Republic in the interest of balanced and sustainable economic growth in the Republic.

8. Information is available on the SARB website at www.resbank.co.za, under Regulation and supervision\National Payment System (NPS)\NPS Legislation.

Q.1.1.2: What are the relevant jurisdictions for each material aspect of the FMI's activities?

The relevant jurisdiction for each material aspects of the FMI's activities is established through the following legal foundation:

Figure 6 Legal foundation for the payment system in South Africa



Although the SAMOS system is hosted and operated within South African borders and subject to the domestic legal framework, its real-time settlement extends services to international jurisdictions as follows:

1. SAMOS is a liquidity provider for the Southern African Development Community (SADC) Integrated Regional Electronic Settlement System (SIRESS), which provides cross-border RTGS services to SADC.

2. SAMOS provides settlement services for CLS payments in order to facilitate the foreign exchange transactions between participating member countries managed by CLS Bank International. CLS Bank is a direct participant in the SAMOS system to enable the settlement of the South African currency (rand) in the CLS system.

Legal basis for each material aspect

Q.1.1.3: How does the FMI ensure that its legal basis (that is, the legal framework and the FMI's rules, procedures and contracts) provides a high degree of legal certainty for each material aspect of the FMI's activities in all relevant jurisdictions?

The SAMOS system is governed by different rules and regulations in terms of Acts, legislation, directives, policies, government gazettes and internationally recognised standards (i.e. SWIFT message standards and the CLS Coordination Manual). Predefined contracts are endorsed between the FMI operator, direct participants, PASA, PSOs and central securities depositories (CSDs). As illustrated under Q.1.1.2, the following provide the legal basis for the FMI activities:

1. The SARB Act

The SARB Act mandates the SARB to oversee the regulation of the NPS and to ensure its safety, soundness and efficiency. The SARB Act was amended in 1996 to clarify the role and responsibility of the SARB in the domestic payment system. Following from this amendment, 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 empowered 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”.

2. NPS Act

The SARB, in conjunction with the banking industry, drafted legislation for the participants and users of the NPS, and in October 1998 the NPS Act was promulgated, with the purpose of the NPS Act being to “provide for the management, administration, operation, regulation and supervision of the payment, clearing and settlement systems in the Republic of South Africa; and to provide for connected matters.” The NPS Act furthermore provided for the regulatory and supervisory powers of the SARB to manage and control payment system risks.

3. PSMB

Section 3(1) of the NPS Act mandates the SARB to recognise a PSMB in order to organise, manage and regulate its members participating in the NPS.[9] The PSMB that is currently recognised by the SARB is PASA.[10] The NPS Act provides the management body with the guidelines under which it can operate and the functions to be performed by such a body.[11] The NPS Act also prescribes the participants that may become members of PASA. The purpose of PASA is to assist the SARB with the implementation and management of its members in the clearing domain.

There are rules in place that govern the conduct of PASA members. There is a requirement that, prior to admission, participants shall participate in the clearing and settlement environment, such participant shall be expected to be a member of PASA, and also sign the various agreements regulating the different PCHs in which the member wishes to participate. PASA’s constitution governs its functions, structures and activities with further rules affecting its members in the form of PASA policies and position papers.[12] In the PASA environment, the legal foundation governing participation in a particular payment system is contained in a PCH agreement.

4. PCH agreements

A PCH is a bilateral, legally binding arrangement entered into by two or more of the SARB settlement system participants, excluding a designated settlement system operator governing the clearing of payment instructions to be settled by the SARB’s settlement system participants. Also participating in the clearing domain are the PSOs. A PSO is defined in the NPS Act as an entity that clears on behalf of two or more Reserve Bank settlement system participants.

Payment instructions are sent to the PSO through the various payment networks. The PSO is responsible for the actual clearing. The specific transaction types and applicable clearing rules relevant to each PCH are agreed among members that form part of a participant group, which would be responsible for one or more PCH agreements. The PCH participant group (PCH PG) would also be responsible for the appointment of one or more PSOs for each PCH, which would be authorised by PASA to clear interbank payment instructions.[13]

Furthermore, transactions cleared through the PSO are eventually settled at the SARB through the SAMOS system. Within the South African context, consumers and corporates have a choice of about 18 different payment systems, which jointly form part of the NPS. These payment systems are governed and regulated by PASA and range from low-value debit card transactions to high-value bond exchange payments. For the purpose of this document, these payment systems will not be discussed as the arrangement is outside of the FMI.

5. SLAs and Directives

The SAMOS participation of PASA members and the PSO is further managed through adherence to SLAs, settlement agreement and the SAMOS service agreement.[14] In terms of the NPS Act, the SARB may from time to time, after consultation with the PSMB, issue directives to any person regarding a payment system.

Accordingly, the directive for conduct within the National Payment System for System Operators, Directive 2 of 2007, is published in *Government Gazette* Notice 1111 of 2007, dated 6 September 2007. The SARB as the provider of the FMI enters into agreements, listed below, with its participants and CSDs as liquidity providers. These are standardised agreements and are drafted in a clear, concise manner:

9. More information on the NPS starter pack is available on the SARB website at www.resbank.co.za, under Regulation and supervision\National Payment System (NPS)\Access to the NPS.

10. For more information about PASA, go to www.pasa.org.za

11. See Position Paper NPS 02/2011 titled ‘Position paper on access to the national payment system’ published in June 2011, available at http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Documents/Position%20Paper/PP2011_02.pdf.

12. More information on PASA, the payment system as an umbrella subject and clearing rules can be found under the PASA Constitution on the PASA website at www.pasa.org.za.

13. More information on the process and the services of the different PCH PGs can be obtained from the PASA website at www.pasa.org.za.

14. Information on the NPS starter pack is available on the SARB website at www.resbank.co.za, under Regulation and supervision\National Payment System (NPS)\Access to the NPS.

5.1. Settlement Agreement[15]

All South African settlement participants in the SAMOS system must enter into this agreement with set terms and conditions in order to enter into an arrangement governing the settlement of payment obligations between them. These payment obligations arise from the clearing of payment instructions through established payment clearing houses as contemplated in the NPS Act and in terms of the rules and requirements as prescribed by the SARB. Each party binds itself to the other parties upon the terms and conditions contained in the settlement agreement and the schedules thereto.

15. The settlement agreement document is available to members only (on the PASA website at www.pasa.org.za).

5.2. SAMOS Service Agreement[16]

The basis of this agreement is that the SARB, in the course of performing its functions as the central bank of the Republic of South Africa, shall provide the SAMOS participant with a facility to settle settlement obligations by means of the SAMOS system. This agreement is entered into before the participant becomes live in the SAMOS system, and its purpose is to record the contractual terms and conditions applicable to the parties (SAMOS participant and the SARB) in the provision of the payment settlement services by the SARB to the participant and the utilisation of the facilities provided by the SARB to the participant; thus each creating a legally binding relationship to receive SAMOS system services.

16. The SAMOS agreement document is available to members only (on the PASA website at www.pasa.org.za).

Included in the SAMOS service agreement is the function of the central bank to provide the participant access to the SAMOS automatic intraday loan facility against the *cession in securitatem debiti* of eligible securities as collateral. Thus, collateral is ceded to the SARB as security for the proper and timeous performance by the SAMOS participant of all its obligations which it may now or in the future incur to the SARB, arising from the SAMOS participant's utilisation of the SAMOS system, all the rights, title and interest in the securities recorded in the CBMS and held in the money market securities account or RESB account, upon reservation of such securities in the SAMOS system by the cessionary on written instruction from the cedent, together with all rights of action thereunder.

5.3. MoU or Service Standard

To document the roles and responsibilities, an MoU is entered into by the NPSD with each of the following internal departments within the SARB:

a. Business Systems and Technology Department (BSTD);
b. Financial Markets Department (FMD);
c. Bank Supervision Department (BSD); and
d. Financial Services Department (FSD)

The MoU provides for the NPSD to share or receive services from these departments in order to deliver a robust and reliable SAMOS service to the industry.

5.4. Continuous Linked Settlement Coordination Manual

CLS Bank is a direct participant in the SAMOS system to enable the settlement of the South African currency (rand) in the CLS system. A Continuous Linked Settlement Coordination Manual manages operational arrangements between the parties and is governed by the laws of the South African central bank's jurisdiction.

The SARB also enters into contracts with vendors, consultants and other service providers. The SARB's BSTD and LSD are responsible for negotiating and implementing these contracts, which are based on templates approved by the SARB's LSD pursuant to the Procurement Policy of the SARB and applicable procedures. This is performed outside the NPSD's responsibilities and it focuses on several fundamental principles such as financial viability, value, risk, performance, internal control, and acting appropriately. Therefore, this does not form part of this assessment.

All the above agreements entered into are contractual and the standing requirement is that no system participant in whatever capacity will assume access to any of the SAMOS services without signing the relevant agreements. Although this process is regulated, and documentation is produced and controlled by the SARB, PASA is responsible for overseeing that the new participant consents to the agreements before a full PASA membership is granted.

a. For an FMI that is a CSD, how does the CSD ensure that its legal basis supports the immobilisation or dematerialisation of securities and the transfer of securities by book entry?

This is not applicable to the SAMOS system.

b. For an FMI that is a CCP, how does the CCP ensure that its legal basis enables it to act as a CCP, including the legal basis for novation, open offer or other similar legal device? Does the CCP state whether novation, open offer or other similar legal device can be revoked or modified? If yes, in which circumstances?

This is not applicable to the SAMOS system.

c. For an FMI that is a TR, how does the TR ensure that its legal basis protects the records it maintains? How does the legal basis define the rights of relevant stakeholders with respect to access, confidentiality and disclosure of data?

This is not applicable to the SAMOS system.

d. For an FMI that has a netting arrangement, how does the FMI ensure that its legal basis supports the enforceability of that arrangement?

This is not applicable to the SAMOS system as it settles on a gross settlement basis.

e. Where settlement finality occurs in an FMI, how does the FMI ensure that its legal basis supports the finality of transactions, including those of an insolvent participant? Does the legal basis for the external settlement mechanisms the FMI uses, such as funds transfer or securities transfer systems, also support this finality?

The legal framework mentioned above makes provision for the FMI settlement finality and insolvency arrangements.

Key consideration 2

An FMI should have rules, procedures and contracts that are clear, understandable and consistent with relevant laws and regulations.

Q.1.2.1: How has the FMI demonstrated that its rules, procedures and contracts are clear and understandable?

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. 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 laws and regulations in the South African jurisdiction, establish the terms upon which the settlement service is provided to its participants. The FMI operator is readily available to provide consultation on any issues that are not clear.

The FMI collaborates with stakeholders regarding any rules, procedures and contracts to ensure that they understand and agree to them. SAMOS participants in a PCH PG are consulted prior to the implementation of new rules. The FMI operator, NPS Oversight Division and SARB LSD are represented at PASA on committees addressing the rules, procedures and contracts. PASA is involved in drafting and implementing rules and procedures and the SARB LSD with reviewing the contracts and ensuring they comply with South African legislation.

Q.1.2.2: How does the FMI ensure that its rules, procedures and contracts are consistent with relevant laws and regulations (for example, through legal opinions or analyses)? Have any inconsistencies been identified and remedied? Are the FMI's rules, procedures and contracts reviewed or assessed by external authorities or entities?

The legal foundation, as described above, provides for the NPS legal framework in South Africa. Therefore, regulating laws provide the SARB and the SAMOS participants with a high degree of legal assurance as to the finality of settlement and clearing within the SAMOS system.

Living documents that are adapted through PASA and the SARB's internal legal system are legally binding for the industry and the SARB, and this is monitored by the SARB's NPSD and PASA to ensure compliance.

To the extent that the PASA Council identifies any violations (actual or potential), the SARB works with the PASA Council to determine the best approach to avoid or remedy the violation. If no satisfactory solution can be found, the SARB will take appropriate steps to prohibit the settlement and/or participation or membership in the settlement service.

The SARB's LSD and RMCD as well as PASA monitor legislation to ensure compliance. The following laws/regulations were considered when the self-assessment was completed: SARB Act; Banks Act; Cooperative Banks Act; Mutual Banks Act; and Insolvency Act, 1936 (Act No. 24 of 1936 as amended), Financial Market Act, the Telecommunication related Matters Act, 1958 (Act No. 44 of 1958); Companies Act, 2008 (Act No. 71 of 2008); Postal Services Act, 1998 (Act No. 124 of 1998).

Q.1.2.3: Do the FMI's rules, procedures and contracts have to be approved before coming into effect? If so, by whom and how?

The FMI regulations are governed by the NPS Act. For the purpose of this documentation, these regulations can be considered as FMI rules of participation and are binding to for the SARB, SAMOS participants and PSOs.[17]

These FMI rules consists of:[18] (a) the management of the participants' liquid assets; (b) the disclosure of certain information of the South African payment system to the regulators and other bodies; (c) the withdrawal of membership or participation to the payment system; (d) non-compliance penalties and justice; (e) articulation of disputes and responsibilities; (f) immediate finality PCH agreements; (g) SAMOS and repurchase agreements; (h) roles and responsibilities of the FMI operators; (i) the purpose of a PSO as a clearing service provider or CSD or user of the settlement service; (j) the right of participation to the South African payment system and the requirements thereof; (k) the role of the SARB's BSD (Registrar of Banks) in the payment system; (l) South African currency participation to the foreign market through the CLS; (m) the keeping of registers for securities and ownership; and (n) the rights and cession by the SARB of participant's financial instruments pledged as collateral to loans.

17. The settlement rules document refers; available to members only (on the PASA website at www.pasa.org.za).

18. Based on the NPS Act, 'SAMOS settlement system participants' means (i) the South African Reserve Bank (SARB); (ii) a bank, a mutual bank, a cooperative bank or a branch of a foreign institution; or (iii) a designated settlement system operator that participates in the SARB settlement system. More information is available on the SARB website at www.resbank.co.za under Regulation and supervision\National Payment System (NPS).

Key consideration 3

An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants and, where relevant, participants' customers in a clear and understandable way.

Q.1.3.1: How does the FMI articulate the legal basis for its activities to relevant authorities, participants and, where relevant, participants' customers?

The NPS Act requires that a Standing Committee be appointed to review the NPS Act. The Act is reviewed by the Standing Committee on an ad hoc basis to identify potential issues. It is also reviewed when changes in the market require changes thereto, (e.g. to allow CLS banks to participate, or as consequential amendments from other legislation (e.g. impact of the Financial Markets Act 19 of 2012).

PCH agreements are reviewed by PASA with the involvement of applicable committees on an ad hoc basis when changes in the market require amendments, or as a consequence of changes to other legislation.

As discussed above in key consideration 2 of this principle, the FMI regulations are governed by the NPS Act which emanated from the SARB Act. To ensure optimum delivery of service and transparency, the FMI's activities prescribed by these Acts are made available to relevant stakeholders through appropriate channels to ensure full access to information. Several position papers, information papers, designations and directives issued by the SARB are based on these rules and adhere to administrative law principles, and are published on the SARB website for the benefit of the public.

1. Position papers

Position papers are published by the SARB in order to state the SARB's position in respect of specific payment system issues. These documents are aligned to the legislation and regulatory requirements and they can either indicate approaches, procedures and/or policy matters that are applicable at a particular time. The following position papers have an impact on the FMI: (i) Position Paper 2 of 2006 titled 'Position Paper on the Intraday Monitoring and Utilisation of the Liquid Asset Requirement Holdings and the Cash Reserve Account'; (ii) Position Paper 01 of 2014 titled 'Position Paper on the Interbank Settlement Application Interfaces'; (iii) Position Paper 03 of 2008 titled 'Position Paper on the Cost-recovery Policy for the SARBLink Interbank Settlement Network; and (iv) Position Paper 02 of 2011 titled 'Position Paper on Access to the National Payment System'.

2. Information papers

Information papers are divided into two categories: (i) documents that compliment current position papers to clarify the content of the position paper to the industry; and (ii) documents that at some stage were utilised as position papers by the payment industry, but lapsed in terms of duration and/or relevance. These documents are used for, among other things, research and historical reference purposes.

3. Designations

Designations are issued by the SARB and published on the SARB website. The SARB is empowered to designate a settlement system as a designated settlement system in terms of section 4A (4) of the NPS Act. Such designation may be made if the designation is in the interest of the integrity, effectiveness, efficiency or security of the payment system. The current designation has been approved for a direct link with the SAMOS system, SIRESS and CLS.

4. Vision and strategy documents

The SARB regularly conveys the NPS's vision and strategy to the public, taking into account new and complex challenges faced by the NPS stakeholders. The first South African National Payment System Framework and Strategy document was published in 1995, before the SAMOS system was introduced in March 1998.[19] This document contained a 10-year vision up to 2004.

With most of the envisaged strategies being successfully implemented, the Vision 2010 document was published as a product of inter-organisational brainstorming, debate and consultation between the SARB, the banking industry and other relevant stakeholders, and its purpose was to provide high-level strategic guidance for the payment system up to 2010. This document contains a high-level vision and strategies to maintain a world-class payment system and also meet domestic and regional payment system requirements.

On the basis of a continued process, Vision 2010 was reviewed, refined and adjusted for future developments to create a vision and strategy for 2015. In this document, new objectives and strategies have been developed, and some of the Vision 2010 objectives and strategies have been reconsidered, resulting in a refocus and/or redefinition for Vision 2015.[20] The purpose of this framework is to provide a high-level updated strategic direction for the payment system up to 2015.

5. NPSD operational notices

The NPSD regularly publishes Operational Notices on the SARB's secure SAMOS participants' website in order to communicate everything from system documentations, rules and procedures to ensure settlement.[21]

6. NPS starter pack for participation

The starter pack is a summarised handbook of the regulatory requirements for a new entrant in the NPS. This document is publicly available on the SARB website. The document describes certain procedural requirements and other information relating to participation in the SAMOS system.

Key consideration 4

An FMI should have rules, procedures and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed or subject to stays.

Enforceability of rules, procedures and contracts

Q.1.4.1: How does the FMI achieve a high level of confidence that the rules, procedures and contracts related to its operations are enforceable in all relevant jurisdictions identified in key consideration 1 (for example, through legal opinions and analyses)?

With reference to the above key consideration, the FMI is subject to the legal foundation for the payment system in South Africa. Therefore, the SARB's LSD, external legal consultants and the standing committee for the review of the NPS Act participate in the review of the NPS regulation as and when required.[22] All the agreements or contracts between the FMI, PSOs and participants are reviewed by both parties' legal representatives before they are signed to ensure they are enforceable.

19. It is recommended to read this passage together with the NPS Framework and Strategy Vision 1995 to 2005, 2010 and 2015 documents, available at www.resbank.co.za\Regulation and supervision\National Payment System (NPS)\Role of a National Payment System.

20. The Vision 2015 document is publicly accessible on the SARB website at www.resbank.co.za\Regulation and supervision\National Payment System (NPS)\Role of a National Payment System.

21. NPSD operational notices are only accessible by members under the SAMOS participants' forum secure site on the SARB website.

22. 'Standing Committee for the Review of the National Payment System Act' means the committee duly established and functioning in terms of section 15 of the NPS Act. More information on the NPS Act is available on the SARB website at www.resbank.co.za under Regulation and supervision\National Payment System (NPS)\Legislation.

Degree of certainty for rules and procedures

Q.1.4.2: How does the FMI achieve a high degree of certainty that its rules, procedures and contracts will not be voided, reversed or subject to stays? Are there any circumstances in which an FMI's actions under its rules, procedures or contracts could be voided, reversed or subject to stays? If so, what are those circumstances?

The SARB is clear on what is expected in order to qualify, and be registered, as a settlement participant. The NPS starter pack clearly states the rules and legislative requirements that a new entrant should adhere to. All new entrants must comply with the standards adopted as prescribed in the 'IMMS PCH settlement rules' document and must provide a certification of the test conducted by the SARB before being approved for participation in the PCH.[23] Current SAMOS participants should adhere to the relevant agreements upon joining the SAMOS system.[24] Section 9 of the SARB Act clearly states the reasons that will void the rules, procedures and contracts, as provided under the 'Validity of the Board of Directors (Board) decisions and acts'; no decision or act of the Board or act performed under the authority of the Board shall be invalid. The reviewing of rules, procedures and contracts is always subject to legal opinion and confirmation from the SARB's LSD, and comments from current participants are also taken into account.

23. Section 3(4) of the NPS Act states clearly participation requirements in the bank settlement system.

24. Immediate Settlement Clearing Rules document published by PASA and adopted on 08-10-2013.

Q.1.4.3: Has a court in any relevant jurisdiction ever held any of the FMI's relevant activities or arrangements under its rules and procedures to be unenforceable?

No court has ever held any of the FMI's relevant activities or arrangements under its rules and procedures as unenforceable.

Key consideration 5

An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.

Q.1.5.1: If the FMI is conducting business in multiple jurisdictions, how does the FMI identify and analyse any potential conflict-of-laws issues? When uncertainty exists regarding the enforceability of an FMI's choice of law in relevant jurisdictions, has the FMI obtained an independent legal analysis of potential conflict-of-laws issues? What potential conflict-of-laws issues has the FMI identified and analysed? How has the FMI addressed any potential conflict-of- laws issues?

This consideration is not applicable. 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.

Assessment of compliance

The SARB observes Principle 2.

All key considerations are observed. The FMI is operated by the SARB and has wide public policy objectives and responsibilities, including monetary policy.

The SAMOS system is subject to the governance arrangements as per the NPS Act, which is driven by the mission statement of the NPSD, as well as the clearly defined NPS industry's objectives. The SARB acts as overseer of the NPS. The NPSD has the responsibility for implementing the framework and strategy agreed to by the SARB and the banking industry. The NPSD strives to reduce and manage the risks in the NPS by promoting compliance to accepted international best practice relevant for payment systems. The NPSD is primarily focused on the domestic NPS, but also plays a vital role in the development of the payment systems in SADC.

These elements place a high priority on the safety and efficiency of the FMI entities and support financial stability. Additionally, the SAMOS system is operated and managed under robust policies and controls, which allows for strategic and operational risk management within the FMI. The governance arrangements clearly specify the roles and responsibilities of the Board of the SARB and its subsidiaries.

According to the SARB Act, the Board shall be responsible for the corporate governance of the SARB by ensuring compliance with principles of good corporate governance as well as adopting rules and determining policies for the sound accounting, administration and functioning of the SARB. The Governor and the deputy governors are responsible for policy issues and the day-to-day management of the SARB.

Protecting the value of the South African currency is the primary function of the SARB, and in discharging this role, the SARB takes responsibility to:

1. ensure that money, banking and the financial system in the country is sound, meets the requirements of the community and keeps abreast of international developments;
2. assist government as well as other members of SADC with data relevant for the formulation and implementation of macroeconomic policy; and
3. inform the South African community and all relevant stakeholders about the South African monetary policy and economic situation.

Key consideration 1

An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.

Q.2.1.1: What are the FMI's objectives, and are they clearly identified? How does the FMI assess its performance in meeting its 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 in the country. Thus, it plays a significant role in supporting the role of the banks in maintaining financial stability of the country. Its role and function strive towards three distinguishable, functional areas namely:

1. provision of payment settlement services (operational);
2. oversight of the NPS; and
3. developing regional capacity and infrastructure in SADC.

Attention is focused particularly on the distinction between the operational and oversight roles. In line with international trends, the NPSD believes that the SARB will continue to own and operate the settlement system and that NPS oversight, as an integral part of financial stability, will remain the function of the central bank. Owing to the unique role and functions of the SARB, risk management has also been taken into account as one of the primary objectives, in line with the statutory and constitutional responsibility of the SARB.

The SARB also functions within an environment characterised by continuous change and uncertainty. This requires constant monitoring and analysis of, and appropriate response to, potential and actual risks emanating from the global political and economic environment. The executive management of the SARB is aware of the high performance standards that all role players within its external environment expect of the central bank.

Q.2.1.2: How do the FMI's objectives place a high priority on safety and efficiency? How do the FMI's objectives explicitly support financial stability and other relevant public interest considerations?

The risk management process is viewed as an integral part and an essential element of good corporate governance, and therefore the SARB has formulated risk management policy to manage risks in a coordinated, comprehensive and systematic manner, consistent with international standards and best practices. Managing risks allows the FMI to strive for the achievement of the following:

1. maintaining safety and efficiency of the NPS; this forms part of the SARB's risk assessment and annual strategic planning sessions to identify focus areas and strategic initiatives;
2. ensuring that the settlement of financial obligations in the economy takes place in central bank money, which therefore underpins financial stability; and
3. ensuring that a national coordination body, the Financial Sector Contingency Forum (FSCF), exists for the management of risks impacting the financial system to support the safety and efficiency of the NPS.

Key consideration 2

An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.

Governance arrangements

Q.2.2.1: What are the governance arrangements under which the FMI's board of directors (or equivalent) and management operate? What are the lines of responsibility and accountability within the FMI? How and where are these arrangements documented?

The SARB Act provides for the SARB Board to consist of 15 directors. The Governor and three deputy governors are appointed by the President of the Republic of South Africa, after consultation with the Minister of Finance and the Board, initially for five-year terms. 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 an ordinary annual general meeting (AGM) of shareholders.

The SARB annually holds an AGM at its Head Office building in Pretoria. On this occasion the Governor, as Chairperson, delivers an annual address on matters covering the state of the economy, certain aspects of monetary policy and the operations of the SARB. At this meeting the SARB tables a comprehensive 'Annual Report' on its operations and finances for approval by shareholders. The 'Annual Report' also contains a discussion on monetary policy.

The Board meets regularly to ensure that it fulfils its role of ensuring corporate governance of the SARB. The Board ensures compliance with 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 established various committees and subcommittees, chaired by non-executive directors. To ensure the proper functioning of the SARB and the optimal discharge of its responsibilities, some of the SARB's activities are organised in subsidiary companies.

Internally, the SARB has 18 departments, including the SARB Academy. Heads of department (HoDs) report either to the Governor, a Deputy Governor, Group Executive Currency Cluster or the Chief Operating Officer. Collectively, the departments ensure the smooth running of the SARB and the implementation of its mandate.

The Deputy Governor responsible for the NPS delegated the responsibility for managing FMI operations to the head of the NPSD. These responsibilities are clearly defined in the instrument of delegation of powers approved by the Governor. The head of the NPSD reports to the Deputy Governor, who in turn reports to the Governor. The Governor of the SARB is therefore ultimately accountable for the proper functioning and sound management of the FMI.

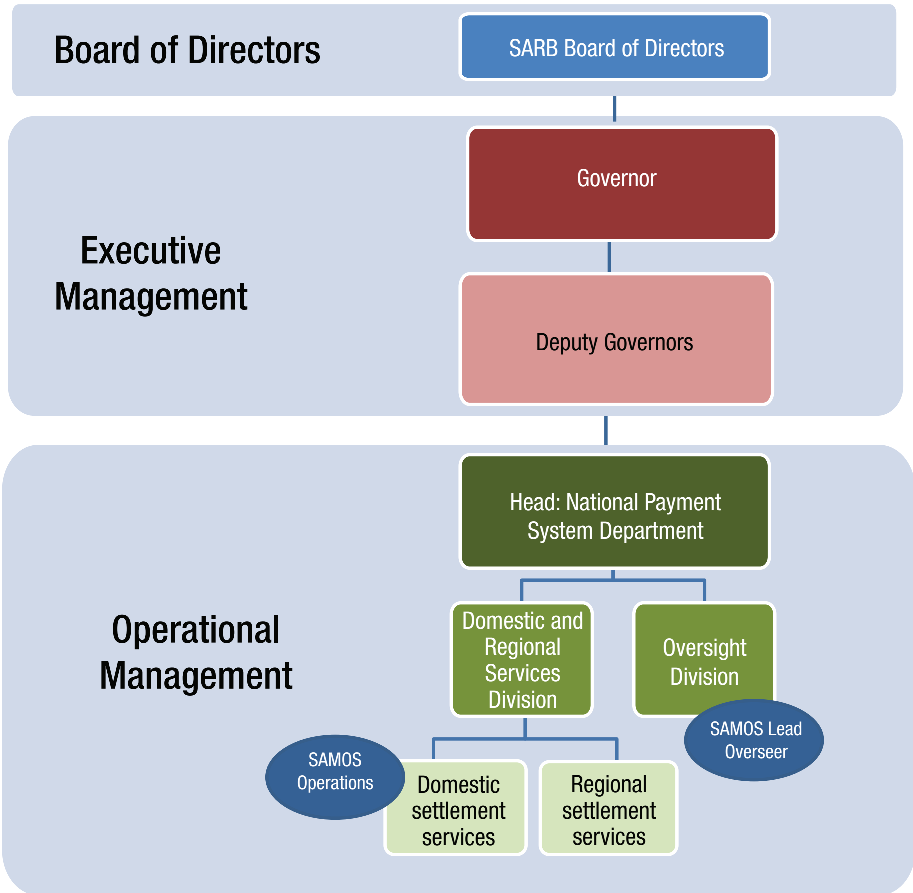
Q.2.2.2: For central bank-operated systems, how do governance arrangements address any possible or perceived conflicts of interest? To what extent do governance arrangements allow for a separation of the operator and oversight functions?

Currently, the management, operation and oversight of the FMI are located under the same department and therefore the managers of these functions report to the same Deputy Governor. The head of the NPSD is assisted by two deputy general managers; one is responsible for the management and operations of the FMI, and the other is responsible for the oversight of the NPS in the country. Each deputy general manager has a separate performance agreement with the head of the NPSD. Although the operations and oversight functions of the FMI are located in the same department within the SARB, each division has its own deputy general manager with assigned delegation and areas of responsibility.

It is expected that the revised regulatory framework for the NPS to be implemented in 2018 will provide for an improved governance arrangement between the operator of the FMI, and supervision and oversight of the NPS.

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.

Figure 7 Governance structure of the NPSD



Q.2.2.3: How does the FMI provide accountability to owners, participants and other relevant stakeholders?

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.

Disclosure of governance arrangements

Q.2.2.4: How are the governance arrangements disclosed to owners, relevant authorities, participants and, at a more general level, the public?

The SARB is the owner and operator of the FMI and therefore no other external owners exist. The governance arrangement of the SARB is published in the Annual Report but no specific reference is made to FMI governance. At a certain level it is discussed with current participants through PASA structures. This self-assessment allows the FMI to disclose its governance arrangements.

Key consideration 3

The roles and responsibilities of an FMI's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.

Roles and responsibilities of the Board

Q.2.3.1: What are the roles and responsibilities of the FMI's board of directors (or equivalent), and are they clearly specified?

The SARB's Board is a unitary body that functions in terms of the SARB Act and a Board Charter.

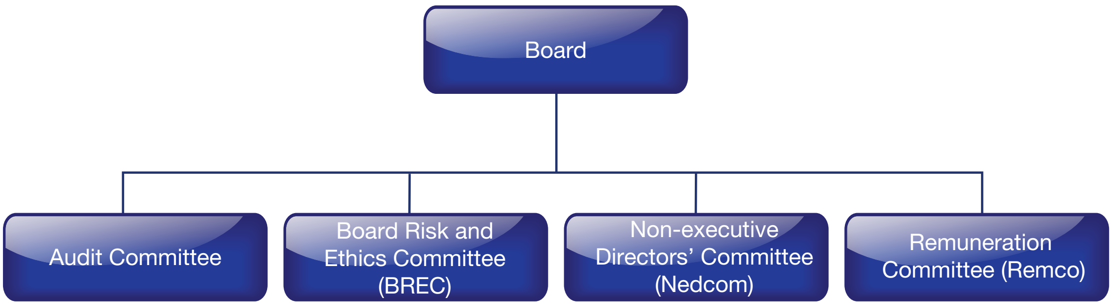
The terms of reference of all committees and the Board Charter are reviewed on an annual basis. The governance framework established for the Board outlines the following requirements and responsibilities:[25]

25. See the SARB's *Annual Report 2016/2017*, available at www.reservebank.co.za under Publications and Notices\Reports\Annual Reports.

1. composition and membership of the Board;
2. Board and organisational matters;
3. Board committees and their terms of reference; and
4. policies and procedures relating to corporate governance.

In line with the SARB Act, the role of the Board is explicitly limited to that of corporate governance. The SARB Board is ultimately responsible for overseeing and monitoring the risk management processes established for the SARB, including FMI operations. The responsibility and accountability for FMI operations rest with the Governor, deputy governors and relevant committees established by the Governors' Executive Committee (GEC).

Figure 8 SARB Board and committee structure



Q.2.3.2: What are the board's procedures for its functioning, including procedures to identify, address and manage member conflicts of interest? How are these procedures documented, and to whom are they disclosed?

How frequently are they reviewed?

All issues considered by the SARB Board are outlined in the SARB Act. The Board Charter outlines rules and procedures necessary for the Board to perform its governance functions. The regulations issued by the Minister of Finance, in line with section 36 of the SARB Act, provide for the management of any conflict of interest of the directors on the Board of the SARB.

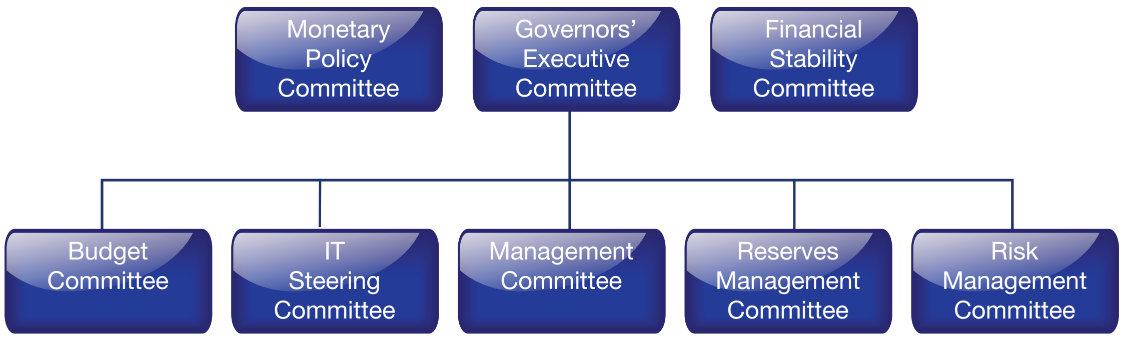
Q.2.3.3: Describe the board committees that have been established to facilitate the functioning of the board. What are the roles, responsibilities and composition of such committees?

The following committees have been established to facilitate the functioning of the SARB and the Board:

1. Governors' Executive Committee

Members of the GEC include the Governor and Deputy Governors. The Chief Operating Officer, Group Executive: Currency Management Cluster, and General Counsel attend the GEC meetings ex officio. The GEC is responsible for policy decisions and the management of the SARB. To assist with the day-to-day management of the SARB, including policy decisions, the GEC has established various committees as depicted below. The roles and responsibilities of each committee are spelt out in the SARB Annual Report, which can be found on the SARB website.[26]

Figure 9 Executive management: GEC and its committees



26. Available on the SARB website at www.reservebank.co.za under Publications and Notices\Reports\Annual Report 2016/17.

2. Board Risk and Ethics Committee[27]

The Board Risk and Ethics Committee (BREC) is a subcommittee of the Board, established to assist the Board with its governance role in respect of risk management. The BREC comprises six non-executive directors, the Governor and two deputy governors. It is chaired by an independent non-executive director appointed by the Board. The committee, among other things, assists the Board in discharging its responsibilities for the management of risks and good corporate citizenship in the SARB. The BREC oversees and monitors all matters relating to risk management by reviewing the status of risk management, the effectiveness of the risk management policy and activities, and the mitigation measures that addresses key risks. The SARB internal code of ethics is reviewed periodically.

27. Extract from the 'Governance of risk management in the SARB' document, available on the SARB website at www.resbank.co.za under Publications and Notices\Reports\/Annual Report 2016/17.

3. Audit Committee

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.

4. NPS Act Standing Committee

This Standing Committee was established to review NPS developments and to ensure that the NPS Act provides the SARB with sufficient regulatory powers to oversee the safety and soundness of the payment system.

5. NPS strategy working group

The working group consists of representatives of the settlement banks, including the SARB. This group discusses the further implementation of the NPS and any new developments.

6. National Payment System Strategy Body[28]

One of the strategies identified in the NPSD Vision 2010 document was the establishment of an overarching payment system management structure. The SARB identified the need to consult and act in collaboration with the various stakeholders in the NPS. Accordingly, the SARB established the National Payment System Advisory Body (NPSAB) in 2008, which is representative of all the regulated stakeholders within the NPS and other interested parties, for example, National Treasury. In 2011 the name of the NPSAB was changed to the National Payment System Strategy Body (NPSSB). This allows banks, non-banks and other participants to establish various associations to represent the interest of their members at the NPSSB.

28. Information is available on the SARB website at www.resbank.co.za\Regulation and supervision\National Payment System (NPS).

The NPSSB focuses mainly on strategic payment system-related issues, most importantly those issues that may have a risk-related impact on the NPS and participants. Furthermore, the NPSSB acts in the interest of the NPS as a whole and not in the interest of individuals or participant groups. The NPSSB functions in an advisory capacity to the SARB and inputs received are considered in the policy and strategic decisions made by the SARB. The NPSSB has no juristic personality or decision-making powers. The NPSSB is chaired by a Deputy Governor of the SARB and the secretarial functions are performed by the NPSD. The NPSSB is made up of the following groups:

a. SARB;
b. PASA;
c. Banking Association South Africa;
d. National Treasury;
e. Payment System Stakeholder Forum (for low-value payments);
f. South African Retailers' Payment Issues Forum (SARPIF);
g. Association of System Operators; and
h. Third Party Payers Association.

7. Financial Stability Committee

The Financial Stability Committee (FSC) is established for the purpose of achieving the financial stability objective of the SARB.[29] The main responsibility of this committee is to formulate the financial stability policy on behalf of the SARB in support of the primary objective of the SARB. The objective of the FSC is to complement the price stability objective of the SARB through formulation and implementation of appropriate macroprudential policy measures to limit the cost of system-wide distress in the financial system. The typical key functions of the FSC include consideration of:

a. conjectural assessments of risks to, and imbalances in, the broad financial system and their implications for the stability of the financial system;

b. the appropriateness and adequacy of resolution policies and measures for crisis resolution; and

c. international and domestic developments in the areas of macroprudential policy and regulation, including the G20 regulatory reform agenda, and their potential policy implications for South Africa.

8. PASA Council[30]

The NPSD has an oversight responsibility of the NPS. However, flowing out of its recognition of PASA as a PSMB, it has delegated many powers of 'self-regulation' to PASA, which in turn has been mandated to 'organise, manage and regulate' its members with regard to payment matters. The ultimate body responsible within the PASA domain is the PASA Council.[31]

The PASA Council is the governing body of PASA and is composed of councilors drawn from PASA members. Although appointed by members, councilors have a fiduciary responsibility (i.e. they act independently and objectively, in the best interest of the NPS, and with a holistic and inclusive mindset). This Council bears the responsibility of ensuring an efficient, reliable and stable payments environment to serve the South African economy and people as a whole. The Council comprises a non-voting chairperson and councilors appointed as follows:

a. any association members with a throughput representing more than 10% of the total value and volume cleared through the interbank systems during the previous year – in practice this currently adds up to four members;

b. three association members elected by the rest of the members (commonly referred to as the 'lower volume and value banks');

c. the Chief Executive Officer of PASA; and

d. the SARB as a non-voting council.

d. two independent councilors (one being the independent chairperson and the other the independent deputy chairperson.

Of the 10 councilors, nine having voting powers; the SARB is a non-voting member. Councilors elect an independent chairperson and an independent deputy chairperson on a biannual basis.

PASA continually reviews its governance structures and processes against the principles of the *King Code on Corporate Governance for South Africa* to ensure compliance with these principles as far as they are relevant and practical. PASA is also in constant contact with its peer group of payment associations in a number of countries with similar jurisdictions, such as the United Kingdom, Canada,

29. See the SARB's Annual Report 2016/2017, available at www.reservebank.co.za under Publications and Notices\Reports\Annual Reports.

30. Information is available on the PASA website at www.pasa.org.za.

31. The PASA structure and governance is available on the PASA website at www.pasa.org.za

Australia, Ireland and others, which assist with benchmarking and the adoption of best practices in the area of corporate governance. The NPSD is currently in a process of reviewing the governance arrangements of PASA.

PASA has established three committees that govern the NPS as indicated below:

i. Settlement Risk Focus Committee[32]

The Settlement Risk Focus Committee is a body constituted by the PASA mandated to investigate and evaluate the various options to manage settlement failure, in relation to each PCH.

ii. Legal Committee[33]

The Legal Committee has been established and mandated by the PASA Council to peruse, vet and draft any appropriate legal documentation, and advise on any appropriate legal matter (hereinafter called 'the services') emanating from any official PASA committee, including the PASA Executive Office, for the sole purpose of advising, assisting and supporting PASA in achieving its goals and objectives as stated in the PASA Constitution. The committee has also been mandated by the PASA Council to review any statutory matters which could significantly impact the compliance requirements and position of PASA and to communicate this to its members.

iii. Settlement System Participant Group[34]

The Settlement System Participant Group (SSPG) is established by the system participants in the interbank clearing and settlement system. The SSPG is constituted and mandated by the PASA Council to act as a body with a common interest or as a consultative forum for the purpose of recommending and, once approved by the SARB and PASA, implementing rules for settlement. The SSPG liaises and consults with the SARB, PASA and such other party or parties within the clearing and settlement system as may be appropriate or desirable on operational matters relating to the settlement of payment obligations in the interbank clearing and settlement system.

32. More information is available in the Settlement Risk Focus Committee Constitution document, available to members only (on the PASA website at www.pasa.org.za).

33. More information is available in the Legal Committee Constitution documented, available to members only (on the PASA website at www.pasa.org.za).

34. More information is available in the Settlement System Participant Group Constitution document, available to members only (on the PASA website at www.pasa.org.za).

Review of performance

Q.2.3.4: What are the procedures established to review the performance of the board as a whole and the performance of the individual board members?

Self-assessments to evaluate the functioning of the Board as a whole and of its committees are conducted by directors on an annual basis.

Key consideration 4

The board should contain suitable members with the appropriate skills and incentives to fulfill its multiple roles. This typically requires the inclusion of non-executive board member(s).

Q.2.4.1: To what extent does the FMI's board have the appropriate skills and incentives to fulfil its multiple roles? How does the FMI ensure that this is the case?

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. All directors, except the Governor and three deputy governors, are non-executive directors. 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.

Q.2.4.2: What incentives does the FMI provide to board members so that it can attract and retain members of the board with appropriate skills? How do these incentives reflect the long-term achievement of the FMI's objectives?

The directors' terms of office are prescribed in the SARB Act. The Board adopted the principle which limits the term of non-executive directors to three terms of three years each, while executive directors are appointed by the President of the Republic of South Africa for a period of five years and may be reappointed for additional terms not exceeding five years at a time.

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.

Q.2.4.3: Does the board include non-executive or independent board members? If so, how many?

All directors, except the Governor and three deputy governors, are non-executive directors. This is a requirement prescribed by the SARB Act.

Q.2.4.4: If the board includes independent board members, how does the FMI define an independent board member? Does the FMI disclose which board member(s) it regards as independent?

An independent board member is deemed as any director that is not involved in the day-to-day management and operations of the SARB.

Key consideration 5

The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.

Roles and responsibilities of management

Q.2.5.1: What are the roles and responsibilities of management, and are they clearly specified?

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 management team of the FMI contributes to a sound and efficient payment system that meets the requirements of the NPS. The strategic development plans of the NPS as well as the FMI settlement system development and user acceptance testing processes, day-to-day operations and risk management form part of the operational plan of the NPSD.

Q.2.5.2: How are the roles and objectives of management set and evaluated?

The instrument of delegation of powers sets out line functions that are delegated to the respective departments. The management team of NPSD is therefore responsible for monitoring developments in the settlement environment and making strategic decisions on the future developments of the settlement system, at least through a review of the system in a five-year cycle.

The operations team is responsible for the day-to-day operations and monitoring of the FMI. Performance of staff charged with responsibilities in this area is evaluated based on a formal performance contract.

Experience, skills and integrity

Q.2.5.3: To what extent does the FMI's management have the appropriate experience, mix of skills and the integrity necessary for the operation and risk management of the FMI? How does the FMI ensure that this is the case?

Job profiles indicate the educational requirements, skills and competencies required to manage the FMI. Recruitment, selection and skills development intervention are formally undertaken and led by the Human Resource Department within the SARB. New executives, management and employees are security-vetted. The process is facilitated by the SARB security officials who liaise with the State Security Agency and the South African Police Service (SAPS), where relevant. Security vetting is conducted to examine the integrity of the individual through a person's education (skills and competency), criminal background checks and private life in order to make sure the employee can be safely trusted to hold the position in the NPSD. This is done in order to reduce personnel security risks and to ensure that the FMI security is not compromised in any manner.

To ensure a high level of public confidence in the SARB's subsidiaries, business units and divisions, the SARB is committed to a Code of Ethics and Business Conduct (Code). This Code is endorsed by the Board and approved by the GEC, and is based on a fundamental principle that business should be conducted with honesty, fairness and according to the law. The SARB expects all employees to share its commitment to high moral, ethical and legal standards. The Code is further designed to be able to serve as information to external stakeholders of the SARB in this important area of corporate governance.

The Code also puts emphasis on compliance with all applicable laws and regulations (in particular the SARB Act) which relate to their activities for, and on behalf of, the SARB. The SARB will not condone any violation of the law or unethical business dealing by any employee. It also clearly states the SARB's stance on conflicts of interest; and outside activities, employment and directorships, including any payment for, or other participation in, an illegal act, such as bribery.

Q.2.5.4: What is the process to remove management if necessary?

Performance management is managed by the HoD and the Deputy Governor (who is a member of the GEC) to whom the HoD reports. The SARB has a robust performance management system which allows for management to be assessed biannually. A disciplinary process is in place to manage any misconduct by management or any other employees of the SARB.

Key consideration 6

The board should establish a clear, documented risk- management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk management and internal control functions have sufficient authority, independence, resources and access to the board.

Risk management framework

Q.2.6.1: What is the risk management framework that has been established by the board? How is it documented?

The SARB Group Risk Management Policy, as approved by the GEC, is in place; this policy allows risks to be identified and managed. The strategic and operational risk matrices are reviewed on an annual basis. Where residual risks are identified, action plans for the establishment or enhancement of existing controls are implemented and/or monitored on a continual basis.

Q.2.6.2: How does this framework address the FMI's risk tolerance policy, assign responsibilities and accountability for risk decisions (such as limits on risk exposures), and address decision-making in crises and emergencies?

The SARB Group Risk Management Policy sets out the non-financial risk tolerance of the SARB Group.[35] Risk tolerance is approached from an impact and a likelihood perspective. From the impact perspective, the risk tolerance is set so that operations should be performed to minimise the potential risk impact inherent in the operations, while from the likelihood perspective, the risk tolerance requires a lower residual risk likelihood where the potential risk impact is higher. There are currently no specific risk tolerance limits set for the FMI, except for service levels agreed to with BSTD to manage FMI operations.

35. SARB Group Risk Management Policy as published in June 2016

The responsibilities for risk management in the FMI rest with the HoD and departmental management. The management team is therefore accountable to the Risk Management Committee (RMC), GEC and BREC. 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 the process. The business continuity plan for the FMI sets out escalation and crisis management procedures to manage operational risks.

Q.2.6.3: What is the process for determining, endorsing and reviewing the risk management framework?

According to the SARB Group Risk Management Policy, the RMCD is responsible for developing, maintaining and promoting an appropriate risk management policy, framework, approach and culture as well as methodologies, processes and support systems. This Risk Management Policy is reviewed biennially by the RMCD and tabled for RMC, GEC and BREC's consideration for approval. The FMI has developed an operational risk management (ORM) framework which allows for the proactive management of operational risks in the FMI environment. This ORM framework is reviewed and approved by the management responsible for the FMI.

Authority and independence of risk management and audit functions

Q.2.6.4: **What are the roles, responsibilities, authority, reporting lines and resources of the risk management and audit functions?**

The SARB Group follows a combined assurance approach for risk management and control which allows for integration, coordination and alignment of the assurance processes in the SARB. This approach also aims to enhance the level of risk, governance and control oversight in the SARB Group. Departmental management is primarily responsible for risk management and the implementation of controls for the FMI operations.

The SARB has delegated the coordinating responsibility of risk management to the RMCD. This function coordinates the governance, risk management and compliance activities of the SARB. The RMCD is functionally accountable to the GEC and reports on behalf of 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 conducts audits on the controls, systems and processes of the FMI.

Q.2.6.5: **How does the board ensure that there is adequate governance surrounding the adoption and use of risk management models? How are these models and the related methodologies validated?**

As stated above, RMCD is responsible for developing, maintaining and promoting an appropriate risk management policy, framework, approach and culture as well as methodologies, processes and support systems. All these are approved by the Board, RMC and the GEC.

Key consideration 7

The board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.

Identification and consideration of stakeholder interests

Q.2.7.1: **How does the FMI identify and take into account the interests of the FMI's participants and other relevant stakeholders in its decision-making in relation to its design, rules, overall strategy and major decisions?**

The FMI has adopted a collaborative approach in identifying and taking into account the interests of the FMI participants and other relevant stakeholders in its decision-making process. This includes the NPSSB, SAMOS User Group (SUG), SSPG, PASA as well as the relevant legislations such as position papers and other publications that are taken into consideration. The SARB Board recognises PASA's role through the GEC which assigns responsibility to the NPSD. The PASA domain includes the following committees with representatives from the NPSD:

1. Business Continuity Planning (BCP) Committee;
2. PASA Risk Committee; and
3. Immediate Settlement (IMMS) Committee.

Other stakeholders addressed through PASA include SOs such as Strate and BankservAfrica.

Q.2.7.2: **How does the board consider the views of direct and indirect participants and other relevant stakeholders on these decisions; for example, are participants included on the risk management committee, on user committees such as a default management group or through a public consultation?**

How are conflicts of interest between stakeholders and the FMI identified, and how are they addressed?

The SUG meetings provide a platform for the FMI to discuss any issues that impact on the stakeholders. The FMI can also convene special meetings to discuss any issue that has an impact on the stakeholders. Various forums are available, including PASA (as discussed above) for stakeholders to discuss issues affecting the NPS and FMI operations.

If, for example, stakeholders are not satisfied with a response from PASA, the problem can be escalated to NPSD and the GEC, where applicable.

Disclosure

Q.2.7.3: To what extent does the FMI disclose major decisions made by the board to relevant stakeholders and, where appropriate, the public?

In order to promote the constitutional right of access to information, the SARB complies with the Promotion of Access to Information Act 2 of 2000. In response to this, the Promotion of Access to Information Manual was published by SARB for the public. 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.

1. The mandate, mission, objectives and functions of the SARB and its Board are published on the SARB website.
2. The role of the NPS as well as the role and responsibilities of the SARB, through the NPSD, are published on the SARB website.
3. The SARB maintains the confidentiality of its FMI members; hence, member information is published on a secure site.
4. All relevant legislation and the regulatory frameworks are published on the SARB website, including position papers, information papers, directives and strategic documents.
5. The NPSD holds a SUG forum quarterly, which is a formal meeting to engage all active FMI participants, including the SOs.
6. More communication is extended to the SADC community through the Committee of Central Bank Governors (CCBG) website.[36]

36. CCBG website: www.sadc.int

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.

In reviewing this principle, an assessor should consider how the various risks, both borne by and posed by the FMI, relate to and interact with each other. As such, this principle should be reviewed holistically with the other principles.

Assessment of compliance

The SARB observes Principle 3.

As mentioned previously in Principle 2, the SARB views risk management as an integral part and essential element of good corporate governance. The payment system is well designed and structured so as to minimise applicable risks to its participants and all other stakeholders. The NPS participant starter pack and the various directives and position papers, including the PASA constitution, outline the various processes involved in the SAMOS system, as well as the respective responsibilities and obligations of the SARB and each participant. The legislation also provides the legal underpinnings for the SARB's risk management framework and risk design. The SARB Group Risk Management Policy is formally documented and reviewed biennially to ensure that all potential risks relating to the FMI operations can be identified, assessed, measured, monitored and reported.

Key consideration 1

An FMI should have risk management policies, procedures and systems that enable it to identify, measure, monitor and manage the range of risks that arise in, or are borne by, the FMI. Risk management frameworks should be subject to periodic review.

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

Q.3.1.1: What types of risk arise in, or are borne by, the FMI?

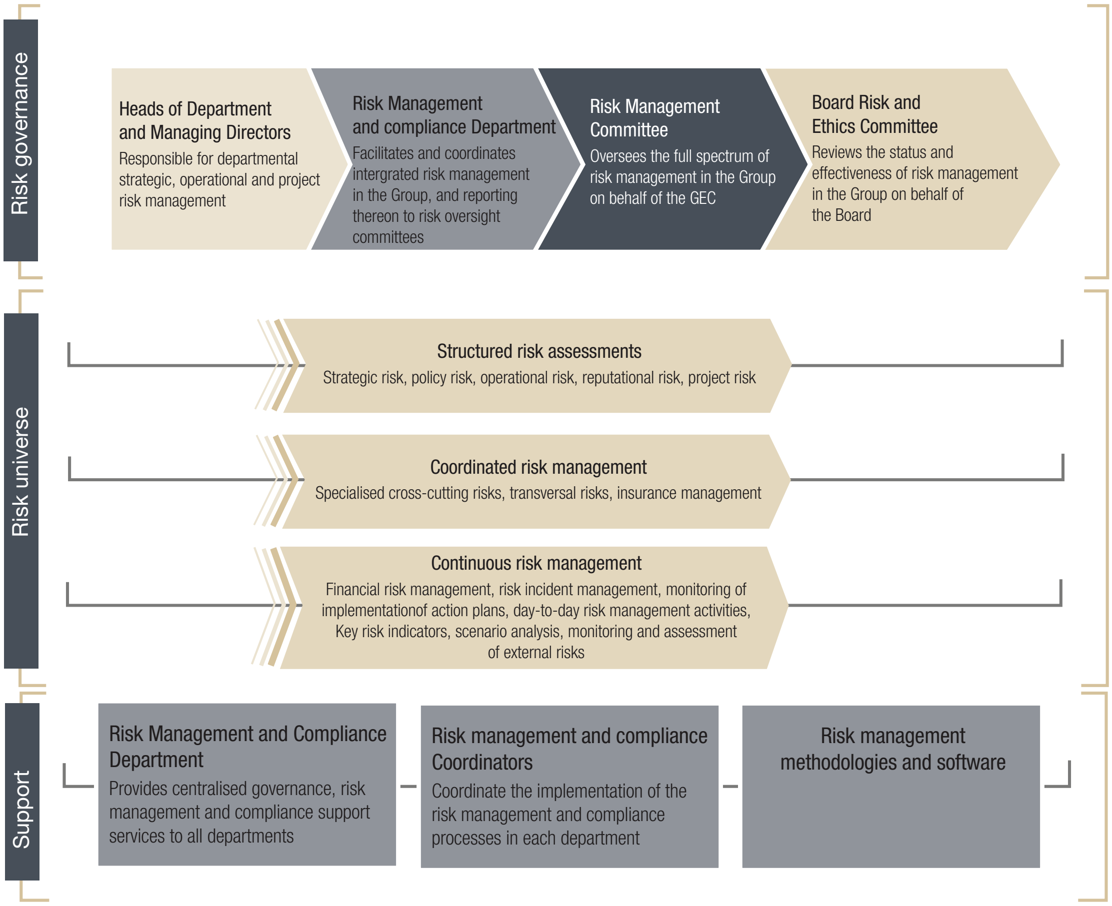
The types of risk arising in, or borne by, the FMI include systemic risk, operational risk, settlement risk, legal risk, liquidity risk, credit risk and reputational risk.

Risk management policies, procedures and systems

Q.3.1.2: What are the FMI's policies, procedures and controls to help identify, measure, monitor and manage the risks that arise in, or are borne by, the FMI?

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 universe, and the support structures and processes.

Figure 10 SARB Group Risk Management Policy



The RMCD performs a centralised, integrated risk management coordination function, and reports to the RMC and BREC on risk management activities, including the status and effectiveness of risk management in the Group. In addition, it facilitates structured risk assessments conducted at Group-wide strategic, company-wide strategic, departmental strategic and departmental operational levels. Structured risk assessments are also conducted in respect of policy risk and reputational risk. The coordinating role of the RMCD extends to the management of specialised, cross-cutting risks, which include compliance and business continuity management.

Specific efforts, applied Group-wide to ensure that the Group meets its compliance obligations, include:

1. developing and maintaining an appropriate policy and framework;
2. identifying, assessing and monitoring compliance with applicable regulatory requirements;
3. promoting a culture of compliance; and
4. reporting on compliance risks to the RMC and BREC.

Business continuity management is supported by a policy and framework as well as centralised coordination and services. The RMCD facilitates business impact assessments and compilation of business continuity plans for the FMI. The SARB Group resilience is strengthened through appropriate backup infrastructure and 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 Group's cyber and information security programme.

The RMCD also coordinates and facilitates continual risk management activities, which include the reporting of risk incidents, monitoring the implementation of action plans to mitigate identified residual risks, and implementing and monitoring key risk indicators.

Q.3.1.3: What risk management systems are used by the FMI to help identify, measure, monitor and manage its range of risks?

Strategic and operational risk assessments are conducted on an annual basis to identify potential risks. Emerging risks are also recorded as and when identified by the FMI. Strategic and operational risk matrices assist in recording, monitoring and reporting strategic and operational risks. These matrices are updated at least on a monthly basis 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 in the FMI operations.

The SARB uses the CURA system 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. The SAMOS system also provides error log and control log reports that identify problems and controls in the system. This includes system alerts sent via emails and short message services (SMSs) to the monitoring and support function. A monthly operational report outlining gaps, changes and solutions in the FMI environment is compiled for the attention of the management team of NPSD.

Q.3.1.4: How do these systems provide the capacity to aggregate exposures across the FMI and, where appropriate, other relevant parties, such as the FMI's participants and their customers?

Due to the nature and design of the SAMOS system, the SARB does not need to aggregate exposures across the FMI and participating banks.

Review of risk management policies, procedures and systems

Q.3.1.5: What is the process for developing, approving and maintaining 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.

Q.3.1.6: How does the FMI assess the effectiveness of risk management policies, procedures and systems?

The effectiveness of the risk management is assessed through audit reports and monthly operations reports.

Q.3.1.7: How frequently are the risk management policies, procedures and systems reviewed and updated by the FMI? How do these reviews take into account fluctuation in risk intensity, changing environments and market practices?

In line with the SARB Group Risk Management Policy, strategic and operational risk self-assessments are conducted on an annual basis to identify new risks, and review and assess existing controls. 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 departmental management team participates in the and Financial Sector Contingency Forum and its Operational Risks Subcommittee.

Key consideration 2

An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.

Q.3.2.1: What information does the FMI provide to its participants and, where relevant, their customers to enable them to manage and contain the risks they pose to the FMI?

As part of compliance, participating banks accept responsibility for the adherence to standards as prescribed in the SAMOS service agreement to ensure accuracy, lawfulness and integrity of all settlement instructions delivered and communications issued by, or on behalf of, such party to the SARB and/or to other parties to this agreement.

Q.3.2.2: What incentives does the FMI provide for participants and, where relevant, their customers to monitor and manage the risks they pose to the FMI?

The SARB provides SAMOS participating banks with real-time information on the status of each individual payment instruction submitted by the participant as well as the SAMOS position monitor (a reflection of account balances, the collateral reserved balance, eligible collateral and liquid assets requirement (LAR), reserve account holdings (RAH), PCH batch, and CPL positions). This real-time provision of information strengthens crisis management capabilities implemented by participating banks. In addition to the position monitor, reports are made available to the participants. Information is retained to comply with the requirements for record retention prescribed in the NPS Act.

Q.3.2.3: How does the FMI design its policies and systems so that they are effective in allowing their participants and, where relevant, their customers to manage and contain their risks?

Meetings are held with participants in order to identify new or emerging risks. Participants in the SAMOS system are required to follow a change management process. Participants must notify the FMI of any change that might impact on its settlement process. Procedures are in place where the FMI is notified of operational incidents experienced. The FMI follows up on each incident that was recorded, which requires a response from a participant (e.g. messages that are not formatted according to the rules that might pose a risk to the system).

The use of the payment and settlement service is preferable to bilateral settlement because the SAMOS system eliminates principal risk. Participants are fully aware of the system validations (detailed in the settlement process under Principle 8) that govern the settlement of their payment instructions, and the times by which payment settlement requirements must be satisfied. If the SARB is unable to settle a payment instruction because the validations have not been met, then the payment instruction gets rejected in the SAMOS system. Under these circumstances, the decision on how to handle the settlement of the payment instructions is made by the payer.

Depending on the reason for failure, the payer may decide to resubmit the unsettled payment instructions to the SAMOS system for settlement on the same day or at any other valid settlement elected by the payer. The charge structure in SAMOS also includes penalties for messages that are incorrectly formatted. Discounts on message processing costs are available to encourage participants to send instructions from early in the morning and throughout the day.

Key consideration 3

An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.

Material risks

Q.3.3.1: How does the FMI identify the material risks that it bears from and poses to other entities as a result of interdependencies? What material risks has the FMI identified?

Material risks identified include liquidity and system availability. Any disruption will have an impact on the rand settlement through CLS as well as on the settlement of the equities and bonds. Reliance on SWIFT as the only message network carrier might pose a material risk to the FMI operations.

Q.3.3.2: How are these risks measured and monitored? How frequently does the FMI review these risks?

The NPSD participates in the review of strategic and operational risks, facilitated by the RMCD, on an annual basis. Representatives of the FMI also participate in the PASA Business Continuity Policy Committee and Risk Committee as well as the FSCF and its Operational Risk Subcommittee.

Risk management tools

Q.3.3.3: What risk management tools are used by the FMI to address the risks arising from interdependencies with other entities?

The CURA system and the NPS call logging system are used to log and manage any identified risks. Controls, action plans and changes to the processes and procedures are updated when new risks relating to FMI operations are identified. The system is also monitored and supported throughout the business day. The FMI's BCP document is reviewed annually to ensure risks are mitigated by processes and procedures. A contingency application is in place to determine participants' settlement balances when an incident occurs

Q.3.3.4: How does the FMI assess the effectiveness of these risk management tools? How does the FMI review the risk management tools it uses to address these risks? How frequently is this review conducted?

The RMCD is the owner of the CURA system and is responsible for the review of this risk management tool. The IAD conduct audits on tools used by the NPSD for effectiveness and adequacy.

Key consideration 4

An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.

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

Q.3.4.1: How does the FMI identify scenarios that may potentially prevent the FMI from providing its critical operations and services? What scenarios have been identified as a result of these processes?

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.

Q.3.4.2: How do these scenarios take into account both independent and related risks to which the FMI is exposed?

The risks relating to these scenarios are managed in line with service agreements established between the FMI and related structures.

Recovery or orderly wind-down plans

Q.3.4.3: What plans does the FMI have for its recovery or orderly wind-down?

This is not applicable to the SAMOS system.

Q.3.4.4: How do the FMI's key recovery or orderly wind-down strategies enable the FMI to continue to provide critical operations and services?

This is not applicable to the SAMOS system.

Q.3.4.5: How are the plans for the FMI's recovery and orderly wind-down reviewed and updated? How frequently are the plans reviewed and updated?

This is not applicable to the SAMOS system.

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.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 5 on collateral, Principle 6 on margin, and Principle 7 on liquidity risk, as appropriate. This principle should also be reviewed in the context of Principle 13 on participant default rules and procedures; Principle 23 on the disclosure of rules, key procedures and market data; and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 4.

As a general principle, the FMI is an RTGS system that operates strictly on a prefunded principle; that is, settlement will only take place if there are sufficient funds in the settlement account. The only credit risk that takes place is through fully collateralised loans used to fund a SAMOS participant's settlement account. 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. Refer to Principle 5 for clarity on collateral process.

The assets reserved for collateral purposes in the SAMOS system have the same categories of liquid assets as those held for LAR holdings as prescribed by the Registrar of Banks (Registrar).[37≠]

37. See Position Paper NPS 2/2006, available at http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Documents/Position%20Paper/PP2006_02.pdf.

Key consideration 1

An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.

Q.4.1.1: What is the FMI's framework for managing credit exposures, including current and potential future exposures, to its participants and arising from its payment, clearing and settlement processes?

The FMD manages credit risk by setting minimum criteria that an institution must meet before approval as a counterparty. Therefore:

1. once approved, limits are assigned per counterparty in line with its risk profile;
2. the profile is determined by the type of institution (Corporate or Government) and the credit rating assigned to the institution;
3. maturity limits are used to ensure that more risky assets have shorter maturities; and
4. limits are assigned based on the institution's capital and reserves, and these are monitored by BSD.

Another aspect that is also monitored is the credit exposure at entity level, meaning that the team aggregates exposure across all portfolios.

One of the SARB's functions is to provide liquidity to banks during periods of temporary shortages of cash.[38] This function is referred to as the SARB's 'lender of last resort' lending activity. This function implies providing assistance to a bank facing liquidity problems. Such assistance is only given after conducting a full analysis of the problems afflicting such a bank and the reasons they arose. Assistance is only provided for specific conditions, and its purpose is to prevent the bankruptcy of the bank receiving assistance and/or to avoid the danger of problems spreading to other banks through a 'run on the bank'. A bankrupt bank will often not be able to repay its depositors, and the main purpose of special assistance is therefore to protect depositors. However, such assistance is never guaranteed or given automatically, and banks may accordingly go bankrupt, leading to severe hardships for depositors who lose their deposits at such a bank. The maintenance of stability in the banking system is, therefore, of the utmost importance to any country.

The FMI, however, has very limited credit exposure. The FMI 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. Although there is no loan granted without collateral, creditworthiness of a participant is important as potential loss allocation assessments under the regulations may need to be collected from the participant. This process is managed by BSD under the BSD regulations. The FMI participants' LAR is set based on the BA 310 return that is also managed by the BSD under the bank supervision regulations and the Basel III principles. The initial and ongoing creditworthiness of participants and liquidity providers is also important for the long-term commitment, stability and market confidence in the payment system service.

The FMD of the SARB is responsible for the framework to ensure that the collateral that is reserved for loans provided in SAMOS covers any credit exposure. The FMD provides the market values on a daily basis for use in SAMOS. An MoU is in place between the SAMOS operator and FMD to manage this and other responsibilities between the two parties. Furthermore, a session agreement is included in the SAMOS service agreement to ensure legal certainty about the ownership of collateral.[39]

Q.4.1.2: How frequently is the framework reviewed to reflect the changing environment, market practices and new products?

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

Key consideration 2

An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk management tools to control these risks.

Q.4.2.1: How does the FMI identify sources of credit risk? What are the sources of credit risk that the FMI has identified?

As discussed above, the SARB's credit risk is very low as loans are collateralised through financial instruments reserved in the SAMOS system.

38. Position paper: 2/2006 published on 2006-12-01

39. Section 8 of the SAMOS service agreement refers

Q.4.2.2: How does the FMI measure and monitor credit exposures? How frequently does and how frequently can the FMI recalculate these exposures? How timely is the information?

The FMI was designed with a capability to grant loans subject to the available collateral value. The collateral value is revalued per the current market value on daily a basis. This function is automated to ensure optimum credit allowance protection.

Q.4.2.3: What tools does the FMI use to control identified sources of credit risk (for example, offering an RTGS or DvP settlement mechanism, limiting net debits or intraday credit, establishing concentration limits, or marking positions to market on a daily or intraday basis)? How does the FMI measure the effectiveness of these tools?

Settlement through the RTGS is provided on a gross basis and it limits the intraday credit risk. The type of instruments acceptable as collateral by the FMI is managed through BSD and the LAR. Haircuts are implemented on all instruments and the market value is revalued on a daily basis.

Key consideration 3

A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.

Coverage of exposures to each participant

Q.4.3.1: How does the payment system or SSS cover its current and, where they exist, potential future exposures to each participant? What is the composition of the FMI's financial resources used to cover these exposures? How accessible are these financial resources?

As indicated in key considerations 1 to 3 above, credit risk is limited to 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, 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.

Q.4.3.2: To what extent do these financial resources cover the payment system's or SSS's current and potential future exposures fully with a high degree of confidence? How frequently does the payment system or SSS evaluate the sufficiency of these financial resources?

The only credit exposure relates to the provision of loans against collateral that is described in key consideration 1 above.

For DNS payment systems and DNS SSSs in which there is no settlement guarantee

Q.4.3.3: If the payment system or SSS is a DNS system in which there is no settlement guarantee, do its participants face credit exposures arising from the payment, clearing and settlement processes? If there are credit exposures in the system, how does the system monitor and measure these exposures?

The FMI is an RTGS system and DNS requirements do not apply. The only credit exposure relates to the provision of loans against collateral, which is described in key consideration 1 above.

Q.4.3.4: If the payment system or SSS is a DNS system in which there is no settlement guarantee and has credit exposures among its participants, to what extent does the payment system's or SSS's financial resources cover, at a minimum, the default of the two participants and their affiliates that would create the largest aggregate credit exposure in the system?

The FMI is an RTGS system and DNS requirements do not apply. The only credit exposure relates to the provision of loans against collateral, which is described in key consideration 1 above.

Key considerations 4 to 6 are not applicable to the payment system

Key consideration 7

An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.

Allocation of credit losses

Q.4.7.1: How do the FMI's rules and procedures explicitly address any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI? How do the FMI's rules and procedures address the allocation of uncovered credit losses and in what order, including the repayment of any funds an FMI may borrow from liquidity providers?

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.

In addition, the SAMOS system is a well-designed system with the capability to grant loans subject to the available collateral value. The collateral value is revalued per the current market value, and a haircut is applied, on a daily basis. This function is automated to ensure optimum credit allowance protection. (Section 4 of the SAMOS business process model on the expanded view on collateral management refers). As indicated in the response to key consideration 1, 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.

Replenishment of financial resources

Q.4.7.2: What are the FMI's rules and procedures on the replenishment of the financial resources that are exhausted during a stress event?

Collateralisation procedures have been implemented in the system to automatically manage and monitor the utilisation of liquidity and the loan allowance through the LAR.

The SAMOS Operational 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.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 4 on credit risk, Principle 6 on margin, and Principle 7 on liquidity risk, as appropriate. This principle should also be reviewed in the context of Principle 14 on segregation and portability, Principle 16 on custody and investment risk, and other principles, as appropriate.

Assessment of compliance

The SARB broadly observes Principle 5.

With reference to key considerations 2 and 3, the MoU with FMD stipulates the requirement for FMD to test this principle and provide feedback to the FMI.

The SARB's general principle is that all participants are required to have collateral in the SAMOS system. To secure any loans in the SAMOS system, collateral in the form of government stock, Treasury bills, SARB debentures and Land Bank bills are utilised. The SARB debentures are a claim on the central bank, while the other instruments, excluding Land Bank bills, are claims on the government. These assets carry minimal or no liquidity or credit risk.

Each settlement participant enters into a SAMOS settlement agreement with the FMI. In terms of this agreement, 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. This is managed through an MoU with FMD. FMD, in turn, is a CSD participant in the local CSD, namely Strate, which is responsible for the management of securities.

Key consideration 1

An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks

Q.5.1.1: How does the FMI determine whether a specific asset can be accepted as collateral, including collateral that will be accepted on an exceptional basis? How does the FMI determine what qualifies as an exceptional basis? How frequently does the FMI adjust these determinations? How frequently does the FMI accept collateral on an exceptional basis, and does it place limits on its acceptance of such collateral?

Intraday SAMOS loans are secured by the same type of collateral as that used under the Monetary Policy Operational Notice. All of the values that a bank is to retain in liquid assets must be reserved in SAMOS as financial instruments.

Acceptable financial instruments are defined by the Monetary Policy Operational Notice as government stock, SARB debentures, Treasury bills and Land Bank bills (irrespective of maturity). These instruments can be reserved as collateral in the SAMOS system. This collateral is automatically utilised for securing SAMOS loans, on the conditions determined by the SARB from time to time, in order to facilitate settlement through the SAMOS system if there is a shortage of funds in a bank's settlement account.

FMD has a collateral management process in place where it 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. For less riskier assets, such as government paper, FMD allows lower haircuts, while for more risky assets, such as corporate paper, FMD applies a higher haircut. FMD assigns a higher minimum rating for acceptable collateral (up to an 'A' rating). If the collateral is in the same currency as the loan, then a lower haircut versus a cross-currency collateral transaction will be applied.

Q.5.1.2: How does the FMI monitor the collateral that is posted so that the collateral meets the applicable acceptance criteria?

The level of collateral is monitored on a daily basis. If the haircut limit is breached, the counterparty will be instructed to post more collateral.

The LAR is regulated by BSD. The Registrar made a concession to allow banks to use 50% of their LAR holdings during the day as collateral for intraday SAMOS loans for facilitating interbank settlements. SAMOS will monitor the reserving of instruments in SAMOS and will not allow the processing of loans if the regulation is violated. The updating of the LAR is done once a month on certification date as the BA 310 forms are completed and submitted to BSD. The updating of the LAR may take place on the SAMOS system between the start of window 1 to the end of window 3.

During the day, a bank could, therefore, reduce its holdings of required liquid assets to levels below those required by the Banks Act, but would have to meet the prescribed LAR again by the end of the day.

Only a part of the value reserved in SAMOS to fulfil a bank's LAR is available as collateral in the system to secure a loan for settlement. The LAR regulation is currently as follows:

1. 75% (A) is protected on SAMOS, only 25% of collateral reserved may be removed during the day;
2. 50% (B) is available for loans during the course of the day; and
3. 25% (C) is available for loans at the end of the day.

When the A, B and C percentages change, the SAMOS system recalculates the collateral available to SAMOS and reflects the new bank position. If the available collateral is a negative balance, the bank will not be granted a loan until sufficient collateral becomes available, either by reserving or receiving funds. Before the certification date, SAMOS sends an LAR reminder notification (BLRN) to the banks to remind them to submit the required figures, as per BA 310, to SAMOS. If a bank fails to submit its LAR on the certification date, BSD submits it on the bank's behalf.

Q.5.1.3: How does the FMI identify and mitigate possible specific wrong-way risk – for example, by limiting the collateral it accepts (including collateral concentration limits)?

The SAMOS system caters for other financial instruments to be loaded as eligible collateral that will not necessarily qualify as a LAR asset. Such other instruments are included in the total collateral values (reserved, available, utilised and available for loans).

Decisions by the executives of the SARB define any additional financial instrument which may be used as eligible collateral in SAMOS. The instrument type is then loaded on the SAMOS system as an acceptable financial instrument.

Key consideration 2

An FMI should establish prudent valuation practices, develop haircuts that are regularly tested, and take into account stressed market conditions.

Valuation practices

Q.5.2.1: How frequently does the FMI mark its collateral to market, and does it do so at least daily?

The market value of the financial instruments is revalued on a daily basis. These values are received from FMD.

Q.5.2.2: To what extent is the FMI authorised to exercise discretion in valuing assets when market prices do not represent their true value?

The FMI has no authority to set prices, regardless of the situation. However, the previous day's rates may be reloaded and accepted as current if the loaded data is not acceptable or timeously available. It is FMD's responsibility to ensure that the collateral values are sufficient to cover the SARB against any credit losses, and this clause is set out in the MoU between FMD and the FMI.

Haircutting practices

Q.5.2.3: How does the FMI determine haircuts?

To provide for volatility in the market values of financial instruments, the SAMOS system volatility or market risk premium (haircut) will apply. This rate is applied on a percentage basis and is used to calculate the collateral value of each instrument based on the previous day's market value.[40] These haircuts may be changed at the discretion of the SARB prior to the commencement of a new committed liquidity facility (CLF) contract period. The SAMOS system calculates the collateral value of the financial instruments at the start of each business day. When a loan is granted, the SAMOS system pledges collateral with a collateral value that is equal to the amount of the loan required.

40. Refer to Addendum 1 of Operational notice pertaining to the committed liquidity facility published in August 2016 on SARB website, www.resbank.co.za

Q.5.2.4: How does the FMI test the sufficiency of haircuts and validate its haircut procedures, including with respect to the potential decline in the assets' value in stressed market conditions involving the liquidation of collateral? How frequently does the FMI complete this test?

These haircuts are determined by FMD. For a further detailed discussion on haircuts, see Principle 7 below. The MOU between FMD and the FMI addresses communication on when the sufficiency tests are to be conducted and have been conducted.

Key consideration 3

In order to reduce the need for procyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.

Q.5.3.1: How does the FMI identify and evaluate the potential procyclicality of its haircut calibrations? How does the FMI consider reducing the need for procyclical adjustments – for example, by incorporating periods of stressed market conditions during the calibration of haircuts?

FMD is responsible for the identification and evaluation of the potential procyclicality of the haircut calibrations.

The FMI is operated by the central bank. In this regard, the evaluation of securities is used in a much wider content as this is part of the evaluation of securities that are used in the execution of monetary policy by the SARB. Currently, there is a standing agreement between the FMI operator and FMD; therefore, any discussions to identify and evaluate the haircut calibrations must be communicated to the FMI operator.

Key consideration 4

An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.

Q.5.4.1: What are the FMI's policies for identifying and avoiding concentrated holdings of certain assets in order to limit potential adverse price effects at liquidation? What factors (for example, adverse price effects or market conditions) are considered when determining these policies?

FMD determines policies for identifying and avoiding concentrated holdings for the SARB in the execution of its monetary policy.

Q.5.4.2: How does the FMI review and evaluate concentration policies and practices to determine their adequacy? How frequently does the FMI review and evaluate these policies and practices?

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

Key consideration 5

An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.

Q.5.5.1: What are the legal, operational, market and other risks that the FMI faces by accepting cross-border collateral? How does the FMI mitigate these risks?

This is not applicable to the SAMOS system as the FMI does not use cross-border collateral.

Q.5.5.2: How does the FMI ensure that cross-border collateral can be used in a timely manner?

This is not applicable to the SAMOS system as the FMI does not use cross-border collateral.

Key consideration 6

An FMI should use a collateral management system that is well-designed and operationally flexible.

Collateral management system design

Q.5.6.1: What are the primary features of the FMI's collateral management system?

The SAMOS system makes use of global accounting principles where collateral is concerned. Only financial instruments (FIs) lodged at an acceptable CSD and reserved for exclusive use by the SAMOS system are utilised as collateral in the SAMOS system. Banks manage a single collateral list in SAMOS. Collateral reserved for SAMOS settlement purposes may not be traded. SAMOS provides for the pledging of 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.

A warning message is sent to a bank when the removal of a matured instrument results in the collateral reserved in SAMOS being less than the LAR holdings. The bank is required to reserve, in SAMOS, another script of at least the same value.

The SARB (FMD) is a CSD participant in Strate (the domestic CSD). Collateral is moved to the SARB account in Strate, which in turn uses the Collateral Management System to manage collateral to be reserved in SAMOS on behalf of participants. The Collateral Management System contains financial instruments that are acceptable to the SARB for collateral purposes. Treasury bills, owned by the banks, are recorded in an in-house system at the SARB (Clearing Manager). Collateral on the Collateral Management System will only appear as a collateral list item when it is reserved for SAMOS settlement purposes.

The SAMOS system uses the collateral list facility to facilitate the settlement process. When the bank reserves collateral for exclusive use for settlement, the SAMOS system registers a list of collateral per bank. The collateral list reflects the total holding of a particular FI for an issue date and maturity date and per CSD. When collateral is required to secure a loan for the RTL, the SAMOS system automatically pledges collateral from the bank's collateral list.

Various collateral instructions are also available to enable the bank to manage collateral on its collateral list. All collateral instructions are registered in a Collateral Instruction Register.

Q.5.6.2: How and to what extent does the FMI track the reuse of collateral and its rights to the collateral provided?

BSD regulates the LAR and monitors the LAR holdings amount which must be the same as the amount on the BA 310 submitted by participants.

If the LAR percentages are lowered to allow a participant to remove a certain script, the SAMOS CSC monitor this to ensure that a new script is reserved for SAMOS. The SAMOS CSC engages with FMD in this regard.

If a new script is not reserved for SAMOS, it will impact the granting of loans to the bank. The position of the bank will indicate that the bank has a shortage reserved and the bank will have less collateral available for loans.

Operational flexibility

Q.5.6.3: How and to what extent does the FMI's collateral management system accommodate changes in the ongoing monitoring and management of collateral?

If the estimated value of a certain FI changes during monitoring, the collateral management system is modified to include new parameters taking such changes into account, and the parameters can be activated immediately if necessary.

Q.5.6.4: To what extent is the collateral management system staffed to ensure smooth operations even during times of market stress?

The RTGS has functionality that allows participants to obtain information on their collateral available on the FMI. The system is parameter-driven and all changes need to be authorised. Any deviations or issues with participants' collateral is logged in the system control log which is monitored by NPSD's 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.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 4 on credit risk, Principle 5 on collateral, and Principle 7 on liquidity risk, as appropriate. This principle should also be reviewed in the context of Principle 8 on settlement finality, Principle 17 on operational risk, and other principles, as appropriate.

This principle is not applicable 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.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 4 on credit risk and Principle 5 on collateral, as appropriate. This principle should also be reviewed in the context of Principle 8 on settlement finality, Principle 17 on operational risk, and other principles, as appropriate.

The SARB observes Principle 7. Settlement in the SAMOS system is based on the pre-funding principle in terms of which any interbank fund transfer will be affected only if sufficient funds are available in the paying bank's settlement account.

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.

Key consideration 1

An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers and other entities.

Q.7.1.1: What is the FMI's framework for managing its liquidity risks, in all relevant currencies, from its participants, settlement banks, nostro agents, custodian banks, liquidity providers and other entities?

The SAMOS system is a single currency system that settles only in South African rand.

The FMI has not identified any liquidity risk as a settlement system because SAMOS settles instructions on a gross basis.

Liquidity within the FMI 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 provides participants with a position monitor facility through the SAMEXWeb front-end application.

Settlement is achieved by prefunding the settlement account (SA) through which all entries are passed. This means liquidity provision to a paying participant may be made through:

funds received from another bank via interbank settlements;

funds received from a maturing FI that was reserved as collateral in SAMOS;

a loan granted to a paying participant, provided the bank has reserved sufficient collateral to secure the loan. As the system is parameter-driven there are certain parameters the system will take into account before a loan is granted. The SAMOS system will also monitor the reserving of instruments in SAMOS and will not allow the processing of loans if the LAR regulation has been violated.[41] The system will automatically transfer funds to South Africa during the settlement process; and

through the utilisation of the reserve account holdings (RAH). Participants can borrow from the cash reserves in the SAMOS system's reserve account balance on an intraday basis. Participants are limited to utilise up to 70% of their cash reserves. SAMOS has a parameter setting that ensures the participants do not utilise more than the required percentage of their cash reserves intraday. It is the responsibility of the participant to ensure that the reserves are repaid at the end of the day. The utilisation of the reserve account is monitored by FMD. Participants may set a parameter that will allow the system to replenish the reserves from South Africa at the end of the day.

41. The procedure has been documented under sections 4, 3,5 and 9 of the SAMOS Business Process Model (BPM)

Q.7.1.2: What are the nature and size of the FMI's liquidity needs, and the associated sources of liquidity risks, that arise in the FMI in all relevant currencies?

The SAMOS system as an FMI does not have liquidity needs but the following apply to its participants that need to plan for liquidity to ensure settlement:

1. All SAMOS participants have access to their financial instruments registered as LAR as well as access to the reserve account balance.
2. NPSD has published a position paper on intraday liquidity, clarifying the requirements for the SAMOS system.
3. All SAMOS participants should ensure that they manage their liquidity needs to ensure prompt settlement.

Q.7.1.3: How does the FMI take into account the potential aggregate liquidity risk presented by an individual entity and its affiliates that may play multiples roles with respect to the FMI?

A successful settlement depends on sufficient funds or collateral available in the system. Therefore, the responsibility lies with the participant to ensure that there is enough liquidity to ensure settlement regardless of any other additional roles the participant has in the system.

Key consideration 2

An FMI should have effective operational and analytical tools to identify, measure and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.

Q.7.2.1: What operational and analytical tools does the FMI have to identify, measure and monitor settlement and funding flows?

The NPSD Domestic and Regional Services (DRS) Division monitors the system to ensure that there is a continuous flow of settlement and funding messages. The system generates email alerts to operations support personnel and mobile alerts to management depending on the escalation levels to manage liquidity risks. The system calculates liquidity and posts all balances into the position monitor after each successful movement. If the system detects any anomalies alerts, a message is dispatched accordingly and the participant concerned receives a notification to employ corrective measures. Even though some of these alerts are dispatched to participants as warnings, the support team follows up on any anomalies such as:

1. insufficient funds alerts;
2. transaction or batch discard messages;
3. over-utilisation of collateral available for loans based on the percentage allowed intraday;

4. participant's total estimated RTL position that has reached zero;
5. when a participant is in an unsecured loan; and
6. when a participant's collateral reserved is too low due to a maturing FI that has been removed.

Q.7.2.2: How does the FMI use those tools to identify, measure and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity?

From a participant's perspective, the intraday collateralisation measures provide ample opportunities for banks to effect settlement 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 position. 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. Banks are allowed to utilise their available cash reserve balance fully during the day for intraday liquidity, but the banks still have to meet the requirements for their cash reserve holdings over the monthly maintenance period. Any movements against the cash reserve account (CRA) are recorded in the SAMOS system.

Key consideration 3

A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement and, where appropriate, intraday or 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 payment obligation in extreme but plausible market conditions.

Q.7.3.1: How does the payment system or SSS determine the amount of liquid resources in all relevant currencies to effect same-day settlement and, where appropriate, intraday or multiday settlement of payment obligations? What potential stress scenarios (including, but not limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions) does the payment system or SSS use to make this determination?

The SAMOS system as an FMI does not have any documented liquidity stress test scenarios. The SAMOS system caters for the acceptance of additional assets in times of liquidity stress. The participants need to plan these liquidity stress scenarios which are coordinated between the banking regulator and participants. SAMOS is a single currency system that trades in South African (rand) currency. Participants are expected to plan their liquidity requirements and, where necessary, coordinate the settlement of extraordinary transactions with the FMI operators. SAMOS as the FMI participates in any liquidity stress tests arranged by individual participants of the banking regulator.

Q.7.3.2: What is the estimated size of the liquidity shortfall in each currency that the payment system or SSS would need to cover?

The SAMOS system will 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 taking into consideration the advice of BSD and close liaison with National Treasury and the Minister of Finance, if applicable. In such extreme cases the SARB, following the lender-of-last-resort principle, will bear the credit risk and not SAMOS.

Key consideration 4

A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments and meet other payment obligations on time 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 payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.

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

Key consideration 5

For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.

Size and composition of qualifying liquid resources

Q.7.5.1: What is the size and composition of the FMI's qualifying liquid resources in each currency that is held by the FMI? In what manner and within what time frame can these liquid resources be made available to the FMI?

The SAMOS system as an FMI does not have liquidity needs or hold liquidity in its own name. Liquidity is held for each participant's own account in the system. Thus, it is the responsibility of the participant to ensure sufficient liquidity is available for all its settlement obligations.[42]

42. Position Paper NPS 2/2006 on the intraday monitoring and utilisation of the liquid asset requirement holdings and the cash reserve account is outlined in this document. (Available at http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Documents/Position%20Paper/PP2006_02.pdf).

Availability and coverage of qualifying liquid resources

Q.7.5.2: What prearranged funding arrangements has the FMI established to convert its readily available collateral and investments into cash? How has the FMI established that these arrangements would be highly reliable in extreme but plausible market conditions? Has the FMI identified any potential barriers to accessing its liquid resources?

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

Q.7.5.3: If the FMI has access to routine credit at the central bank of issue, what is the FMI's relevant borrowing capacity for meeting its minimum liquid resource requirement in that currency

This is not applicable to the SAMOS system as an FMI.

Q.7.5.4: To what extent does the size and the availability of the FMI's qualifying liquid resources cover its identified minimum liquidity resource requirement in each currency to effect settlement of payment obligations on time?

This is not applicable to the SAMOS system as an FMI.

Key consideration 6

An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan.

Size and composition of supplemental liquid resources

Q.7.6.1: What is the size and composition of any supplemental liquid resources available to the FMI?

This is not applicable to the SAMOS system as an FMI.

Availability of supplemental liquid resources

Q.7.6.2: How and on what basis has the FMI determined that these assets are likely to be saleable or acceptable as collateral to obtain the relevant currency, even if this cannot be reliably prearranged or guaranteed in extreme market conditions?

This is not applicable to the SAMOS system as an FMI.

Q.7.6.3: What proportion of these supplemental assets qualifies as potential collateral at the relevant central bank?

This is not applicable to the SAMOS system as an FMI.

Q.7.6.4: In what circumstances would the FMI use its supplemental liquid resources in advance of, or in addition to, using its qualifying liquid resources?

This is not applicable to the SAMOS system as an FMI.

Q.7.6.5: To what extent does the size and availability of the FMI's supplemental liquid resources, in conjunction with its qualifying liquid resources, cover the relevant liquidity needs identified through the FMI's stress test programme for determining the adequacy of its liquidity resources (see key consideration 9)?

This is not applicable to the SAMOS system as an FMI.

Key consideration 7

An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.

Use of liquidity providers

Q.7.7.1: Does the FMI use a liquidity provider to meet its minimum required qualifying liquidity resources? Who are the FMI's liquidity providers? How and on what basis has the FMI determined that each of these liquidity providers has sufficient information to understand and to manage their associated liquidity risk in each relevant currency on an ongoing basis, including in stressed conditions?

This is not applicable to the SAMOS system as an FMI.

Reliability of liquidity providers

Q.7.7.2: How has the FMI determined that each of its liquidity providers has the capacity to perform on its commitment in each relevant currency on an ongoing basis?

This is not applicable to the SAMOS system as an FMI.

Q.7.7.3: How does the FMI take into account a liquidity provider's potential access to credit at the central bank of issue??

This is not applicable to the SAMOS system as an FMI.

Q.7.7.4: How does the FMI regularly test the timeliness and reliability of its procedures for accessing its liquid resources at a liquidity provider?

This is not applicable to the SAMOS system as an FMI.

Key consideration 8

An FMI with access to central bank accounts, payment services or securities services should use these services, where practical, to enhance its management of liquidity risk.

Q.7.8.1: To what extent does the FMI currently have, or is the FMI eligible to obtain, access to accounts, payment services and securities services at each relevant central bank that could be used to conduct its payments and settlements, and to manage liquidity risks in each relevant currency?

This is not applicable to the SAMOS system as an FMI.

Q.7.8.2: To what extent does the FMI use each of these services at each relevant central bank to conduct its payments and settlements and to manage liquidity risks in each relevant currency?

This is not applicable to the SAMOS system as an FMI.

Q.7.8.3: If the FMI employs services other than those provided by the relevant central banks, to what extent has the FMI analysed the potential to enhance the management of liquidity risk by expanding its use of central bank services?

This is not applicable to the SAMOS system as an FMI.

Q.7.8.4: What, if any, practical or other considerations to expanding its use of relevant central bank services have been identified by the FMI?

This is not applicable to the SAMOS system as an FMI.

Key consideration 9

An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs) and, where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.

Stress test programme

Q.7.9.1: How does the FMI use stress testing to determine the amount and test the sufficiency of its liquid resources in each currency? How frequently does the FMI stress-test its liquid resources?

This is not applicable to the SAMOS system as an FMI.

Q.7.9.2: What is the process for reporting on an ongoing basis the results of the FMI's liquidity stress tests to appropriate decision-makers at the FMI, for the purpose of supporting their timely evaluation and adjustment of the size and composition of the FMI's liquidity resources and liquidity risk management framework?

This is not applicable to the SAMOS system as an FMI.

Stress test scenarios

Q.7.9.3: What scenarios are used in the stress tests, and to what extent do they take into account a combination of peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions?

This is not applicable to the SAMOS system as an FMI as a liquidity stress test has not been carried out.

Q.7.9.4: To what extent do the scenarios and stress tests take into account the FMI's particular payment and settlement structure (for example, real-time gross or deferred net; with or without a settlement guarantee; DVP model 1, 2 or 3 for SSSs), and the liquidity risk that is borne directly by the FMI, by its participants, or both?

This is not applicable to the SAMOS system as an FMI as a liquidity stress test has not been carried out.

Q.7.9.5: To what extent do the scenarios and stress tests take into account the nature and size of the liquidity needs, and the associated sources of liquidity risks that arise in the FMI to settle its payment obligations on time, including the potential that individual entities and their affiliates may play multiples roles with respect to the FMI?

This is not applicable to the SAMOS system as an FMI as a liquidity stress test has not been carried out.

Review and validation

Q.7.9.6: How frequently does the FMI assess the effectiveness and appropriateness of stress test assumptions and parameters? How does the FMI's stress test programme take into account various conditions, such as a sudden and significant increase in position and price volatility, position concentration, change in market liquidity and model risk, including a shift of parameters?

This is not applicable to the SAMOS system as an FMI.

Q.7.9.7: How does the FMI validate its risk management model? How frequently does it perform this validation

This is not applicable to the SAMOS system as an FMI.

Q.7.9.8: Where and to what extent does the FMI document its supporting rationale for, and its governance arrangements relating to, the amount and form of its total liquid resources?

This is not applicable to the SAMOS system as an FMI.

Key consideration 10

An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event so that it can continue to operate in a safe and sound manner.

Same-day settlement

Q.7.10.1: How do the FMI's rules and procedures enable it to settle payment obligations on time following any individual or combined default among its participants?

The SARB provides the banks participating in the SAMOS system with a facility to complement their liquidity available for settlement purposes through the SAMOS loan facility. 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. The SARB has the following arrangements in place to fund the banks' settlement accounts:

1 Receipt of a payment from another bank.

2 Payments received from the SARB and participating banks as a result of normal payment transactions between banks or as a result of a credit arrangement.

3 The raising of automatic intraday SAMOS loans.

4 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.

5 The transfer of funds from the CRA at the SARB.

6 Within the SAMOS system, facilities are provided for SAMOS participant banks to manage their CRA. The banks may transfer funds between their CRA and settlement accounts as and when required. Banks are allowed to utilise 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. In essence, although the banks are permitted to utilise these funds, the required CRA balance must be maintained on an average basis over each maintenance period. In an instance where additional liquidity is required to settle a bank's exposure in a PCH batch during the night hours, the SAMOS system will automatically transfer funds from the CRA to the bank's settlement account.[43]

7 The utilisation of the LAR holdings of banks.

8 The Registrar has allowed the banks to use up to 50% of their LAR holdings during the day as collateral for intraday SAMOS loans to facilitate interbank settlements.[44] This provides additional liquidity to the payment system. During the day, a bank may borrow against a portion of its liquid assets on condition that it meets the prescribed LAR holdings again by the end of the day. The maximum extent to which a bank may utilise its liquid assets on an intraday basis has been set at 25% of their LAR holdings. Under circumstances where a bank utilises collateral on an intraday basis for a loan in the SAMOS system, a punitive rate equal to the repurchase rate plus a set margin will be charged. The Registrar, however, maintains the discretion to apply the use of the LAR holdings selectively.

Q.7.10.2: How do the FMI's rules and procedures address unforeseen and potentially uncovered liquidity shortfalls and avoid unwinding, revoking or delaying the same-day settlement of payment obligations?

The banks that reach unsecured loans due to revaluation are monitored closely and no further loans are granted. Banks can also use liquidity optimising settlement features for specific agreed payment types through the CPL. The feature allows banks or SOs to submit gross settlement instructions but only fund the net amount to ensure settlement.

Replenishment of financial resources

Q.7.10.3: How do the FMI's rules and procedures allow for the replenishment of any liquidity resources employed during a stress event?

The SAMOS system allows additional types of assets to be reserved in SAMOS to access central bank liquidity.

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

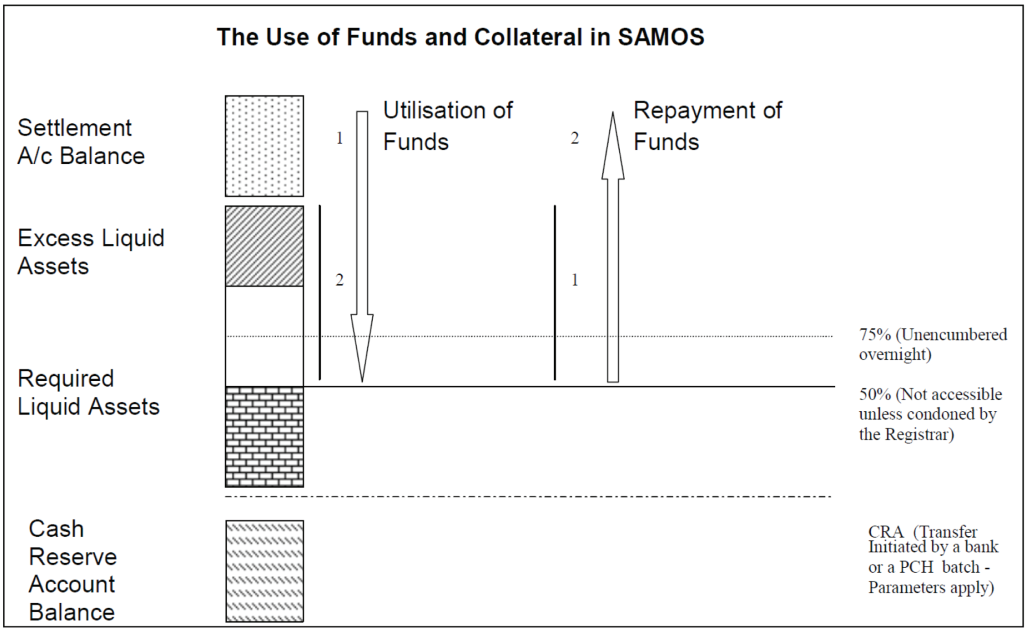
1. As funds are required for settlement (real-time or PCH batches), funds are drawn from or against the following sources: (i) the settlement account balance; (ii) a loan against the reserved liquid assets, including the available portion of the LAR holdings allowed by the Registrar (see Q.7.10.1 under this principle); and (iii) in the case of a PCH batch from the CRA balance.

2. The receipt of the funds is applied in the following order: (i) firstly, for loans against reserved liquid assets, including the LAR holdings (see Q.7.10.1 under this principle); (ii) secondly, 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.

43. A maintenance period starts on the 15th working day of a month and ends on the 14th working day of the following month.

44. This arrangement has been written into Regulation 20(3). See – R.1112 Banks Act (94/1990): Regulations relating to Banks

Figure 11: 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.

In reviewing this principle, it should be noted that this principle is not intended to eliminate failures to deliver in securities trades. The occurrence of non-systemic amounts of such failures, although potentially undesirable, should not by itself be interpreted as a failure to satisfy this principle. This principle should be reviewed in the context of Principle 9 on money settlements, Principle 20 on FMI links, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 8.

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. Section 5 of the NPS Act describes the settlement provision as follows: (i) settlement is effected in money or by means of entries passed through the SARB settlement system or a designated settlement system; (ii) 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 SARB settlement system or a designated settlement system is final and irrevocable, and may not be reversed or set aside; and (iii) an entry to, or payment out of, the account of a designated settlement system participant to settle a payment or settlement obligation in a designated settlement system is final and irrevocable, and may not be reversed or set aside.

As discussed under Principle 1, the settlement of payment instructions by banks in the SAMOS system is final and irrevocable, even in the event that a settlement participant becomes subject to insolvency proceedings. The NPS comprises different payment instruments and mechanisms to facilitate the transfer of value between users.

Key consideration 1

An FMI's rules and procedures should clearly define the point at which settlement is final.

Point of settlement finality

Q.8.1.1: At what point is the settlement of a payment, transfer instruction or other obligation final, meaning irrevocable and unconditional? Is the point of settlement finality defined and documented? How and to whom is this information disclosed?

The settlement of payment instructions across the SARB's books as well as payment between SAMOS participants and the SARB via SAMOS 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. Documents published on the SARB website, such as the 'Overview of the South African national payment system' and the NPS Act, among others, provide this information, whereas the settlement and SAMOS service agreements provide such information to participants.

Q.8.1.2: How does the FMI's legal framework and rules, including the applicable insolvency law(s), acknowledge the discharge of a payment, transfer instruction or other obligation between the FMI and its participants, or between participants?

Section 5 of the NPS Act describes the settlement provision.

The SAMOS system settles single and batched settlement instructions between banks for obligations arising from, among other things, retail payment clearing (e.g. cheques and cards); and wholesale, equities, bond and money markets. The system is an RTGS system and provides two settlement options to banks, namely the RTL and the CPL settlement. A description of each option appears below:

1. The RTL is a facility for settling single or batched settlement instructions immediately on a gross basis.

2. The CPL is a settlement facility developed to settle single or batched settlement instructions on a gross basis, utilising net liquidity, and if no liquidity is available, then the settlement instructions will be queued. The CPL account is funded from the settlement account.

The SAMOS system settles on a prefunded basis. The regulations specify that a settlement instruction is an instruction given to the SARB by a participant, or by a PCH system operator[45] 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; therefore, it shall be considered to have been properly entered into the SAMOS system upon being authenticated, validated, matched (where appropriate) and classified as a settlement instruction.

Q.8.1.3: How does the FMI demonstrate that there is a high degree of legal certainty that finality will be achieved in all relevant jurisdictions (for example, by obtaining a well-reasoned legal opinion)?

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.

Finality in the case of links

Q.8.1.4: How does the FMI ensure settlement finality in the case of linkages with other FMIs?

All instructions received by the SAMOS system that are settled are deemed as final and irrevocable once the relevant participants' accounts have been debited and credited. 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. The linked FMIs are:

1. the CLS Bank, responsible for foreign exchange settlement;
2. SIRESS, responsible for cross-border credit transfer settlement within SADC countries;
3. Strate Limited (the South African CSD), responsible for securities settlement; and
4. BankservAfrica and Mastercard, responsible for retail batches settlement.

45. A system operator is defined in the NPS Act as a person authorised by the payment system management body to provide clearing processing services on behalf of two or more system participants or a payment clearing house (PCH). The term PCH system operator (PSO) is used in the PCH agreements and various service agreements and is intended to have the same meaning. More information is available in the 'Entry and participation criteria for the authorisation to act as a PCH system operator' document, available to members only (on the PASA website at www.pasa.org.za).

Key consideration 2

An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.

Final settlement on the value date

Q.8.2.1: Is the FMI designed to complete final settlement on the value date (or same-day settlement)? How does the FMI ensure that final settlement occurs no later than the end of the intended value date?

The structure of the SAMOS system is designed to provide final settlement of payment or settlement instructions in real time on the settlement date. A valid settlement date is known as the 'settlement cycle date' (SCD) in the SAMOS system. Only a paying bank or a system operator may submit settlement instructions for processing in the SAMOS system. Since 2004, the SAMOS system has only provided for same-day settlement. An SCD runs from 00:01 to 24:00 every day. If a settlement instruction is received for an incorrect date, it is rejected. The SAMOS system squares off at midnight and sends an update of balances to the SARB general ledger.

Q.8.2.2: Has the FMI ever experienced deferral of final settlement to the next business day that was not contemplated by its rules, procedures or contracts? If so, under what circumstances? If deferral was a result of the FMI's actions, what steps have been taken to prevent a similar situation in the future?

SAMOS has never experienced deferral of final settlement. Retail batches may settle the next SCD with interest, but in these occurrences the SCD is the actual settlement date (it is not backdated). A participant may submit payment instructions indicating the settlement date to the SAMOS system at any time prior to or on the specified settlement date, subject to the operational timeline discussed in the introduction.

Intraday or real-time final settlement

Q.8.2.3 Does the FMI provide intraday or real-time final settlement? If so, how? How are participants informed of the final settlement?

A paying bank submits single settlement instructions on a gross basis. These settlement instructions can only be received in SAMOS for processing on either the RTL or CPL settlement process. A PCH operator submits settlement instructions on behalf of the paying banks participating in concurrent batch agreements or CPL agreements. For a settlement instruction to be processed on the CPL, it means that the paying bank is funding a PCH participation obligation; the payer is therefore a participant and holds a valid CPL agreement account in SAMOS. Settlement instructions for PCH concurrent batches and continuous batch processing line (CBPL) batches reflect gross bilateral figures (not netted figures).

Settlement instructions originating from a PCH operator and processed on the RTL are controlled by concurrent batch agreements, whereas the settlement instructions originating from Financial Market Exchange are processed on the CPL and controlled by CPL/CBPL agreements. Final settlement is provided through the SAMOS system. Once successful settlement is achieved, the payer receives a confirmation and the beneficiary receives a notification.

Q.8.2.4: If settlement occurs through multiple-batch processing, what is the frequency of the batches and within what time frame do they operate? What happens if a participant does not have enough funds or securities at the settlement time? Are transactions entered in the next batch? If so, what is the status of those transactions and when would they become final?

The settlement for batch processing is agreed within each PCH agreement. These batches are settled throughout the day and during the night window. The batch will be discarded if any of the participants do not have sufficient funds for settlement. The affected participants must then arrange and ensure funding is provided before the batch is resubmitted. All the transactions in a batch will only be final if the whole batch settles.

Q.8.2.5: If settlement does not occur intraday or in real time, how has the LVPS or SSS considered the introduction of either of these modalities?

Settlement is in real time.

Key consideration 3

An FMI should clearly define the point after which unsettled payments, transfer instructions or other obligations may not be revoked by a participant.

Q.8.3.1: How does the FMI define the point at which unsettled payments, transfer instructions or other obligations may not be revoked by a participant? How does the FMI prohibit the unilateral revocation of accepted and unsettled payments, transfer instructions or obligations after this time?

As provided in the NPS Act, 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. This is due to the fact that SAMOS participants have no ability to amend or withdraw settlement instructions submitted to the SAMOS system.

Q.8.3.2: Under what circumstances can an instruction or obligation accepted by the system for settlement still be revoked (for example, queued obligations)? How can an unsettled payment or transfer instruction be revoked? Who can revoke unsettled payment or transfer instructions?

Settlement in SAMOS is final and irrevocable. However; only scheduled transactions or transactions queued in CPL can be removed, and only by the originator of the transaction. Any CPL transaction that has not settled at the end of window 3 due to not being funded is rejected when the SAMOS system rolls into the 'Finalise' window. These transactions are handled by the SAMOS system as those with insufficient funds. The only exception to the deadline of the SCD is when the end-of-day process is delayed by the SAMOS system.

Q.8.3.3: Under what conditions does the FMI allow exceptions and extensions to the revocation deadline?

As indicated above, settled transactions cannot be revoked in the SAMOS system. Scheduled transactions and 'on hold' transactions can be removed until the start of the night window. No extensions can be done since the system will remove any 'on hold' or scheduled transactions not triggered by the 'Start' or 'Finalise' window. This process is documented in the SAMOS Business Process Model which is updated and shared with participants with each new version or release of the SAMOS system.

Q.8.3.4: Where does the FMI define this information? How and to whom is this information disclosed?

This provision is disclosed under clauses 14 and 15 of the settlement agreement. The information is available to all SAMOS participants.

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.

This principle should be reviewed in the context of Principle 8 on settlement finality, Principle 16 on custody and investment risks, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 9.

The FMI is owned and operated by the central bank. 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.

Key consideration 1

An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.

Q.9.1.1: How does the FMI conduct money settlements? If the FMI conducts settlement in multiple currencies, how does the FMI conduct money settlement in each currency?

Settlement in SAMOS occurs in central bank money. It is a single currency settlement system in the domestic currency (rand).

Q.9.1.2: If the FMI does not settle in central bank money, why is it not used?

Settlement in SAMOS occurs in central bank money.

Key consideration 2

If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.

Q.9.2.1: If central bank money is not used, how does the FMI assess the credit and liquidity risks of the settlement asset used for money settlement?

Settlement in SAMOS occurs in central bank money.

Q.9.2.2: If the FMI settles in commercial bank money, how does the FMI select its settlement banks? What are the specific selection criteria the FMI uses?

Settlement in SAMOS occurs in central bank money.

Key consideration 3

If an FMI settles in commercial bank money, it should monitor, manage and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalisation, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.

Q.9.3.1: How does the FMI monitor the settlement banks' adherence to criteria it uses for selection? For example, how does the FMI evaluate the banks' regulation, supervision, creditworthiness, capitalisation, access to liquidity and operational reliability?

Settlement in SAMOS occurs in central bank money.

Q.9.3.2: How does the FMI monitor, manage and limit its credit and liquidity risks arising from the commercial settlement banks? How does the FMI monitor and manage the concentration of credit and liquidity exposures to these banks?

Settlement in SAMOS occurs in central bank money.

Q.9.3.3: How does the FMI assess its potential losses and liquidity pressures as well as those of its participants if there is a failure of its largest settlement bank?

Settlement in SAMOS occurs in central bank money.

Key consideration 4

If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.

Q.9.4.1: If an FMI conducts money settlements on its own books, how does it minimise and strictly control its credit and liquidity risks?

Settlement instructions are settled across the SAMOS accounts. This means that participants are exposed to some credit and liquidity risk with respect to the funds due to them from other participants.

However, these risks are limited due to the design of the SAMOS system, which uses carefully tested SAMOS system-administered algorithms to ensure the efficient use of funds during settlements. Therefore, it is the responsibility of the participants to monitor their respective positions as determined by their exposure. The SAMOS system is a prefunded system and therefore liquidity is managed by participants.

Key consideration 5

An FMI's legal agreements with any settlement banks should state clearly when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.

Q.9.5.1: Do the FMI's legal agreements with its settlement banks state when transfers occur, that transfers are final when affected, and that funds received are transferable?

It is stated under the SAMOS settlement and service agreements that when transfers occur they will be final and the relevant accounts will be updated.

Q.9.5.2: Are funds received transferable by the end of the day at the latest? If not, why?

All funds are transferred immediately, in real time and always before the end of the day.

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 should be reviewed in the context of Principle 15 on general business risk; Principle 23 on the disclosure of rules, key procedures and market data; and other principles, as appropriate.

This is not applicable to the SAMOS system.

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.

In reviewing this principle, where an entity legally defined as a CSD or an SSS does not hold or facilitate the holding of assets or collateral owned by its participants, the CSD or SSS in general would not be required to have arrangements to manage the safekeeping of such assets or collateral. This principle should be reviewed in the context of Principle 17 on operational risk, Principle 20 on FMI links, and other principles, as appropriate.

This is not applicable to the SAMOS system.

Principle 12: Exchange of value settlement systems

If an FMI settles transactions that involve the settlement of two linked obligations (for example, 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.

This principle should be reviewed in the context of Principle 4 on credit risk, Principle 7 on liquidity risk, Principle 8 on settlement finality, and other principles, as appropriate.

The SARB observes Principle 12.

The SAMOS system is a single currency system, settling only in South African rand. CLS Bank is a direct participant in the SAMOS system to enable the settlement of the rand in the CLS system. CLS Bank is responsible for the arrangements to eliminate settlement risk in the foreign exchange market for participating currencies. Although this is not a SAMOS domain, SAMOS participants that take part in

CLS payment systems are required to conform to such requirements, and this risk is mentioned to such specific participants who are exposed to foreign exchange risk and/or who participate in CLS payment systems. 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 once the relevant accounts have been appropriately debited and credited, as discussed under Principle 8.

In the securities environment, Strate as the CSD is responsible for managing the DvP process by first freezing securities, obtaining settlement of the payment leg, and then transferring ownership.

Key consideration 1

An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if, and only if, the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis and when finality occurs.

Q.12.1.1: How do the FMI's legal, contractual, and technical and risk management frameworks ensure that the final settlement of relevant financial instruments eliminates principal risk? What procedures ensure that the final settlement of one obligation occurs if, and only if, the final settlement of a linked obligation also occurs?

Foreign exchange risk is caused by timing mismatches on foreign exchange transactions, primarily but equally by the failure of counterparties.[46] 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 PvP principles.[47] 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.

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

47. This payment-versus-payment (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 their leg of the transaction.

Q.12.1.2: How are the linked obligations settled – on a gross basis (trade by trade) or on a net basis?

The SAMOS system settles all obligations on a gross basis.

Q.12.1.3: Is the finality of settlement of linked obligations simultaneous? If not, what is the timing of finality for both obligations? Is the length of time between the blocking and final settlement of both obligations minimised? Are blocked assets protected from a claim by a third party?

The finality of PvP settlement is managed by the CLS and is simultaneous. DvP settlement is not simultaneous as the CSD is responsible for managing the DvP process by first freezing securities, obtaining settlement of the payment leg, and then transferring ownership.

Q.12.1.4: In the case of a CCP, does the CCP rely on the DvP or PvP services provided by another FMI, such as an SSS or payment system? If so, how would the CCP characterise the level of its reliance on such services? What contractual relationship does the CCP have with the SSS or payment system to ensure that final settlement of one obligation occurs only when the final settlement of any linked obligations occurs?

This is not applicable to the payment system.

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.

Because of the extensive interactions between the default management principles as they apply to CCPs, this principle needs to be reviewed in the context of Principle 14 on segregation and portability. This principle should also be reviewed in the context of Principle 4 on credit risk; Principle 7 on liquidity risk; Principle 23 on the disclosure of rules, key procedures and market data; and other principles, as appropriate.

Assessment of compliance

The SARB 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.

The settlement rules and relevant procedures clearly define the roles, obligations and requirements with respect to participation in the SAMOS system, outline participant default management when these requirements are not met, define actions the SARB may take to mitigate the impact of a default, and detail the probable sequencing of actions and the tools for managing resulting liquidity pressures and, if necessary, containing and allocating any losses. The settlement risk[48] design ensures that a bank has sufficient funds to satisfy its payment obligations relating to settled settlement instructions.

48. Settlement risk is the risk that a counterparty does not deliver a security or its value in cash as per agreement when the security was traded after the other counterparty or counterparties have already delivered security or cash value as per the trade agreement.

Participants in the SAMOS system are also made aware of the relevant default rules and procedures through ongoing bilateral and multilateral communication within the related PCH. To ensure relevant participants are aware of, and operationally capable of, taking the steps required for managing a default in the SAMOS system, the SARB has implemented applicable settlement measures to facilitate the understanding and management of potential participant default impacts.

Key consideration 1

An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.

Participant default rules and procedures

Q.13.1.1: Do the FMI's rules and procedures clearly define an event of default (both a financial and an operational default of a participant) and the method for identifying a default? How are these events defined?

These events are defined in the SAMOS service agreement and the settlement agreement.

Upon joining the SAMOS system as a settlement participant, the participant agrees to abide by the following settlement rules and procedures as outlined in the service and settlement agreements: (i) the paying system participant will, in respect of each payment obligation arising from the clearing of payment instructions (whether in batch or individually), ensure that a settlement instruction to settle such payment obligation is delivered promptly to the SARB as the central bank for settlement; (ii) the paying system participant is obliged to ensure that its settlement instructions are fulfilled by ensuring that the funds required to settle its settlement obligation timeously in each settlement cycle are available in its settlement account at the SARB; (iii) the beneficiary system participant is obliged to ensure, upon receipt of the settlement notification from the SARB, that funds so received are for its account pursuant to the clearing of one or more payment instructions and, if not for its account, to return such funds erroneously received by issuing a rectifying settlement instruction for the benefit of the system participant from whom the erroneously paid funds originated.

As discussed in detail under Principle 7, the SARB maintains committed 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 in order to satisfy its payment obligations to its beneficiary bank in the system. If the SAMOS system fails to draw funds from the participant's liquid assets, a bank default will then occur (as detailed under Principle 7).

Q.13.1.2: How do the FMI's rules and procedures address the following key aspects of a participant default:

a) the actions that the FMI can take when a default is declared;

1. The SAMOS system has been designed with the functionality to immediately suspend a participant temporarily or permanently. The SARB may suspend a participant from taking part in the payment settlement services in certain circumstances, including:

a. when the participant has violated any material provision in its settlement agreement, the settlement rules or per the Registrar's authorisation, and suspension is in the best interests of the SARB or SAMOS participants, or there has been a material adverse change with respect to the participant; and/or

b. upon confirmation that an insolvency event has occurred with respect to the participant and, if necessary, for the protection of the SARB or SAMOS participants.

3 According to the settlement agreement entered into with the participants, the SARB (as the central bank) must also facilitate in such instances, in conjunction with PASA and the PCH system operator (where applicable), for all system participants to implement arrangements regarding the following:

a. In cases of operational failure and default, the issue will be discussed with applicable parties, including PASA, the PCH system operator and the system participants.

b. In cases where a batch of settlements cannot be settled due to a party having insufficient funds in its settlement account, PASA, the PCH system operator and the participants within the batch will be notified.

c. In cases where a system participant goes into settlement failure, the SARB shall promptly identify to PASA and all system participants the system participant that has gone into settlement failure; the return of payment instructions delivered for clearing that need to be returned; the process required to ensure that clearing and settlement can proceed without the system participant that went into settlement failure; and refer to the settlement agreement, schedule 10 'Settlement management'.

b) the extent to which the actions are automatic or discretionary;

Automatic actions:

1. The SAMOS system's settlement and payment processes, algorithms, risk controls and procedures ensure efficient settlement. The system will 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.

2. If a particular settlement instruction is not funded, it will be discarded by the system due to insufficient funds and a penalty charge will automatically be imposed.

Discretionary:

1. A bank default notification will be received from BSD 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.

c) changes to normal settlement practices;

1. In the case where a batch of settlements cannot be settled due to the participant having insufficient funds in its settlement account, the SARB shall ascertain the reason for the failure to fund the settlement account and contact the participant. The participant shall be informed by the SARB of the seriousness of the failure to fund and be instructed to explore all avenues to obtain the necessary funds to settle the batch within the time frames as agreed at that point between the SARB and the participant.

2. The FMI can stop a defaulting participant in the SAMOS system by stopping the queue. Any payment instructions received in the SAMOS system submitted by the participant (regardless of whether the underlying transaction is scheduled or batched) will not be eligible for settlement. These pending instructions will be rejected by the system when released. All SAMOS participants that have unsettled payment instructions with the suspended participant are made aware of the suspended payment instructions.

3. In case of a settlement failure due to the temporary mismanagement of a participant's position, normal settlement practices still apply. It is the responsibility of the participant to resend such settlement instruction within the correct settlement time frames.

d) **the management of transactions at different stages of processing;**

The management of transactions at different stages of processing is clearly defined in the SAMOS Business Process Model (BPM), section 7.3:

1. The processing of an instruction is treated as one logical transaction and the updated information is only available once the instruction has been processed successfully.

2. The validation process further determines whether the settlement instruction can be processed in the current processing window. This is controlled in the SAMOS system by a concept referred to as 'gates based on system parameters' which regulates the processing of different instruction types in the different windows. In general, when a type of instruction cannot be processed in the current processing window, the instruction is either marked as invalid or discarded from the system.

3. The date and time stamps are the same for a logical transaction. Thus, when a new process is triggered, the current process is completed before initiating the new process.

e) **the expected treatment of proprietary and customer transactions and accounts;**

The PASA BCP Policy makes provision for the management of an operational situation. The SAMOS system/SARB deals with the liquidity/collateral requirements as stipulated in the IMMS BCP document.

Participating banks are responsible for meeting their contractual and regulatory obligations to other participants and the SARB. Each participant is obliged to ensure that it is able to meet its payment and settlement obligations timeously, and that its systems and procedures are adequate to ensure that failure thereof will not jeopardise the payments system. The obligations have been incorporated in various rules and agreements such as the SAMOS settlement agreement and service agreement, and the PCH agreements.

f) **the probable sequencing of actions;**

Procedures are in place that address the sequence of events, which are documented in the SAMOS Operations Manual and curatorship guidelines as follows:

1. The monitoring team immediately contacts the defaulting participant telephonically to highlight the problem and to understand to challenges leading to the default.

2. An incident is immediately logged in the call logging system for escalation and communication.

3. Follow-up letters are addressed to the defaulting bank, formally requesting feedback regarding the default and action plans to mitigate or prevent the default from happening in future.

4. SAMOS automatically has an insufficient funds penalty that is recovered at the start of the following SCD.

5. All participants in all PCHs agreed that the SARB (central bank) manages a settlement failure in any way it deems appropriate. The participants agreed and included this authority and arrangement in the SAMOS service agreement.

6. All actions and options are documented in the SAMOS settlement agreement which is signed by all participants.

g) **the roles, obligations and responsibilities of the various parties, including non-defaulting participants; and**

It is generally the SARB's policy to suspend an insolvent participant as soon as it has learned of, and is reasonably able to confirm, the insolvency event. The prompt suspension of an insolvent participant upon such confirmation protects the SARB from legal risk, provides certainty to participants in the payment and settlement service, enables counterparties to plan their own respective contingency measures, and protects the SARB from potentially costly and disruptive litigation.

However, this is subject to the financial stability role of the SARB. The FSOC will work with the curator in terms of the curatorship guidelines to provide the SAMOS operator with the actions to be taken for affected participants. This will determine the sequencing of actions to be taken and how transactions will be managed.

All participants that have unsettled payment instructions with the suspended participant are made aware of the suspended payment instructions. The suspension allows other SAMOS participants to avoid having to rescind instructions involving an insolvent participant in order to prevent the continued processing of payment instructions relating to transactions that might otherwise be required to be terminated or permitted to be terminated under an applicable master agreement.

h) The existence of other mechanisms that may be activated to contain the impact of a default?

This is not applicable to the SAMOS system.

Use of financial resources

Q.13.1.3: How do the FMI's rules and procedures allow the FMI to promptly use any financial resources that it maintains for covering losses and containing liquidity pressures arising from default, including liquidity facilities?

Since the FMI is owned and managed by the SARB, there can be no losses. The 'lender of last resort' function of the SARB falls outside the FMI. As indicated in Principle 7, liquidity pressures are managed in the collateral management process.

Q.13.1.4: How do the FMI's rules and procedures address the order in which the financial resources can be used?

As discussed in detail under Principle 7, The SARB maintains committed 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 in order to satisfy its payment obligations to its beneficiary bank in the system. If the SAMOS system fails to draw funds from the participant's liquid assets, a total bank default will then occur.

Q.13.1.5: How do the FMI's rules and procedures address the replenishment of resources following a default?

1. The SAMOS Operational Manual and the curatorship guidelines have clearly defined procedures should a participant default.
2. The procedures are kept in the SAMOS CSC.

Key consideration 2

An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.

Q.13.2.1: Does the FMI's management have internal plans that clearly delineate the roles and responsibilities for addressing a default? What are these plans?

As noted above, the procedures the SARB has in place to manage a participant default allows for the suspension of the relevant participant from the SAMOS system. The SAMOS system's functionality allows for the immediate suspension of a participant at any point in the operational timeline. All actions taken will be with the assistance of the FSOC and the curator, utilising the curatorship guidelines. The SAMOS Operational Manual and the curatorship guidelines have clearly defined procedures should a participant default.

Q.13.2.2: What type of communication procedures does the FMI have in order to reach in a timely manner all relevant stakeholders, including regulators, supervisors and overseers?

The FMI uses the following communication procedures:

1. Email notification and updates to the relevant calls.
2. Upon advice from management, an NPSD Operational Notice will be issued and distributed to the industry by PASA.

Q.13.2.3: How frequently are the internal plans to address a default reviewed? What is the governance arrangement around these plans?

These procedures are reviewed on an annual basis by the SAMOS CSC.

Key consideration 3

An FMI should publicly disclose key aspects of its default rules and procedures.

Q.13.3.1: How are the key aspects of the FMI's participant default rules and procedures made publicly available? How do they address:

1. 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.

2. However, participants have access to the default rules. These default rules are stipulated in the settlement agreement signed by participants.

a) the circumstances in which action may be taken;

This is not applicable to the SAMOS system.

b) who may take those actions;

This is not applicable to the SAMOS system.

c) the scope of the actions which may be taken, including the treatment of both proprietary and customer positions, funds and assets;

This is not applicable to the SAMOS system.

d) the mechanisms to address an FMI's obligations to non-defaulting participants; and

This is not applicable to the SAMOS system.

e) where direct relationships exist with participants' customers and the mechanisms to help address the defaulting participant's obligations to its customers?

This is not applicable to the SAMOS system.

Key consideration 4

An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.

Q.13.4.1: How does the FMI engage with its participants and other relevant stakeholders in the testing and review of its participant default procedures? How frequently does it conduct such tests and reviews? How are these test results used? To what extent are the results shared with the board, risk committee and relevant authorities?

Representatives from the SAMOS operator participate in simulation exercises arranged by the FSCF and the FSOC. These exercises are conducted on an ad hoc basis (not necessarily every year). They also participate in simulation exercises by individual participants or system operators (e.g. Strate).

Q.13.4.2: What range of potential participant default scenarios and procedures do these tests cover? To what extent does the FMI test the implementation of the resolution regime for its participants?

The FMI operator is not responsible for the compilation of procedures and reports in this regard. This task is undertaken by BSD.

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.

Because of the extensive interactions between the default management principles as they apply to CCPs, this principle should be reviewed in the context of Principle 13 on participant default rules. This principle should also be reviewed in the context of Principle 19 on tiered participation arrangements; Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

This is not applicable to the payment system.

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.

This principle should be reviewed in the context of Principle 3 on the framework for the comprehensive management of risks, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 15.

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

Key consideration 1

An FMI should have robust management and control systems to identify, monitor and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.

Q.15.1.1: How does the FMI identify its general business risks? What general business risks has the FMI identified?

As discussed in Principle 3, the SARB has a robust framework to identify, monitor and manage its general business risks. The management of this risk is the responsibility of the SARB's FSD and FMD.

Q.15.1.2: How does the FMI monitor and manage its general business risks on an ongoing basis? Does the FMI's business risk assessment consider the potential effects on its cash flow and (in the case of a privately operated FMI) capital?

There is a formal MoU between the SARB's NPSD (SAMOS) and FMD, and the NPSD and FSD. These MOUs clearly state the responsibilities between the FMI (SAMOS) and the two departments in order to manage and monitor general business risks that may arise as operational requirements.

1. The MoU between the FMI (SAMOS) and FMD states the FMD's responsibilities under section 6 and the NPSD's responsibilities under section 7.
2. The MoU between the FMI (SAMOS) and FSD states the FSD's responsibilities under section 8 and the NPSD's responsibilities under section 9.

To the extent that this principle refers to the cost of managing and operating the FMI, since establishing the RTGS system the SARB has agreed with the banking institutions that it will manage and operate the settlement infrastructure and the network in the interest of the NPS. As per this agreement, the cost of providing the settlement service will be recovered from, and shared by, the participants.

Key consideration 2

An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time

required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.

Q.15.2.1: Does the FMI hold liquid net assets funded by equity so that it can continue operations and services as a going concern if it incurs general business losses?

This is not applicable to the SAMOS system.

Q.15.2.2: How does the FMI calculate the amount of liquid net assets funded by equity to cover its general business risks? How does the FMI determine the length of time and associated operating costs of achieving a recovery or orderly wind-down of critical operations and services?

This is not applicable to the SAMOS system or FMI.

Key consideration 3

An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.

Recovery or orderly wind-down plan

Q.15.3.1: Has the FMI developed a plan to achieve a recovery or orderly wind-down, as appropriate? If so, what does this plan take into consideration (for example, the operational, technological and legal requirements for participants to establish and move to an alternative arrangement)?

This is not applicable to the SAMOS system.

Resources

Q.15.3.2: What amount of liquid net assets funded by equity is the FMI holding for purposes of implementing this plan? How does the FMI determine whether this amount is sufficient for such implementation? Is this amount at a minimum equal to six months of the FMI's current operating expenses?

This is not applicable to the SAMOS system.

Q.15.3.3: How are the resources designated to cover business risks and losses separated from resources designated to cover participant defaults or other risks covered under the financial resources principles?

This is not applicable to the SAMOS system.

Q.15.3.4: Does the FMI include equity held under international risk-based capital standards to cover general business risks?

This is not applicable for the SAMOS system or FMI.

Key consideration 4

Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.

Q.15.4.1: What is the composition of the FMI's liquid net assets funded by equity? How will the FMI convert these assets as needed into cash at little or no loss of value in adverse market conditions?

This is not applicable for the SAMOS system or FMI.

Q.15.4.2: How does the FMI regularly assess the quality and liquidity of its liquid net assets funded by equity to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions?

This is not applicable for the SAMOS system or FMI.

Key consideration 5

An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.

Q.15.5.1: Has the FMI developed a plan to raise additional equity? What are the main features of the FMI's plan to raise additional equity should its equity fall close to or fall below the amount needed?

This is not applicable for the SAMOS system or FMI.

Q.15.5.2: How frequently is the plan to raise additional equity reviewed and updated?

This is not applicable for the SAMOS system or FMI.

Q.15.5.3: What is the role of the FMI's board (or equivalent) in reviewing and approving the FMI's plan to raise additional equity if needed?

This is not applicable for the SAMOS system or FMI.

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.

This principle should be reviewed in the context of Principle 4 on credit risk, Principle 5 on collateral, Principle 7 on liquidity risk, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 16.

The SAMOS system has its own collateral management system that fully controls the use of collateral in the system. The SARB is a direct participant with direct control over the financial instruments lodged with the CSD (Strate).

Key consideration 1

An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures and internal controls that fully protect these assets.

Participant default rules and procedures

Q.16.1.1: If the FMI uses custodians, how does the FMI select its custodians? What are the specific selection criteria the FMI uses, including supervision and regulation of these entities? How does the FMI monitor the custodians' adherence to these criteria?

All the assets that participants use for collateral in the RTGS system are held with the central securities depository participant (CSDP) function established within the SARB. This function is located within the 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 CSD (Strate Supervision).

Quarterly meetings are held between FMD (CSDP) and the CSD (Strate) to discuss operational issues. Furthermore, the CSDP is required, among other rules specified by Strate Supervision, to conduct audits during the year and to provide Strate Supervision with the results of these audits.

Q.16.1.2: How does the FMI verify that these entities have robust accounting practices, safekeeping procedures, and internal controls that fully protect its and its participants' assets?

The NPSD and FMD have an MoU in place which governs the relationship between the two parties. Service level meetings are held between the NSPD and FMD on a quarterly basis to address any operational issues.

Key consideration 2

An FMI should have prompt access to its assets and the assets provided by participants, when required.

Q.16.2.1: How has the FMI established that it has a sound legal basis to support enforcement of its interest or ownership rights in assets held in custody?

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. The cession requirement has been finalised through the SARB's LSD to ensure a sound legal basis.

Q.16.2.2: How does the FMI ensure that it has prompt access to its assets, including securities that are held with a custodian in another time zone or legal jurisdiction, in the event of participant default?

As stipulated in clause 8 of the SAMOS service agreement, for as long as they are reserved in the SAMOS system, these financial instruments 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 ceded financial instruments will continue to cover as security for all sums of money, that the participant, by virtue of having utilised the SAMOS automatic intraday loan facility, may at any time owe, or be indebted to, the SARB. The cession can only be lifted once all the obligations, liabilities and monies owed to or payable by the participant have been irrevocably paid and discharged in full. 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 consideration 3

An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.

Q.16.3.1: How does the FMI evaluate and understand its exposures to its custodian banks? In managing those exposures, how does it take into account the full scope of its relationship with each custodian bank? For instance, does the FMI use multiple custodians for the safekeeping of its assets to diversify exposure to any single custodian? How does the FMI monitor concentration of risk exposures to its custodian banks?

This is not applicable to the SAMOS system as it does not have custodian banks.

Key consideration 4

An FMI's investment strategy should be consistent with its overall risk management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.

Investment strategy

Q.16.4.1: How does the FMI ensure that its investment strategy is consistent with its overall risk management strategy? How and to whom does the FMI disclose its investment strategy?

This is not applicable to the SAMOS system.

Q.16.4.2: How does the FMI ensure on an ongoing basis that its investments are secured by, or there are claims on, high-quality obligors?

This is not applicable to the SAMOS system.

Risk characteristics of investments

Q.16.4.3: How does the FMI consider its overall exposure to an obligor in choosing investments? What investments are subject to limits to avoid the concentration of credit risk exposures?

This is not applicable to the SAMOS system.

Q.16.4.4: Does the FMI invest participant assets in the participants' own securities or those of its affiliates?

This is not applicable to the SAMOS system.

Q.16.4.5: How does the FMI ensure that its investments allow for quick liquidation with little, if any, adverse price effect?

This is not applicable to the SAMOS system.

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 timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

This principle should be reviewed in the context of Principle 20 on FMI links, Principle 21 on efficiency and effectiveness, Principle 22 on communication standards and procedures, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 17. As part of key consideration 1, an operational risk function is in place which provides for a systematic, structured and transparent approach to managing operational risks in the FMI.

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

Key consideration 1

An FMI should establish a robust operational risk management framework with appropriate systems, policies, procedures and controls to identify, monitor and manage operational risks.

Identification of operational risk

Q.17.1.1: What are the FMI's policies and processes for identifying the plausible sources of operational risks? How do the FMI's processes identify plausible sources of operational risks, whether these risks arise from internal sources (for example, the arrangements of the system itself, including human resources), from the FMI's participants or from external sources?

The SARB Group Risk Management Policy forms the basis for governing and integrating risk management in the SARB. This policy is endorsed by the SARB Board and provides a framework for managing operational risk management at the organisational level. The policy is underpinned by the principles of the Integrated Control Framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

The framework provides the FMI with a framework to identify core processes and implement controls to mitigate potential residual risks. All the risks identified are recorded in the risk matrices to allow the NPSD and RMCD to monitor the risks. The results of these processes is reported by the RMCD to the relevant risk oversight committees of the SARB and monitored through the risk management process of the SARB.

Since the inception of the SAMOS system, the SARB has put in place policies, processes and controls to manage or mitigate any potential operational risks. These arrangements include a service standard agreement with BSTD to manage systems, processes and risks by ensuring that the FMI's operational reliability objectives, namely availability, recovery time and recovery point objectives are met. Redundancy and disaster recovery (DR) systems and processes, including business continuity arrangements, were established to ensure that the FMI is robust and resilient.

The operational risk management function allows the FMI to proactively manage operational risk by monitoring day-to-day operations and introducing new controls or mitigation strategies. Operational risk management is therefore a continual process embedded in the daily FMI operations.

Q.17.1.2: What sources of operational risks has the FMI identified? What single points of failure in its operations has the FMI identified?

The FMI identified telecommunications (international and domestic), loss of SWIFT (international and domestic), loss of infrastructure, power failures, water shortages, processing system failures and loss of key human resources as key sources of operational risks. Two single points of failure have been identified, namely SWIFT (in relation to the general unavailability of SWIFT on a national and international basis) and processing system (software) failure. The FMI has implemented effective and adequate controls to ensure that these risks are mitigated. In instances where the risk might persist, the FMI has systems and processes in place to ensure that the risk is managed.

Management of operational risk

Q.17.1.3: How does the FMI monitor and manage the identified operational risks? Where are these systems, policies, procedures and controls documented?

The identified risks are recorded in the FMI operational matrix and maintained by the FMI. The matrix is updated continually with follow-up actions or any new developments in managing operational risks. The FMI is accountable to the BREC and related structures to provide follow-up actions identified for implementation to manage residual risks.

The FMI operations are monitored and supported as per the service standard with BSTD, which is also used for measuring deviations to the agreed service levels. Interruptions in services are reported in the daily barometer maintained by BSTD. Daily meetings are held with BSTD to discuss urgent operational issues affecting the FMI. Monthly service level meetings are held between the NPSD and BSTD to discuss performance in terms of the agreed service levels. A business continuity plan is also in place to ensure that the FMI is prepared in terms of the recovery of the system, should a disruptive incident occur.

Internal and external audit conduct independent reviews of the FMI's systems, processes and controls. The FMI is also overseen internally by the NPSD oversight function. The SAMOS service agreement is in place to ensure that participants adhere to agreed business and technical requirements. All system participants are required to, among other things, test all changes implemented in their payment and settlement environments as well as during implementation to provide the FMI with implementation, fall-back and back-out plans.

Policies, processes and controls

Q.17.1.4: What policies, processes and controls does the FMI employ that are designed to ensure that operational procedures are implemented appropriately? To what extent do the FMI's systems, policies, processes and controls take into consideration relevant international, national and industry-level operational risk management standards?

The operating procedures are documented in the Settlement Operations 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 FMI subscribes to the BIS/CPMI standards and therefore its systems, processes and controls are designed to conform to these standards. These are also benchmarked against CLS and other central banks. The FMI also participates in the FSCF and its Operational Risk Subcommittee to align operational risk management with national standards or best practices.

The FMI 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.

Q.17.1.5: What are the FMI's human resources policies to hire, train and retain qualified personnel, and how do such policies mitigate the effects of high rates of personnel turnover or key-person risk? How do the FMI's human resources and risk management policies address fraud prevention?

The FMI'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. This includes the minimum education and work experience required for different positions as well as a security vetting process for selected candidates, which is conducted by the security function of the SARB, ensuring that each staff member appointed is of impeccable integrity to minimise the chances of unwarranted behaviour.

For the monitoring and support function, all appointees are subjected to on-the- job training which lasts for at least a period of six (6) months and covers all FMI operations, including procedures. There are a sufficient number of employees in place to monitor and support the FMI operations to ensure that any disruptions relating to staff availability do not impact on the smooth functioning of the FMI operations.

Skill set, knowledge and human capacity of the FMI staff is designed in such a way that the risk of key-person dependencies is mitigated. Staff are afforded the opportunity for personal development and capacity building in areas relevant to the FMI activities. FMI operations staff are expected to conform to the code of ethics practiced within the SARB. A whistle-blowing policy is also in place for staff to report any unbecoming behaviour by their colleagues.

Q.17.1.6: How do the FMI's change management and project management policies and processes mitigate the risks that changes and major projects inadvertently affect the smooth functioning of the system?

All changes directly and indirectly impacting FMI operations must follow change management processes as outlined in the change management procedures. Changes are approved by senior management before being discussed at a weekly Change Advisory Board meeting. A change request notice must be prepared and sent for authorisation to the relevant change manager before the meeting.

All notices require the change requester to specify the impact of the change, type of testing conducted, implementation as well as back-out plans in order to mitigate operational risks. A report for mainframe-related changes that took place is produced on a monthly basis by the system in BSTD. This report is reconciled by the NPSD against all authorised changes that were submitted.

All projects are subjected to project management methodology followed in the SARB. A steering committee meets regularly to provide strategic guidance for major projects. The FMI meets with BSTD to discuss and agree on business requirements for all projects and changes to the system. The changes are developed, integrated and tested separately.

Key consideration 2

An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk management framework. Systems, operational policies, procedures and controls should be reviewed, audited and tested periodically and after significant changes.

Roles, responsibilities and framework

Q.17.2.1: How has the board of directors defined the key roles and responsibilities for operational risk management?

The roles and responsibilities for operational risk management are clearly defined in the SARB Group Risk Management Policy. According to this policy, the Head of the NPSD and management team in the department are responsible for the following:

1. assuming full responsibility for risk management within the FMI;
2. ensuring the implementation and maintenance of, and reporting on, the risk management processes of the FMI;
3. ensuring that operational risk assessments are conducted within the FMI; and
4. ensuring that the FMI complies with the risk management process as outlined in the policy.

Q.17.2.2: Does the FMI's board explicitly review and endorse the FMI's operational risk management framework? How frequently does the board review and endorse the FMI's operational risk management framework?

The SARB is a central bank and, as such, the FMI operation is not the only or main business of the SARB. The operational risk management, as outlined in the SARB Group Risk Management Policy, provides for a high-level framework that is approved by the GEC and endorsed by the SARB's BREC. According to this policy, the 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 made to the SARB Group Risk Management Policy. The RMCD coordinates the entire risk management process in the SARB Group for reporting to the GEC and relevant risk oversight structures. The FMI operational risk management function provides a proactive risk management process established specifically for FMI operations. The SARB Group Risk Management Policy is reviewed biennially by the RMCD and is also presented for consideration to the RMC, GEC and BREC.

Review, audit and testing

Q.17.2.3: How does the FMI review, audit and test its systems, policies, procedures and controls, including its operational risk management arrangements with participants? How frequently does the FMI conduct these reviews, audits and tests with participants?

The FMI operations are audited annually or as and when required by internal audit. This audit also covers arrangements that the FMI has with participants. All the FMI's critical business processes are tested on a quarterly basis with participants and system operators. Participants are required to conduct a DR test to test their systems or critical business operations with the FMI at least annually.

Q.17.2.4: To what extent, where relevant, is the FMI's operational risk management framework subject to external audit?

To date, no formal external audit has been conducted on the operational risk management framework. 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.[49]

49. See the SARB's Annual Report 2016/17 available at www.reservebank.co.za under Publications and Notices\Reports\Annual Reports.

Key Consideration 3

An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.

Q.17.3.1: What are the FMI's operational reliability objectives, both qualitative and quantitative? Where and how are they documented?

The FMI's qualitative and quantitative operational reliability objectives include the availability of the system, the recovery time objective (RTO) and the recovery point objective.

Q.17.3.2: How do these objectives ensure a high degree of operational reliability?

The availability of the system is set for 99.5% during the FMI operations' primary time (between 06:00 and 13:30) and 98.86% during the secondary time (between 13:30 and 17:00). No specific objective is set for the tertiary time (between 17:00 and 06:00 in the next SCD).

Q.17.3.3: What are the policies in place tha are designed to achieve the FMI's operational reliability objectives to ensure that the FMI takes appropriate action as needed?

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 (2) hours after an operational disruption has occurred. The service standard also provides for an incident management procedure that followed by the FMI and BSTD in managing an incident and ensuring that the agreed service levels and RTO 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 FMI operations. All incidents are logged on the FMI's call logging application, analysed for root causes, and reported to the relevant internal and external stakeholders. Major incidents that disrupted FMI operations and impacted agreed service levels are also recorded on the CURA application, and analysed and reported to the internal risk oversight structures. The service standard is reviewed annually. The PASA Immediate Settlement BCP Policy also reflects on the RTO as a standard that the FMI has agreed upon with the industry on the recovery of the FMI's critical business process. The IMMS BCP procedure identifies various scenarios with the agreed actions to be followed by the industry in order to manage various incidents that may disrupt the smooth functioning of the FMI operations.

Key consideration 4

An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.

Q.17.4.1: How does the FMI review, audit and test the scalability and adequacy of its capacity to handle, at a minimum, projected stress volumes? How frequently does the FMI conduct these reviews, audits and tests?

Capacity planning is performed by BSTD. A combination of scripted system notifications for the use of storage and vendor SLA reports provide for early warning indicators of the system's usage and capacity. Stress testing of the system is done prior to any implementation of a new system or process in the production environment, based on historical maximum volumes as well as projected volumes, considering the data available at the time. In situations where additional capacity (storage, memory or CPU) is required, capacity will be added to address borderline systems requirements.

Q.17.4.2: How are situations where operational capacity is neared or exceeded addressed?

Situations where no additional capacity or licensing is available need to be addressed through the SARB's procurement policies and procedures to procure the required capacity. Provision for an emergency procurement process exists in the SARB.

Key consideration 5

An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.

Physical security

Q.17.5.1: What are the FMI's policies and processes, including change management and project management policies and processes, for addressing the plausible sources of physical vulnerabilities and threats on an ongoing basis?

The SARB Group Security Policy and related framework[50] provide a framework within which physical and information security risks are managed in the FMI. These allow for the management of physical security, namely facilities, which include assets and processes; information security in any form (i.e. written, spoken and electronic) as well as security for staff, contractors and visitors.

50. SARB Group Security Policy and related framework

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.

Q.17.5.2: Do the FMI's policies, processes, controls and testing appropriately take into consideration relevant international, national and industry-level standards for physical security?

An internal vulnerability assessment capability exists and executes an annual programme to review security at all SARB Group facilities. On the basis of these, risk is assessed and appropriate countermeasures are implemented. The SARB Group's security function complies with relevant legislation in terms of physical, personnel and information security. Security processes and infrastructure are also benchmarked against local and international practices and, where appropriate, local and international standards are utilised.

Information security

Q.17.5.3: What are the FMI's policies and processes, including change management and project management policies and processes, for addressing the plausible sources of information security vulnerabilities and threats on an ongoing basis?

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, roles and responsibilities of various stakeholders including risk management process to be followed to secure and protect assets in the SARB.

The FMI, through BSTD, conducts vulnerability scans and penetration testing which are done on a regular basis to identify any information security-related risks. Any security aspects to systems or processes are considered and implemented during the design phase of development.

A specialised cyber and information security risk function has been established within the Group Security Management Department. This function is mainly responsible for managing cybersecurity risks in the SARB Group. The process is underway to embed new processes and procedures to enhance the management of cyber and information security risks.

Q.17.5.4: Do the FMI's policies, processes, controls and testing appropriately take into consideration relevant international, national and industry-level standards for information security?

The SARB Group Security Policy is informed by various industry standards such as ISO 270001, United States National Institute of Standards and Technology, and the Standard of Good Practice for Information Security.

The FMI also follows other international and industry-level standards such as the *King IV* code, COBIT and ITIL for the design, development and implementation of policies, procedures, processes and controls in the information security environment.

The testing cycle during the implementation of new systems or processes includes security testing at an infrastructure and application level. External security experts are contracted to test the solution for vulnerabilities before being implemented in production. Vulnerabilities identified during this security test are addressed before the solution is implemented.

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

Key consideration 6

An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.

Objectives of a business continuity plan

Q.17.6.1: How and to what extent does the FMI's business continuity plan reflect objectives, policies and procedures that allow for the rapid recovery and timely resumption of critical operations following a wide-scale or major disruption?

The SARB has in place a Business Continuity Policy which aims to provide a framework for the effective management of a BCM programme. This policy allows each department, including the FMI, to establish a BCP which is specific and appropriate to its own operations.[51]

51. Business Continuity Policy as published in July 2016

The FMI's BCP is specific on all the FMI's business critical business processes, ICT applications used, the critical time period during which these processes are required, interdependencies and the amount of time required to recover these processes. The operational disruptions catered for in the FMI's BCP cover any situation or incident that has a major or worst-case impact on the continuity of the identified critical business processes and reputation of the FMI. 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 FMI's critical business processes.

The RTO for the FMI's critical business processes for all major business processes is set for two hours during primary and secondary time.

Design of a business continuity plan

Q.17.6.2: How and to what extent is the FMI's business continuity plan designed to enable critical IT systems to resume operations within two hours following disruptive events, and to enable the FMI to facilitate or complete settlement by the end of the day even in extreme circumstances?

From a technical perspective, the SARB implements solutions on the network, storage, server and SWIFT connectivity levels which are designed to avoid single points of failure. These initiatives are ongoing as continual improvement has allowed RTO's to be reduced significantly. The network components supporting the FMI operations are implemented in a redundant configuration, with key switches, routers and firewalls duplicated at both the primary and alternate site.

The peripheral systems use a combination of asynchronous replication or, in some cases, active stand-alone systems are used. The failover of server, storage and application components requires interventions to confirm failover locally at the primary site or to the alternate site at any point in time. Failover mechanisms protect against hardware and telecommunications failures.

The FMI has identified the need for a third-level contingency that is in a geographically remote facility, with a reduced reliance on local staff, and which provides for technical and software diversity and independent data storage. Investigation is underway to implement a suitable third-level contingency solution that meets the stated business continuity requirements.

Q.17.6.3: How is the contingency plan designed to ensure that the status of all transactions can be identified in a timely manner, at the time of the disruption; and if there is a possibility of data loss, what are the procedures to deal with such loss (for example, reconciliation with participants or third parties)?

The core server, mainframe, applications and data are replicated synchronously from the primary site to the alternate site, using enterprise class storage subsystems. Software, database and operating system corruptions are protected using backup/restore and database tools.

The replication and mirroring between the ICT infrastructure at the primary and secondary sites allow data to be synchronised. This allows BSTD to switch between the primary and secondary ICT infrastructure within the agreed service level. The operational capacity of the system is sufficient to allow for the completion of settlement by the end of the day, even during worst-case situations.

Q.17.6.4: How do the FMI's crisis management procedures address the need for effective communications internally and with key external stakeholders and authorities?

The FMI's crisis management procedures prescribe that the FMI's operations management must, within five (5) minutes of the occurrence of the disruptive incident, invoke crisis management after escalating the incident to the relevant support function and the Crisis Management Committee. Once the Crisis Management Committee has convened, escalation to participants, suppliers and other regulatory bodies is required within 15 minutes of the occurrence to advise all relevant stakeholders of the incident and the steps to be followed. Within 30 minutes of the incident, the decision must be made by the Business Continuity Management Committee (BCMC) of the SARB on whether or not to switch operations to the DR/secondary site.

Secondary site

Q.17.6.5: How does the FMI's business continuity plan incorporate the use of a secondary site (including ensuring that the secondary site has sufficient resources, capabilities, functionalities and appropriate staffing arrangements)? To what extent is the secondary site located a sufficient geographic distance from the primary site such that it has a distinct risk profile?

The business continuity arrangements in place provide for the monitoring and support function for the FMI operations to take place at dual sites (i.e. primary and secondary sites). Critical teams for FMI 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 FMI operations staff and for access to the system within the agreed recovery time if the FMI was to switch production to the ICT infrastructure at the secondary site. Although the secondary site is within 15 km of the primary site, the secondary site has a distinct risk profile from an infrastructure perspective, including factors such as electricity grid and telecommunications lines.

Due to resource constrains, BSTD has not made commitments to deploy support personnel at the secondary site for the recovery of the FMI's critical business process. The proximity, which is less than 15 km from the primary site, allows these members of the recovery team to reach the secondary site within a reasonable period. However, BSTD has remote support capability to switch these critical business processes within the agreed service levels.

Q.17.6.6: Has the FMI considered alternative arrangements (such as manual, paper- based procedures or other alternatives) to allow the processing of time-critical transactions in extreme circumstances?

In extreme circumstances the FMI can use the SARB's general ledger to book critical payments and achieve settlement finality and irrevocability.

Review and testing

Q.17.6.7: How are the FMI's business continuity and contingency arrangements reviewed and tested, including with respect to scenarios related to wide-scale and major disruptions? How frequently are these arrangements reviewed and tested?

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.

The BCMC governing the FMI is responsible for other reviews to improve the business continuity arrangements in the organisation. Any changes, improvements or requirements are discussed and agreed to with the FMI.

Q.17.6.8: How does the review and testing of the FMI's business continuity and contingency arrangements involve the FMI's participants, critical service providers and linked FMIs as relevant? How frequently are the FMI's participants, critical service providers and linked FMIs involved in the review and testing?

The SAMOS service agreement between the FMI and participants requires each participant to implement business continuity arrangements for their payment and settlement systems and to test these systems on an annual basis.

For any major changes implemented in the FMI operations, participants are required to test their systems within one (1) month of implementation of these changes. Contingency arrangements involving CLS are agreed upon in the Coordination Manual and tested during the year as per the agreed schedule. Contingency arrangements with BankservAfrica and Strate are outlined in the respective service level agreements and tested biannually with the FMI. These procedures are reviewed as and when changes to the existing processes, systems or services are effected.

Key consideration 7

An FMI should identify, monitor and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor and manage the risks its operations might pose to other FMIs.

Risks to the FMI's own operations

Q.17.7.1: What risks has the FMI identified to its operations arising from its key participants, other FMIs, and service and utility providers? How and to what extent does the FMI monitor and manage these risks?

Telecommunications (international and domestic), loss of SWIFT (international and domestic), loss of infrastructure, power failures, water shortages, payment processing system failures and loss of key human resources have been identified as sources of operational risks in the FMI operations. Participants are required to log any new changes relating to their payment and settlement systems with the FMIs. Testing is required for these changes and progress is monitored by the FMI. Participants are also required to provide implementation and back-out plans for changes that are introduced in their systems.

Q.17.7.2: If the FMI has outsourced services critical to its operations, how and to what extent does the FMI ensure that the operations of a critical service provider meet the same reliability and contingency requirements they would need to meet if they were provided internally?

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. Service level agreements with penalty clauses are in place with service providers to protect critical services.

Risks posed to other FMIs

Q.17.7.3: How and to what extent does the FMI identify, monitor and mitigate the risks it may pose to another FMI?

The identification of risks mainly takes place through the daily monitoring and support function that the FMI provides. Through this, the FMI is able to trace patterns and types of risk that it poses to the other FMIs. The risks identified are managed through the service level agreement 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.

Q.17.7.4: To what extent does the FMI coordinate its business continuity arrangements with those of other interdependent FMIs?

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 service level agreements and FMI's operating procedures. These arrangements are also tested on a regular basis for review and awareness. The FSCF also coordinates efforts by interdependent FMIs and other participants in the financial system to agree on industry-wide business continuity arrangements and to arrange for industry-wide simulation exercises.

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.

In reviewing this principle, it should be noted that FMIs are subject to the constraints of local laws and policies of the jurisdiction in which the FMI operates, and those laws may prohibit or require the inclusion of certain categories of financial institutions. This principle should be reviewed in the context of Principle 19 on tiered participation arrangements, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 18.

The rules, which are publicly available, define the requirements for initial and continuing participation in the SAMOS system. Upon joining, participants are continually monitored for compliance with the regulatory framework. Failure to abide by these regulations could result in suspension from the system.

Key consideration 1

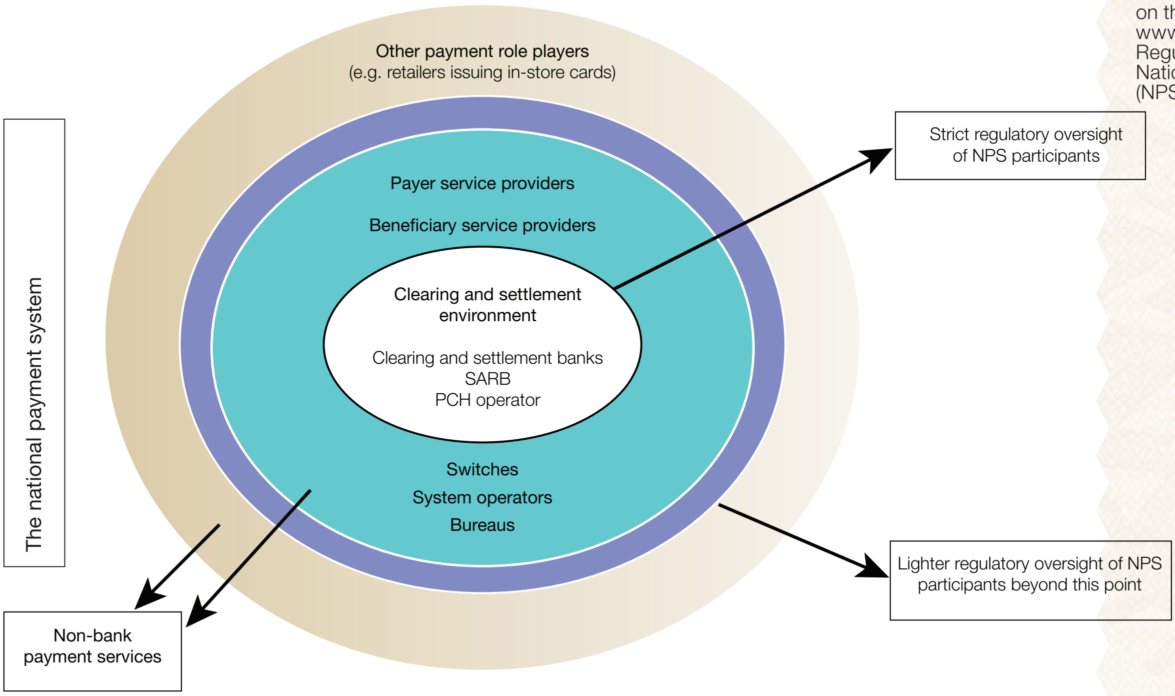
An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.

Participation criteria and requirements

Q.18.1.1: What are the FMI's criteria and requirements for participation (such as operational, financial and legal requirements)?

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 or third-party payment service providers.

Figure 12 South African payment system environment[52]



52. 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 Regulation and supervision\National Payment System (NPS)\Access to the NPS.

The settlement and clearing environment of the payment system is depicted in the centre of the diagram. This environment is well organised and well regulated. Only clearing and settlement banks are allowed to participate in this domain.

The SARB, in its effort to guarantee easy access to information and transparency, published position paper 01/2007 titled 'Bank models in the NPS'[53], which depicts the ways in which the various categories of banks can participate in the payment system as well as the opportunities available for them to grow within the system. The initial and continuing eligibility requirements for direct participation in the SAMOS system are objective and expressly set out and approved by the regulatory structure as discussed in Principle 1. Participants are subject to all applicable laws, the regulatory framework of the NPS, the PASA Constitution,[54] PASA policies, and all resolutions and decisions of the PASA Council. In addition, they are obliged to comply with the entry and participation criteria as well as the payment of fees, subscriptions, levies and charges, including annual subscriptions as determined by PASA from time to time.

53. To view the position papers issued by the SARB as well as Position Paper NPS 01/2007 in its entirety, go to www.reservebank.co.za\Regulation and Supervision\National Payment System(NPS)\NPS Legislation\ Position Papers.

54. Extract from the PASA Regulatory Framework document, available on the PASA website at www.pasa.org.za.

These participation entry criteria are summarised and published in the starter pack for participation, which is distributed as a participant handbook to participants of the NPS. 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 SAMOS system does not allow for indirect participants. Banks and designated clearing participants can be sponsored for clearing and settlement, but the sponsoring bank assumes full responsibility for the settlement in SAMOS. The sponsored bank's exposure is not directly visible in the SAMOS system.

The SARB is 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 SIRESS.

Q.18.1.2: How do these criteria and requirements allow for fair and open access to the FMI's services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements?

The starter pack provides 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 into the SAMOS system. This allows any prospective participant that meets the requirements to consider participation in the SAMOS system.

As stated in the starter pack and the NPSD's Vision 2015 document, 'access to the payment system' refers to the participants who provide payment system services. The public, including major corporate entities, utilise these payment instruments and services.

The requirements for the different role players are explained (i.e. access to payment system services for the public, such as debit card facilities, and access to payment system services for service providers, including participants, that provide payment services.

Both documents (the starter pack and Vision 2015 document) are published on the SARB website – no username and password are required to access these documents.

Access to trade repositories

Q.18.1.3: For a TR, how do the terms of access for use of its services help ensure that competition and innovation in post-trade processing are not impaired? How are these terms designed to support interconnectivity with other FMIs and service providers, where requested?

This is not applicable to the SAMOS system as it does not act as a TR.

Key consideration 2

An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavour to set requirements that have the least restrictive impact on access that circumstances permit.

Justification and rationale of participation criteria

Q.18.2.1: How are the participation requirements for the FMI justified in terms of the safety and efficiency of the FMI and its role in the markets it serves, and tailored to and commensurate with the FMI's specific risks?

Participation is open to all registered banks and mutual banks that meet its eligibility criteria. The SARB's membership credit criteria are objective, risk-based and publicly disclosed. They are designed to permit fair and open access. Banks can only be sponsored if their exposure is less than 10% of the sponsor bank's total exposure, as stipulated by the bank models in NPS position paper 01/2007,[55] which depicts the ways in which the various categories of banks can participate in the payment system and the opportunities that are available to them to grow within the system.

55. To view the position papers issued by the SARB as well as Position Paper NPS 01/2007 in its entirety, go to www.reservebank.co.za\Regulation and Supervision\National Payment System(NPS)\NPS Legislation\ Position Papers.

Q.18.2.2: Are there participation requirements that are not risk-based but required by law or regulation? If so, what are these requirements?

All the participation requirements defined by the NPS Act, the starter pack and the SAMOS Operations Manual are intended to mitigate risk.

Q.18.2.3: Are all classes of participants subject to the same access criteria? If not, what is the rationale for the different criteria (for example, size or type of activity, additional requirements for participants that act on behalf of third parties, and additional requirements for participants that are non-regulated entities)?

All participants in the SAMOS system must be a bank or mutual bank or designated settlement participant, as stipulated in the NPS Act. No unregulated entities participate in SAMOS.

Least restrictive access

Q.18.2.4: How are the access restrictions and requirements reviewed to ensure that they have the least restrictive access that circumstances permit, consistent with maintaining acceptable risk controls? How frequently is this review conducted?

Participation requirements are reviewed when legislation changes and as part of the review of the vision of the NPS every five years.

Q.18.2.5: How are participation criteria, including restrictions in participation, publicly disclosed?

The participation criteria are documented in the NPS starter pack and the NPS Act. These documents are publically available on the SARB website.

Key consideration 3

An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches or no longer meets the participation requirements.

Monitoring compliance

Q.18.3.1: How does the FMI monitor its participants' ongoing compliance with the access criteria? How are the FMI's policies designed to ensure that the information it uses to monitor compliance with participation criteria is timely and accurate?

The monitoring of compliance is done against the SAMOS service agreement and the settlement agreement. In the event of a party being found by the SARB, as a central bank, and/or by PASA to be in breach of a material obligation in terms of the SAMOS service agreement, such party will be deemed not to be in good standing as contemplated in PASA's Constitution, and the provisions of clause 5.3 of the settlement agreement will apply.

The SAMOS service agreement and its annexures explain the responsibility of participants and they are therefore required to advise with due notice any issues that arise that may result in non-compliance. PASA also manages non-compliance issues from a PCH perspective. As stipulated by the NPS Act, participants must comply with the obligation to supply information to the SARB on request or voluntarily in such a form and at such times as the SARB may require (i.e. such information supplied may relate to changes that may affect the participant's conduct of their activities in accordance with the settlement rules).

Each participant is to ensure and undertake to develop, introduce and maintain an effective and practical BCP relevant to its systems and procedures, records, audit trails, recovery procedures and human resources in order to ensure the effective continuity of its participation in the payment system. It is the responsibility of the participant to ensure that its systems are adequate to operate the transactions contemplated in the services and its back-up systems are an adequate alternative to its systems upon the occurrence of a disaster event. Each participant is obliged to ensure that it is able to meet its settlement obligations timeously, and that its systems and procedures are adequate to ensure that failure thereof will not jeopardise the payments system.

Each party undertakes, upon signature of the settlement agreement, to appoint a person to represent such a party in the Settlement System Participant Group (SSPG). Such representative shall be authorised by the representative to represent the party in all matters that fall within the jurisdiction of the SSPG, and such party shall be bound by the vote of the representative in such group. It is recorded that each system participant is required to appoint the SARB as a settlement system operator. Such appointment is done in terms of the SAMOS service agreement.

Q.18.3.2: What are the FMI's policies for conducting enhanced surveillance of, or imposing additional controls on, a participant whose risk profile deteriorates?

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.

For risk containment, participants are expected to comply with all regulations and be responsible to manage the risks identified in the payment system services. Risks in payment systems have many sources and require banks participating in payment systems to move beyond the boundaries of conventional thinking and to put in place structures that take a holistic view of risk and the management of risk.

The SARB has a dedicated team of operations analysts designated to monitor the payment system and attend to participant's queries or concerns on a daily basis. The SAMOS Management Application (SAMMAN) is used by NPSD to monitor the positions of the banks. In addition to this, the SAMOS system has built-in functionalities that alert the operator of any irregularities arising within the system based on participants' use of the system throughout the day and after hours, as the the SAMOS system is operational 24/7, including public holidays. Message flow irregularities may be caused by internal errors in the payment system; participants' liquidity problems; or CSD, PCH or participants' system problems.

The team acts immediately and invokes applicable procedures, and where the problem persists or requires further attention, the necessary escalation procedures are followed. In addition to ensuring compliance and risk reduction, every participant is required to take part in the SARB DR test at least once in a three-year cycle. Participants are also required to test their own DR for SAMOS at least once a year.

NPSD is working with BSD and the prudential regulator. The NPSD oversight framework also includes the monitoring of participants.

Suspension and orderly exit

Q.18.3.3: **What are the FMI's procedures for managing the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements?**

As indicated under monitoring of compliance, a decision can be made to suspend a participant. The SARB will, once this decision has been made, provide the participant with the notice of such suspension as soon as practicable and shall attempt to provide the notice prior to the effectiveness of such suspension. The SARB may reinstate a previously suspended participant as an eligible participant after due consideration of any risks to it after consultation with the relevant regulatory structures. The SARB will provide each participant with notice of any such reinstatement as soon as practicable and shall attempt to provide such notice prior to the effective date of such reinstatement.

Curatorship guidelines are used for managing the suspension/exit of a participant. Clear procedures (SOM) exist to suspend and exclude a participant from the system. 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.

Q.18.3.4: **How are the FMI's procedures for managing the suspension and orderly exit of a participant disclosed to the public?**

When a participant needs to exit the system, it should provide notification to the FMI and PASA. The process for exiting is documented and once the communication has been received, the industry is advised of the exit and the process that will follow. The suspension and orderly exit of a participant are not publicly disclosed on the website as:

1. this will be communicated to current participants via NPSD notices; and
2. PASA will distribute a notification in this regard to all relevant PCHs.

Principle 19: Tiered participation arrangements

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

This principle should be reviewed in the context of Principle 14 on segregation and portability, Principle 18 on access and participation requirements, and other principles, as appropriate.

Key consideration 1

An FMI should ensure that its rules, procedures and agreements allow it to gather basic information about indirect participation in order to identify, monitor and manage any material risks to the FMI arising from such tiered participation arrangements.

Tiered participation arrangements

Q.19.1.1: **Does the FMI have any tiered participation arrangements? If so, describe these arrangements.**

The SAMOS system caters only for direct settlement banks, but allows for sponsored settlement in terms of the NPS Act and sponsorship criteria.

Q.19.1.2: **How does the FMI gather basic information about indirect participation? Which information is collected and how frequently is it updated?**

Although the SARB's bank models, as represented in NPSD Position Paper 01/2007, allow for third-party participation arrangements, the SAMOS system however is not designed to cater for indirect participation. SAMOS has contractual agreements with the direct participants and has no relationship with the third-party participants; thus, SAMOS has neither obligations towards nor interaction with any third-party arrangements.

Therefore, an indirect participant's exposure is not visible in SAMOS as the direct participant assumes full responsibility for the settlement in SAMOS. (Refer to Principle 18, key consideration 1). For this reason, the FMI does not collect any third-party information through settlement (i.e. when SAMOS processes a settlement instruction where a participant is settling on behalf of the customer, the customer information is removed and SAMOS receives only the direct participant's information).

PASA manages the sponsorship arrangements between participants. As stipulated by the sponsoring criteria, it is the duty of the sponsoring bank to notify PASA and the SARB should a sponsored entity exceed 10% of the volumes and values processed by the sponsoring bank. PASA does, however, have sight of the volumes and values annually when it calculates subscriptions. PASA does not monitor the ratios.

Risks to the FMI

Q.19.1.3: How does the FMI evaluate its risks arising from these arrangements?

One of the fundamental principles according to the Blue Book (paragraph 2.5.5) 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 system as an FMI.

Q.19.1.4: What material risks to the FMI arising from tiered participation arrangements has the FMI identified? How has it mitigated these risks?

Based on PCH IMMS clearing rules, it is the responsibility of both the originator and beneficiary institutions to exercise reasonable care, as part of their risk management processes, to determine that the payment instruction has been populated with the correct information in order for correct accounts to be updated.

It is also the participants' responsibility to communicate any problems arising from third-party arrangements to the SARB and PASA. The contractual agreements signed allow the SAMOS operator to request information from its participants which is needed to ensure secure operations of the settlement services. Risks for direct participation are managed through daily monitoring and evaluation, but this does not guarantee the mitigation of risks posed by sponsored settlement arrangements.

Key consideration 2

An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.

Q.19.2.1: How does the FMI identify material dependencies between direct and indirect participants that might affect the FMI?

It is difficult to identify any material dependencies between direct participants and sponsored participants that will affect the SAMOS system or other participants through their settlement in SAMOS as these third parties do not have any contractual agreements with SAMOS, and all payment instructions take place only between the FMI and the SAMOS participant. Therefore, 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.

Key consideration 3

An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions

Q.19.3.1: Has the FMI identified

1. the proportion of activity that each direct participant conducts on behalf of indirect participants in relation to the direct participants' capacity,
2. direct participants that act on behalf of a material number of indirect participants,
3. indirect participants responsible for a significant proportion of turnover in the system, and

4. indirect participants whose transaction volumes or values are large relative to the capacity of the direct participant through which they access the FMI to manage risks arising from these transactions?

SAMOS does not currently monitor any of the mentioned criteria relating to indirect participants because it does not keep records of such participants. Therefore:

1. SAMOS is unable to identify any activity that each direct settlement bank conducts on behalf of indirect participants in relation to the settlement capacity. However, SAMOS is designed in such a way that there are reports that can be used to note changes in a participant's behaviour and note situations in which a participant has a liquidity constraint. However, the FMI is not able to note transactions flows on behalf of its customers.

2. Monitoring should be performed between the sponsoring and sponsored entities in respect of direct and indirect exposures.

3. It should be noted that indirect participants are the exception. Currently, based on information received from PASA, there are only three indirect participants in SAMOS.

Q.19.3.2: What risks to the FMI arise, and how does the FMI manage these risks arising from key indirect participants?

The sponsoring bank accepts the settlement risk and, subject to the criteria for sponsorship, is required to ensure that the obligations arising from the clearing of sponsored banks are settled; therefore, only the sponsoring bank is managed by the FMI. Monitoring should be performed between the sponsoring and sponsored entities in respect of direct and indirect exposures.

Key consideration 4

An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

Q.19.4.1: What are the FMI's policies for reviewing its rules and procedures in order to mitigate risks to the FMI arising from tiered participation? How frequently is this review conducted?

SAMOS does not currently monitor any indirect participants because it does not keep records of such participants. However, the SARB, as the central bank, is the custodian of the Risk Reduction Policy in which these measures are contained, and is consequently responsible for its review. PASA, as the PSMB, gives input as and when requested.

Q.19.4.2: What criteria does the FMI use to determine when mitigating actions are required? How does the FMI monitor and mitigate its risks?

SAMOS does not currently monitor any indirect participants because it does not keep records of such participants.

Principle 20: FMI links

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

In reviewing this principle, it should be noted that the questions apply only to FMIs that have established links with one or more other FMIs. Additionally, the term CSD generally refers to a CSD that also operates an SSS. The use of this broader definition for CSD in this principle mirrors market convention in the discussion of FMI links. This principle should be reviewed in the context of Principle 8 on settlement finality, Principle 11 on CSDs, Principle 17 on operational risk, and other principles, as appropriate.

Key consideration 1

Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.

Q.20.1.1: What process is used to identify potential sources of risk (such as, legal, credit, liquidity, custody and operational risks) arising from prospective links? How does this affect the FMI's decision whether to establish the link?

The FMI is currently linked to the clearing FMIs such as:

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

These links do not pose any unidentified risks to the FMI. Refer to Principle 3.

Principle 21: Efficiency and effectiveness

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

This principle should be reviewed in the context of Principle 17 on operational risk, Principle 18 on access and participation requirements, Principle 22 on communication procedures and standards, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 21.

The SAMOS system efficiently and effectively meets the requirements of its participants and the industry it serves by providing a high-quality settlement service. The SARB regularly seeks feedback from its participants and system operators, actively monitors industry and market developments, and responds accordingly to improve performance or provide additional services that meet the needs of the payment system industry. The NPS objectives and key performance areas with associated targets (discussed under Principle 2) are reviewed regularly by the SARB, PASA and related stakeholders, where appropriate

Key consideration 1

An FMI should be designed to meet the needs of its participants and the markets it serves, in particular with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled or recorded; and use of technology and procedures.

Q.21.1.1: How does the FMI determine whether its design (including its clearing and settlement arrangement, its operating structure, its delivery systems and technologies, and its individual services and products) is taking into account the needs of its participants and the markets it serves?

The payment settlement service is specifically designed to effectively and efficiently improve and address settlement risk in the South African payment system. The NPSD is appointed as the operator of the SAMOS system. While providing and maintaining an efficient payment settlement service through the SAMOS system, the SARB also facilitates the improvement of operational standards and straight-through processing, and helps to reduce the need for reconciliation among its participants.

The aim of the SAMOS system is also to significantly reduce the amount of post-settlement workflow as the validations required and algorithms used reduces duplicates, failed payments and unaccountable claims. As a result, participation in the SAMOS system provides potential financial savings, unnecessary interbank charges, and fewer resources are required to investigate missing payments and interest claims.

Q.21.1.2: How does the FMI determine whether it is meeting the requirements and needs of its participants and other users and continues to meet those requirements as they change (for example, through the use of feedback mechanisms)?

The SARB regularly seeks to improve the efficiency and practicality of the SAMOS system. The NPSD management participates in numerous external user group forums to obtain information on best practices, innovations in the market, participating member business needs and demand for new features as well as to drive development of new practices.

As one example of SARB's efforts, the NPSD holds a SUG forum, at least on a quarterly basis, that 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, IT, risk and/or legal changes which may affect their participation in the SAMOS system.

The SARB frequently seeks input on specific issues through one-on-one meetings with its NPS members and focused working group meetings. Different forums, including individual PCH operators and bank visits are organised on a needs basis, whereby questions about the SARB's performance and its responsiveness to customer concerns, the efficiency of the SAMOS system's services and its cost-recovery charges, the effectiveness of the SARB's implementation and system upgrades as well as the SARB's choice of products and services, and other areas, are discussed in detail.

The discussion results are shared with the NPSD executive management team and, depending on the classification of the information, the results are further discussed with PASA and its structures, the NPSD operations team and relevant departmental units within the SARB. The information is taken into account when planning strategic initiatives.

Key consideration 2

An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk management expectations, and business priorities.

Q.21.2.1: What are the FMI's goals and objectives as far as the effectiveness of its operations is concerned?

The goals on effectiveness are stipulated in the SAMOS service agreement and service level agreement, and can be measured by either the NPSD or a SAMOS system participant. Any deviation is noted and reported in the monthly operational report, which includes system changes, user administrative changes and system downtime.

In terms of overseeing the payment system, the SARB always acts in the interest of the system as a whole and not that of an individual stakeholder. 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 SARB, through the NPSD, to ensure that the quality and standard of the SAMOS system is high in terms of availability, interoperability and integrity.

This includes ensuring sound management of the risks the SAMOS system is exposed to in production and during the testing or implementation of new changes to its current functionality or infrastructure. This includes the risks that SAMOS participants or PCH operators expose the system to when they implement changes on their back-office and internal system interface applications and infrastructures that link into the SAMOS system.

Q.21.2.2: How does the FMI ensure that it has clearly defined goals and objectives that are measurable and achievable?

In order to provide the industry with the best service, the SAMOS system availability is paramount and it is stipulated in the service standard agreement with BSTD as follows:

1. Primary time (06:00–13:30)

SAMOS system availability should be at least 99.5%. One hour or 60 minutes maximum downtime per month will be allowed where a single downtime incident should not last more than 30 minutes.

2. Secondary time (13:30–17:00)

SAMOS system availability should be at least 98.86%. Two and half hours or 150 minutes maximum downtime per month will be allowed where a single downtime incident should not last more than 30 minutes.

3. Tertiary time (17:00–06:00 next day)

Regardless of whether a downtime incident is experienced or not, the service level shall be deemed as met for as long as all batches sent for settlement during this time settle before midnight or the scheduled commencement of the next SCD.

Furthermore, the NPSD has a service standard with BSTD and this includes areas of minimum service levels, risk management expectations and business priorities. BSTD compiles a barometer detailing the availability of critical applications, of which SAMOS is one. The barometer is updated on a daily basis and made available to relevant parties internal to the SARB.

Q.21.2.3: To what extent have the goals and objectives been achieved? What mechanisms does the FMI have to measure and assess this?

Any incident encountered is captured on the NPSREsolveIT call logging system and these calls are further scrutinised to ensure that the necessary remedial actions have been provided. These calls are used as input in the decision-making process, which may result in improved operational effectiveness, new system feature enhancements, and overall system performance and management.

The SAMOS CSC also monitors any downtime on the NPSREsolveIT. The NPSREsolveIT is evaluated as and when requirements are identified. The NPSD compiles a monthly operations report indicating the system availability and the downtime of different components. This report is, inter alia, circulated to the Deputy Governor responsible for the financial cluster.

Key consideration 3

An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

Q.21.3.1: What processes and metrics does the FMI use to evaluate its efficiency and effectiveness?

Monthly operational statistical reports that include message volumes, system changes, static data changes, new system users, and so on, are provided to the NPSD management team and the oversight team. This report is 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. All operational issues or incidents are reported and logged on the NPSResolveIT system. Any system downtime is recorded on a BSTD ICT barometer that is visible to the NPSD's management and the SARB's executive management. This data is used as input to managerial decision making and system feature enhancements in a bid to improve the operation's effectiveness.

Q.21.3.2: How frequently does the FMI evaluate its efficiency and effectiveness?

The SAMOS system is reviewed every five years, which includes functionality and technology reviews. All areas are included in the review, from a business to a technical perspective. The last review was conducted in 2014 and, as one of the strategic objectives for 2017/18, a need for technology replacement was identified. The NPSD staff performance contracts are reviewed on an annual basis to ensure that the correct service is offered in accordance with the demands of the NPS industry. The NPSD management conducts a strategic review session on the FMI once a year. As the NPS industry is a member-owned service, the PCH PG committee members are representatives of the SARB, PASA, system operators and participating banks, and therefore regularly obtain insight into the NPS's operations while consistently providing input into how the SAMOS system can better meet the needs of its participating members and the industry as a whole.

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.

This principle should be reviewed in the context of Principle 17 on operational risk, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 22.

The SAMOS system uses internationally accepted message standards and communication protocol with participants and system operators. SWIFTNet browse for the SAMEXWeb or the SWIFT FIN services are utilised for the messaging.

Key consideration 1

An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

Communication procedures

Q.22.1.1: Does the FMI use an internationally accepted communications procedures and, if so, which one(s)? If not, how does the FMI accommodate internationally accepted communication procedures?

The SAMOS system supports the appropriate internationally accepted standards for the communication of financial instructions. All message formats comply with the SWIFT message standards. The messages used in the SAMOS system are MT 202, MT103, MT298, MT598, MT900, MT910, MT920, MT950 and MT998.

For communication purposes, SWIFT is used as the network provider. The SWIFTNet browse is used for access to the SAMEXWeb application and the SWIFT FIN services are utilised for the messaging.

Q.22.1.2: If the FMI engages in cross-border operations, how do the FMI's operational procedures, processes and systems use or otherwise accommodate internationally accepted communication procedures for cross-border operations?

The SAMOS system does not conduct cross-border operations. However there is a functionality link to SIRESS that is used by SAMOS participants to transfer funds as a means of rand liquidity provision to SIRESS.

Communication standards

Q.22.1.3: Does the FMI use an internationally accepted communications standard and, if so, which one(s)? If not, how does the FMI accommodate internationally accepted communication standards?

The SAMOS system supports the appropriate internationally accepted standards for the communication of financial instructions. This includes the use of SWIFT FIN messages such as MT202 and MT103, which are compliant with ISO15022 standards.

Q.22.1.4: If the FMI engages in cross-border operations, how do the FMI's operational procedures, processes and systems use or otherwise accommodate internationally accepted communication standards for cross-border operations?

The SAMOS system does not conduct cross-border operations.

Q.22.1.5: If no international standard is used, how does the FMI accommodate systems that translate or convert message format and data from international standards into the domestic equivalent and vice versa?

The SAMOS system supports the appropriate internationally accepted SWIFT ISO15022 standard.

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.

In reviewing this principle, information should be disclosed to the extent that it would not risk prejudicing the security and integrity of the FMI or divulging commercially sensitive information. This principle should be reviewed in the context of Principle 8 on settlement finality, Principle 13 on participant default rules and procedures, Principle 24 on the disclosure of market data by trade repositories, and other principles, as appropriate.

Assessment of compliance

The SARB observes Principle 23. With reference to key consideration 5, the SARB has completed the CPSS IOSCO Disclosure Framework 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 SARB's participants and, where appropriate, to the public.

On its corporate website, the SARB makes public (in English) a significant amount of information about the SARB and its subsidiaries and the NPSD's services, such as the participation requirements, bank supervision services and regulations, certain market data, regulatory and oversight information (including details on the NPS oversight framework), and speeches by the Governor of the SARB as well as other counterparties to the South African NPS and the community as a whole.[56] All relevant regulatory consultation documents, information on collateral management, governance information, annual reports, risk framework and best practices, and other press releases are also available on the SARB website.

56. Information is available on the SARB website at www.resbank.co.za under Regulation and supervision.

Key consideration 1

An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.

Rules and procedures

Q.23.1.1: What documents comprise the FMI's rules and procedures? How are these documents disclosed to participants?

Documents published that contain the rules and procedures include the following: (i) Operational Procedure and Service Level Manual, as an addendum to the SAMOS service agreement; (ii) position papers on cost recovery and collateral management; and (iii) BCP documents. Documents that are not published publically but are available to participants include IMMS clearing rules, compensation rules and settlement agreements.

Q.23.1.2 How does the FMI determine that its rules and procedures are clear and comprehensive?

Documents published that contain the rules and procedures include the following: (i) Operational Procedure and Service Level Manual, as an addendum to the SAMOS service agreement; (ii) position papers on cost recovery and collateral management; and (iii) BCP documents. The procedures and rules can be discussed at industry meetings and participants can raise issues for clarification. Compliance checks are done on an ad hoc basis.

Disclosure

Q.23.1.3: What information do the FMI's rules and procedures contain on the procedures it will follow in non-routine, though foreseeable, events?

The FMI's rules and procedures contained in the procedures that it will follow in non-routine, though foreseeable, events include:

1. 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;

2. the SAMOS Operation Manual (SOM), which has documented the critical business/system failure scenarios (e.g. FMI failure; CLS contingency; bond, equity and money market BCPs; and specific measures, roles and responsibilities as well as escalation and communication procedures); and
3. regular business contingency tests procedures that have been documented to ensure an effective and practical BCP, recovery procedures and human resources roles and responsibilities, in order to ensure the readiness of its settlement service delivery

Q.23.1.4: How and to whom does the FMI disclose the processes it follows for changing its rules and procedures?

The SARB has clear and comprehensive rules and procedures that are fully disclosed to its participants. The key rules and procedures of the payment and settlement services are set forth in the PASA regulatory framework and settlement rules, which are publicly disclosed on the PASA corporate website. All changes to the rules and procedures are consulted with the advisory committees and facilitated through PASA. Some rule and procedure changes are advised to the SUG and notices are published.

Q.23.1.5: How does the FMI disclose relevant rules and key procedures to the public?

The SARB complies with the Promotion of Access to Information Act 2 of 2000. In response to this, the Promotion of Access to Information Manual was published on 15 November 2011 and made available to the public.[57] The objective of this manual is to comply with the provisions of the Promotion of Access to Information Act in order to promote the constitutional right of access to information. In addition to the manual, the SARB holds different forums that are used as platforms to disclose the following major decisions to its stakeholders:

1. The mandate, mission, objectives and functions of the SARB and its Board are published on the SARB website.
2. The role of the South African NPS, and the role and responsibilities of the SARB, through the NPSD, are published on the SARB website.
3. The SARB maintains the confidentiality of its FMI participants; hence, participant information is published in a secure site on the SARB website.
4. All relevant legislations and the regulatory framework are on the SARB website, including position papers, information papers, directives and strategic documents.
5. The NPSD holds a SUG forum quarterly which is a formal meeting to engage all active FMI participants, including the system operators.
6. More communication is extended to the SADC community through the CCBG website.

57. This is in terms of section 14 of the Promotion of Access to Information Act 2 of 2000; the Promotion of Access to Information Manual is available on the SARB website at www.resbank.co.za under About us.

Key consideration 2

An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI

Q.23.2.1: What documents comprise information about the system's design and operations? How and to whom does the FMI disclose the system's design and operations?

The SAMOS business process and the template models detail the design and message layout of the SAMOS system. The SAMOS system allocates accounts to its participants. These documents are disclosed to the SAMOS participants' forum, which is accessed through the SARB website.[58]

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

Q.23.2.2: How and to whom does the FMI disclose the degree of discretion it can exercise over key decisions that directly affect the operation of the system?

Any decision and/or information is shared with SAMOS participants through IMMS PG and PASA. A degree of discretion can only be exercised with regard to exception charges and penalties. In cases where the request for an extension or defaults occurring due to circumstances that are beyond the control of the participant, the participant could lodge an appeal which, if successful, would lead to a repayment of the charge. This decision is taken as per the FMI operator's discretion. The appeal process has been shared with participants at SUG and IMMS meetings and disclosed publicly under clause 2.1 of Position Paper 01/2003 on the cost-recovery policy for the SAMOS system.

Q.23.2.3: What information does the FMI provide to its participants about their rights, obligations and risks incurred through participation in the FMI?

All participants' rights, obligations and risks are documented in the SAMOS service agreement and the settlement agreement.

Key consideration 3

An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.

Q.23.3.1: How does the FMI facilitate its participants' understanding of the FMI's rules, procedures and the risks associated with participating?

In order 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 in order to support and manage the relationship between the NPSD and the SAMOS participants.

The FMI provides a training service to its participants in the operation and support of the settlement system. A training fee is payable by new and current participants for the training of their staff. The training covers an overview of the SAMOS system and practical exercise on the security and functionality of the SAMEXWeb front-end application. However, the following determines the need for participants' training:

1. training to existing participants is offered on request from the participants;
2. compulsory training is offered to new participants before they go live in the SAMOS system; and
3. training may be initiated by the FMI that is dependent on the new version of the SAMOS front-end system, only when a new feature that has an impact on the functionality of the system has been added.

Q.23.3.2: Is there evidence that the means described above enable participants' understanding of the FMI's rules, procedures and the risks they face from participating in the FMI?

An evaluation of the monthly statistics of invalid or uncertified SAMOS message trends received from participants is conducted by the SAMOS operator (i.e. the increase in the trends may be an indication of a participant's lack of understanding or non-compliance). However, the signing of SAMOS service and settlement agreements is an indication that participants understand what is required of them with regard to settlement rules and procedures. This includes the adoption of IMMS PG minutes of meetings held by participants.

Q.23.3.3: In the event that the FMI identifies a participant whose behaviour demonstrates a lack of understanding of the FMI's rules, procedures and the risks of participation, what remedial actions are taken by the FMI?

When participants demonstrate a lack of understanding, meetings are held, including with the NPS oversight team, to clarify any misunderstandings. When a need for training is identified during these meetings, training is then offered to the participant. Non-compliance penalty fees are levied to participants who fail to comply with the rules.

Key consideration 4

An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.

Q.23.4.1: **Does the FMI publicly disclose its fees at the level of its individual services and policies on any available discounts? How is this information disclosed?**

No FMI fees are publicly disclosed. However, NPSD Position Paper 01/2003 on the SAMOS cost recovery has been published on the SARB website. The actual fees levied are accessible through the SAMEXWeb application or at request from the SAMOS CSC.

Q.23.4.2 **How does the FMI notify participants and the public, on a timely basis, of changes to services and fees?**

These are reviewed annually and shared with the participants at the SUG meetings. NPSD operational notices and official letters are sent to participants individually. A description of the different fees is documented in the NPSD Position Paper 01/2003.

Q.23.4.3: **Does the FMI provide a description of its priced services? Do these descriptions allow for comparison across similar FMIs?**

No descriptions have been disclosed to the public. NPSD Position Paper 01/2003 published on the SARB website discloses information to the public on the cost-recovery approach that applies to the provision of the settlement services by NPSD of the SARB. However, the fee structure is only disclosed to SAMOS participants.

Q.23.4.4: **Does the FMI disclose information on its technology and communication procedures, or any other factors that affect the costs of operating the FMI?**

The SAMOS technical documentation is disclosed in the public domain of the SARB website as Position Paper 01/2014.

Key consideration 5

An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

Q.23.5.1: **When did the FMI last complete the CPSS-IOSCO Disclosure framework for financial market infrastructures? How frequently is it updated? Is it updated following material changes to the FMI and its environment and, at a minimum, every two years?**

The SARB has not yet completed the CPSS-IOSCO disclosure framework for the FMI.

Q.23.5.2: **What quantitative information does the FMI disclose to the public? How often is this information updated?**

The following information is (or has been) disclosed to the public:

1. *PASA Annual Report 2016*[59]
    a. Historical annual transaction values and volumes of retail payments at a glance.
2. For the 2016 calendar year, the RTL and retail batch settlement values and volumes statistics were published on the SARB website.
3. The message volumes and values as well as component downtime and system availability are shared with the SAMOS participants at the SUG meetings and published on the SARB website as part of the minutes. This is done by the chairperson of the meeting who resides in the Domestic and Regional Services Division of the NPSD.

59. PASA annual report 2016 is accessible under their website: www.pasa.org.za

Q.23.5.3: What other information does the FMI disclose to the public?

1. CPMI – Red Book: CPMI countries (source: http://www.bis.org/cpmi/publ/d17.pdf): (provisional), available to the general public:

   a. Table 3: Settlement media used by banks: annual comparison data statistics (2012–2016) on the utilisation of cash reserve requirements (refer to the section on South Africa from page 322).

   b. Tables 10 and 11: Payments processed by selected interbank funds transfer systems: volume and values of transactions, annual comparison data statistics (2012–2016) of:

      i. SAMOS high-value transactions, values and volumes; and

      ii. SAMOS retail transactions, values and volumes.

Q.23.5.4: How does the FMI disclose this information to the public? In which language(s) are the disclosures provided?

The information disclosed is managed and approved for dissemination by the FMI operator on the SARB website.

All information is published in English.

4. List of publicly available resources

Below is the list of publicly available resources, including those referenced in this disclosure.

1. Mutual Banks Act
2. *Bank Supervision Annual Report* (various editions)
3. Operational Procedures and Service Level Manual for the SAMOS System
4. PASA settlement agreement
5. SAMOS and SAMEX Conditions of Service Agreement
6. *Government Gazette* No. 35950 published on 12 December 2012
7. SAMOS Procedure Manual
8. SAMOS Service Agreement
9. South African Reserve Bank Act 90 of 1989, as amended
10. National Payment System Act 78 of 1998
11. Banks Act 94 of 1990
12. All PCH Agreements
13. SWIFT User Handbook
14. SAMOS Template Model
15. IMMS PCH PG: Payment Compensation Rules
16. The South African Reserve Bank's system of accommodation
16. PASA Annual Report