

# Overview of the South African national payment system

(Document extracted from Financial Stability Review September 2008)

## *Background*

A national payment system (NPS) does not only entail payments made 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, using a payment instrument, issues an instruction to pay another person or a business, through to the final interbank settlement of the transaction in the books of the central bank. The NPS therefore enables transacting parties to exchange value to conduct business efficiently.

The stability of the financial sector is intricately linked to the payment and settlement system. While financial instability may be characterised by banking failures, intense asset-price volatility, interest and exchange rate volatility, liquidity problems and systemic risk, it would often manifest in the disruption of the payment and settlement system. Therefore, a robust payment and settlement system is crucial for financial stability, since the default by one participant can easily have knock-on effects and, under certain circumstances, may cause the failure of other participants in the system.

In South Africa the responsibility for the NPS and its oversight are entrenched in law. The South African Reserve Bank Act, No. 90 of 1989 (SARB Act) was amended in 1996 to clarify the role and responsibility of the Bank in the domestic payment system. Section 10(1)(c)(i) of the SARB Act empowers the Bank 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 Bank has been given the power to govern the entire process, from the moment that a payment is initiated until such time as the beneficiary receives the money. The NPS Act enables the Bank to perform the functions as provided for in the SARB Act. The authority to perform these functions is vested in the Bank’s National Payment System Department. The NPS Act also provides for the regulatory and supervisory powers of the Bank to manage and control all payment-related risks.

## *The payment system networks*

Over the past few decades the South African NPS has developed steadily into an efficient, sophisticated and complex environment. The environment may, for clarification, be broken down into various interlinking networks that enable and facilitate the generation, transfer, verification and processing of a payment instruction. A high-level view of the South African payment system and the various networks is depicted in Figure 1.

## *The customer network*

Bank customers use various payment instruments issued by banks to do transactions. These transactions include, among other things, financial market transactions, and the ordinary purchase of goods and services. The banks’ business customers do not have direct access to the settlement network and therefore have to utilise the payment networks of participating banks in order to access the clearing and settlement networks. Customer

networks include the networks that have been put in place by the business customers of the various commercial banks. Examples of these business customers are public utilities and some of the major supermarkets. The customer networks enable business customers to participate in the payment system and provide payment services to their clients.

Participants in the customer networks often provide additional value-added services to their customers. For this reason, as explained in more detail in the *Financial Stability Review* of September 2007, system operators<sup>1</sup> and third-person payment service providers<sup>2</sup> were formalised into a new category of participants in the NPS. As at the end of July 2008, 22 third-person payment service providers and 39 system operators had already registered with the Payments Association of South Africa (PASA). These non-bank participants form an important link between the payment and customer networks, and enhance the efficiency and footprint of the payment system.

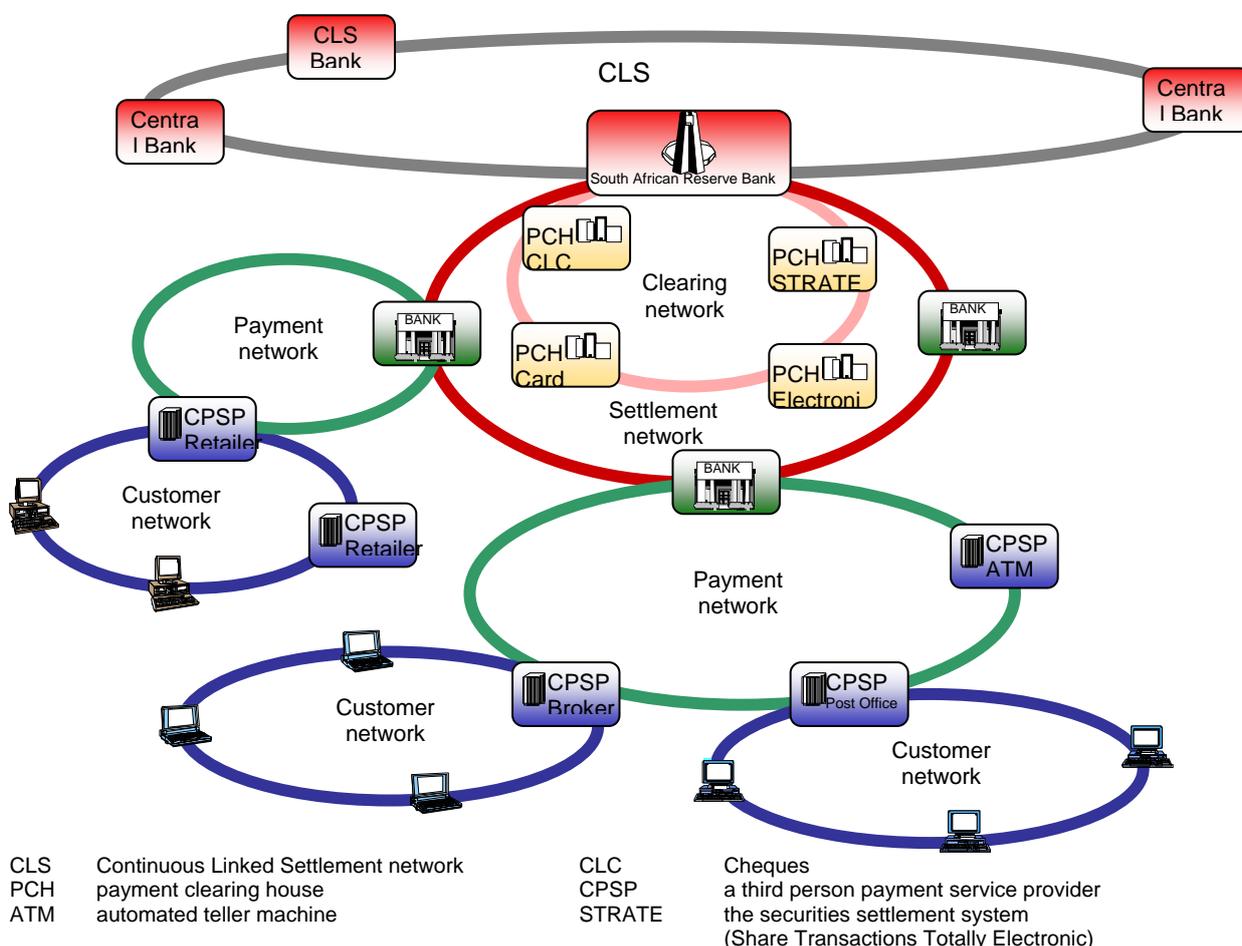
1 'System operators' are defined in the NPS Act as "any person who provides payment services to two or more persons in respect of payment instructions". Payment instructions are typically from large retailers and banks.

2 The NPS Act defines 'payments to third persons' as "a person who may as a regular feature of its business accept money or payment instructions from any other person for purposes of making payment on behalf of the other person to a third person to whom the payment is due", such as the payment of utility bills.

### The payment network

The payment network can be described as the systems and communications mechanisms put in place by commercial banks to provide their customers with the facilities and channels to effect payment. These networks include the bank-owned automated teller machines (ATMs), Internet banking facilities, branch networks and payment instruments. The banking industry has been encouraged to develop payment instruments and systems. These include a variety of payment instruments such as electronic funds transfer (EFT) mechanisms, debit orders, debit cards and credit cards.

Figure 1 South African payment system networks



Innovation, access, security and safety are important features of which commercial banks need to take cognisance when developing payment instruments. Commercial banks should also take note of the banking requirements of their customers and provide robust, fit-for-purpose payment instruments that adhere to international best practice.

### *The clearing network*

'Clearing' is defined in the NPS Act as the exchange of payment instructions. The *South African National Payment System Framework and Strategy document – 1995*<sup>3</sup> defined 'clearing' "as the physical exchange of payment instructions between the payer's bank and the payee's bank (or their agents)". Traditionally, only banks were allowed in the clearing network. As the payment system evolved and became more sophisticated, more non-banks began to participate in the payment system and the Bank decided to re-evaluate participation criteria in the clearing environment. Changes proposed to the NPS Act would allow the Bank to designate non-bank participants to clear in their own name in the clearing network. Settlement, however, will continue to be the exclusive domain of the settlement system participant banks.

Also participating in the clearing domain is the payment clearing house (PCH) system operators, also known as 'clearing houses'. A 'PCH system operator' is defined in the NPS Act as a person that clears on behalf of two or more settlement system participants. The BIS (Bank for International Settlements) defines a 'clearing house' as a central location or processing mechanism through which financial institutions agree to exchange payment instructions or financial obligations such as securities. The institutions settle for items exchanged at a designated time based on the rules and procedures of the clearing house.

The PCH system operator responsible for clearing and determining interbank obligations stemming from the retail payments environment is known as Bankserv.<sup>4</sup> Bankserv is owned by the South African clearing and settlement banks. The transactions in the retail payments environment include cheques, credit and debit card transactions, and Internet and ATM transactions. In terms of the settlement value in the overall settlement system, the value of retail transactions on average amount to 8 per cent of transactions settled in the South African Multiple Option Settlement (SAMOS)<sup>5</sup> system. High-value payments represent on average 92 per cent of the value of the transactions settled in SAMOS. However, the volumes of transactions in the clearing network far outnumber the volume of transactions in the high-value settlement system.

Payment instructions are sent to Bankserv through the various payment networks. It is at Bankserv that the actual clearing takes place. The clearing process includes sorting the instructions and determining the settlement obligations of the participants. These obligations are then submitted to the Bank for settlement.

The PCH system operator responsible for the settlement of securities in South Africa is STRATE Limited<sup>6</sup> (STRATE). STRATE determines the interbank payment obligations arising in the equity and bond markets, which are then settled at the Bank. STRATE is not only the PCH system operator for the clearing of securities transactions, but also performs the role of the self-regulatory body for securities settlement in South Africa. Other PCH system operators active in South Africa are the card associations such as Visa and MasterCard.

<sup>3</sup> The document is available online at <http://www.reservebank.co.za>. All the strategies identified in this document were implemented by 2004 and in 2006, the Bank released a new document entitled *The National Payment System Framework and Strategy – Vision 2010*.

<sup>4</sup> Bankserv was founded in 1972 as the Automated Clearing Bureau (Pty) Limited. More information is available online at <http://www.bankserv.co.za>.

<sup>5</sup> The SAMOS system provides a facility for banks to settle their obligations on a real-time basis, providing final and irrevocable settlement.

<sup>6</sup> The South African securities settlement operator is known as STRATE (Share Transactions Totally Electronic) and is owned by the JSE Limited (JSE) and the South African registered banks. More information is available online at <http://www.strate.co.za>.

## The settlement network

The core of the South African settlement system is the SAMOS system, which is owned and operated by the Bank. The SAMOS system was introduced on 9 March 1998. SAMOS brought domestic interbank settlement practices in line with international best practice and signalled the start of a new era for payment practices in South Africa. At the end of July 2008, 22 settlement participants were active in the SAMOS system. See Table 1 for a list of settlement participants.

To become a settlement system participant, an institution must be either the South African Reserve Bank; a commercial bank registered in terms of the Banks Act, No. 94 of 1990; a mutual bank registered in terms of the Mutual Banks Act, No. 124 of 1993; a branch of a foreign institution or a designated settlement system operator such as the Continuous Linked Settlement (CLS) system.<sup>7</sup> Once the Co-operative Banks Act has been implemented, a co-operative bank that meets the necessary requirements may also become a settlement system participant.

<sup>7</sup> More information is available online at <http://www.cls-services.com>.

A settlement system participant has an account at the Bank from which interbank settlement obligations are settled. Furthermore, the settlement system participants need to lodge collateral at the Bank, as prescribed by the Bank.<sup>8</sup> These requirements are necessary to provide sufficient liquidity and to ensure the smooth functioning of the settlement system.

<sup>8</sup> Refer to the NPS Position Paper No. 02/2006 for collateral arrangements, available online at <http://www.reservebank.co.za>.

Table 1 List of settlement participants

|                                      |   |
|--------------------------------------|---|
| ABN AMRO Bank NV                     | Mercantile Bank Limited Investec Bank Limited |
| Absa Bank Limited                    | Nedbank Limited                               |
| African Bank Limited                 | Société Générale                              |
| Bidvest Bank Limited                 | Standard Chartered Bank (Johannesburg Branch) |
| Calyon Corporate and Investment Bank | State Bank of India                           |
| Capitec Bank Limited                 | TEBA Bank Limited                             |
| Citibank NA                          | The South African Bank of Athens Limited      |
| FirstRand Bank Limited               | The Standard Bank of South Africa Limited     |
| Grindrod Bank Limited                | CLS Bank International                        |
| Habib Overseas Bank Limited          | South African Reserve Bank                    |
| HBZ Bank Limited                     |   |

Source: South African Reserve Bank

The settlement network provides for settlement participants to settle their interbank obligations finally and irrevocably.<sup>9</sup> For example, bank A owes bank B an amount of R500 million. Bank A would initiate the transaction and send a settlement instruction, via the messaging network<sup>10</sup> available to the settlement banks, to the SAMOS system. Once the instruction is received by the Bank and available funds permit, a transfer will take place from the account of bank A to the account of bank B within the books of the Bank. The SAMOS system will send a message to bank A confirming that the transfer was successful. The SAMOS system will also send a message to bank B notifying the bank that a payment has been made. The SAMOS system only has information relating to the interbank settlement of the funds. No information regarding the underlying payment enters the SAMOS system. The total value settled through the SAMOS system in July 2008 amounted to a record high of R6,8 trillion and the total number of transactions for the same period was 246 060.

<sup>9</sup> Section 5(2) of the NPS Act embodies the principle of 'final and irrevocable'.

<sup>10</sup> Refer to the *National Payment System in South Africa 1995 to 2005*, page 8, for a diagram of the messaging network.

## The Continuous Linked Settlement network

On the highest level of the networks depicted in Figure 1, the link between the domestic and international payment system networks is shown. This is the link between the CLS system and the SAMOS system, and it was implemented to reduce the settlement risk associated with foreign-exchange transactions. The settlement of foreign-exchange transactions between

South African rand and that of other foreign currencies settled in the CLS system takes place within this environment. CLS settles both legs of a foreign exchange transaction simultaneously.

At present there are 17 currencies participating in the CLS settlement system. The South African rand was included as a CLS<sup>11</sup> settlement currency in 2004. The Standard Bank of South Africa Limited is the only South African-registered bank that is a direct CLS member. Furthermore, there are three settlement banks in South African that provide liquidity for the South African rand settlement in CLS, namely Absa Bank Limited, FirstRand Bank Limited and The Standard Bank of South Africa Limited. In July 2008 the total value of transactions settled by the CLS participant banks in the SAMOS system amounted to approximately R144 billion.

<sup>11</sup> For additional information on participation in the CLS system refer to *The National Payment System in South Africa 1995 to 2005* section 5.2, page 17.