



Central Bank of Nigeria

Payments System Vision 2020

Release 2.0 - September 2013

*Nationally Utilised
Internationally Recognised*



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Nigeria Payments System Vision 2020

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To facilitate economic activities by providing safe and efficient mechanisms for making and receiving payments with minimum risks to the central bank, payment service providers and end users, extending the availability and usage to all sectors and geographies, banked and unbanked, and conforming to internationally accepted regulatory, technical and operational standards.

FOREWORD BY THE GOVERNOR

Nigeria can be justifiably proud of the recent progress in creating a robust financial system framework through several reform initiatives targeted at fostering stability, sanitising governance and restoring confidence in the system. A sound payments system infrastructure, where banks and their customers can transact business with confidence and convenience, trust and timeliness, underpins many of these reforms.

In 2007, the Central Bank of Nigeria launched the Payment Systems Vision 2020 which identified series of recommendations to increase the resilience of the payments system infrastructure and work-streams to encourage the usage of electronic payment methods were inaugurated.

In 2013, we can celebrate the progress achieved through the tenacity of those tasked with implementing our vision in 2007. However, the international financial community has raised the bar for risk management, governance, compliance and supervision. Therefore, it is appropriate to take a fresh view of the current payments landscape in Nigeria, benchmarked against the new higher global standards. The economic benefits of migrating from our current cash-dominated environment to an electronic payments market are unquestionable. We must continue to build and make safe and efficient services available, ensuring that these are embraced by the user community. We must also ensure that our regulatory framework encourages innovation, but protects the stability of the payments system.

Our country is acknowledged as a major economic force within Africa, but also increasingly an active player in the global economy. To participate actively, our payments system must be successfully benchmarked against the best practices adopted by the most developed nations and, as importantly, be recognised for it.

It is a measure of the enormous progress made since 2007 that this document is not a simple update of the initial release but a complete rewrite. Implementation of the Vision requires the active participation of the broad payments community - the banks, other service providers and key stakeholders. The most important stakeholder is the customer, particularly the underserved.

I commend this report to you as an important first step. But I will ask for your energy, enthusiasm and commitment to drive forward the initiatives and recommendations so that in the coming years, our country can boast of payments system that are truly nationally utilised and internationally recognised.

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CENTRAL BANK OF NIGERIA.
ABUJA
16TH SEPTEMBER, 2013.

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2 Executive Summary

2.1 Background to the Payments System Vision 2020

In March 2007, CBN launched the Payments System Vision 2020 (PSV2020). Through the implementation of the original PSV2020 and subsequent activities of CBN and the banking community, Nigeria has witnessed an impressive growth of electronic payments and a move from the dominance of cash as a means of payment. In 2013, CBN initiated a further formal assessment of the payments market, resulting in the PSV2020 Release 2.

2.2 Approach to the PSV2020

The original PSV2020 carried the overall objective to make the Nigeria payment systems 'Internationally Recognised, Nationally Utilised'. The existing infrastructure was assessed against the international best-practice defined by the Bank for International Settlements, and to encourage usage of electronic payments, seven specific initiatives were identified to promote adoption.

The 2013 revision follows the same successful approach. The key recommendations result from key deficiencies when assessed against the current BIS IOSCO Principles for Financial Market Infrastructure (PFMI). It should be noted that the PSV2020 key recommendations result from a much higher target for compliance than was possible in 2007 due to the significant progress already achieved – we entered 2013 with a significantly more resilient structure than in 2007 and so can be more aggressive in future goals.

2.3 Recommendations for the Payments System Infrastructure

Following the detailed assessment of the current infrastructure against the PFMI, seven key recommendations emerged. The central theme of the recommendations is the linkage of scheme governance with scheme risk mitigation.

The two core recommendations are interlinked and cannot effectively be implemented independently.

- The PFMI state that FMIs should be financially resilient against settlement risk (liquidity and credit)
- Currently CBN is 'Lender of Last Resort' for ultimate default of a participant in deferred net settlement systems – we need to move, at an appropriate time, to a model where the scheme itself mitigates the default risk and exposures
- Hence the market must move to a model where defaulter pays initial debit position, but with any potential shortfall covered by the Survivors ('Survivor Pays' model)
- Participants will then have risk of losses from actions of other participants and therefore have a clear benefit from ensuring the likelihood of requiring survivors paying is kept to a minimum
- Participants should only accept this change if they are actively responsible, collectively and with a Board Management perspective, for scheme governance

Hence scheme governance is critical to implementing an effective Payment Systems Risk Management model.

It is stressed that CBN always has responsibility for Regulation and Oversight, as defined by its role as the apex organisation for the integrity of the payments infrastructure.

It should also be noted that the payment schemes have progressed significantly since the original review in 2007, most notably on the level of participant engagement in the payment scheme governance. The recommendations below are only feasible because of this progress.

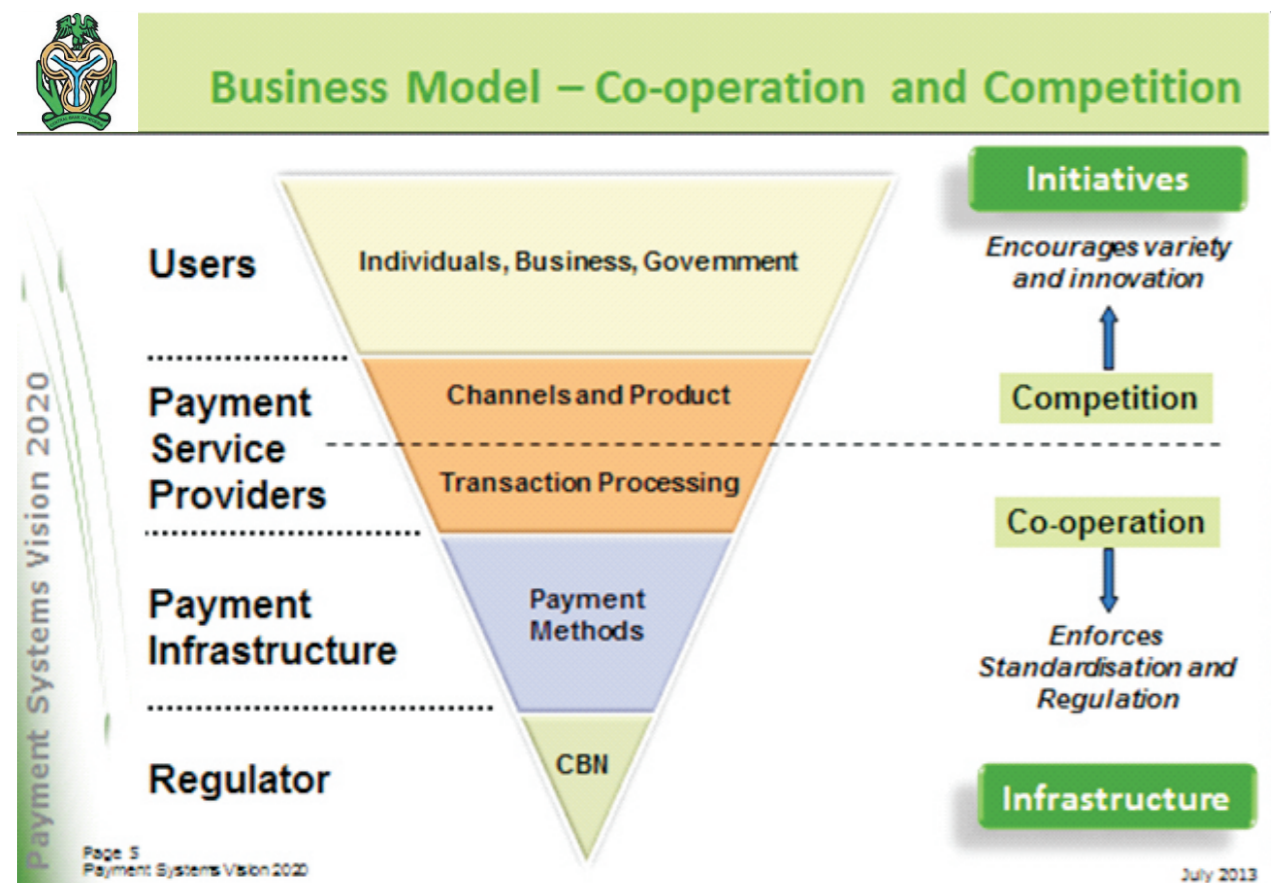
2.4 Specific Key Recommendations

Recommendation 1 *It is strongly recommended that no national payment systems invoke the principle of unwind CBN should formally state that unwind must not be invoked in any national payment system. An implication of this recommendation is that each payment scheme must define and formally document the exact point at which payments are deemed to be 'final and irrevocable'.*

The PFMI calls for resilience in the payment system, concentrating on liquidity and settlement risk. The predicted net exposure of a participant bank is typically collateralised. Should a bank on any particular settlement cycle exceed its collateralised position, the simplest method to mitigate risk is to reverse all or some of the payment made by that bank – a process called unwind. Unwind has the very undesirable effects of undermining confidence in the payment system, and even more importantly can create systemic risk in the payment system. It is strongly recommended that CBN does not permit any payment system to invoke unwind.

Recommendation 2 *CBN should indicate an intention to remove its implicit role of 'Lender of Last Resort' for the RTGS payment system by December 2016 and Deferred Net Settlement systems by December 2019. An outline deployment plan must be published indicating interim steps to achieving this longer term objective.*

The current methods for collateralisation of the payment systems does not conform to the PFMI. Currently CBN is the *de facto* Lender of Last Resort for the key payment systems since it allows the banks to borrow, albeit at punitive rates, should the Settlement Account be in debit. All domestic payment systems should be required to adopt risk principles that are in accordance with the PFMI, and move to operate under the principle of 'Survivor Pays' – where it is the collective responsibility of the participating banks to operate with rules that minimise the risk of a bank failing to meet its position, but should any member fail, other participants are collectively responsible for any loss in excess of the loss-absorbing capacity of the failing participant.



Recommendation 3 - Strengthen Scheme governance structure to reflect the significantly greater responsibility of scheme management, covering all aspects of risk, business management and operational resilience

If participating banks are collectively required to absorb losses of a failing member, they have a strong incentive for good governance of the scheme. CBN will always maintain its primary responsibility for regulation of the payment system as enshrined in the CBN Act 2007. However, scheme governance, management and operation need not be a responsibility of the pinnacle organisation

Recommendation 4 – Each Scheme Management Board must complete an annual self-assessment against the CPSS/IOSCO PFMI. An independent review should be undertaken every four years, with the target to make the results publically available by end 2017.

A structure has been proposed (see Appendix 2), in line with the provisions of the Payment Systems Management Bill that is currently in the legislative process. The proposed payment scheme Boards will be given the mandate to run the schemes in accordance with the PFMI

Recommendation 5: CBN should open formal channels with CLS as a first step towards Naira becoming a CLS Settlement currency

Recommendations 5 and 6 reflect the objective of greater international recognition. Adoption of Naira as a CLS Settlement Currency will position the Naira as an important world currency, although the practical relevance of CLS will only be felt should Naira be a more freely tradable currency – clearly a decision well outside the scope of the Pv2020.

Recommendation 6: CBN should mandate the use of the SWIFT Sanctions Checking (or equivalent) for international payment instructions originating from banks in Nigeria

Adopting the Sanctions Checking solution offered by SWIFT – a service that screens all payments and trade instruments against major sanctions databases - will increase the quality of international payments made by Nigerian banks creating a much more positive perception of Nigeria as a place to do business.

Recommendation 7 – CBN should work jointly with SEC and other key stakeholders to sponsor a formal review of the Securities Markets in Nigeria. The review should be completed under the FSS2020 Financial Markets workstream.

Payments Infrastructure is a critical part of the Securities Settlement process, but the overall compliance of the Financial Markets against the PFMI is much broader than the scope of the PSV2020. However, a formal industry assessment against the PFMI should be undertaken to assess current compliance

2.5 Initiatives

CBN can be a strong catalyst for the adoption of electronic payments, and eight industry verticals have been identified as offering particular opportunities for adoption of electronic payments. The formation of Working Groups, comprising of the user community, banks and other service providers, will drive adoption. The groups will work on the principle of identifying quick wins and success transfer. The groups will be formed for a limited period only, two years maximum with the option to extend for one further term should all parties agree. Our initial engagement with the stakeholder community has received extremely positive feedback and a desire to work collaboratively to create a powerful voice for the industry. It is proposed that the Working Groups be formally constituted following the formal launch of the PSV2020 at the forthcoming Payments Conference.

The identified industry verticals are:

- Agriculture
- Smart Cities
- Government Flows
- Hotels and Entertainment
- Transport
- Education
- Health
- Bill Payment and Direct Debits

A summary of the Agriculture Initiative is provided on the following page

2.6 Conclusion

Implementation of the PSV2020 Release 2, driven by CBN and with the support and co-operation of the financial community will continue the momentum from the original strategy. The objectives are aggressive but achievable, and will position Nigeria as *'Internationally Recognised'* in the global economy whilst serving all sectors of the domestic market by ensuring the electronic payment systems are *'Nationally Utilised'*.

Agriculture Vertical – an example of the catalyst role for CBN

The Agriculture Sector is key to the Nigerian economy and has a value chain that is ideally suited to integration and automation. The rationale for promoting adoption in the sector is compelling:

Agriculture represents 43% of GDP and engages 70% of labour force

The sector has a very high potential for employment generation, food security, poverty reduction and industrialisation

There is already Strong Federal and State Government focus, and a huge Local Government potential for the sector

The sector is the largest constituency for financial inclusion, with service opportunity for KYC Identity enrolment, basic transaction (“no frills”) account, mobile wallet, pre-paid cards and mobile commerce.

The payment systems offerings fit in to the agenda for Nigeria Incentive-based Risk Sharing System for Agricultural Lending (NIRSAL) to de-risk agricultural financing and facilitate low-interest credit

This will facilitate efficient and transparent distribution of government grants and subsidies (e.g. Growth Enhancement Support Scheme of FMARD)

So far, stakeholder meetings have been attended by representatives from government, deposit money banks, consumers, mobile money operators, identity management service providers, development partners, agriculture finance specialists and regulators. The current plan covers the following initial steps:

Integrate the relevant activity plans for multiple stakeholder communities, including FMARD, BOA and Cellulant, National Identity Management System, Bankers Committee Identity Management project, Cashless Economy, Financial Inclusion initiative, appropriate State Government initiatives and the Government e-payments initiative.

Plan to use the over 10 million farmer data to simultaneously provide Unique Identification, a “No frills” Savings Account, a Mobile Money Account and Prepaid Card

Empower development institutions and agent networks to ease and broaden access to payment services by Agriculture communities

Work with communication experts to clearly define key stakeholder roles and profile stakeholders for proper coordination and effective communication.

A consolidated masterplan, agreed with the Forum for Agriculture Finance Officers of commercial banks, CBN and the Bankers Committee will drive implementation.

3 Background to the Payments System Vision 2020

3.1 Objectives of the review

In March 2007, the Central Bank of Nigeria formally launched the Payment Systems Vision 2020 – a strategy that reflected four months of collaborative work with the leading banks in the country. The objective was to drive the shift from a cash-based economy to one where electronic payments are at the centre of commercial activity

The implementation of the strategy created an industry structure that has successfully instigated, promoted and implemented numerous successful initiatives.

As a result of these impressive achievements, the Nigeria payments landscape looks very different from August 2007. Our starting point is now very different due to the successful implementation of much of the original document and changes to international benchmarks:

The national payments infrastructure has substantially improved in both variety and efficiency since 2007. Consumers and Businesses are embracing innovative new technologies available today such as the use of mobile technology, and the level of expectation is significantly higher

New Core Principles for Financial Market Infrastructure have been defined by a joint working group drawn from the Bank for International Settlements Committee for Payment and Settlement Systems (BIS CPSS) and the International Organisation of Securities Commissions (IOSCO) working group

We have witnessed greater engagement in governance and direction of the payment systems from Commercial Banks

Other national initiatives such as Identity Management and Credit Bureaux are in the process of implementation and wider adoption

Payments infrastructure outside of Nigeria has progressed significantly

Hence CBN has determined that a review of the PSV2020 strategy is appropriate. This document reflects a further six months of discussion, debate and analysis.

Our overall objective remains consistent with the original PSV2020 document:

*“To create an electronic payments infrastructure that is **nationally utilised** – by all sectors of the economy and all regions of the country – and **internationally recognised** – as being world class”*

However, the expectations are even higher in 2013 than when the first version of this document was released in 2007. As a result, the PSV2020 Release 2.0 is much more than an update to the original vision. It is a complete re-write based on new and aggressive objectives.

3.2 Progress since PSV2020 Release in 2007

The Nigeria Payments landscape is fundamentally different due to numerous initiatives, a summary of which is given in the following sections.

3.2.1 Changes to the legal environment

A sound legal basis underpins the payments infrastructure, and several key changes to national statutes have been made, with further changes currently being progressed through the legislature

The CBN Act 2007 was passed into law to further clarify the mandate of CBN in providing oversight of the payment system

The Evidence Act of 2011 ensured the legal admissibility of electronic records, essential for electronic payment systems

The Payment Systems Management Bill is currently being finalized, a bill that clarifies the structure and responsibilities within the payment systems industry

The Electronic Transaction Bill for an Act to facilitate the use of information in electronic form when conducting transactions in Nigeria and for connected purposes

3.2.2 New Payments Methods

NIBSS Instant Payments - A new payment scheme, NIBSS Instant Payments (NIP), was launched in 2011. NIP enables real-time inter-bank account-to-account electronic fund transfers. All major banks in Nigeria support this scheme, resulting in an impressive uptake by consumers

Mobile Money - Following the development and release of a Mobile Payments Rules and Regulation framework, 26 mobile payments schemes have been licenced by CBN. The volume of mobile payments has grown rapidly since 2011 reflecting the natural appeal of mobile as a payment method. Nigeria has adopted a 'bank-led' model for mobile payments, thereby ensuring the financial resilience of all schemes and creating an open market to encourage innovation and competition

3.2.3 Infrastructure enhancements

CSD for Government Securities - In August 2013, CBN successfully completed an ambitious project to deploy a new Real-Time Gross Settlement (RTGS) payments system plus a new Central Securities Depository (CSD) for Government debt instruments. A robust RTGS payment system underpins a sound Financial Markets Industry, and the inclusion of the CSD functionality supports greater flexibility in Collateral Management for the payment systems

EMV Cards - The Nigeria cards infrastructure successfully migrated to EMV Cards (Chip and PIN) to significantly improve the security of plastic cards

NUBAN - A standardised bank account structure - Nigeria Uniform Bank Account Number (NUBAN) – has been implemented to improve the quality of payment validation and automation. Arrangements to extend the NUBAN to non-bank financial institutions are nearly concluded

Clearing Cycle Reduction - The Cheque Clearing Cycles were harmonized across the country, and clearing cycles for ACH payments and cheques has been reduced from 3 days(T+2) to next day (T+1)

Centralised Clearing - The Clearing centre infrastructure has been rationalized, reducing seven automated and thirty manual clearing centres to one national automated clearing centre that handles all ACH and cheque payments.

Nigeria Central Switch - NCS has become operational enabling interconnectivity and interoperability among deposit-taking institutions and licensed payment service providers. The NCS also facilitates inter-scheme card and mobile payments.

Payments Terminal Service Aggregation – this model has been put in place to facilitate seamless and interoperable card payments, clear regulatory visibility for the retail payment infrastructure, and reliable industry retail payment system statistics for analysis and planning purposes.

Cheque Truncation - Cheque truncation has been introduced to dematerialise the physical cheque and hence processing purely on the basis of secure electronic images

Cheque amount cap - A cheque cap of N10 million was introduced to encourage higher value payments to be made electronically.

Mandate Processing for Direct Debits - A centralised Direct Debit Mandate Processing infrastructure has been created to streamline the administration of the mandate process, and banks have been required to improve the validation of payment requests against the lodged mandates.

Credit Bureaux - Three separate but interlinked credit bureaux have been launched, providing the first steps in creating a database of credit history which is essential as the financial community offer new banking products

ATM and POS Deployment – Under direction from CBN, banks and other financial service providers have been required or encouraged to increase the deployment of ATM and POS devices.

3.2.4 Discouraging the use of Cash

The CBN adopted the following initiatives to reduce the cash intensity in the economy, encourage electronic payments and enhance the Nigerian Payments System:

Limit on Cash Deposits - Fixed a daily cumulative limit of N500,000 and N3,000,000 on free cash withdrawals and lodgements by individual and corporate customers of banks respectively, effective April 1, 2012, in Lagos. Individuals that make cash transactions above the aforementioned limits shall be charged a service fee of 2% and 3% on deposits and withdrawals respectively while the service charge for corporates are 3% and 5% on deposits and withdrawals respectively.

Limit on Cheque Encashment - Disallowed encashment of third party cheques above N150,000 over the counter. Value for such cheques shall be received through the clearing house.

Cash Lodgement restricted -Directed that Cash-in-transit lodgements services rendered to merchant-customers by banks shall cease. However, customers could engage the services of CBN licensed CIT companies to aid cash movement to and from their banks at mutually agreed terms and conditions.

Public Awareness - Massive enlightenment campaign to increase adoption of electronic payments by the banking public'

3.2.5 Momentum from Federal and State bodies

Government e-Payments - The drive to electronic payments was given a huge boost with the 2009 Presidential mandate that all payments from Federal Government entities must be made electronically. Work continues on the full automation of these flows, but this mandate was a key driver to the growth in electronic payments since 2007.

Cashless Lagos' - In 2012, a pilot scheme, 'Cashless Lagos', drove a significant ramp-up in the deployment of Point-of-Sale (POS) terminals. The program is now formally extended to five further states and Abuja FCT, increasing the availability of POS devices

3.2.6 Guidelines and Framework documents

CBN embarked on an extensive update of all payment systems Rules and Regulations to ensure that they reflect the desired state for the respective system. The most significant guidelines to be revised or issued for the first time include:

- Mobile Payment Regulatory Framework
- Guidelines on Transaction Switching Services
- Guidelines on Stored Value/Prepaid Cards
- Direct Debit Rules
- Guidelines on ATM Operations
- Operational Rules and Regulations of the Nigeria Central Switch
- Revised Nigeria Bankers Clearing House Rules
- Guidelines for Cheque Truncation
- Guidelines for Point of Sales (POS) Card Acceptance Services

Most other CBN Rules and Guidelines have been updated and published on the CBN web-site.

4 Current Environment

4.1 Bank Structure in Nigeria

4.1.1 Commercial Banks

There are 22 Commercial Banks currently licenced by CBN. The banks are split into three separate tiers, reflecting their value of activity in the payments market. Six banks are in Tier 1 (International Banks), 12 banks are in Tier 2 (National Banks) and 4 banks in Tier 3 (Regional Banks). The contribution to usage paid by the bank is partly determined by the tier of that banks, with Tier 1 banks contributing relatively more than those in other tiers.

The full list of banks (in alphabetical order) is:

Tier 1 Commercial Banks (International)

Ecobank Nigeria Plc
 First Bank of Nigeria Plc
 First City Monument Bank Plc
 Guaranty Trust Bank Plc
 Union Bank of Nigeria Plc
 United Bank For Africa Plc
 Zenith Bank Plc

Tier 2 Commercial Banks (National)

Access Bank Plc
 Citibank Nigeria Limited
 Diamond Bank Plc
 Enterprise Bank- (Nationalised Bank)
 Fidelity Bank Plc
 Keystone Bank- (Nationalised Bank)
 MainStreet Bank- (Nationalised Bank)
 Skye Bank Plc
 Stanbic IBTC Bank Ltd.
 Standard Chartered Bank Nigeria Ltd.
 Sterling Bank Plc
 Unity Bank Plc

Tier 3 Commercial Bank (Regional)

Heritage Banking Company Ltd.
 Wema Bank Plc

Merchant Banks

FSDH Merchant Bank
 Rand Merchant Bank

Specialized Bank

Jaiz Bank

4.1.2 Other Financial Institutions

There are six further categories of financial institutions operating in the banking sector

| | |
|--------------------------|-------|
| MicroFinance Banks | 913 |
| Primary Mortgage Banks | 82 |
| Development Institutions | 5 |
| Discount Houses | 3 |
| Finance Companies | 64 |
| Bureaux de Change | 2,672 |

4.2 Institutions Providing Payment Services

4.2.1 NIBSS

The Nigeria Inter-Bank Settlement System Plc (NIBSS) was set up by the decision of the Bankers Committee in 1992, as a Banking Industry Shared-Service, to help streamline inter-bank payments and settlement mechanisms, and to promote electronic payments in Nigeria. Incorporated in April 1993 it commenced operations on 13th June 1994.

NIBSS is owned by all licensed banks in Nigeria, and the Central Bank of Nigeria. The Board consists of representatives of banks, two Executive Directors and the Managing Director of NIBSS with Deputy Governor (Operations), Central Bank of Nigeria, as the Chairman. The shareholding of NIBSS is periodically realigned based on the volume of payments from participant organisations.

The scope of operations of NIBSS in the Nigerian financial sector is such that fulfils its mandate as enshrined in the company's Memorandum and Articles of Association:

To carry on business as a service oriented institution that provides the mechanism for same day clearing and settlement of inter-bank transfers and payments;

To provide infrastructure for the automated processing and settlement of transactions between banks acting on their own account as regards deposit placements, Treasury Bills transactions, Naira settlement on inter-bank foreign exchange transactions;

To initiate and develop an integrated nationwide network for the electronic or paperless payments, funds transfer and settlement of transactions.

To provide framework for elevating the level of efficiency in funds transfer services generally

NIBSS is responsible for the management and operation of much of the retail payments infrastructure, as well as offering some value-add services to payment systems participants

4.2.1.1 NIBSS Electronic Funds Transfer (NEFT)

The NIBSS Electronic Funds Transfer (NEFT) service is widely used by all banks to process inter-bank electronic funds transfer instructions of their respective customers.

4.2.1.2 Nigeria Automated Clearing System

NIBSS operates the central Nigeria Automated Clearing System (NACS) infrastructure that clears majority of the deferred net settlement payment systems.

4.2.1.3 Nigeria Central Switch

The national Electronic Funds Transfer (EFT) switch ensures inter-connectivity / interoperability amongst Banks and licensed EFT Switches in Nigeria, and serves as an international retail payments gateway for Nigeria.

4.2.1.4 NIBSS Instant Payments

NIBSS developed and operates NIP (NIBSS Instant Payments), a real-time account-to-account payment system

4.2.1.5 Settlement Services

Private switching companies and the Central Securities Clearing System Plc(the clearing and settlement system of the Nigerian capital market) rely on NIBSS for the cash settlement of their operations.

4.2.1.6 e-Dividend

NIBSS secured the consent of the Securities and Exchange Commission (SEC) and other major stakeholders of the Nigerian capital market in 2007 to be the sole processor of shareholders' dividends.

4.2.1.7 Central Mandate Management System (CMMS)

Central Mandate Management System (CMMS) was introduced by NIBSS to address the problems and challenges faced by Banks, Insurance, Leasing and Utility Service Providers when handling the administration and validation of direct debit mandates.

4.2.1.8 NIBSS Intra-Day Exposure System (NIDES)

NIBSS enriches settlement operations, particularly in the banking system with the NIBSS Intra-day Exposure System (NIDES). It enables all Bank Treasurers and Fund Managers to monitor settlement exposures of their respective Banks

4.2.1.9 Automated Bulk Clearing Service

NIBSS leverages her expertise in payments service provision and credibility in the Nigeria financial system to provide EFT services to select corporate bodies and government agencies directly.

4.2.1.10 Payment Terminal Service Aggregator

NIBSS provides reliable data channel, effective interoperability and ensures higher POS availability.

4.2.1.11 NUBAN Account Verifier

NIBSS provides an online tool for verifying that a NUBAN is valid

4.2.1.12 NIBSS e-BillsPay

NIBSS eBillPay is an account-number-based, online real-time Credit Transfer product that enables customers to make payments by leveraging the security provided by the banks. The service also facilitates electronic bill payments, collections, and purchases

4.2.2 Interswitch

Interswitch is a commercial organisation that offers payments processing services and a switching infrastructure for payment routing. It provides online, real-time transaction switching that enable businesses and individuals have access to their funds across the 22 banks in Nigeria and across a variety of payment channels such as Automated Teller Machines (ATMS), Point of Sale (PoS) terminals, Mobile Phones, Kiosks, Web and Bank Branches

Interswitch's Electronic Funds Transfer (EFT) switching application, supports major networks including Verve, MasterCard, and China Union Pay, besides other proprietary networks.

Interswitch also offers AutoPay, a scheme similar to NIP that uses the card/PAN for payment routing. This scheme is run by Interswitch and uses the same settlement as Verve. The settlement scheme run by Interswitch has not been formally reviewed as part of this release of PSV2020, but operates a settlement process that requires collateral to be posted by scheme participants and processes inter-bank settlement on net basis with the NIBSS settlement services.'

4.2.3 SystemSpecs

SystemSpecs offers Remita e-Payment, e-Collection, Payroll and Biometrics end-to-end electronic payment platform to government entities and corporate organizations.

Remita has been widely accepted and is connected online, to all Deposit Money Banks and a sizeable number of Micro Finance Banks. Other MFBs and Primary Mortgage Institutions are supported in an off-line model thereby enabling payment to all financial institutions in the country. In addition to the delivery of funds to bank accounts, the platform simultaneously delivers reconciled associated schedules to relevant non-bank bodies such as Tax offices, Pension Administrators, Cooperative Societies and Trade Unions.

Remita accepts single and bulk payment instructions and passes these through the predefined internal work flow of the organisations. Upon final approval, the payer's bank account is debited and funds transferred to the credit of the beneficiary bank. The transaction does not create exposure for the beneficiary bank which would have received funds before crediting the beneficiary's account. The payers are able to monitor online, the status of all their payment instructions which are typically closed between two to six hours.

Payment is considered final upon consummation by the final payment approver. Payment reversal function is available on the platform as a separate process that can be initiated and authorised by the beneficiary bank where necessary.

Remita Direct Debit – This module of the platform centrally manages direct debit mandates for fixed sum debits and Variable amount debits as signed up by the service beneficiary. The mandate forms are approved once by the paying bank and thereafter automatically processed for payment and credit into Collectors' accounts on the due dates. Collectors are also able to monitor the status of all their due funds.

Remita is the central payment platform supporting the payments of Federal Government Ministries, Departments and Agencies under the Treasury Single Account (TSA) programme.

4.2.4 Unified Payments

Unified Payment Services Limited otherwise known as Unified Payments® is a card-neutral and option-neutral Payments Service Provider founded in 1997 by a consortium of leading Nigerian banks. Unified Payments operates as a shared infrastructure for the banking community in Nigeria and Payments Service Provider within and outside Nigeria, with a mission to be the most preferred e-payment service provider in Africa. Formerly known as ValuCard Nigeria Limited, the name of the Company was changed in 2012 to reflect its new business, following a successful transformation from a domestic card scheme to a provider of payment services supporting different payment options and schemes.

Unified Payments is a *Principal & Plus* Member of Visa and has contributed to the growth of electronic payments in Nigeria through the following business offerings:

Processing, Unified Payments provides a secure and reliable infrastructure that enables Issuers to provide cards and other payment options to their account holders or customers and for transactions across different electronic channels – Internet, Physical Points of Sales, ATMs, Telephone Handsets, etc. Unified Payments also provides the backbone infrastructure that enables Acquirers to acquire transactions at all acceptance channels including Points of Sale and at ATMs. They are thus Issuer-Processor and Acquirer-Processors.

Acquiring, Unified Payments provides acceptance services, enabling merchants to accept cards and other electronic means of payment for goods and services. Unified Payments has the largest non-bank acceptance infrastructure in Nigeria.

PTSP (Payment Terminal Service Provider), Unified Payments has the privileged license of deploying, monitoring and maintaining Points of Sale terminals to Merchant locations on behalf of other Merchant Acquirers.

Switching: Given their network of links with banks in Nigeria, Unified Payments is also able to provide switching services between Issuers and Acquirers in Nigeria, thereby significantly reducing connectivity costs between Issuers and Acquirers as well as increasing the throughput, through a significant reduction in potential points of failure.

Value Added Services: Unified Payments provides other value added services like settlement agents, Dispute management agents, Bills payments, collections, Air time vending and various other solutions that enables e-commerce

4.2.5 Other Local Switching Schemes

Other local switching schemes include VIZ Etranzact, UPSL, EMP & 3LINE

4.3 Payment Instruments in Nigeria

Nigeria offers the typical forms of payments used within most countries in the world

4.3.1 RTGS Payments

CBN has recently deployed a new infrastructure (NISS) to support RTGS payments. The new system uses the SWIFT Y-copy methodology for transmission of payment instructions between NISS and Participant Banks, allowing banks to support Straight-Through-Processing (STP) for high-value payments – a significant improvement over the previous system that forced participating banks to manually enter transaction on-line. In 2012, RTGS payments represented 0.6% by volume, but 75.1% by value of domestic payments.

NISS also supports the Central Securities Depository (CSD) function for Government Securities, a critical function for creating a flexible Collateral Management solution for payment system resilience.

4.3.2 ACH Credits and Debits

The high-volume batch payment method, NEFT, is a typical ACH system that supports both credit and debit payments. NEFT transactions settle in two of the three daily settlement sessions of the national clearing system (NACS) operated by NIBSS. Settlement 1 (10:00 hrs.) and Settlement 2 (15:00 hrs.) offers same day value for ACH credits. There is no value limit (minimum or maximum) on NEFT payments. In 2012, NEFT transactions continued their strong growth pattern and now represent 38.1% by volume and 9.1% by value of all payments.

4.3.3 Cheque Clearing

Cheque processing has been streamlined by the consolidation of the previous 37 clearing centres into one national automated clearing centre and the introduction of cheque truncation to dematerialise the original paper instrument into a secure electronic form. As a result of these changes, the cheque processing cycle has been harmonised into a standard process regardless of branch location, and the cycle reduced from a 3-5 day cycle to a 2-day cycle. In 2012, cheques represented 49.0% of transaction by volume and 13.1% by value. The average cheque value has fallen by 48% to 529,000 Naira since 2009 reflecting the cheque limits imposed by CBN.

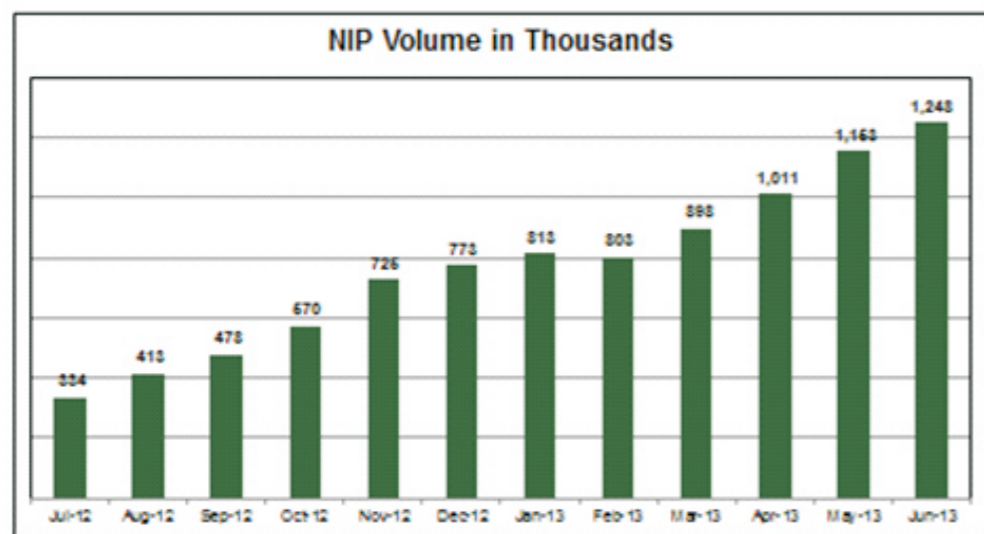
4.3.4 NIBSS Instant Payments (NIP)

A new payment scheme was introduced in 2011, offering real-time inter-bank account-to-account electronic funds transfers. The scheme, operated by NIBSS and offered by all major banks in Nigeria, has met with overwhelming approval from the user community as witnessed by the impressive adoption rate.

NIP allows the payer to confirm the account holder name before sending funds. It uses the central switch to pass the payment instructions real-time to beneficiary bank which applies funds on receipt. Settlement occurs once per day in the NIBSS 3rd clearing cycle at 15:30 hrs.

In 2012, NIP represented 8.5% of all payment transactions by volume, and 15.5% by value, and in June 2013 NIP transaction exceeded cheque payments by volume for the first time.

The monthly figures since June 2012 show the strong growth of NIP transactions (*Note: the volumes below reflect only the NIP payments between different participating banks and so understate the total volume*)



4.3.5 Mobile Payments

CBN has licenced 26 individual mobile money operators (MMO), allowing them to offer mobile payment schemes. Nigeria has adopted a 'bank-led' model for mobile payments, requiring the mobile money operator to work with a sponsoring bank. All client funds are held by the sponsoring bank in trust accounts and customer funds are covered by a deposit insurance scheme of the Nigeria Deposit Insurance Corporation (NDIC). All mobile money operators are required to provide interoperability to other mobile schemes, enabled through connection to the Central Switch operated by NIBSS. Adoption has been strong, and in 2012 mobile payments represented 3.0% of payment transactions by volume, although only 0.02% by value highlighting the usage of mobile money for small value person-to-person flows and mobile air-time top-up.

Settlement of inter-scheme flows occurs once per day in the NIBSS 3rd clearing cycle at 15:30 hrs.

CBN has determined that sufficient MMOs now exist and has announced an increase in the capital requirements for new and existing MMOs. It is likely that this will result in fewer new applications and a potential consolidation amongst existing providers.

4.3.6 Card Payments

There are three card schemes in operation, the international schemes of MasterCard and Visa, alongside other domestic card schemes such as Verve, Genesis and Freedom cards. Any organisation offering payment switching services must, by policy, connect to the Nigeria Central Switch to ensure full interoperability across different schemes.

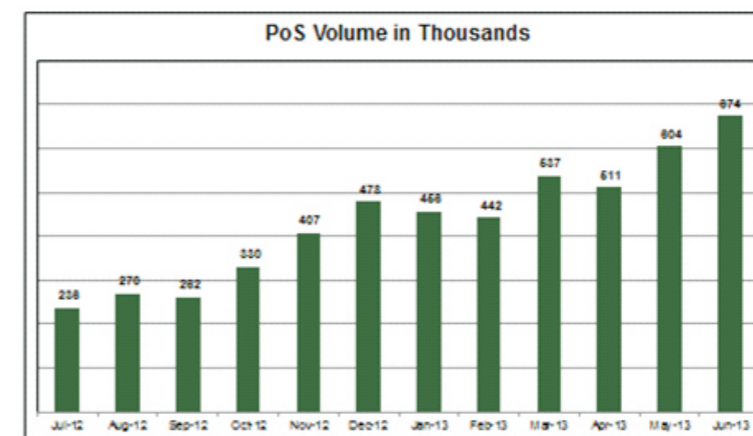
The overwhelming use of cards in Nigeria is for ATM withdrawals, representing 99.3% of all card transactions in 2012). ATM transactions are excluded from the overall payment volume analysis, since they are not payments *per se*, merely a simpler way of obtaining cash to support cash transactions. However, the strong growth in ATM transactions indicates a migration to the formal banking sector even though the resulting payments may be cash.

Use of cards for payments is predominantly by debit card since there is a limited credit culture.

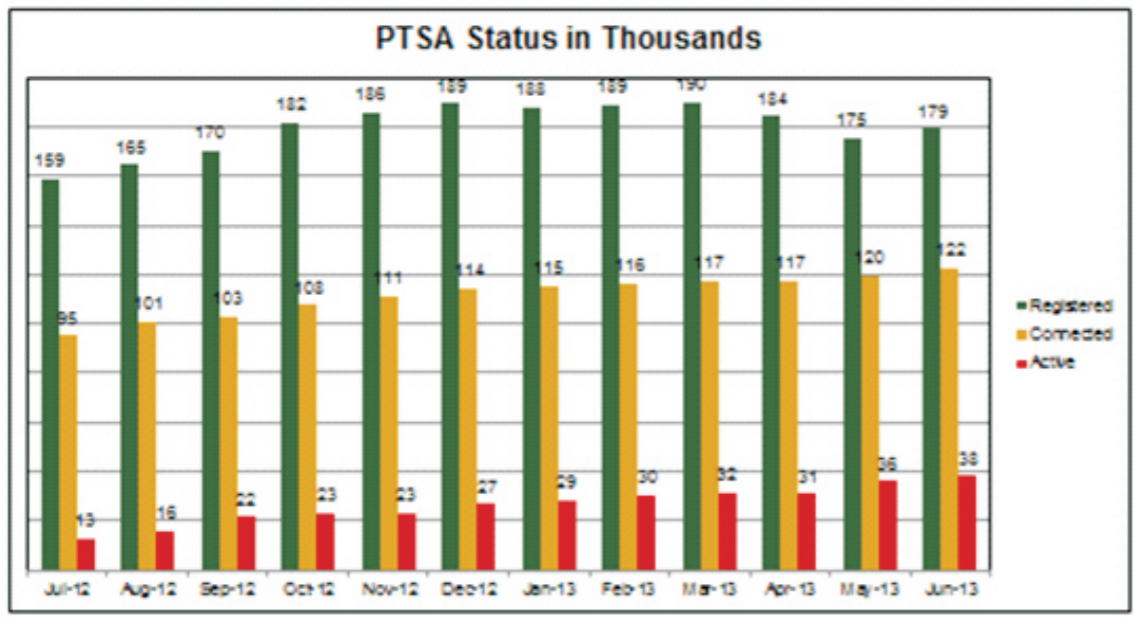
Settlement of net flow from issuer to merchant occurs once per day in the NIBSS 3rd clearing cycle at 15:30 hrs. Nigeria operates a non-standard process by remitting funds direct to merchant accounts rather than through the industry standard approach of funds flowing through the merchant acquirer. This local regulation was in response to a common complaint by merchants that payments from acquirers were being delayed. NIBSS, as a neutral party in the card payment value chain, is responsible for remitting the funds to the bank holding the merchant account.

In addition, CBN has imposed a maximum interchange fee of 125 basis points (1.25%) for all card transactions (both debit and credit cards) subject to a maximum of N2,000 with the exception of the hospitality industry where maximum cap of N5,000 is allowed. For ATM transactions, the cardholders pay no charge which is absorbed by the issuer or paid to the acquirer depending on the nature of transactions (On-us or Not-On-Us) respectively

POS transactions are growing strongly (3.4% by volume and 0.03% by value) driven largely by a focus on initiatives such as Cashless Lagos. Monthly statistics since July 2012 show a strong growth in POS transactions



However, the deployment, availability and active usage of POS devices continues to be a challenge as highlighted in the statistics from NIBSS. Many deployed POS devices are not connected or are inactive (no transactions over a one month period). Several studies on usage of POS terminals have highlighted the numerous challenges such as telecommunication and power issues, preference for cash by store staff due to the 'no change' culture, and lack of user awareness and acceptance.



4.3.7 Securities Settlement (Government Securities)

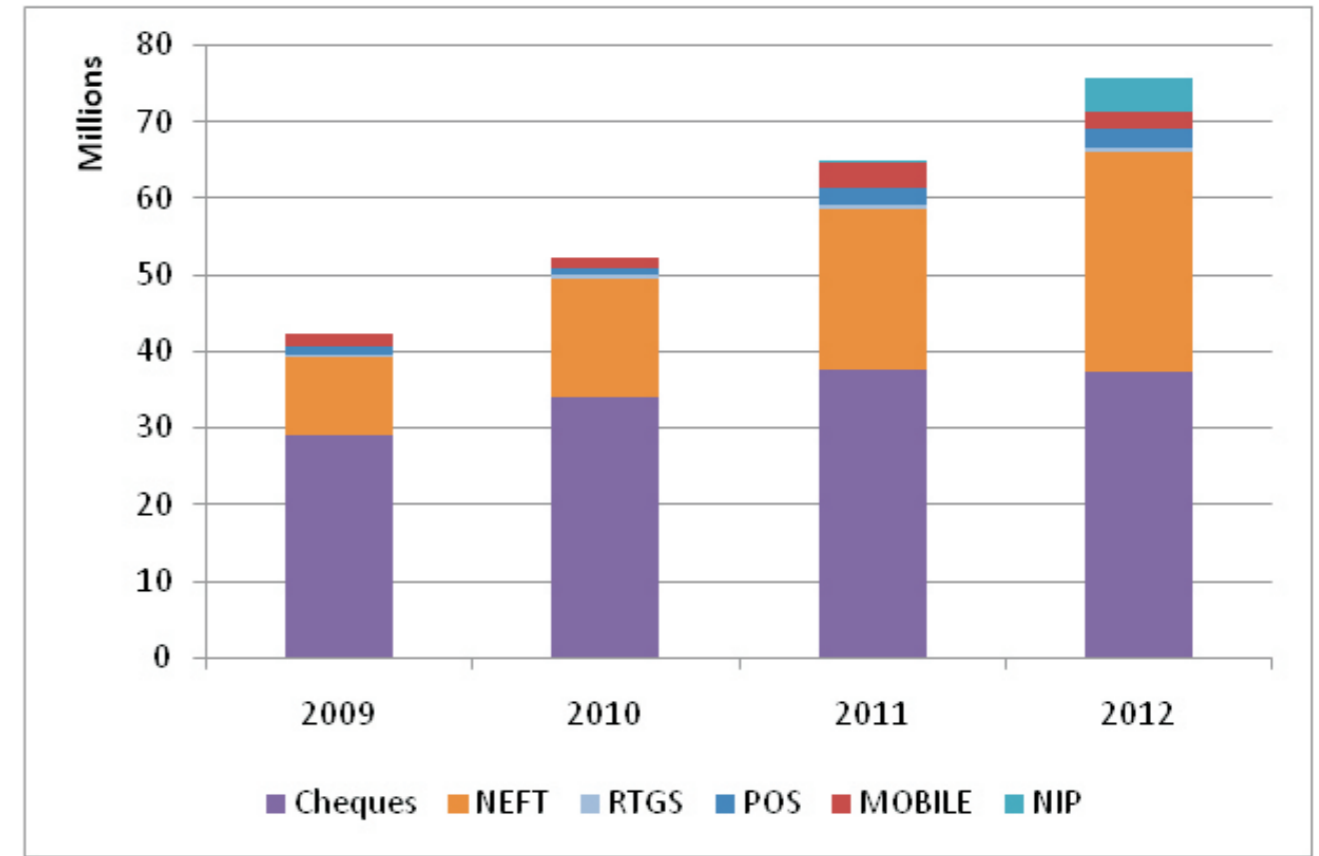
Government Securities are held in the new Central Securities Depository function within NISS, the new RTGS and CSD functionality implemented in August 2013. Trading and Clearing of securities is outside the scope of this review, but the payment leg of settlement is included. For the new CSD functionality, settlement operates a Delivery versus Payment (DVP) model based on the BIS Model 1, whereby Securities and Funds settle on a gross trade-by-trade basis and final unconditional transfer of securities from the seller to the buyer (delivery) occurs at the same time as final transfer of funds from the buyer to the seller (payment).

4.3.8 Securities Settlement (Other asset classes)

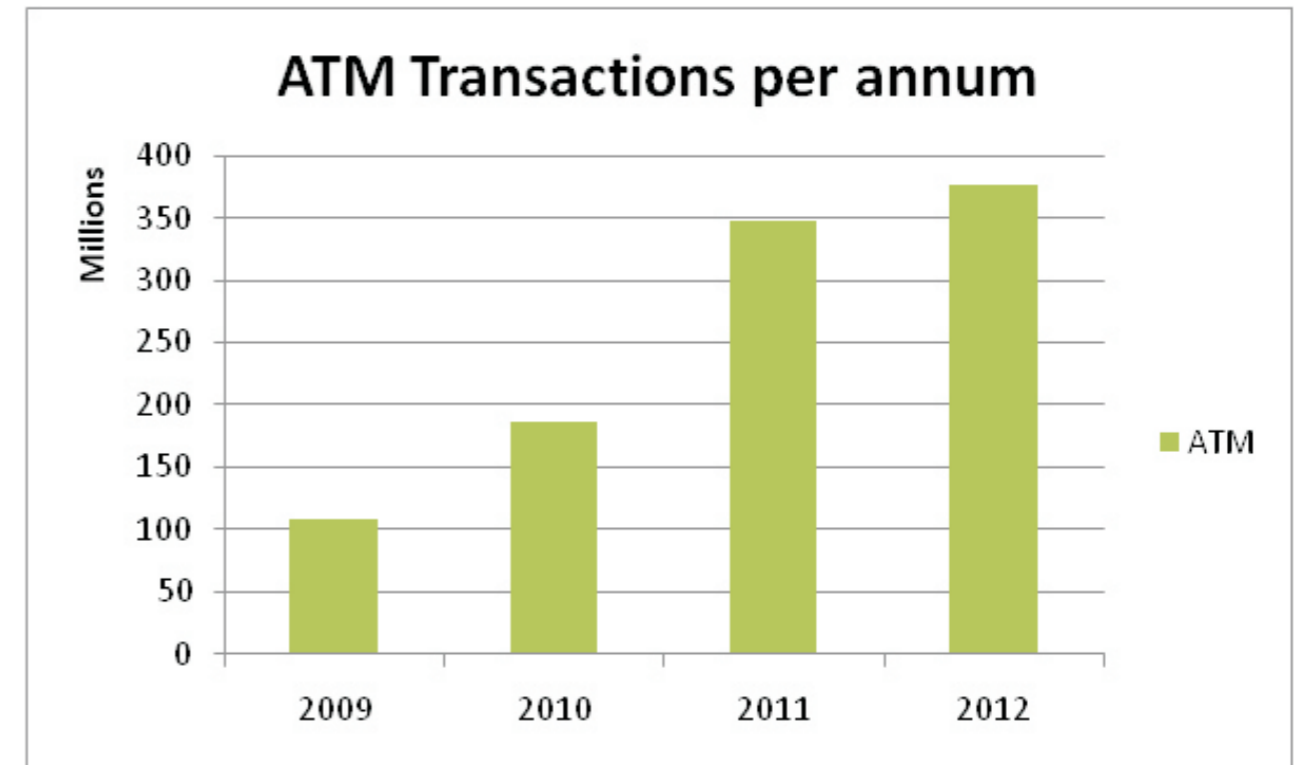
All securities asset classes other than government instruments utilise CSCS as the Central Securities Depository. Settlement of most asset classes is T+2 and occurs once per day, based on BIS Model 3, whereby Securities and Funds settle on a net basis with final transfers of both Securities and Funds occurring at the end of the processing cycle. The payment net settlement figures are calculated by CSCS and transmitted to NIBSS for inclusion the 3rd Clearing Cycle (15:30 hrs.)

4.4 Statistics on Payments

The following chart summarises the annual volume of payments by payment category (excluding ATM transactions). The growth rates are encouraging but with a population of 160 million, the number of electronic payments per capita is still several orders of magnitude less than the most mature markets.



ATM transaction continue to grow significantly, encouragingly as an indicator of an increasingly banked and card-enabled community, but only a stepping stone to full electronic payment and removal of the dependency on cash.



4.5 Legal Framework

4.5.1 Role of CBN as regulator of all Payment Schemes

The primary legal basis for the payment systems infrastructure is the Central Bank of Nigeria Act No. 7 of 2007 (CBN Act) which provides CBN with the right and responsibility for national payment systems.

This is supported by other key legislation that is relevant to support the legal enforceability of decisions by CBN:

Bills of Exchange Act, Cap. B8, Laws of the Federation of Nigeria, 2004.

Dishonoured Cheques (Offences) Act, Cap. D11, Laws of the Federation of Nigeria, 2004

Evidence Act of 2011

One of the mandates of the CBN is the promotion of a sound financial system in Nigeria (See Section 2 (d) of the CBN Act). Promotion of a sound financial system necessarily entails active support for the effectiveness, efficiency and systemic safety of the payments system.

Specifically, the CBN Act mandates the Bank with the responsibility of facilitating the clearing of cheques and credit instruments for banks and establishing clearing houses for that purpose (Section 47 (1)). The CBN also has the responsibility of promoting and facilitating the development of efficient and effective systems for the settlement of transactions (including the development of electronic payment systems) (Section 47 (2) of the CBN Act). Section 47(3) of the Act empowers the Bank to prescribe rules and regulations for the efficient operation of all clearing and settlement systems.

The various rules, regulations and guidelines rolled out by the CBN for promotion, regulation and oversight on payments, clearing and settlement systems were mainly based on the above provisions of the CBN Act. It is observable therefore that, the bulk of the rules and regulations pertaining to the Payments System are in the form of subsidiary legislations enacted by the CBN. The validity of the subsidiary legislations or the authority of the CBN to enact the same has never been successfully contested. However, the international best practice is to have a clear legislation to provide for the management, administration, operation, regulation, oversight and supervision of payments, clearing and settlements system.

In view of the above, the CBN has already articulated a Payments System Management Bill which would be forwarded to the National Assembly (NASS) for passage into law that should address the remaining shortcomings of the existing legal and regulatory framework of the overall payments system in Nigeria.

4.5.2 Admissibility of Electronic Information as Evidence

Section 93 of the Evidence Act of 2011 recognises the use of electronic signature in proof of matters in judicial proceedings. This provision is strengthened by the provision of Section 47 of the CBN Act which makes any physical or electronic record of transactions that is in a format approved by the Bank to constitute sufficient proof of such transactions. It can therefore be concluded that, there is an adequate legal basis for the use of electronic payments.

4.5.3 Finality of Payments and the Zero-Hour Rule

In Nigeria, it is the Companies and Allied Matters Act (CAMA) that governs issues relating to insolvency of companies. Section 413 of CAMA renders void any dispositions of property, etc., after commencement of winding up. According to Section 415 of CAMA, winding-up in the case of voluntary winding up is deemed to have commenced at the time when the resolution was passed and in all other cases, it should be deemed to have commenced at the time of the presentation of the petition for the winding up.

There is therefore no provision for the operation of the zero-hour rule in Nigeria. The provisions as they are, do not guarantee real-time finality settlements as either the time “when the resolution was passed” or the time “of the presentation of the petition for the winding up” may not always be clear.

Under the Guidelines on Nigeria Banks Clearing and Settlement System, there are requirements for collateral to be provided by both settlement and non-settlement banks which is to be immediately rediscounted in the event of insufficiency of funds in any bank's settlement account. However, the Guidelines did not specifically mention cases of insolvency. It is anticipated that, when the Payments System Management Bill is passed into law, this theoretical gap would be closed.

It was based on the above observation that a provision is made in the National Payments System Management Bill which clearly ensures the finality of settlement by overriding any provision of CAMA to the contrary.

4.5.4 Competitions and Anti-Trust provisions

In Nigeria, although there is no exhaustive or definitive competition legislation, the Investment and Securities Act (ISA) 2007 provides some protection against anti-competition practices.

Section 128 of the ISA vests the Securities and Exchange Commission with the power to break up entities or companies in the event of anti-competition practices. The Section provides:

1. Where the Commission determines that the business practice of a company substantially prevents or lessens competition, the Commission may in the public interest order the break-up of the company into separate entities in such a way that its operations do not cause a substantial restraint of competition in its line of business or in the market.
2. Before the break-up order becomes effective, the affected company shall have been notified by the Commission and given a specified time within which to make representation to the Commission.
3. Thereafter the Commission shall refer the order to the Court for sanctioning.”

These are general provisions which apply to all companies under the purview of the SEC. Although the provision has the potential of deterring companies from engaging in anti-competition practices, it appears to be a last resort remedy which does not provide any middle course where the structural remedy it proffers may not be appropriate. There are also practical challenges to interpretation of the provision as there are no definitions of what would constitute practices which would “substantially prevent or lessen competition”. There is also an absence of clarity on the nature of the remedy not being an exclusive or exhaustive one. Nonetheless, although there is a Federal Competition Bill 2005 which has as its object, the regulation of competitive activities in every sector of the Nigerian economy, before the National Assembly, it is yet to be passed into law.

The Consumer Protection Council Act, Cap. C25, Laws of the Federation of Nigeria, 2004 does not impact directly on the payments and settlement system.

4.5.5 Legal Precedence

There is no record of any decision of any court in Nigeria that failed to uphold the basis of the payments system in Nigeria.

4.5.6 CBN Rules and Regulations

CBN produces Rules and Regulations to ensure appropriate governance, management and operation of the payment systems infrastructure. Specifically the following documents have been produced and are available on the CBN web-site:

Revised Nigeria Bankers' Clearing Rules

Operational Rules and Regulations for the Nigeria Central Switch (NCS)

Regulatory Framework for Mobile Payments Services in Nigeria

Nigeria Direct Debit Scheme

Guidelines on Nigeria Banks Clearing and Settlement System

Guidelines for Cheque Truncation in Nigeria

Standards and Guidelines on Automated Teller Machine (ATM) Operations in Nigeria

Guidelines on Point of Sale (POS) Card Acceptance Services

Guidelines on Stored Value/Prepaid Card Issuance and

Operations

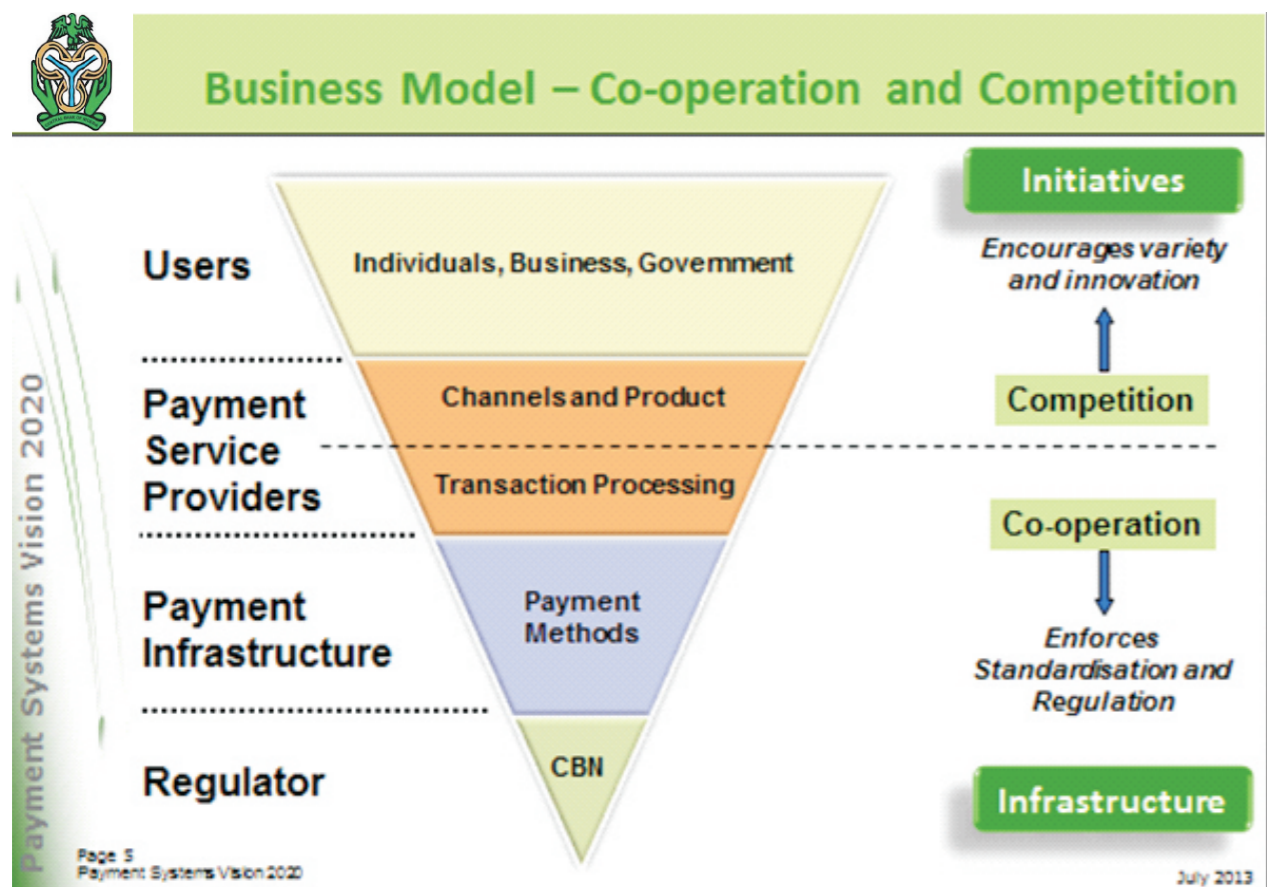
Guidelines on Electronic Banking in Nigeria

5 Payments System Vision 2020

To facilitate economic activities by providing safe and efficient mechanisms for making and receiving payments with minimum risks to the central bank, payment service providers and end users, extending the availability and usage to all sectors and geographies, banked and unbanked, and conforming to internationally accepted regulatory, technical and operational standards.

5.1 Our Roadmap

Our roadmap, consistent with that of 2007, is built on a balance of co-operation and competition to create an efficient but innovative payments market.



5.2 Guiding Principles

The Payment System Vision 2020 has been developed with clear guidelines that ensure the Nigeria Payments System will be nationally utilised and internationally recognised.

- Built to serve the end-user via the Payment Service Providers
- Facilitating nationally accepted payment methods
- Encouraging innovation and deployment by service providers
- Using common core infrastructure
- Recognising local geographic, market and cultural practices
- Supporting Financial Inclusion across all sectors of society
- Conforming to internationally accepted risk principles
- Within a clear and transparent legal and regulatory framework
- With Specific, Measurable, Attainable, Relevant and Time-bound goals

5.3 International Recognition

Our Roadmap adopts internationally accepted best-practice for payment and settlement systems, namely the “Principles for Financial Market Infrastructure” (PFMI), issued jointly by the BIS Committee on Payment and Settlement Systems (CPSS) and the IOSCO Technical Committee of the Organisation of Securities Commissions.

The PSV2020 also recognises the importance of the role of CBN in Payment Systems Oversight, and hence the recent BIS/IOSCO document “Principles for financial market infrastructures: Disclosure framework and Assessment methodology” represented an important reference source.

5.4 Supporting the End User

Our Roadmap states that end Users do not directly access the market infrastructure. However, market infrastructure must be able to support all the payment and settlement methods required by the User community. To define the payment methods, we first have to understand the underlying need for money flows.

The flows are complex – and there is no unique linkage between the end User and a specific payment method. For example, it is often assumed that the high value RTGS clearing will only be used by larger business, governments and the financial markets. However, an individual may require the intra-day finality offered by RTGS for specific large value purchases such as property.

The table below is illustrative of the interaction between the end Users – it is not intended to be a complete listing of all flows but demonstrates that all segments interact.

| Pay | Receive | Individuals | Business | Government | Financial Markets | International |
|-------------------|---------|-----------------------------------|--------------------------------|-----------------------|----------------------------------------|-------------------------------|
| Individuals | | P2P Trade Gifts Remittances | Goods Services Utilities | Taxes | Deposits Investments Premiums | Goods |
| Business | | Salaries | Goods Services | Taxes | Deposits Investments Fees | Goods Services |
| Government | | Salaries Pensions | Goods Services Grants | Inter-department | Deposits Investments Interest | Goods Services Interest |
| Financial Markets | | Pensions Interest Dividends | Interest Dividends | Interest Dividends | Settlements Investments Interest | Interest Dividends |
| International | | Interest Dividends Pensions | Exports | Taxes Excise | Investments Fees | |

6 Payments System Infrastructure

6.1 Approach for reviewing the infrastructure

Each of the payment systems outlined in Section - - has been benchmarked against the Principles for Financial Market Infrastructure (PFMI), issued jointly by the BIS Committee on Payment and Settlement Systems (CPSS) and the IOSCO Technical Committee of the Organisation of Securities Commissions (a document hereafter referenced as PMFI). These twenty-four principles (and associated five responsibilities for Central Banks and Market Regulators) is the internationally accepted best-practice standard by which all financial market infrastructure is benchmarked.

The current version of the PFMI was released in April 2012. In the original PSV2020 document, the local infrastructure was benchmarked against the existing BIS standards for payment systems. The major differences between the two reviews is greater level of detail on governance structures, inclusion of all financial market infrastructure which results in some principles (such as exchange-of-value systems and trade depositories) deemed not relevant for payment systems, and more prescriptive principle for credit and liquidity to ensure finality of settlement.

The summary of the key recommendations are provided in the following sections. The results of the reviews are contained in separate documents, and one key recommendation is that these benchmark documents should be reviewed and updated on an annual basis under the proposed new governance structure (see Recommendation 3).

6.2 Overall Assessment

Each infrastructure was reviewed against the PMFI, and current conformance to each of the 24 Principles is summarised in the table below.

It must be stressed that the PFMI sets a very high target for conformance. Several countries undertake regular reviews and implement corrective actions. Even with this focus, we could find no infrastructure that claims 100% compliance with the full requirements of all 24 Principles. The current assessment of the Nigerian market is being judged against 'world-class' – a tough standard for a relatively nascent electronic payments market but a standard to which the nation should aspire.

The recommendations in Sections 6 - Primary Recommendations and Section 8 - Other recommendations – infrastructure identify the most important steps to reaching closer conformance to the PFMI.

For both Mobile Money and Cards, the assessment recognises that multiple players operate in the respective schemes. In future assessments, each individual scheme (for example, each MMO) should be reviewed. However, this was not practical during the PSV2020 review, so the review concentrated on the general principles for each scheme as defines in the terms of the CB licence, plus inter-scheme settlements (primarily through NIBSS Clearing)

| PFMI | | RTGS | ACH & Cheque | NIP | Mobile | Cards |
|-----------------------------------------------------------------------------------|------------------------------------------------|------|--------------|-----|--------|-------|
| General organisation | | | | | | |
| 1 | Legal basis | | | | | |
| 2 | Governance | | | | | |
| 3 | Comprehensive management of risks | | | | | |
| Credit and liquidity risk management | | | | | | |
| 4 | Credit risk | | | | | |
| 5 | Collateral | | | | | |
| 6 | Margin | | | | | |
| 7 | Liquidity risk | | | | | |
| Settlement | | | | | | |
| 8 | Settlement finality | | | | | |
| 9 | Money settlements | | | | | |
| 10 | Physical deliveries | | | | | |
| Central securities depositories and exchange -of- value settlement systems | | | | | | |
| 11 | Central securities depositories | | | | | |
| 12 | Exchange-of-value settlement systems | | | | | |
| Default management | | | | | | |
| 13 | Participant-default rules and procedures | | | | | |
| 14 | Segregation and portability | | | | | |
| General business and operational risk management | | | | | | |
| 15 | General business risk | | | | | |
| 16 | Custody and investment risks | | | | | |
| 17 | Operational risk | | | | | |
| Access | | | | | | |
| 18 | Access and participation requirements | | | | | |
| 19 | Tiered participation arrangements | | | | | |
| 20 | FMI links | | | | | |
| Efficiency | | | | | | |
| 21 | Efficiency and effectiveness | | | | | |
| 22 | Communication procedures and standards | | | | | |
| Transparency | | | | | | |
| 23 | Disclosure of rules, procedures, market data | | | | | |
| 24 | Disclosure of market data - trade repositories | | | | | |

Key

| | |
|---------------------|--|
| Fully compliant | |
| Generally Compliant | |
| Partially Compliant | |
| Not Compliant | |
| Not applicable | |

7 Primary Recommendations for Infrastructure

When compiling the benchmark feedback, two themes emerged consistently across all payment schemes, namely Settlement Risk and associated Collateral Management (Recommendation 2) and Payment Scheme Governance (Recommendation 3). Our strong assertion is that, should the recommendations on these two interrelated topics be implemented, the local payments market will be on a self-sustaining path to closer compliance to the PFMI.

The two key recommendations are interlinked and cannot effectively be implemented independently.

- The PFMI state that FMIs should be financially resilient against settlement risk (liquidity and credit)
- Currently CBN is 'Lender of Last Resort' for ultimate default of a participant in deferred net settlement systems – we need to move to model where the scheme itself mitigates the default risk and exposures
- Hence, the market must move to a model where defaulter pays initial debit position, but with any potential shortfall covered by the Survivors ('Survivor Pays' model)
- Participants will then have risk of losses from actions of other participants and therefore have a clear benefit from ensuring the likelihood of requiring survivors paying is kept to a minimum
- Participants should only accept this change if they are actively responsible, collectively and with a Board Management perspective, for scheme governance

Hence scheme governance is critical to implementing an effective collateral management model

It should also be noted that the payment schemes have progressed significantly since the original review in 2007, most notably on the level of participant engagement in the payment scheme governance. The recommendations below are only feasible because of this progress.

7.1 Liquidity, Settlement and Collateral Management

Given the importance and payment systems for financial stability, it is not surprising that many of the recommendations of the PFMI focus on settlement finality.

7.1.1 Risks in Payment Systems

The PFMI focus on two dimensions of settlement risk:

Credit risk (PFMI Principle 4)- where that member fails to settle its obligation even at a future time, potentially resulting in the central bank and/or other scheme participants suffering losses and write-offs

Liquidity risk (PFMI Principle 7) - where a scheme member cannot meet its obligations to provide cash at the time of settlement, leaving a shortfall of cash to settle.

7.1.1.1 Incentives to manage risks

“In establishing risk-management policies, procedures, and systems, an FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI. There are several ways in which an FMI may provide incentives. For example, an FMI could apply financial penalties to participants that fail to settle securities in a timely manner or to repay intraday credit by the end of the operating day. Another example is the use of loss-sharing arrangements proportionate to the exposures brought to the FMI. Such approaches can help reduce the moral hazard that may arise from formulas in which losses are shared equally among participants or other formulas where losses are not shared proportionally to risk.”

7.1.1.2 Other Guiding Principles

7.1.1.2.1 Payment Irrevocability and Settlement Finality

PFMI Principle 8 - Revocation of unsettled payments, transfer instructions, or other obligations

An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant. In general, an FMI should prohibit the unilateral revocation of accepted and unsettled payments, transfer instructions, or other obligations after a certain point or time in the settlement day, so as to avoid creating liquidity risks.

7.1.1.2.2 Use of Collateral

Pledging of suitable collateral is deemed to be a prudent method for mitigating risk in the payment system. The PFMI defines the appropriate use of collateral
PFMI Principle 5 - 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.

7.1.2 Evolution of Payments System

The Payment Systems in Global Perspective defines five stages of evolution in payment systems:

Cash;

Cash plus noncash instruments but with no formal clearing arrangements;

Non-automated, unprotected Deferred Net Settlement(DNS) system

Automated, unprotected DNS system with or without a Real-Time Gross Settlement (RTGS) system operating alongside it;

Fully automated and protected RTGS and/or DNS systems.

7.1.3 Real Time Gross Settlement versus Deferred Net Settlement

7.1.3.1 RTGS Systems

RTGS compliant payment systems can operate under a number of different mechanisms but all with the same basic principle – that the payment scheme will only accept payment instructions from a Paying Bank if that bank has sufficient funds or credit facility in its central bank settlement account. An RTGS payments system ensures:

Irrevocability of payments – since a paying bank will always be able to meet its obligation to settle, payments can be deemed to be irrevocable under the scheme rules

Intra-day finality – since payments will not be revoked, the Beneficiary Bank can give immediate availability of funds to the beneficiary on receipt of the payment

Eliminates Systemic Risk in the payment scheme – since payments are irrevocable and final, no payment need be unwound. Eliminating the possibility of unwind eliminates systemic risk in the payment system. *(Note: it does not eliminate all risks: there are other risk in the payment system such as operational risks, and other systemic risks may be present in the local financial markets)*

Given that exposures and limits are tracked in real-time, it is relatively simple to mitigate credit risks in an RTGS model whereby a participant's exposure is fully collateralised. When the credit limit is reached for a particular participant, the RTGS system will no longer settle further payment from that participant. However, this can create liquidity constraints as explored in the subsequent analysis of the current RTGS infrastructure.

7.1.3.2 Deferred Net Settlement Payments System

In deferred net settlement (DNS) systems, payments are netted, resulting in one net settlement amount per participant. The netting of payments before settlement requires DNS systems to hold significantly less liquidity than RTGS systems. However, since settlement only occurs at specific set points in the day, often the net settlement figures are not known until the netting process is completed.

If payments are deemed to be irrevocable, this exposes participants to settlement risk - the risk that another member does not settle their transactions for the period during which settlement is deferred.

Collateralising settlement exposures helps to mitigate credit risk but the challenge is how to calculate the collateral requirement, since the actual net position is not known until after the clearing cycle. To eliminate the settlement risk would require each participant to fully collateralise the total value of all outgoing payments submitted, but clearly this is overkill since a participant will invariably be receiving payments from other participants. Typically, DNS systems operate on the principle of historic patterns, and the participant collateral is set at their worst net debit position during a defined period, plus a 'haircut' or safety margin. The PFMI recommends that DNS systems maintain resources to cover the credit exposures of the two participants and their affiliates with the largest debit position.

Non-cash collateral does not, however, remove liquidity risk because the securities provided as collateral need to be sold to raise cash, which might require time. In the local situation, if CBN guarantees to provide cash for collateral pledged, liquidity risk is mitigated. This drives the requirement for collateral to be in the form of Federal Government Securities and more specifically T-Bills which are the most liquid of securities for CBN.

Non-cash collateral also does not entirely remove credit risk as the market value of the pledged collateral may be lower than shortfall in the net debit position, especially in stressed market conditions. This risk is mitigated by requiring the collateral to be higher than the potential cash exposure (currently set at 110%). Net exposures in a DNS system can be reduced by introducing more frequent settlement cycles.

7.1.4 Risk Models

Different approaches to risk mitigation can be included into the payment systems. The four standard approaches are outlined below, and a payment system can adopt one or a combination of the approaches. These approaches typically apply to DNS models since RTGS systems block payments that breach collateralised limits.

7.1.4.1 Unwind

Probably the simplest approach is to unwind transaction of a failing institution. Sufficient outgoing payments from the failing bank are reversed and the subsequent settlement positions recalculated. However, unwind carries introduces two significant issues:

Unwind creates a significant lack of confidence in the payment and banking systems since transactions accepted for payment and submitted for clearing (and potentially posted to the beneficiary bank account) are subsequently reversed.

More importantly from a regulatory perspective, unwind create potential systemic risk. Unwinding transactions of a failed institution results in a reduction of balances at the settlement account of other institutions, potentially causing others to overdraw their settlement accounts. This can create a “domino effect” of technical failure – a risk known as 'Herstatt Risk', so named after the failure of a German bank in the 1970's.

Specifically for RTGS payments systems, the process of unwind is categorically prohibited since payments must be final and irrevocable.

7.1.4.2 Central Bank Guarantee

In a 'Central Bank Guarantee' model, any losses incurred by a participant are protected by the Central Bank. Today, in most situations where this approach is adopted, the defaulter will provide sufficient cover to protect most of the losses with the Central Bank providing the guarantee against any losses that exceed this cover.

7.1.4.3 Defaulter Pays

In a “defaulter pays” model, all participants must pledge sufficient collateral to protect the surviving participants from loss. Its main defects are that it removes the incentive of participants to monitor each other and allocates more risk to unsecured creditors and depositors, which in turn may involve more risk for any deposit insurance agency. Exactly the same criticism applies to a protected RTGS system in which each bank posts collateral to cover its largest intraday credit from the central bank. In a batch-submission DNS model, determining how much collateral is 'sufficient' is almost impossible since the actual exposure – the net position – can only be determined after clearing. Typically, collateralised models are based on historic net positions

7.1.4.4 Survivor Pays

In a 'Survivor Pays' model, any loss not covered by the defaulter are collectively covered by the surviving members. The PFMI states that “*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*” recommends that the posted collateral, collectively by all participants.

7.1.5 Current Assessment of a sample of the 24 CPSS countries

7.1.5.1 RTGS Payment Systems

For LVTS, all major countries operate under an RTGS-compliant structure. The majority settle transactions individually, with the major exception being CHIPS in the US which is a hybrid system – periodically settling batches of matched transactions on a bilateral basis between participant banks. The advantage of a hybrid system is a reduction in the intra-day credit provision but with the downside of transactions being queued whilst awaiting matching. The Swiss SIC system also operates as a hybrid settlement model. Canada is the only country that achieves full RTGS compliance through the central bank providing the guarantee of settlement at the end of day. However, such a guarantee would only be called upon should more than one settlement member fail in the same day, since the system requires total collateral based on the highest historic net debit position in the system, and the first level of risk mitigation is a 'survivor pays' model.

All other countries use some form of collateralised or guaranteed intra-day credit facility.

7.1.5.2 Deferred Net Settlement Systems

For the retail payment systems operating on a Deferred Net Settlement principle, there is a mix of approaches. Countries such as Australia, Brazil and Russia all operate on the principle of unwind to mitigate settlement risk in the payment system. Others, including the Euro area, UK, Korea and Canada operate a 'Survivor Pays' model. For the countries operating a 'Survivor Pays' model, there is an unequivocal point at which the payments become 'final and irrevocable'.

The pattern of evolution indicates that a 'Survivor Pays' model is preferable should the payment systems infrastructure and market participants be deemed sufficiently mature and robust.

7.2 Recommendations for Payment System Settlement

7.2.1 Unwind process – not to be deployed in any national payment system

One approach to mitigating settlement risk is to allow submitted transactions to be reversed – a process called 'unwind'.

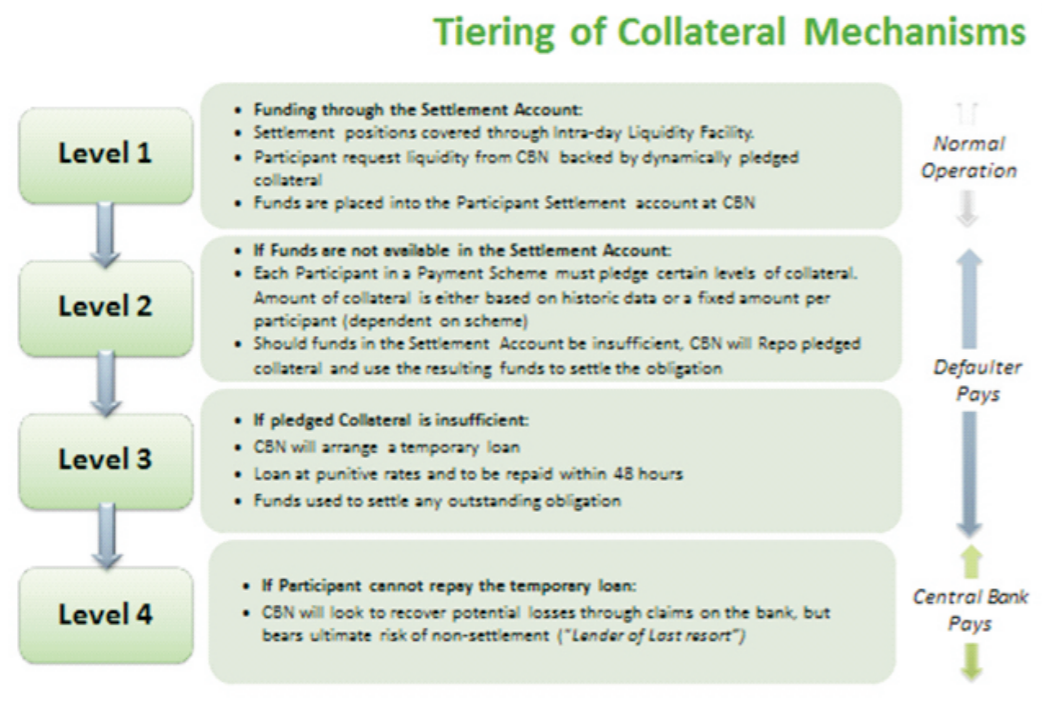
Recommendation 1 *It is strongly recommended that none of the national payment systems invoke the principle of unwind. CBN should formally state that unwind must not be invoked in any national payment system. An implication of this recommendation is that each payment scheme must define and formally document the exact point at which payments are deemed to be 'final and irrevocable'.*

Unwind creates a significant lack of confidence in the payment and banking systems since transactions accepted for payment and submitted for clearing (and potentially posted to the beneficiary bank account) may be subsequently reversed. Specifically for RTGS payments systems, the process of unwind is categorically prohibited since payments must be final and irrevocable.

Unwind can also cause systemic risk in the payment systems, since the unwinding of payments from one participant may cause further banks to breach their collateralised positions.

7.2.2 Current Collateral Model

The collateral requirements differs across the payment schemes but follow the basic principles outlined below



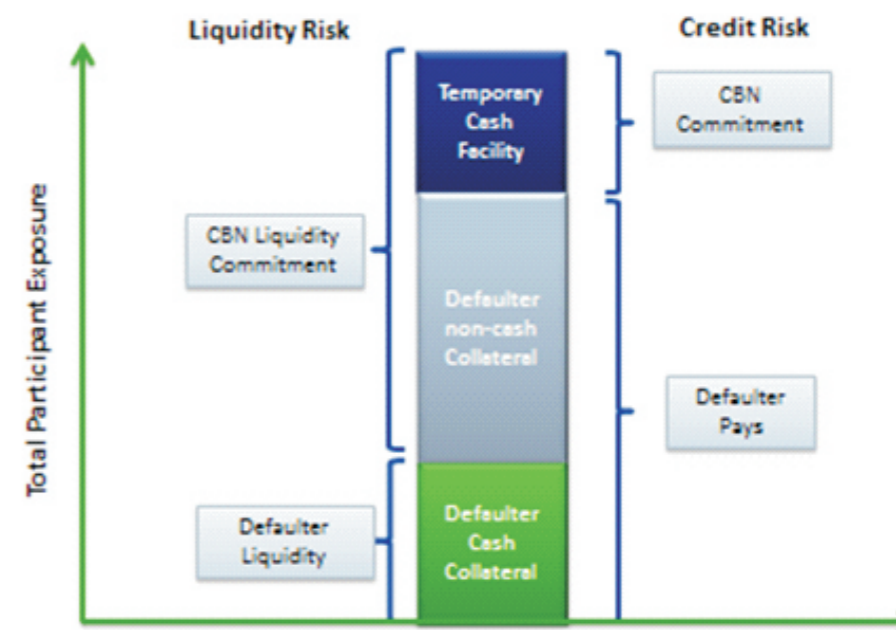
Level 1 - Normal operation -In normal operations, each participant in a scheme is expected to have sufficient funds in its CBN Settlement Account to ensure settlement of individual transactions (for RTGS payments) or for net debit positions (for Deferred Net Settlement Systems). The settlement accounts will be funded through inflow of payments, and by accessing the Intra-day Liquidity Facility (ILF) whereby CBN will provide cash liquidity based on pledged collateral (in the form of Federal Government debt instruments). This collateral is not pre-defined or specifically pledged for the purpose of the payment system, so offers bank treasurer's flexibility of collateral.

Level 2 - First level of default mitigation - In the event that a bank is unable to place sufficient funds on the Settlement Account to settle the obligation of a DNS scheme, CBN will enter into a mandatory repo agreement, purchasing pre-defined and pledged collateral. The funds proceeds received by the bank are placed into the CBN Settlement Account to ensure that final settlement can occur. A participant is required to replenish the collateral before the subsequent clearing cycle

Level 3 - Second level of default mitigation – For DNS systems, where payment instructions are submitted and then net positions of each participant are calculated periodically, it is very difficult to set a level of collateral that guarantees net debit positions are covered. Most DNS payment systems use historic numbers – a typical model is for each participant to pledge 110% of its worst net debit position over the preceding period (from six months to one year). Settlement cannot be guaranteed, since the amount of pledged collateral may be insufficient, particularly during stressed market conditions. To avoid unwinding transactions, CBN will lend funds to the participant, at punitive rates and repayable within forty-eight hours, to ensure final settlement. Where found necessary, CBN will withdraw the operating license of the financial institution at this stage. This approach mitigates liquidity risks, but CBN assumes ultimate credit risk on each participant.

Level 4 – Final level of default mitigation –Currently in Nigeria, CBN effectively acts as the lender of last resort, as indicated by the diagram below. The need for CBN to provide such a guarantee is minimised by the participants' provision of collateral. This is appropriate given the need for resilience in the payments infrastructure. However CBN foresees a model whereby market participants take greater responsibility for the governance and resilience of that infrastructure. CBN can then focus on its primary responsibility of regulation and oversight.

Current Settlement Risk Model



7.2.2.1 RTGS

The current RTGS system which went into operation in August 2013 settles across the DMB Settlement Account with CBN. The intended process is that there is no provision of a credit facility on the Settlement Account. A participant will use the Intra-day Liquidity Facility of the RTGS platform to dynamically pledge collateral (FGN T-Bills) and once the collateral is immobilised in the CSD, CBN will grant intra-day funding that is credited to the participants Settlement Account in RTGS.

7.2.2.2 Deferred Net Settlement Schemes

Most DNS schemes settle via the NBCH (National Bankers Clearing House) – a process that is run by NIBSS. There are three separate settlement sessions per day, each of which generates settlement positions that are settled into the RTGS Settlement Account for Direct Participants. The obligations of Indirect Participants are settled through the accounts of their sponsoring Direct Member.

- Session 1 (10:00 hrs.): ACH & Cheque Clearing Cycle 3 from previous day plus Cycle 1 from current day
- Session 2 (15:00 hrs.): ACH & Cheque Clearing Cycle 2, plus Card (POS transactions – Inter-scheme only).
- Session 3 (15:30 hrs.): settlement for the following schemes:
 - Cards(ATM – inter-scheme only)
 - CSCS
 - NIP
 - NIBSS FTSS
 - Mobile (inter-scheme only)
 - NIBSS e-BillsPay

Individual schemes in the Session 3 Settlement maintain collateral in the form of Federal Government Treasury Bills from individual banks on a variable per bank basis based on historic exposure. The rules on collateral are defined in the 'Guidelines on Transaction Switching Services' - May 2009 and Guidelines on Nigeria Banks Clearing and Settlement System – 2004.

- 3.3.2 - Member Institutions shall provide adequate collaterals, as deemed sufficient by the CBN, in form of Federal Government Securities in line with their contract agreements with Switching Companies.
- 3.3.3 - Alternatively, member institutions may utilize existing cheque clearing collaterals held with the CBN to meet the collateral requirement for transaction switching mentioned above.

The following table summarise the specific collateral mechanisms in place across the various payments schemes in the local market

| | Current Mechanism | Advantages | Risks | Mitigants and recommendations |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RTGS Payments | Uses Level 1 process only. If Settlement Account has insufficient funds, outgoing payments are blocked. | Ensures settlement finality Payments blocked if insufficient credit or liquidity | <ul style="list-style-type: none"> Banks may have payments blocked if their liquidity margin is too tight Process encourages banks to wait for incoming funds before paying out | Have differential pricing to encourage payment earlier in the day Could consider a liquidity saving mechanism (regular netting inflow and outflows) if supported in NISS |
| ACH & Cheque | Uses Level 1, 2, 3 and 4 For sessions 1 and 2, CBN require fixed 15 Billion Naira pledged collateral (shared with other payment schemes). For session 3, each scheme determines the appropriate level of collateral, typically based on historic positions and the collateral is held by CBN | Ensures settlement finality | <ul style="list-style-type: none"> CBN is 'Lender of last resort'. This is appropriate to ensure the integrity of the payment systems but should be acknowledged Only measures risks of Direct Members, not Indirect | Pledged collateral currently a fixed amount per participant Proposal to move to variable collateral based on 110% of historic net debit positions (new model). Is this sufficient for stressed markets conditions? |
| Instant Payments | Uses Level 1, 2 3 and 4. There is an option for real-time monitoring of limits such that, if a specific payment request breaches the pledged collateral limit, the payment will be blocked. | (as for ACH) Option to block payments if insufficient credit or liquidity | <ul style="list-style-type: none"> Banks may have payments blocked if their liquidity margin is too tight Process encourages banks to wait for incoming funds before paying out | Enforce real-time limit checking to ensure no net positions over the collateralised limits can be made by the paying bank. Could introduce more regular settlement cycles to reduce largest net debit levels |
| Cards (local) | Uses Level 1, 2, 3 and 4 | (as for ACH) | • (as for ACH) | |
| Cards (intern'tl) | Commercial risks by Scheme Settlement Banks | | | |
| Mobile Payments | Uses Level 1, 2 and 3 on accounts of banks servicing the MMOs | (as for ACH) | <ul style="list-style-type: none"> Need to measure exposure of specific MMOs – although this is a commercial risk undertaken by the sponsoring banks, it carries potential systemic risks | Insignificant value at present so no significant exposure Introduce more settlement cycles within the day Introduce real-time position management against collateralised positions |

7.2.3 Issues with current scheme

There are two structural issues with the current scheme, plus one more detailed issue specific to ACH & Cheque Clearing

7.2.3.1 Over-collateralisation within a payment scheme

CBN seeks to minimise the risk of ever needing to lend unsecured (Level 4 above). Hence it required that each participant pledges a fixed level of collateral, or separately collateralises its position based on that participant's historic worst net debit position. However, net settlement within a deferred net settlement scheme is a zero-sum game – the total net position of all participants in debit equals the total net position of all participants in credit. Hence the total collateral within the system under the current structure is greater than the maximum potential risk (defined by the PFMI as being the failure of the participants with the largest two net debit positions).

7.2.3.2 Moral hazard

CBN acts as the lender of last resort. Each participant will want to avoid requiring this facility (the defaulter), but from an overall scheme perspective, the survivors bear no financial risk or disadvantage should another participant default. Hence there is a reduced focus on overall scheme resilience by other participants. This issue provides a strong linkage to the second major recommendation on scheme governance – the issue of over-collateralisation can only be effectively resolved with a combined 'defaulter/survivor pays' model rather than the current model of 'defaulter/CBN pays'.

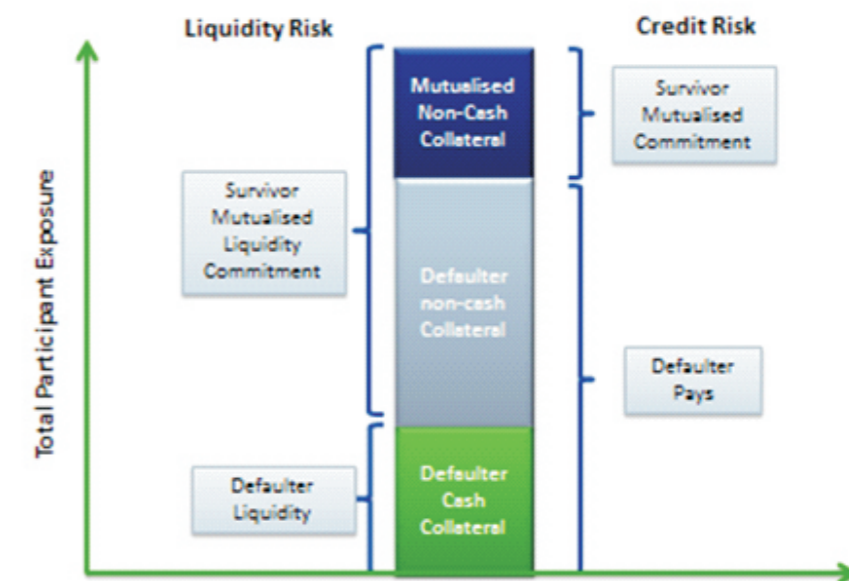
7.2.3.3 Variable collateral based on volumes/values

The current structure of a fixed amount of N15 billion for each participant will penalise the smaller players and act as a disincentive for new entrants. CBN should introduce the proposed change for the ACH & Cheque clearing collateral model - a model that is based on largest historic net debit positions.

7.2.4 Proposed future structure

CBN should migrate, at a controlled pace, from the current 'defaulter/CBN pays' to a 'defaulter/survivor pays'. The principles of the proposed scheme are illustrated in the diagram below, but this simple representation should not hide the implications of such a step. Hence any migration requires industry collaboration and incremental deployment. A poorly executed migration could create instability and undermine confidence in the payment systems – a confidence that has been building significantly through the good progress since the original PSV2020 review was developed in 2007.

Proposed Settlement Risk Model



7.2.5 Benefits of the proposed structure

7.2.5.1 Reduction in overall level of collateral required

Under the current scheme, with CBN providing the credit and liquidity coverage, each participant is assessed as an individual entity. It has to therefore consider each participant in isolation, ignoring the fact that on any particular day the overall exposure within the scheme is significantly less than the sum of the historic largest net debit position of each participant. Under the PFMI, an acceptable coverage for both liquidity and credit risk is deemed to be the sum of the largest two net debit positions on any particular day.

7.2.5.2 Reduces Moral Hazard

The scheme now relies on the surviving participants to cover any residual liquidity and credit risk once the defaulter's capacity has been exhausted. Such a 'joint and several' liability can only work if all scheme participants fully understand and accept the risks inherent in the scheme – no longer is a participant solely responsible for its own risks, it has an implicit requirement to define rules, binding on and observed by all members of the scheme, that mitigate risks in the scheme.

7.2.5.3 Reduces the need for CBN as 'Lender of Last Resort'

CBN is no longer covering the residual net position of a defaulter in the payment scheme since the payment scheme survivors now cover this residual risk. It is unlikely that the risk to CBN can ever be fully eliminated since PFMI seeks to mitigate risk to an acceptable level. In events so extreme that they are deemed highly improbable, it is still possible for a scheme to fail, and given the need for confidence in the payment systems, it is recommended that CBN always reserves the right to take over the running (and inherent risks/losses) of any payment scheme. Its role of regulator means it can enforce rules that make such an eventuality highly unlikely.

7.2.6 Implications of the proposed structure

7.2.6.1 Survivor pays

A participant is no longer responsible for just its own well-being. A scheme participant can suffer losses (credit and liquidity) should another member of the scheme fail. This represents a significant shift from the current model and participants have to be fully aware of these implications before migrating to a survivor pays model.

7.2.6.2 Scheme Governance

With the 'survivor pays' model, participants have a significantly stronger incentive to ensure the resilience of the scheme. It is this implication that provides the explicit link to the second key recommendation of scheme governance covered in Section . Participants should only agree to join a 'survivor pays' scheme if they have direct influence over the governance and operation of that scheme.

7.2.6.3 CBN focuses on regulation and compliance

Under the revised governance structure, CBN in its role as the apex organisation can focus on creating the appropriate environment for payment systems resilience. Regulation and compliance clearly remain the mandate for CBN.

7.2.7 Specific recommendations for Collateral Management

7.2.7.1 Recommendation 2 – Remove CBN unsecured lending for all payment systems

Eliminating the need for CBN to lend in the event of an uncovered net debit position on a participant settlement account is simpler to achieve for RTGS payment systems that have real-time position monitoring. Payments that would breach a collateralised net debit limit can be blocked prior to submission for settlement

Recommendation 2- CBN should indicate an intention to remove its implicit role of 'Lender of Last Resort' for the RTGS payment system by December 2016 and Deferred Net Settlement systems by December 2019. An outline deployment plan must be published indicating interim steps to achieving this longer term objective.

7.2.7.2 Implementation Steps for RTGS Payments

Specific steps for RTGS payments should include:

Introduction of the intra-day liquidity function within the RTGS Payment System. Any system imposed limits on liquidity and collateralised positions must be introduced gradually since participants must be given time to understand the implications of managing their intra-day positions.

Introduction of a reporting mechanism to identify any intra-day liquidity or end of day credit issues. Initially, such a report will be for internal CBN use to review with specific participants, but the target would be to make the information available within the user community and ultimately generally available. Any significant issues should be subject to a formal 'root-cause analysis' and processes defined to avoid recurrence.

Enforce the proposed penalty conditions for banks that hit their liquidity thresholds to ensure than banks maintain sufficient liquidity

Implementation of a governance structure that reflects the enhanced responsibilities of the market participants for resilience of the payment system.

Potential introduction of further payment charge tiering based on the time that payments are submitted for payment. Payments made earlier in the morning should be priced lower than payment later in the day to encourage banks to pay promptly, increasing liquidity for other participants. Currently there are only two differential charges, one for payments prior to 14:00 hrs. and a higher charge for payments after this time.

Review the potential for introducing a Liquidity Saving Mechanism, where lower priority payments for a paying bank can be held for a short period, then netted against inflows from other participants.

Achieve a six-month period with no significant and few or no minor liquidity issues

Removal of the CBN commitment to lend unsecured by end 2016

7.2.7.3 Implementation Steps for Deferred Net Settlement systems

The deployment plan for the various Deferred Net Settlement systems should include the interim steps outlined in Section 6.1.8.1 for RTGS plus the following specific steps:

Formalise the Collateral requirements for all DNS systems that differs for each participant based on the historic highest net debit position over the preceding period (assumed to be six months)

Introduce additional settlement cycles for payment schemes such as NIP

Introduce a collateral tracking tool to measure the effective coverage should the total Collateral be limited to the largest net debit position of the two largest exposures. This tracking step will indicate the confidence in moving to a 'Survivor Pays' model

Introduce real-time position monitoring on DNS payment systems if available. For example, this is available as an option in NIP but currently is only utilised by two banks

Review the impact of combining collateral requirements across schemes when there is one net settlement figure calculated. For example, inter-scheme ATM and Mobile payments plus NIP all clear in the same session and so should only require one set of collateral.

Removal of the CBN commitment to lend unsecured by end 2019

7.3 Payment Scheme Governance

The original PSV2020 proposed a new payment systems management and reporting structure – the setting up of Infrastructure Working Groups reporting to a Payment Infrastructure and Strategy Committee. Implementation of this structure has resulted in a significant increase in participant engagement in the operation and development of the payments schemes. The structure was appropriate for 2007, and this report formally recognises the efforts and successes of these committees.

These groups have laid the foundation for moving to the next level of scheme governance.

This approach represents a significant shift of responsibility from CBN to the participants, but one that is consistent with the objectives of the PFMI

At an interview with the CBN Deputy Governor (Operations) he stated that he “looks forward to the day when CBN is no longer active in the operation of the payment systems, but can instead focus on the primary role of the central bank – namely regulation and compliance”.

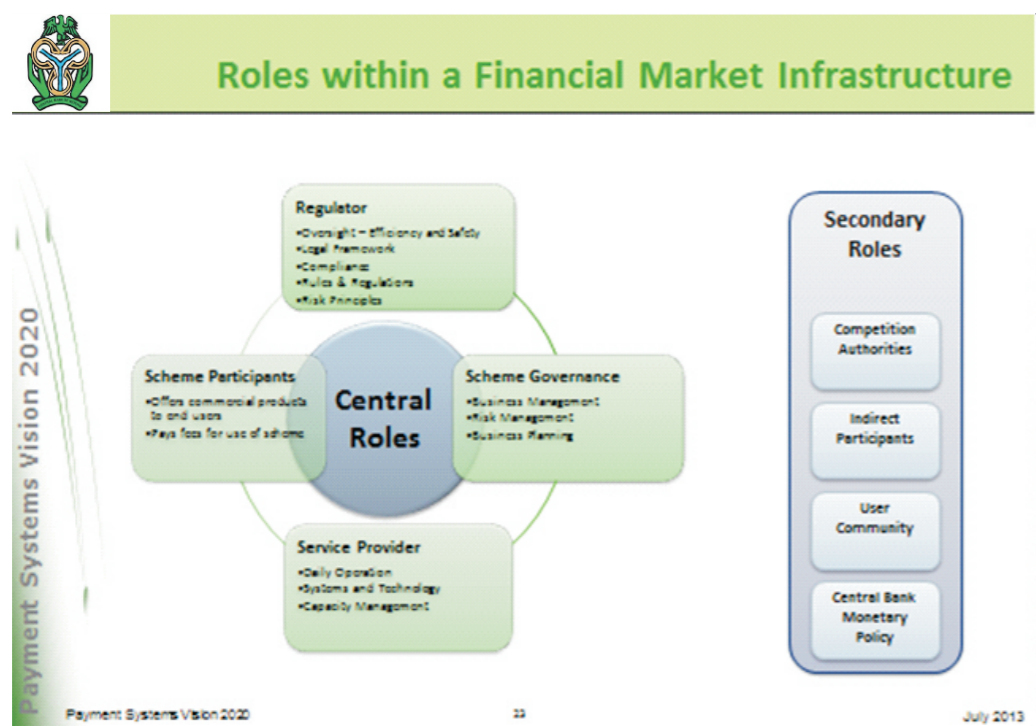
See the Bank of England Report “Financial Stability Paper No. 7 – May 2010 - Liquidity saving in real-time gross settlement systems” for further information on Liquidity Saving Mechanisms

7.3.1 Constraints of the current structure

7.3.1.1 Lack of clarity between regulation, scheme governance and scheme operation

The current structure has evolved over time, and is different for the various payments schemes. For example, the RTGS payment system is regulated, governed and operated by CBN. However, NIBSS plays an effective but dominant role in the management and operation of the ACH payment scheme. In one case, NIBSS defines the scheme rules, albeit requiring final approval from CBN.

It is helpful to define the four key roles of Regulator, Scheme Governance, Scheme Provider/Operator and Scheme Participants. The diagram below depicts these central roles and recognises the need to engage with various secondary roles



Attempting to clearly define the current structure with reference to the above roles illustrates the current lack of clarity

| Infrastructure | Regulator | Governance | Service Provider | Other roles |
|-------------------------|-----------|--------------------------------------------------------------------------|--------------------------------------|--------------------|
| NISS (RTGS) | CBN | CBN | CBN | RTGS Working Group |
| ACH & Cheque | CBN | NBCH * and/or NIBSS | NIBSS | ACH & Cheque WG |
| Instant Payments | CBN | NIP Forum? / NIBSS? | NIBSS | |
| Cards | CBN | ??, plus MasterCard, Visa for International leg | NIBSS, Interswitch, MasterCard, Visa | Cards WG |
| Mobile | CBN | ? | NIBSS Multiple MMOs | Mobile WG |
| Securities (Govt) | SEC/CBN | ? | CBN | Securities WG |
| Securities (Corp) | SEC/CBN | ? | CSCS | Securities WG |
| Overall Payment Systems | CBN | National Payments Council * National Payment Systems Strategy Board** | | PISC |

It is clear from the analysis above that the greatest lack of clarity surrounds Scheme Governance, hence the recommendation to define a clear governance structure with appropriate authority and responsibility.

7.3.1.2 Limited Terms of Reference for the Infrastructure Groups

The focus of the current infrastructure groups has been primarily on operational and business functional aspects of the respective schemes. This was appropriate for 2007 but the current terms of reference do not include a broader responsibility for overall scheme resilience and risk management.

7.3.1.3 Lack of senior oversight

The PISC officially reports in to the National Payments Council. However, this senior group has not met for the prior year. This is indicative that the payment systems do not receive sufficient priority and focus within the participant banks, and that the PISC is not handling topics and issues that require review and approval of the senior body.

7.3.1.4 No independent representation within the current structure

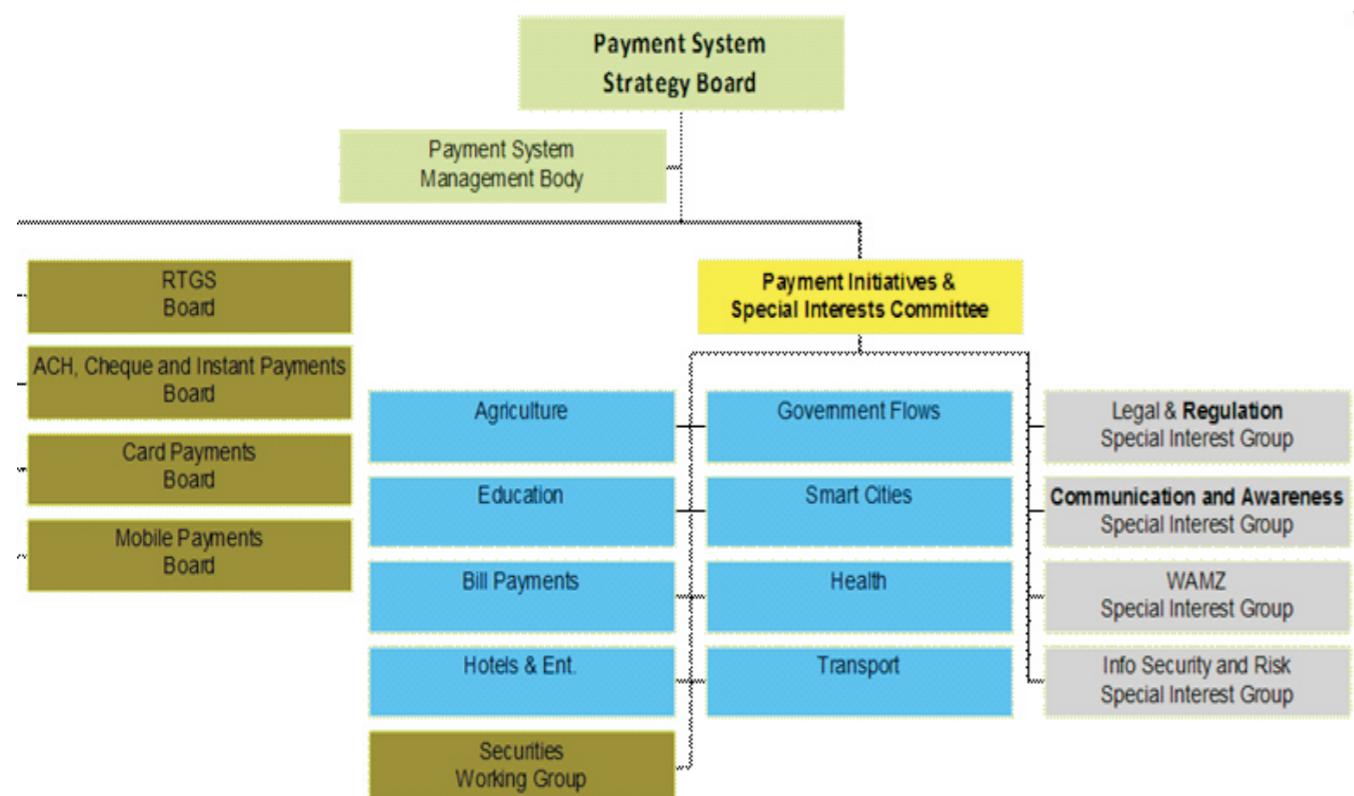
The PFMI recommends strong representation from well-respected but independent individuals who can provide the end-user context. In our review with the UK Payments Council they noted that since appointment of non-executive Board Members, both the quality and speed of decision making had improved.

7.3.2 Proposed Scheme Governance Structure

Recommendation 3 - Strengthen Scheme governance structure to reflect the significantly greater responsibility of scheme management, covering all aspects of risk, business management and operational resilience

The key driver to the proposed structure described below is to significantly broaden the scope and terms of reference of the payment scheme governance structure. The PFMI state that each FMI should have a Board of Directors with associated authority and responsibility.

In parallel, the senior body that oversees all payment systems activity must be given a mandate that ensures they meet regularly – it is believed that the group will meet if the topics are relevant and important.



The Payment Systems Management Bill prescribes two senior bodies. The proposed structure uses the same approach, with only minor amendments to the terms of reference, and so is consistent with this Bill.

The structure includes the reporting lines for the various initiatives to be driven under the overall PSV2020 recommendations. The details of these initiatives are discussed in more detail in a later section.

The biggest proposed change is to the Infrastructure Working Groups. These will be replaced with the payment system boards, but with much broader terms of reference. The Scheme Governance is now clear given the broader responsibility of the scheme boards.

| Infrastructure | Regulator | Governance | Service Provider |
|-------------------------|-----------|-------------------------------------------------------------------------|--------------------------------------|
| NISS (RTGS) | CBN | RTGS Payments Board | CBN |
| ACH & Cheque | CBN | ACH, Cheque and Instant Payments Board | NIBSS |
| Instant Payments | CBN | | NIBSS |
| Cards | CBN | Card Payments Board | NIBSS, Interswitch, MasterCard, Visa |
| Mobile | CBN | Mobile Payments Board | NIBSS/MMO |
| Securities (Govt) | SEC/CBN | <i>(Outside scope of this review)</i> | CBN |
| Securities (Corp) | SEC/CBN | <i>(Outside scope of this review)</i> | CSCS |
| Overall Payment Systems | CBN | <i>National Payments Council * Payment Systems Strategy Board**</i> | |

7.3.2.1 Payment Systems Strategy Board

The Payment Systems Strategy Board replaces the Payment Systems Council, and is the pinnacle organisation for the governance, management and operation of the Nigeria Payment Systems. Its terms of reference (in addition to those outlined in the Payment Systems Management Bill) should mandate it to:

- Drive the overall National Payments System Strategy
 - Provide cross-scheme priorities and resource allocation
 - Arbitrate in cross-scheme decisions
- Membership should include (in addition to proposed structure under the Payment Systems Management Bill):
- Chairman of the Payment Scheme Boards
 - Chairman of Payment Initiatives Committee
 - Independent Director(s) representing the end-user community

7.3.2.2 Payment Systems Management Body

The Payment Systems Management Body should provide the Secretariat function to Payment Systems Strategy Board (PSSB)

- Working with Payment Scheme Boards and PIC to summarise input for PSSB meetings
 - Produces discussion documents and proposals to be reviewed by the PSSB
 - Undertakes research on key topics
- The Payment Systems Management Board would be initially staffed and funded by CBN but should eventually migrate to industry funded role as the governance model matures.

7.3.2.3 Payment Scheme Boards

The terms of reference for the Payment Scheme Boards can best be summarised by '*closing the gaps on full conformance to the PFMI*' since these principles define the internationally accepted best-practice for payment schemes. The terms of reference would broadly cover responsibility for:

- General Organisation (including governance)
- Credit and Liquidity Risk Management
- Settlement
- Default Management
- General Business and Operational Risk Management
- Access
- Efficiency
- Transparency

The membership must act as 'Board Members' for the scheme, with full responsibility for the scheme success and acting co-operatively on behalf of the industry. Such responsibilities require senior level of participation from member organisations.

To reflect the seniority of the Boards, they would report directly to the Payment Systems Strategy Board, and be supported by the Payment Systems Management Body in the preparation of discussion papers and proposals.

Members of the Payment Scheme Board should undertake BIS training on the Principles for Financial Market Infrastructure (PFMI) since this is the benchmark by which their effectiveness will be judged.

7.3.2.4 Payment Initiatives and Special Interest Committee

The Payments Initiatives and Special Interest Committee will drive agreed initiatives (defined in Section Initiatives) that encourage adoption of electronic payments. The focus of this committee is very different from that of the Payment Scheme Boards since they are driving the adoption of electronic payments, regardless of payment method. The role of CBN is to be a catalyst to help drive deployment. The initiatives can only be successful if progressed jointly with the wider Stakeholder community.

The PIC will oversee a series of Working Groups (sub-committees) focussed on specific initiatives. The Working Groups operate with the following parameters:

- Clear and time-bound deliverables
- Work on the principle of success transfer - creating small wins that can be well publicised such that they are embraced by the commercial sector
- Dissolved once the objectives have been achieved (proposed maximum term of 2 years with the option of one extension to an additional term)
- Maximum number of Working Groups set at eight so that focus is maintained on the highest priority initiatives
- Not linked to any specific payment scheme

These groups require strong Project Management Office and Business Analyst functions to drive to a successful conclusion. It is recommended that the Project Management Office function and Business Analyst function be split as follows

PMO responsible for:

- Producing project plans
- Monitoring progress, project reporting and following up on outstanding items
- Works alongside Initiative Lead to provide business level support (Initiative Leads have limited time and should focus on top level guidance for the initiative)
- Produces working papers and proposal, requiring a good business and industry understanding
- CBN could request secondment from Commercial Banks for this function on a rotation and temporary basis. It would offer the incumbents excellent visibility into key areas of payment systems development
- The Business Analyst function, given the time-bound nature of the initiatives, will be temporary positions, with a proposed resource level of 4 for the current round of initiatives (implying that one analyst works concurrently on two initiatives)

7.4 Periodic review against CPSS/IOSCO PFMI

Implicit in the revised Governance structure is the requirement to periodically benchmark the current infrastructure against the CPSS/IOSCO Principles for Financial Market Infrastructure. This approach is critical, and hence is elevated as a Key Recommendation

7.4.1 Review against CPSS/IOSCO PMFI

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.

Public disclosure, at the appropriate time, further encourages the Board to take effective actions to close the most important compliance gaps.

Recommendation 4 – Each Scheme Management Board must complete an annual self-assessment against the CPSS/IOSCO PFMI. An independent review should be undertaken every four years, with the target to make the results publically available by end 2017.

7.5 FX Settlements

CLS (Continuous Linked Settlement) is a service introduced by the major players in the Foreign Exchange markets to introduce Payment-versus-Payment (PvP) for FX Settlement, thereby reducing counterparty settlement risk.

Naira is not currently a settlement currency in the CLS which is appropriate given that current tight FX controls result in limited volume of FX transactions for Naira. Becoming a CLS Settlement Currency is a multi-year process. It is recommended that formal discussions commence with CLS since this will support any future growth in Naira FX trading and increase the perception of Nigeria markets being an emerging and important player in the financial markets – another step towards being 'Internationally Recognised'

Recommendation 5: CBN should open formal channels with CLS as a first step towards Naira becoming a CLS Settlement currency

7.6 International Payments

International Payments were outside the scope of the infrastructure review since they rely on commercial relationships with Correspondent Banks plus the SWIFT network.

However, the assessment considered solutions for improving the quality of payment flows originating from Nigerian banks/branches. We reviewed SWIFT Sanctions Check, a service that screens outgoing payments against the Specially Designated Nationals lists of most countries plus other OFAC validation.

It is recommended that this solution is mandated at either a bank level or national level for all outgoing international payment instructions since it should deliver the following benefits:

- Improve the quality of payment requests sent to Correspondent Banks
- Reduce the delays in payments through payments failing the AML checks at Correspondent banks
- Improve the overall perception of Nigerian flows by reducing the number of payments flagged as suspect
- Potentially reduce the Correspondent Bank charges since the flows generate fewer exceptions

In preliminary discussions with SWIFT, the additional cost per payment for this service will be in the order of €0.07 to €0.20 with a potential discount is mandated at a country level.

Recommendation 6: CBN should mandate the use of the SWIFT Sanctions Checking (or equivalent) for international payment instructions originating from banks in Nigeria

7.7 Review of the Securities Market

The PSV2020 does cover the cash settlement leg of securities settlement. However a full review of the securities market is well outside the scope of this document. The original PSV2020 stated the working assumption that such a review would be completed but no such review was formally instigated, resulting in broadening the scope of the PSV2020 Securities Working Group.

A formal review of the Securities Market would add further confidence in the Nigeria market infrastructure. It is understood that Thomas Murray, an independent company that publishes market infrastructure information, undertook formal review of the market on behalf of CSCS, but a full review consistent with the PSV2020 approach has not been completed.

Recommendation 7 – CBN should work jointly with SEC and other key stakeholders to sponsor a formal review of the Securities Markets in Nigeria. The review should be completed under the FSS2020 Financial Markets workstream.

8 Responsibilities of Central Bank for Financial Market Infrastructure

The PFMI defines five key responsibilities of the relevant authority for financial market infrastructure. For payment systems, the relevant authority is the Central Bank of Nigeria as prescribed by the Central Bank of Nigeria Act No. 7 of 2007 (CBN Act) which provides CBN with the right and responsibility for national payment systems.

8.1 Responsibilities of the Central Bank

8.1.1 Responsibility A: Regulation, supervision, and oversight of FMIs

FMIs should be subject to appropriate and effective regulation, supervision, and oversight by a central bank, market regulator, or other relevant authority.

The two key considerations for conforming to this principle are that the criteria for which FMIs are subject to regulation must be clearly defined, and that regulation, supervision and oversight are appropriately performed.

The criterion for regulation of payment systems is unequivocal – any payment system must be authorised by the Central Bank. The adoption of this approach was evidenced during the deployment of mobile payment solutions in Nigeria. In many jurisdictions, mobile money schemes preceded regulations. However in Nigeria, CBN did not licence any schemes until the principles and regulations were in place. Such an approach may have slowed initial deployment but ensured a consistent model across the country.

The criteria for membership of any payment system are defined in the Rules and Regulations for that payment system. The focus for CBN has been to create effective regulation. There has been progress on improving the supervision and oversight of the payment systems through the creation of a supervisory function within CBN but this function is in early stages of deployment. It is anticipated that CBN will perform a stronger oversight and supervisory role in the future.

Recommendation: CBN should publish a policy for supervision, identifying the scope of payment systems review to include the operation of the systems and the performance of participants.

A consistent request raised during the review by participants and infrastructure providers was the need for CBN to provide a consistent long-term roadmap. In several cases, guidelines or regulations issued have been subsequently reversed, creating uncertainty amongst users and participants. One infrastructure provider stated that he was now having difficulties raising funds for innovative new solutions since the investors perceive the regulatory environment could be changed at short notice and making the current business plan invalid. Clearly this is not in the interest of CBN or the payment system stakeholders, but CBN clearly wishes to respond to changes in the markets and progress new initiatives expeditiously. The key to any change is a period of consultation and debate to minimise the risk of unintended consequences that could lead to subsequent reversing of decisions. If all participants are given time to review and comment, there is less chance of surprises.

Recommendation: CBN should define a policy for any changes to Rules and Regulations. The policy should include the minimum time-period for consultation, a requirement for all participants to respond, even with a no comment response, and at least one mandatory review meeting to allow views to be shared by the user community. CBN must formally respond to any comments raised in writing, stating either agreement or a reason for rejecting the comment.

8.1.2 Responsibility B: Regulatory, supervisory, and oversight powers and resources

Central banks, market regulators, and other relevant authorities should have the powers and resources to carry out effectively their responsibilities in regulating, supervising, and overseeing FMIs.

The key considerations in this section are the rights of CBN to enforce the rules and regulations, and availability of sufficient resources to perform these functions

The rights of CBN are supported by the Central Bank of Nigeria Act (2007) and have not been challenged.

CBN does require payment systems to produce data to allow it to monitor the performance, but this is a typically an annual process or in response to a demand from other parties.

Recommendation: CBN should define a monthly ‘payment systems dashboard’ of key performance metrics that provides a clear overview of the payment systems to the Committee of Governors and other stakeholder. The dashboard would include both payment statistics and any significant operational or risk issues during the reporting period

8.1.3 Responsibility C: Disclosure of policies with respect to FMIs

Central banks, market regulators, and other relevant authorities should clearly define and disclose their regulatory, supervisory, and oversight policies with respect to FMIs.

The principles for CBN are enshrined in the CBN Act, but no defined policy for regulation, supervision and oversight of FMIs exist.

Recommendation: CBN should define a policy for regulation, supervision and oversight of FMIs

8.1.4 Responsibility D: Application of the principles for FMIs

Central banks, market regulators, and other relevant authorities should adopt the CPSS-IOSCO *Principles for financial market infrastructures* and apply them consistently.

The CPSS-IOSCO PFMI are recognised as the international benchmark and have formed the central theme of the PSV2020 review. These principles will define the role and responsibilities for the Payments Systems Boards under the proposed governance structure. Knowledge of the principles is not currently widespread, and hence training to improve awareness of the principles and how to apply the principles, will be central to a core capacity building program outlined in the capacity plan in Section10. No further specific recommendation is required.

8.1.5 Responsibility E: Cooperation with other authorities

Central banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs.

CBN gratefully acknowledges the assistance and advice provided by various Central Banks and other relevant authorities such as BIS, CLS and SWIFT during the preparation of the PSV2020. The links forged during this review will be maintained and strengthened whilst progressing the numerous actions steps identified. Our inaugural International Payments Systems Conference is a clear indication of the intention to become truly *Internationally Recognised*.

Recommendation: CBN should seek, subject to invitation from BIS, to become an active member of appropriate BIS committees.

8.2 Summary of Conformance

| Principle | Description | Current Status |
|-----------|-------------------------------------------------------------|----------------|
| A | Regulation, supervision, and oversight of FMIs | |
| B | Regulatory, supervisory, and oversight powers and resources | |
| C | Disclosure of policies with respect to FMIs | |
| D | Application of the principles for FMIs | |
| E | Cooperation with other authorities | |

| | |
|---------------------|--|
| Fully compliant | |
| Generally Compliant | |
| Partially Compliant | |
| Not Compliant | |
| Not applicable | |

9 Other recommendations – Infrastructure

All payment market infrastructure was reviewed against the PMFI. Separate working documents have been produced to record the results of the assessment. It is expected that each of the schemes will progress on the specific detailed recommendations. Once the new governance structure is implemented, a periodic review of infrastructure against the PFMI will be a formal requirement of the respective payment scheme Board.

The primary recommendations of the PSV2020, namely Governance Structure and Liquidity and Settlement Risk Management, have been covered in detail in the previous section. This section highlights other substantive recommendations that were identified during the review. More detailed recommendations are included in the working documents that support this review.

9.1 RTGS

The RTGS infrastructure (NISS) was assessed prior to live operation since the project was in the final stages of operation. Overall, the new platform provides a robust RTGS environment and benefits significantly from the parallel implementation of the CSD for Government Securities. The tools to conform to the PFMI exist in the new platform.

Most of the recommendations relate to either incremental adoption of tighter collateral management and liquidity processes, or management functions such as implementing and documenting formal procedures and performance metrics.

| PFMI | Observations | Recommendation |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| R1 3 – Risk Framework | No specific risk management policy is explicitly documented. Risk considerations are included in the proposed RTGS Regulations, but there is no formal process for periodic review of risks. CBN has recently approved a Committee for Payment Systems Risk Management that will provide expert guidance to all payment systems. CBN has an overall Risk Management policy but this is not specific to the payment systems. | The RTGS Board should ensure that a Risk Framework is defined |
| R2 7 – Liquidity Risk | The RTGS rules define the process for management of liquidity. However, there is no overall risk framework that documents the process for assessing the liquidity risks across all participants and indirect RTGS participants. | The RTGS Board and CBN should produce a formal definition of the management of liquidity and credit risk, and associated collateral management. This paper should define the current process and also consider other potential tools such as Liquidity Saving Mechanisms that may provide a suitable level of risk mitigation but with lower overall collateral requirements |
| R3 7 – Liquidity Risks | The level of collateral required for the payment systems (RTGS and DNS) and SSS is reviewed periodically based on previous historic positions. However, there is no formal process for undertaking a stress test based on the failure of a default of the participant that creates the largest net exposure under stressed market conditions | As part of the ongoing risk assessment, the RTGS management should undertake a formal stress test of the liquidity solution in place. |

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| R4 17 – Operational Risk | 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 new RTGS platform uses high availability and fault tolerance (Hot standby - Production). Data replication to back-up site (Warm recovery) – further back-up to cold standby Disaster Recovery system. No specific maximum recovery time is defined. CMA provides generic Procedure Documents that outline the steps to be performed for contingency but these are not specific to the CBN implementation and operation | The RTGS Management must ensure that specific Contingency Procedures are defined, agreed with all participants and regularly tested. RTGS Management should consider enforcing a policy that all participants, including the central RTGS system run by CBN, must run from their back-up facility at least once per month/quarter. |
| R5 17 – Operational Risk | Operational resilience metrics are defined in the Functional Specification. No document exists to define the required metrics, nor are processes currently in place for tracking and providing feedback to participants | Formal Performance Indicators and associated targets should be defined, and a process for tracking and providing feedback put in place |
| R6 19 – Tiered Participation | 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 | The RTGS Management should introduce an assessment of the flows and net position of the larger non-participants to determine if these could introduce systemic risk |
| R7 23 - Disclosure | 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. Training has been undertaken during the new RTGS system deployment. | Periodic refresher training with certification should be considered by the RTGS Management to ensure that key staff remain current with the latest changes to the procedure and functionality. Each RTGS Participant must have a per-defined number of certified staff. |
| R8 23 - Disclosure | An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO Disclosure framework for financial market infrastructures. This review is currently in progress but is not yet a formally agreed process, nor are the full results publically disclosed | The RTGS Management needs to agree timeframe for periodic review (suggested timing - formal review every four years with annual updates). Target to publish externally by agreed date (2017) |

9.2 ACH and Cheque

| PFMI | Observations | Recommendation |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A1 2 - Governance | <p>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</p> <p>The Bankers Clearing House Rules (2012) gives the mandate for NIBSS to run the cheque and ACH clearing. These rules define the objectives of the clearing system which explicitly state “the implementation of an effective and efficient payments system ...”. The objectives do not explicitly state objectives of financial stability and public interest considerations</p> | <p>Update the Bankers’ Clearing House Rules to include the two specific objectives of financial stability and public interest.</p> |
| A2 3 – Risk Framework | <p>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.</p> <p>No such review appears to have been undertaken. The new RTGS handles settlement of DNS with separate collateral</p> | <p>CBN should complete an impact assessment of a potential fail of NIBSS on the local market, and the potential action plan to mitigate this risk. Since CBN is a shareholder in NIBSS (and Chairs the Board) it is unlikely that CBN would allow NIBSS to fail, but contingency arrangements should be articulated and periodically reviewed.</p> |
| A3 8 – Settlement Finality | <p>An FMI’s rules and procedures should clearly define the point at which settlement is final.</p> <p>There is no evidence of when a specific transaction is deemed to be final and hence the transaction is irrevocable (for example, is it when the participant submits the file to NIBSS, when NIBSS closes the session, when NIBSS finalises net positions, or when settlement happens across the CBN account)</p> | <p>NBCH should define when a payment is deemed to be final and irrevocable. The Legal WG should ensure that any such statement is consistent with the CBN ACT (2007) and the forthcoming Payments Act</p> |
| A4 17 – Operational Risk | <p>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</p> <p>This is covered in NIBSS Information Risk Management Policy. Internal Control Unit review compliance and report to Board Audit committee. A separate external independent audit is conducted.</p> <p>NIBSS sends weekly compliance reports to banks covering aspects such as failure rate of transactions, uptime, response time, link availability and compliance to NUBAN. NIBSS monitors trends to keep bank performance acceptable.</p> <p>Requirements for Participants are defined in the NBCH Rules. However, there is no assessment of whether banks adhere to rules</p> | <p>NBCH/NIBSS should consider enforcing requirements such as required running from the contingency site and use of different network links on a periodic basis.</p> |

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| A5 18 – Access Requirement | <p>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</p> <p>There is no formal process for an ongoing review of Participant eligibility (other than failure to Settle or breach of Clearing House Rules ...)</p> <p>The NBCH rules cover the criteria for suspension. But no process is defined for how such a suspension would be enforced) for example, impact of ‘payments in transit – would these be honoured?)</p> | <p>Clearing house rules should clearly state the process for enforcement of suspension of errant participants and also the settlement of their items already in clearing.</p> |
| A6 19 – Tiered Participation | <p>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</p> <p>NBCH supports direct and indirect participation. The responsibility for operational, liquidity and settlement risk of Indirect Participants lies with the Direct Member. There is no direct oversight by NBCH or NIBSS for Indirect Participants</p> | <p>NBCH/NIBSS should formally track and report volumes and values of transactions for Indirect Participants to ensure that potential risks can be assessed</p> <p>NBCH should consider introducing a volume or percentage threshold at which Indirect Participants are required to become Direct members</p> |
| A7 23- Disclosure | <p>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</p> <p>NIBSS provides training document through an online help service. A training school is run within NIBSS</p> | <p>NBCH could consider requiring certification (with periodic recertification) and minimum number of trained personnel</p> |

9.3 Cards

The card payment flows in Nigeria comprise multiple schemes (Visa, MasterCard, and Verve). The infrastructure review was conducted at a cross-scheme level. Reviews of individual schemes should be undertaken once the appropriate governance structure has been implemented.

The card governance is complicated by the mix of national and international infrastructure. The recommendations (and future guidelines) strike a balance between consistency with current international practice and supporting the specific needs of the local market.

| PFMI | Observations | Recommendation |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 – Legal Basis | <p>An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.</p> <p>There is a potential for differences in interpretation and actions for international transactions (international cards used in Nigeria and Nigeria cards used internationally).</p> | <p>The Card Payments Board should identify these differences and articulate which process takes precedence. Identified areas of potential difference are dispute resolution, finality of payment from issuer to merchant via scheme, interchange fees and transaction processing times</p> |
| 3 – Risk Framework | <p>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</p> <p>Individual schemes have risk structures and framework although it has not been possible in this review to clarify the details for each scheme.</p> <p>There is no risk framework at a cross-scheme level. It is understood that CBN Risk Management department is to undertake such a review but this review is at a very early stage</p> | <p>The proposed Cards Payment Board should work with CBN Risk Management to create an appropriate Risk Management policy at a national/cross-scheme level</p> |
| 3 – Credit Risk | <p>An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks</p> <p>There is no process to review credit exposure at a national cross-scheme level, which may present issues given the interoperability offered through the central switch - does the central switch just route transactions or change the credit/settlement relationship? There is a need to ensure that there are no flows that are outside of standard rules, since some flows are not handled as local transactions.</p> | <p>The proposed Cards Payment Board (or cards Working Group in the interim) should map all potential flows to identify and highlight the associated risks to ensure that all exposures are appropriately mitigated.</p> |
| 3 – Credit Risk | <p>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</p> <p>Each individual scheme has rules for collateral or payment guarantees. As per points above, the implication of cross-scheme flows should be assessed.</p> <p>A concern was raised that the requirements for Visa (through the relationship with Standard Chartered) and MasterCard/Interswitch were inconsistent. This is subject to a current review by CBN and the Cards Working Group</p> | <p>The Cards Working Group and CBN should conclude the review that creates consistent requirements for all schemes.</p> |
| 4 - Liquidity | <p>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</p> | <p>The Card Payments Board should create an overall Risk Framework with specific focus on both credit and liquidity risks. The capacity of Participants should be regularly validated and stress-tested</p> |

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| | | <p>required under its commitment.</p> <p>There is no formal process for assessing the capacity of a participant to understand and perform as required. There is no regular test of a Participant's capacity for accessing liquidity</p> | |
| C6 | 8 – Settlement Finality | <p>An FMI's rules and procedures should clearly define the point at which settlement is final.</p> <p>Current market practice accepts that payments are deemed irrevocable on receipt of AUTH. However, there is no evidence of such a statement in the Card Switching Rules. Settlement occurs across the accounts at CBN at which time settlement is final.</p> <p>When considering finality of settlement and credit exposures, it is important to acknowledge there is a potential gap from receipt of AUTH to submission of transaction of up to 45 days. Hence settlement flows for failed participant could continue long after fail day.</p> <p>CBN needs to notify schemes of failed participants to stop issuer transactions as soon as fail is noted (currently via NIBSS)</p> | <p>Create a clear statement of when transactions are deemed to be final</p> |
| C7 | 23 - Disclosure | <p>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</p> <p>Individual schemes have defined rules for their participants</p> <p>At a National level, there are a series of rules for the card industry. CBN issued Guidelines for POS Card Acceptance Services (August 2011) and Guidelines and Standards for ATM transactions.</p> <p>NIBSS publishes the National Card Switching Rules (approved by CBN). However, there are inconsistencies in rules between national and international transactions - a potential issue that is resolved only through the common understanding that the national rules supersede international rules. This assertion has not been fully validated either through commercial or legal channels.</p> <p>It has also been noted that some clear rules have not been followed. For example, NCS Rules and Guidelines clearly state that NIBSS and/or NCS "SHALL NOT under any circumstance whatsoever or howsoever engage in competition with any Payment Card Industry Scheme, Operator or Service Provider" and the provision specifically restricts NIBSS from being an acquirer/processor</p> | <p>Identify and clarify differences between international scheme rules and local rules.</p> <p>CBN, through the NCS Rules and Regulations, to mandate that for national payments, in the event of a discrepancy, the national rules will take precedence.</p> |

9.4 NIP

NIBSS Instant Payment is a relatively new payment scheme. Much of the infrastructure is shared with other schemes. However, since it a discrete payment scheme it has been assessed independently.

For the PFMI sections such as Business Risk and Operational Risk, the responses supplied for ACH and Cheques were referenced since all the infrastructure and clearing processes are run by NIBSS.

| PFMI | Observations | Recommendation |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| N1 3 – Credit Risk Framework | <p>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.</p> <p>A net debit cap per participant is monitored in real-time. The system has the option to block payment submission should a participant breach their maximum net debit position, a position that is covered by pledged collateral. However, only one bank currently utilises this feature.</p> <p>The net settlement figures are aggregated with the net settlement for ACH and Cheque clearing to derive one overall net settlement figure. Hence Instant Payments uses the same collateral and process from cheque clearing. Overall collateral versus net debit across all flows is reviewed internally. Limits have never been reached to date. The credit risk process is in place but not formally documented and communicated to CBN</p> | <p>NIP Payments Board to consider mandating the real-time position monitoring for all participant banks.</p> |
| N2 8 – Settlement Finality | <p>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</p> <p>Settlement is once per day. It is assumed that payments are irrevocable when submitted by the paying bank to NIBSS for clearing and settlement. However, there is no evidence that this is formally documented and agreed by all participants.</p> <p>Given that payments are deemed to irrevocable when submitted to NIBSS for clearing, settlement occurs within 24 hours of payment submission and hence may be the day after value date (for payments submitted after the 2:00 p.m. settlement cycle).</p> | <p>NIP should consider moving to multiple settlements throughout the day to reduce potential settlement exposures</p> |

9.5 Mobile Payments

Mobile Payments is a relatively new payment scheme. Much of the infrastructure for inter-scheme flows is shared with other schemes such as NIP. However, since it a discrete payment scheme it has been assessed independently.

For the PFMI sections such as Business Risk and Operational Risk, the responses supplied for ACH and Cheques were referenced since all the infrastructure and clearing processes are run by NIBSS.

| PFMI | Observations | Recommendation |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M1 2 - Governance | <p>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.</p> <p>The MMOs all subscribe to an Industry association (ALMPO) that represents the broad community of providers</p> <p>NIBSS operates the platform for all inter-scheme flows (using NIP) and hence inter-scheme flow governance is under NIP.</p> <p>Could have a ‘brand name’ to identify mobile scheme</p> | <p>Governance of the schemes should be consolidated under a single Mobile Payments Board that has responsibility for individual schemes and inter-scheme flows</p> |
| M2 4 – Credit Risk | <p>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</p> <p>Each MMO has a relationship with settlement bank – settlement bank commits settlement on behalf of the MMO but typically requests pre-funding for predicted net positions</p> <p>There are potential issue with international remittances service providers since they are not formally members of the scheme and hence positions must be committed by their chosen settlement banks?</p> | <p>Clarify the credit and liquidity risk exposures of the settlement banks since currently this is considered a commercial risk and not subject to formal assessment</p> |
| M3 8 – Settlement Finality | <p>An FMI’s rules and procedures should clearly define the point at which settlement is final</p> <p>There is no formal statement on payments being irrevocable – payments can fail after the mobile money wallet is debited.</p> <p>For inter-scheme transactions, finality is assumed to be on successful transmission NIP but this is not specifically defined</p> <p>For intra-scheme flows, an operator can reverse transactions in event of payment in error but there is no common process across all MMOs</p> <p>Industry will engage with CBN Consumer Protection Unit to review best approach</p> | <p>The Mobile Payments Board (or ALMPO and NIBSS) should define a clear and consistent policy on payment finality for intra- and inter-scheme payments.</p> |

10 Initiatives

The Payment Systems Vision 2020 has the adoption and usage of electronic payments as a key objective. Eight initiatives, each focussing on a specific industry vertical, have been identified as priorities for increasing usage.

These focus on key user segments to create momentum behind the usage and acceptance of electronic payments. Success in these eight verticals will encourage acceptance of electronic payments in many other areas and the 'virtuous circle' will have been created.

10.1 Operating principles for the Initiatives

10.1.1 CBN Role as Catalyst

The initiatives are industry vertical driven with CBN acting as the catalyst for engaging the broader community. If successful, the momentum created by the specific Initiatives becomes self-sustaining

10.1.2 Financial Inclusion

Financial inclusion is a key objective of the PSV2020. Financial Inclusion will be evidenced through adoption, and is therefore clearly linked to the success of the initiatives. We considered, but rejected the idea of a separate group for Financial Inclusion, and instead mandated each Initiative Working Group to identify specific objectives linked to Financial Inclusion. Each initiative vertical will impact across all economic groups, the bank, under-banked and non-banked. True Financial Inclusion will have been achieved when all economic group have equal access, from the perspective of payment flows and broader banking services, to all of the initiative verticals.

The following extract illustrates the importance of payment systems as a stepping stone to full financial inclusion – an extract from a report by the Melinda and Bill Gates Foundation whose support during this review, along with EFINA

Payments are the life blood of an economic system. They enable people to buy goods, purchase water and electricity, and send money to friends, relatives, and business partners. They enable governments to collect taxes and disburse social welfare payments. And they enable suppliers to collect payments from buyers. Economic activity is impeded when these transactions are costly and inconvenient.

Wealthy households live their financial lives embedded in a digital financial system which “greases the wheels” of their economic activity by making it cheap and easy for them to transact. Their money sits in a virtual account as ones and zeroes on a server, where it can be transferred with the click of a button. In contrast, 2.5 billion people – most of them poor – are cut off from that system. They store and transfer value through physical assets, such as cash, jewellery, or livestock. This cash-digital divide creates two mutually-reinforcing inequities in the financial lives of poor households. First, it imposes direct costs on poor households, making it costlier and riskier for them to perform basic financial activities – from sending wages to one’s family to financing an investment in fertilizer. Second, it perpetuates the poor’s marginalization from the formal economy by making it prohibitively costly for utility companies, banks, insurance companies, and other institutions to transact with them.¹

10.1.13 Time-bound

The Initiative Working Groups will be required to define short-term goals that are achievable within a two-year period. The groups will be formally disbanded two years after commencing their work to ensure that the focus remains on achievable targets. CBN will reserve the right to extend the lifespan of the working group should success be proven and further benefits on adoption can be achieved, but for one extra period only and any extension will be an exception, not normal practice

10.1.14 Success Transfer

Nothing breeds success like success. The groups will concentrate on small quick-wins and specific implementations, then publicise the success. Ultimately, the initiatives must be commercially successful, and commercial success will drive further adoption and innovation.

10.2 Agriculture

To develop electronic payment methods to support the Agriculture value chain (inputs through to tertiary production and supply)

10.2.1 Rationale

The Agriculture sector is key to the Nigerian economy and has a value chain that is ideally suited to integration and automation. The rationale for the sector is compelling:

- Agriculture represents 43% of GDP and engages 70% of labour force
- Very high potential for employment generation, food security, poverty reduction and industrialisation
- Strong Federal and State Government focus, huge Local Government potential
- Largest constituency for financial inclusion, with services for KYC Identity enrolment, basic transaction (“no frills”) account, mobile wallet and mobile commerce.
- Nigeria Incentive-based Risk Sharing System for Agricultural Lending (NIRSAL) to de-risk agricultural financing and facilitate low-interest credit
- Opportunity for efficient and transparent distribution of grants and subsidies (e.g. Growth Enhancement Support Scheme of FMARD)

In Malawi farmers who were able to put their harvest proceeds into a commitment savings account invested 26% more in farming inputs, had 22% higher farm revenues, and 17% higher daily expenditure after harvest than those who were not offered an account.¹

10.2.2 Objectives

| | Objective Summary | Metric to measure success |
|---|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | To provide at least one electronic payment alternative to cash for every agriculture payment transaction. | Percentage of enrolled farmers with active prepaid card or mobile money wallet |
| 2 | To use payment channels as primary enablers for financial literacy and consumer empowerment | Percentage of enrolled farmers directly/indirectly aware of available financial service options – savings, remittance, insurance and credit. Sector Financial Literacy Index |
| 3 | To financially include every enrolled farmer | Percentage of enrolled farmers with at least active “no-frills” savings account |
| 4 | To formalize agriculture payment transactions for effective planning and development | Volume and value of agric payment transactions |
| 5 | To be the driver for linking agriculture value chains with finance | Financial services/agric sector integration indicator |

10.2.3 Stakeholders

The Agriculture sector is broad with many stakeholders across the community. The following have been identified as key to a successful venture

| | Banking Industry | User Community | Service Providers |
|---|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------|
| 1 | Banks – Represented by spokesperson of Banks Agriculture Credit Association | Ministry of Agriculture and Rural Development – GES Representative | Mobile Money Operators |
| 2 | Micro-Finance Banks – Represented by spokesperson of Association of Micro-Finance Banks | State Government Agriculture Departments – NGF Agriculture Representative | Card Scheme Operators |
| 3 | Bank of Agriculture | Local Governments – ALGON Agric Rep | Financial Service Agents – e.g. NIPOST |
| 4 | Non-bank Rural Financial Institutions | NIRSAL Secretariat | Telecommunications Companies |
| 5 | CBN Development Finance Department | Commodity Boards | Nigerian Identity Management Commission (NIMC) |
| 6 | Micro finance institutions | Agro-Dealers | |
| 7 | | Farmers Associations | |
| 8 | | Consumer Protection Council | |
| 9 | | Agro-input manufacturers, Agro-output processors, commodity associations | |

10.2.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|-----------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Agriculture Transformation Agenda – Growth Enhancement Support (GES) scheme | High | The GES scheme to build business capacity in the agriculture value chain and enhance efficiency & effectiveness of government support requires the transparency, speed, customer empowerment and process improvement leverage of the electronic payment systems |
| | Rural Finance (RUFIN) initiative | High | Rural Finance Institutions need to hit the ground running with effective payment solutions for both supply and demand side of the business. |
| | Financial Inclusion | High | The payment systems (especially Mobile Money) will deliver the first financial inclusion services, channels and facilitation networks. |
| | National ID | High | Integration with payment services will improve security and authentication. Unique identification is a driver of financial inclusion and enhancement of volume/value of electronic payments |
| | Digital Inclusion | High | Payment systems will scale fast with positive outcomes of digital inclusion |
| | WAMZ/ECOWAS | Medium | Trade finance in the region will receive a boost from payment solutions that support cross-border transactions – improving speed, security and convenience. |

10.2.5 Synergy with FSS2020

Agriculture has a high level of synergy with three of the FSS2020 workstream.

Financial Markets - the development of the Commodity Exchange will be of direct relevance for the value chain.

Insurance - Micro-Insurance will be a valuable service, combined with the activities of NIRSAL and de-risking agriculture lending.

Credit (Micro/SME) - Low-cost credit administration and risk management will be essential as the range of financial services for the sector is expanded.

10.2.6 Risks and Dependencies

| | Dependency and Risk category | Level | Rationale and approach to mitigate risk and dependency |
|----|-----------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Infrastructure | | NFC devices for agro dealers and business correspondents; NFC stickers on National ID or Bankers' ID to facilitate off-line activities |
| 2 | Legal and Regulation | | |
| 3 | Public Awareness | | Ward level awareness campaigns with NOA and Media, Mobile phone broadcasts and e-learning |
| 4 | Resources – people | | |
| 5 | Resources – finance | | |
| 6 | Illiteracy | | Develop special value-adding services to meet needs of the illiterate. |
| 7 | Inaccurate and Incomplete Data | | Update and provide incorrect data on farmers |
| 8 | Bank of Agriculture Infrastructure | | Provide connectivity to all branches/ATM network |
| 8 | Farmer Profile Data accuracy | | Establish a framework for data correction and all year round collection |
| 9. | Communication to farmers & agriculture sector actor | | Develop a harmonized framework for a coordinated communication program to agricultural stakeholders |

10.2.7 Current Status

Two stakeholder meetings have been attended by representatives from government, deposit money banks, consumers, mobile money operators, identity management service providers, development partners, agriculture finance specialists and regulators. An outline action plan covers the following initial steps:

1. Integrate the relevant activity plans for
 - a. FMARD, BOA and Cellulant
 - b. National Identity Management System
 - c. Bankers Committee Identity Management project
 - d. Cashless Economy
 - e. Financial Inclusion initiative
 - f. Some State Government initiatives
 - g. Government e-payments
2. Plan to use the over 5 million farmer data simultaneously provide the following:
 - a. Unique Identification
 - b. "No frills" Savings Account
 - c. Mobile Money Account
 - d. Prepaid Card

3. Submit a proposal to the CBN Committee of Governments for approval to empower Bank of Agriculture to:
 - a. Serve as a shared service hub and mega-agent for banks and payments service providers
 - b. Connect to NIBSS as a tier-two clearing bank
 - c. Maintain basic transaction (“no frills”) savings accounts
 - d. Issue debit and prepaid cards
 - e. Maintain mobile money pool accounts on behalf of mobile money operators
4. Re-convene the Agriculture Finance Officers Forum of Deposit Money Banks to address critical issues relating to payments and credit services to the agriculture sector, with a view to strengthening areas of collaboration and harmonising basic services.
5. Work with DIFID to clearly define key stakeholder roles and profile stakeholders for proper coordination and effective communication.

A consolidated implementation plan, arranged by the AFO Forum, will be presented to CoG of CBN.

10.3 Smart Cities

To develop a cashless model for Smart Cities. The focus will be on both existing cities and “greenfield cities” such as the Eko Atlantic development program to ensure that less cash is used as a means of payment (retail outlets, transportation, and food)

10.3.1 Rationale

The concept of Smart Cities covers all aspects of living and working in the city including transport, employment, accommodation and retail. Focus on Smart Cities is increasing in many countries, not least in Africa. In Lagos, Eko Atlantic represents a green-field site, with no legacy infrastructure to inhibit possible electronic payment solutions. However, such solutions should be designed into the city from the planning stage, not as an afterthought once the infrastructure has been created.

Other drivers include:

- High public visibility (domestic & international)
- Alignment with Eko 'high-tech' brand

The existing programs of Cashless Lagos is currently being extended to six further cities, and this initiative will monitor the progress of further deployment and seek to publicise success stories during the rollout.

This initiative will embed a truly cashless environment within Smart Cities, and will create role models for broader adoption within cities across the country.

10.3.2 Objectives

| | Objective Summary | Metric to measure success |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 1 | To ensure all payments within the Smart City are made via e-channels | % of payments made via e-channels |
| | To ensure all payments within the Smart City are accepted via e-channels | % of payments accepted via e-channels |
| 2 | To ensure all residents have their data integrated seamlessly into the Smart City information hub to easily access facilities or social amenities | % of residents that can access social amenities via already captured data in smart city information hub |
| 3 | To ensure non Smart City residents have restricted access to facilities or social amenities | % of non smart city residents that have had unrestricted access to facilities or social amenities |

10.3.3 Stakeholders

| | Banking Industry | User Community | Service Providers |
|---|-------------------|--------------------------------------|-------------------|
| 1 | Commercial Banks* | Residents* | Telecoms* |
| 2 | MMOs* | Regulators* | Switch* |
| 3 | PSTPs | Investors* | Utility Companies |
| 4 | | Media | |
| 5 | | Auditors | |
| 6 | | Schools | |
| 7 | | Unions/associations | |
| 8 | | Retail Outlets | |
| 9 | | Property Owners (residential/office) | |

10.3.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|---------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Financial Inclusion | High | This level of integration is required for a seamless process of making and accepting payments at different stakeholder levels |
| | National ID | Medium | This level of integration is necessary but the system in place should be flexible enough to accept other verifiable sources of identification. There can be integration with systems developed by the NIMC |
| | Digital Inclusion | High | This synergy is required to support all other initiatives either existing or future by enabling an immediate data capture and proper storage |
| | WAMZ/Ecowas | Medium | The database of the Nigerian Immigration Service can be leveraged on to properly monitor movement of nationals within and outside the west African economic community provided they have properly captured data |

10.3.5 Synergy with FSS2020

Smart Cities has a high level of synergy with all FSS2020 workstreams.

Financial Markets – supports investment decisions in high-cost projects. Drives financial inclusion using comprehensive data (personal identity verification) or provision of financial information

Insurance - drives insurance claims and coverage using comprehensive data

Mortgages - access or verify financial information using comprehensive data in order to drive the home ownership or mortgage payment process

Pensions – helps accurate identification of beneficiaries and seamless pension administration

Credit (Micro/SME) - easily access credit or perform credit checks, and provides access to a fuller range of financial services

10.3.6 Risks and Dependencies

| | Dependency and Risk category | Level | Rationale and approach to mitigate risk and dependency |
|---|------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Infrastructure | High | There should be a realistic assessment on the management of all facilities and supporting infrastructure |
| 2 | Legal and Regulation | Low | |
| 3 | Public Awareness | High | There should be proper awareness with regards to how to maximize or leverage available resources in order to prevent a perceived obstruction of service to all stakeholders |
| 4 | Resources – people | High | There should be proper /clear identification of roles and responsibilities for all stakeholders and how they affect the overall vision. There should also be a proper communication/feedback mechanism to support the entire project idea. |

10.3.7 Current Status

The guiding principle of the for the smart city initiative remains the identification of new and green project without challenges of existing legacy structures, but will also cover existing cities for further development opportunities in line with the primary mandate to enhance electronic payment systems.

Some of the expanded city initiative include working with the municipal authorities to ensure that all approval for mass transit and road toll collections and public car park take into consideration the provision of electronic payment collection devices. This is expected to drive financial payment tool adoption and inclusion and complements the Transportation initiative.

Also there is consideration for the enhancement of internally generated revenue collection with the provision of electronic payment solution and devices. This will work effectively with the initiatives responsible for Government Flows and Bill Payment & Direct Debit initiatives.

New Cities and New Town development country wide are also being incorporated having at least one from each geo political zone to create a model for review and adoption by respective state and municipal governments as the case may be.

10.4 Government Flows

Adoption of end-to-end electronic channels for all forms of salaries, pensions, suppliers individual & business taxes payment and collection of revenues by private and public sector organisations

10.4.1 Rationale

Government flows was a key vertical that formed part of the original PSV2020, and much progress has been made since 2007. Given the dominance of government flows (federal, state and local) in the economy, this initiative will continue. More specifically, this initiative is deemed imperative for the following reasons:

Increased demand for transactional efficiency by public & private sector organisations in all areas of payments & revenue collections.

Government (Federal, State & LGAs) payments account for about 30% of all payment flows by value. If suppliers to the Government receive funds electronically, they are more likely to deal with their other customers and suppliers using electronic payments, thus creating a beneficial knock-on effect.

Attraction of flows from the informal to the formal sector when salaries and pensions are paid to bank accounts rather than the use of cash or cheques

National initiative to improve non-oil revenue through efficient taxes/IGR collection

10.4.2 Objectives

| | Objective Summary | Metric to measure success |
|---|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Improved (highly efficient, cost-effective and secured) payment & collections mechanism | Adoption of end-to-end electronic payment for all forms of salaries, pensions (contributory & funded), suppliers and taxes by: FGN MDAs- December 2013 36 States-June 2014 774 LGAs - December 2014 5,000 private sector organisations-end 2013 |
| 2 | Deepening financial inclusion | Increase in number of individuals, SMEs & other organisations who have access to banking, credit and other financial services FGN/State/LGA Pensioners: 100% to have bank/mobile/card accounts by June 2014 Increase in number of transactions within formal sector as against informal sector Increase in number of access points for financial inclusion |
| 3 | Improved data availability for national planning | Availability of robust database of financial transactions |
| 4 | Improved Revenue Collections by Government Agencies | Electronic remittance of PAYE, WHT & VAT with associated electronic schedules by public & private organisations directly into Government nominated accounts Federal MDAs-end 2013 State Governments/LGAs-end 2014 Private Sector-end 2015 Increase in revenue collection by Federal & State Governments Faster transaction/service processing time by Government agencies due to availability & easy access to payment data Reduction in local cost of borrowing to finance Government's activities |
| 5 | Support for Transparency and Accountability Initiative of Government | Ease of monitoring and tracking payments |

10.4.3 Stakeholders

| | Banking Industry | User Community | Service Providers |
|----|----------------------------------------|---------------------------------------------|-------------------------------------------|
| 1 | Central Bank of Nigeria | Federal MDAs | CBN approved e-payment solution providers |
| 2 | Deposit Money Banks | State MDAs | Switching companies |
| 3 | Mortgage/Micro-Finance/Savings & Loans | Local Governments | |
| 4 | | Federal Inland Revenue Service (FIRS) | |
| 5 | | State Boards of Inland Revenue (SBIR) | |
| 6 | | National Pension Commission (Pencom) | |
| 7 | | Pension Fund Administrators (PFAs) | |
| 8 | | Pension Fund Custodians (PFCs) | |
| 9 | | State Boards of Pensions | |
| 10 | | Independent Pension Administration Agencies | |
| | | Private Sector Organisations | |
| | | National Housing Fund (NHF) | |
| | | National Health Insurance Scheme (NHIS) | |
| | | Federal/State Housing Loans Boards | |
| | | Federal Allocations & Accounts Committee | |

10.4.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|---------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Financial Inclusion | High | Very low number of persons with access to banking/financial services due to cash payment Electronic payment of salaries/pensions/suppliers into bank accounts at DMBs and OFIs, electronic cards or wallets will significantly increase banked population and by extension access to financial services |
| | National ID | High | National ID is still being piloted Multi-channel electronic payment lays the foundation for extensive data gathering, aggregation, profiling and identity |
| | Digital Inclusion | Medium | Preponderance of manual operational and payment processes Electronic payment naturally facilitates data inclusion through the use of multi-digital access and payment mechanisms (web, mobile, cards, POS, etc.) |

10.4.5 Synergy with FSS2020

Government Flows has a high level of synergy with three of the FSS2020 workstream.

Mortgages - Difficulty in profiling and processing mortgages due to absence of easily verifiable financial records and financial assets.
Availability of easily verifiable regular earnings records against which mortgages can be issued
Difficulty in remitting monthly mortgage contributions to the Federal Mortgage Bank who operates the national mortgage scheme
Easy and timely remittance of contributions and repayments with associated electronic schedules for immediate update of contributors/lenders' records
Ease of recovery of mortgage loans through electronic remittance of funds at the point of salary/pension payment
Increased mortgage funds pool made available through efficient remittance of contributions and repayments

Pensions - Funded Pension scheme beneficiaries are currently subjected to diverse pains in getting monthly pension.
Direct payment into verified bank accounts/cards/mobile wallets will eliminate this.
Manual/semi-manual remittance of contributory pension funds with disjointed forwarding of manual contributors' schedule has created a huge pool of un-reconciled funds that is sitting idle and cannot be invested or credited to contributors' Retirement Savings Accounts (RSA)
Direct remittance of funds & associated electronic schedules to PFAs & will fully address this

Credit (Micro/SME) - Non-availability of reliable and accessible database of regular income earners against which micro-credits can be granted.
Direct payment of salaries, pensions and supplier payments into bank accounts/cards/mobile wallets will provide a reliable database of regular income earners to which micro-credits can be granted

10.4.6 Risks and Dependencies

| | Dependency and Risk category | Level | Rationale and approach to mitigate risk and dependency |
|---|------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------|
| 1 | Infrastructure | Medium | Access to transaction points needs to be improved. Minimum infrastructure requirements to be provided by Organisations |
| 2 | Legal and Regulation | High | Electronic Payments bill needs to be passed to give more comfort to users. |
| 3 | Public Awareness | High | There must be high visibility to encourage adoption. CBN to activate comprehensive promotion plan |
| 4 | Resources – people | High | Project Team at CBN to be beefed up to support implementation phase |
| 5 | Resources – finance | Low | Very low barrier to compliance as newly revised tariffs greatly encourage adoption |

10.4.7 Current Status

The adoption of end-to-end electronic payment of all forms of salaries, pensions (contributory & funded schemes), suppliers and taxes by government and private sector organisations has witnessed a number of successes as well as challenges from the inception of the initiative in 2007 to August 2013.

a. Consolidation of 3 Working Groups & Operational Guidelines: Salaries & Pensions, Taxes and Government Supplier Payments working groups which existed at the onset of the NPSV 2020 program in 2007 have been harmonised into a single group to give stronger focus and coordination to the initiative.

The revised harmonised operational Guidelines to regulate the end-to-end electronic payment of all forms of salaries, pensions (contributory & funded), suppliers and taxes is expected to be available by September 2013.

b. Presidential Directive on commencement of end-to-end e-payment by all MDAs from January 1, 2009: The Presidential directive has significantly accelerated the adoption of end-to-end e-payment at the Federal level. Initial challenges have been overcome and as at August 2013, about 300 MDAs make salaries, pensions, suppliers and taxes payments directly into beneficiary accounts at DMBs, PMIs, Microfinance banks, etc. through an end-to-end payment solution infrastructure deployed by Government. All other MDAs have a deadline of December 2013 to migrate to the end-to-end e-payment platform.

The FGN through the office of the Accountant General of the Federation is set to commence the electronic collection of all Government revenue directly into Government nominated accounts before December 2013.

c. State and Local Governments adoption: There's been a trickledown effect of the FGN directive as many States and Local Governments have adopted end-to-end electronic payment. Initial focus has however been on salaries and pensions payment with a number of success stories which can be built on to extend the initiative to cover suppliers and taxes payment as well as revenue collections. Plan is to leverage the national cash-less initiative to deepen the message and encourage further adoption by States and LGAs.

d. Private Sector Adoption: There has been a modest adoption of end-to-end e-payment by private sector organisations over the last 3 years. Adoption has been further fuelled by the nationwide cash-less policy started in Lagos State and now extended to 5 other States + FCT.

CBN has commenced collation and plans to publish by December 2013 indicative data on adoption and growth of the different components of the initiative.

e. Taxes Payment: As at August 2013, end-to-end electronic deduction and remittance of taxes directly into the collecting account of FIRS at CBN is being done by about 300 Federal MDAs. Other Federal MDAs are expected to achieve this by December 2013.

Apart from Federal MDAs, tax remittance to FIRS and States Board of Internal revenue is still largely done through an “e-manual” process which involves visit to banking halls, issuance of manual cheques, paper-based remittance advices and schedules to banks for crediting of the accounts of the tax agencies.

Discussions are on-going with FIRS and JTB to ensure deduction and end-to-end electronic remittance of all tax types can be made from the comfort of public and private sector payers' offices directly into nominated bank accounts of tax collecting agencies with delivery of associated electronic schedules.

f. Increase in number of CBN licensed e-payment solutions: There are more CBN licensed end-to-end e-payment solution providers than at the inception of the initiative in 2007. Benefits of this to the user community include; expanded solution and service offerings, competitive pricing, integration with Payroll, Accounting, ERP and Tax Management systems, promotion of local ICT content program of Government, etc.

g. Promotion & Enlightenment: The CBN facilitated a nationwide promotion and enlightenment program on e-payment of salaries, pensions, suppliers and taxes across the six geo-political zones of the country between 2011 and 2012. The CBN is however working on the development of an integrated promotion program which is expected to leverage lessons learnt from the promotion efforts of the different working groups to come up with a single promotion platform to prevent conflicting and unrelated messages going out to the public.

h. Payment Channels Extension: Traditionally, payments of wages, salaries and pensions have been made to bank accounts held in DMBs. Expanded offerings from service providers coupled with financial inclusion objectives and the interplay of different payment schemes have presented new opportunities to extend payment to alternative channels such as mobile wallets and electronic purses and cards.

i. Systems Integration: The Federal Government GIFMIS/TSA initiative has proven that the integration of licensed e-payment solutions with in-house accounting, payroll, pension, ERP can significantly eliminate manual payment processes and accelerate adoption of end-to-end e-payment. There are also a number of success stories in the private sector and this approach will be actively promoted under going forward. The same recommendation is

applicable to tax collecting agencies to ensure deduction of taxes at source, easy remittance of deducted taxes with associated electronic schedules, automatic update of tax payers' records and significant reduction in paper based documents and reconciliation challenges can be easily achieved.

The Government Flows Initiative objective is to work with all stakeholders to ensure full adoption of end-to-end e-payment and collections by 2015.

10.5 Hotels and Entertainment

To work with key pilot hotels and other key entertainment venues such as restaurants, cinemas, sports centre to promote 'cashless initiative'

10.5.1 Rationale

Hotels and entertainment is a relatively niche segment, but the closed environment makes it an attractive sector for quick wins and success transfer. These establishments are also frequented by the international traveller, and world-class solutions in this vertical will enhance the image of Nigeria as the place to do business in Africa. The rationale is driven by:

- Small eco-systems with potential for high impact
- Create branded solutions – good PR for hotel
- Promotes technology and improve market perception to international travellers and tourists.
- Link to telecoms and other technology
- Small initiative – success transfer

10.5.2 Objectives

| | Objective Summary | Metric to measure success |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | To promote the acceptance of multiple electronic payment methods (domestic payment cards, international payment cards, mobile money) for payment for goods and services at all payment points in the concerned establishments | Number of electronic methods acceptable in each establishment Number of card payment devices deployed in the target establishments Percentage of sales settled by electronic means |
| 2 | To promote the adoption of on-line booking facilities backed by electronic payment means such as credit/debit cards | Percentage of sales made and paid via online bookings |
| 3 | To obtain the buy-in of relevant organisations – tourist boards, state government, entertainment regulatory bodies – in the use of payment devices | Number of establishments accepting Number of hotels accepting all domestic and international cards in target locations |
| 4 | Include the adoption of electronic payment as part of the standards for recognising a hotel by the industry e.g. tourist board accreditation | Tourism Board to include deployment of electronic channels as condition for 'certification' |
| 5 | To promote the use of electronic means – e.g. electronic transfers, for the settling all account payments (staff salaries, vendors), instead of cash | Percentage of vendor, salaries and other establishment payments done electronically |
| 6 | Demonstrate the adoption of integrated digital processes, incorporating electronic payments, as a means of helping business owners in the sector to have improved control over business operations, improve business cash flow and reduce leakages | Number of establishments adopting digitalisation, incorporating electronic payments, in their operations |
| 7 | Help operators provide multiple, convenient, and secure means of paying for goods and services in the establishments | Number of payment channels deployed in a typical establishment |

10.5.3 Stakeholders

| | Banking Industry | User Community | Service Providers |
|---|-----------------------------------------------------|---------------------------------------------------------|-----------------------------------------------|
| 1 | All banks (cards issuers and transaction acquirers) | General Public | Card scheme operators |
| 2 | | International Travellers and Tourists | Mobile money operators |
| 3 | | Local Traveller and Tourists | EPOS and Hotel Back Office Solution Providers |
| 4 | | Hotels, Restaurants, Entertainment Centres | eCommerce portal providers |
| 5 | | Hotel, Restaurant, Tourist and other Trade Associations | ISPs |
| 6 | | State Tourism Boards | |

10.5.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|---------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------|
| | Financial Inclusion | High | Promotes use of alternative payment channels such as cards and mobile money thus furthering the objectives of financial inclusion. |
| | Digital Inclusion | High | Supports the drive for flow digitization as a key market trend, |
| | WAMZ/Ecowas | Medium | Less use of cash and improved acceptance of cards and other payments channels across the sub-region. |

10.5.5 Synergy with FSS2020

Hotels and Entertainment has a high level of synergy with one of the FSS2020 workstream.

Financial Markets - Consistent with objectives of Cashlite policy; promotes payment efficiency and reduces cost of doing business

| | FSS2020 Theme | Level of support | Rationale and approach to support the theme |
|--|-----------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Deepening | High | Deepens financial inclusion and promotes payments system efficiency. |
| | Economic Growth | High | Promotes payment system efficiency and improves velocity of flow of money in the system. Use of multiple booking channels will increase sales volume and improve upfront cash inflow to establishments. Improved quality of transaction statistics for the industry. |
| | International | High | Drives and promotes international best practices and consequently perception of the hospitality industry and country at large. |

10.5.6 Current Status

The Hotels and Entertainment Initiative is heavily reliant on getting key user community stakeholders (hoteliers and restaurateurs) to see the benefits of incorporating multiple electronic payment channels in their operations. This may need to be backed by regulatory bodies.

The work of the initiative so far has been concentrated on engaging selected establishments and trade associations on the initiative, as well as State Tourist Boards (who have responsibility for licencing operators)

A series of workshops and interactive sessions are being proposed with selected State Tourist Boards on how elements of the initiative can be incorporated into their policies

Small focus groups are also being proposed for hotels and service providers to explore the implementation options that are available, and the ones most suitable for each business

10.6 Transport

Develop strategies for getting the public to pay for (inter-city and intra-city) transportation electronically. A Pilot implementation could be organised with companies such as BRT, ABC Transport, Danfo operators, Taxi operators (such as Yellow Cab, Red cab)

10.6.1 Rationale

Transportation is used regularly by all sectors of the community. The payment flow tends to be low value but very high volume and is currently dominated by cash transactions. The rationale is clear:

A closed eco-system accepting dedicated payment cards and/or normal payment cards
Good public awareness

Minimises leakage in the payment flows by removing cash as a means of payment.

Easier to offer incentives for electronic versus cash.

Pilots publicised as model implementation to attract the interest in transportation business

10.6.2 Objectives

| | Objective Summary | Metric to measure success |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| 1 | To demonstrate that cash-less concepts apply in the transport sector | Increasing adoption of electronic payments over cash |
| 2 | To show that electronic payments has benefits for the transport sector in cost savings, safety, and bottom-line | Pilot implementation |
| 4 | To articulate different areas of the transport sector where electronic payment is applicable – vehicle purchase, hire purchase management (e.g. direct debits), passenger payments, fuel purchase, insurance. | |
| 5 | To engage different transport stakeholders in publicity/enlightenment programmes | Number of industry stakeholders engaged. |
| 6 | To generate statistics that are relevant to transport sector, to facilitate electronic payment adoption trends | Periodic release of transport sector statistics |
| 7 | To articulate incentives for electronic payment consumers, to grow adoption e.g. discounts for e-payment based passenger payments | Adoption rate |
| 8 | | |

10.6.3 Stakeholders

| | Banking Industry | User Community | Service Providers |
|---|---------------------------------------------------------|-----------------------------------|------------------------------------------------------------|
| 1 | CBN | Consumer Rights Protection Agency | Banks |
| 2 | All Banks as issuers of payment tokens | Taxi Drivers association | Processors |
| 3 | All Banks as acquirers of electronic transport payments | Transport Owners Association | Switches |
| 4 | | Transport Employees Association | Nigeria Central Switch |
| 5 | | Petrol stations | NIBSS (settlement) |
| 6 | | Air Travel industry | Card Schemes, Mobile Payment Operators |
| 7 | | Auto dealers | EFInA |
| 8 | | | FRSC |
| 9 | | | Federal Ministry of Transport; States Transport ministries |

10.6.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|---------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Financial Inclusion | High | The unbanked can easily be won over (to e-payment and banking) through the transport system e.g. transport system has great potentials to attract the unbanked to prepaid cards, mobile payments, NFC payments etc. |
| | National ID | Medium | Linkage with the National or bank-led ID scheme would increase the attractiveness and adoption rate within the transport sector |
| | WAMZ/Ecowas | Medium | Cross-border travel is a substantial industry. |

10.6.5 Synergy with FSS2020

Transport has a high level of synergy with one of the FSS2020 workstreams:

Financial Markets - Payment s is an integral part of transport system. Adoption of electronic payments in transport business will help to grow electronic payment adoption in other facets of life

| | FSS2020 Theme | Level of support | Rationale and approach to support the theme |
|--|-----------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Deepening | High | Everyone uses the transport system. The success of this initiative will help in shifting paradigms from cash to non-cash in other aspects of life |
| | Economic Growth | Medium | Success of this initiative will enhance economic growth as it will help to deliver electronic payments benefits in the country – convenience, higher velocity of money, enhanced revenue for investors in transport business, etc. |
| | International | Medium | Success of this initiative will attract foreign investment to the transport sector. |

10.6.6 Risks and Dependencies

| | Dependency and Risk category | Level of risk or dependency | Rationale and approach to mitigate risk and dependency |
|---|------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Infrastructure | High | Explore different e-payment platforms and technologies to identify those suitable for the transport sector |
| 2 | Legal and Regulation | Low | CBN Guidelines are sufficient. Also consult relevant guidelines of the Federal Transport ministry |
| 3 | Public Awareness | High | Transport sector is large. An articulate public awareness programme is required to run an effective public awareness programme. Services of advert/marketing agencies required. |
| 4 | Resources – people | High | A lot of Leg work is required. Advert/marketing companies should be involved. |
| 5 | Resources – finance | High | Substantial funding is required to run an effective implementation |
| 6 | Viability/Profitability | High | Service providers would not show interest in transport sector if the business is not commercially viable for them. A cost recovery analysis should be articulated to eliminate all doubts. |

10.6.7 Current Status

10.6.7.1 Identification of Partner Institutions.

Partner organisations, with clear stakes in the transport sector, are being identified for a joint collaboration towards achieving the objectives of this initiative. A number of banks, payments service providers (NIBSS,e-Rvenue Gateway Ltd, Unified Payments Services Ltd, Fortis Mobile) and financial advocacy groups such as EFInA have all expressed interest. The Transport Initiative Working Group, comprising Representatives of these institutions, shall meet shortly to deliberate on and agree the work plan.

10.6.7.2 Data Gathering

In the meantime environmental scanning is going on to identify ongoing electronic payment initiatives in the transport sector. Some identified initiatives follow:

- Fortis Mobile** - Fortis Mobile (of the licensed MPOs) is piloting mobile payment with ABC Transport, and is at the verge of signing agreement with FRSC for managing penalty payments with Mobile wallets.
- LCC Toll payment** - e-Tag cards (tap and go) have been introduced at the Lekki-Epe Expressway toll gates.
- LTC Toll payment** - e-Tag cards (tap and go) have been introduced at the Lekki-Ikoyi bridge.
- LAMATA** - The Lagos State transport company, LAMATA, has been piloting e-ticketing since 2011 and rolled out operations in early 2013. The technology is based on NFC contactless (tap and go) card payments, with NFC readers installed in buses.

LAMATA has provided incentives by making e-ticketing cheaper for transport payment than cash e.g. certain routes cost N20 with e-ticket instead of N70 with the manual ticket.

The major objective of LAMATA's e-ticketing system is to provide convenience for commuters while drastically reducing revenue loss associated with cash payments for transportation.

10.6.7.3 e-Transport Blueprint

This document is being put together to provide the transport stakeholders with direction for the implementation of electronic payments initiatives in the transport sector. It shall serve as a reference document for ideal implementations, as it explains the applicable payment systems in the transport sector, and provides tips on best-practice implementation for best value derivation.

10.7 Health

To provide solutions that supports the provision of personal and medical information and payments for health and medical services

10.7.1 Rationale

Provision of cost effective health services to all segments of the community is one of the key requirement in any society, and creating lower cost of funding and paying for health provision will provide significant benefits to all:

Provides an anchor for the success of the National Health Insurance Scheme which currently covers 6% of Nigerians (10 million).

Strong synergy with financial inclusion, digital identity and social development programs. Help to achieve MDG on health like reduction in child mortality rates from 10% to 3.5%

The Sector requires periodic payments for services – such flows are well suited for automation.

10.7.2 Objectives

| | Objective Summary | Metric to measure success |
|---|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 1 | To improve effectiveness of policies for the health sector | MDG Health goals |
| 2 | To provide a payment and information sharing platform for the National Health insurance Scheme | Number of HMOs and States using the infrastructure |
| 3 | To ensure all activities conducted in the sector is aligned to the cash less initiative and FSS2020 | Improved Volume and value of electronic transactions being processed. Cost of transaction and Efficiency of processes |
| 4 | To enhance effectiveness by ensuring people paying for insurance are easily identified and serviced | Number of enrollees being served |
| 5 | Provide a financial trend analysis to aid planning and decision making based on financial value for the sectors | Central and consolidated repository of data that can be mined for different reporting, investigative and statistical purposes. |
| 6 | To build financial transaction transparency in the sectors | Tracking of payments/collections, aids, grants and subsidies |

10.7.3 Stakeholders

| | Banking Industry | User Community | Service Providers |
|---|-------------------------------------|----------------------------------------|-----------------------------------------------|
| 1 | e-Banking Units | Hospitals/Schools managements | Internet Service Providers (ISPs) |
| 2 | Settlement and Reconciliation units | HMOs/insurance | Payment Terminal Service Providers (PTSPs) |
| 3 | Information Operations (IT units) | Relevant MDAs | Nigeria Inter-Bank Settlement Systems (NIBSS) |
| 4 | Relevant regulators | End-Users (Students, Patients) | Telecommunication Industries |
| 5 | | Agents, vendors, NMA | Third Party Application developers |
| 6 | | State Governments/Ministries of Health | Hospitals |

10.7.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|---------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| | Financial Inclusion | High | The under-banked strategy will aid the adoption of this new payment platform. |
| | National ID | Medium | Re-orientation of end-users will be required to link registration for payments to National ID |
| | Digital Inclusion | Medium | The Biometric data capture drive by FGN can be used centrally to authenticate users and also provide rebate based on government policy drives |

10.7.5 Synergy with FSS2020

Health has a high level of synergy with three of the FSS2020 workstream.

Financial Markets - Increased transparency in the sectors will boost customer confidence and led to higher investments

Insurance - Financial value of risk can be near accurately estimated and mitigated. Support the expansion of the Health Insurance market

Pensions - Schemes can be developed to provide adequate care for the aged, pregnant women, children utilizing mined data

| | FSS2020Theme | Level of support | Rationale and approach to support the theme |
|--|-----------------|------------------|---------------------------------------------------------------------------------------------------------------|
| | Deepening | Medium | The initiative will aid in building an integrated infrastructure for the health and educational sectors. |
| | Economic Growth | Medium | The platform will have provisions to international markets and proper tracking of aids, grants and subsidies. |
| | International | Medium | The solution will create appropriate and consistent awareness that attracts a positive image for Nigeria. |

10.7.6 Risks and Dependencies

| | Dependency and Risk category | Level | Rationale and approach to mitigate risk and dependency |
|---|------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Infrastructure | High | Service providers should be duly consulted and their input implemented where possible; telecommunication and power are highly central to the overall success |
| 2 | Legal and Regulation | High | Appropriate legal structures should be defined to ensure the implementation of the initiative sails seamlessly. |
| 3 | Buy-in by Stakeholders | High | The Ministries of Health, HMOs and hospitals must be convinced from the onset that this will provide efficiencies and reduce cost for them. |
| 4 | Resources – people | High | Admin personnel will require training to ensure that the service is used to satisfy the objectives of the initiative |
| 5 | Resources – finance | High | The acquisition of the equipment for the deployment of the e-channels will require some finances. The financial demands should be properly communicated to all stakeholders |

10.8 Education

Design and development of an EFT system which utilizes multiple channels in processing electronic payments that supports the educational ecosystem with components such as grants, scholarships, consultancy services, Internally Generated Revenue (IGR), Research and Publications, TETFunds in addition to tuition and administrative fees

10.8.1 Rationale

Virtually all households and families are involved in the education sector. The financial flows such as fees and grants require supporting information. The sector will benefit hugely from automation of processes:

Over 46% of the Nigeria's population is between ages 4 and 24. These represents the median age range for schooling in the country (World population Prospects 2008)

Absence of a general repository of Information framework for Nigerian students.

Lack of standardized format for financial exchange in the educational sector

Huge volume of Cash flow in the education sector

Reduction in the cost of processing and handling cash.

Relatively strong synergy for financial inclusion, digital identity and social development programs

Periodic payments for services that are well suited for automation

Provision for increased transparency in the educational sector

10.8.2 Objectives

| | Objective Summary | Metric to measure success |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | To increase adoption and use of electronic payment options (mobile, Web, POS). | Percentage of schools enrolled on an electronic payment platform for collection and disbursement of fees. Percentage of their financial transactions passed through the channel. |
| 2 | Creation of an open standard for exchange of financial information. This will aid Unification of financial reporting structure for the Educational sector. | Percentage adoption of this reporting standard. Historical report of aggregated reports from all banks for each financial institution |
| 3 | To link up educational value chain with the finance sector | Exposes benefits of the value chain in the educational ecosystem to financial institutions to promote better collaborations. Cost of transaction – cost of handling/processing, cost of providing security for cash movement, etc. Efficiency of processes – reduction in time for executing some activities |
| 4 | To use the payment channels to provide financial trend analysis to aid planning and decision making based on financial value for the sector | Central and consolidated repository of data (DBMS) that can be mined for different reporting, investigative and statistical purposes. |

10.8.3 Stakeholders

| | Banking Industry | User Community | Service Providers |
|---|----------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 1 | All financial Institutions | Schools managements | Internet Service Providers (ISPs) |
| 2 | CBN | Ministry of Education (State & Federal) and Relevant MDAs | Payment Terminal Service Providers (PTSPs) |
| 3 | | National University commission, Regulators of Polytechnics, Monotechnics and Colleges of Education | Nigeria Inter-Bank Settlement Systems (NIBSS) |
| 4 | | End-Users (Students, Sponsors) | Telecommunication Industries |
| 5 | | Agents, vendors | Third Party Application developers |

| | Stakeholder | Potential benefit |
|---|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | User Community | <p>Reduction in fraudulent management of cash by handlers in the institutions and students</p> <p>Electronic direct payments will enhance transparency and improve collection process to reflect the volume and value of collections</p> <p>Reduction in the cost of transactions as well as improved reconciliation</p> <p>Improve data workflows through integrations thus enhancing information processing for timely retrieval or reporting</p> <p>Convenient modes of payments and collection anywhere anytime</p> <p>Centralization of data will improve the availability of records across different levels of institution that make ease for statistical evaluations, physical planning, subventions, grants, investigations, bursaries, IGR .</p> <p>Standardization of aggregated reports that cuts across all banks being used by the educational institutions</p> |
| 2 | Banking Industry | <p>Support for the cashless program</p> <p>Better understanding of the value chain in the sector thus promoting collaboration and financing</p> <p>Improve cost of transaction processing and increased deposit base</p> <p>Opportunity for the financial institutions to develop better products and services specifically suited for the educational institutions because of better relationship.</p> |
| 3 | Service Providers | <p>Improve revenue</p> <p>Challenge to providing quality of service across the country with respect to telecom</p> <p>Challenge to providing standard solutions to drive the program to its effective success.</p> <p>Challenge of maintaining the infrastructure that will be available to all institutions 24/7.</p> |

10.8.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|---------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| | Financial Inclusion | High | The under-banked strategy will aid the adoption of this new payment platform. |
| | National ID | Medium | Re-orientation of end-users will be required to link registration for payments to National ID |
| | Digital Inclusion | Medium | The Biometric data capture drive by FGN can be used centrally to authenticate users and also provide rebate based on government policy drives |

10.8.5 Synergy with FSS2020

Education has a high level of synergy with three of the FSS2020 workstreams.

Financial Markets - Increased transparency in the sectors will boost customer confidence and lead to higher investments

Insurance - Financial value of risk can be near accurately estimated and mitigated

Credit (Micro/SME) - Transparency and availability of data will aid increased disbursement of funds to Micro/SME working within the educational sectors.

| | FSS2020Theme | Level of support | Rationale and approach to support the theme |
|--|-----------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Deepening | Medium | The initiative will aid in building an integrated infrastructure for the educational sector while deepening a culture of financial inclusion |
| | Economic Growth | Medium | The ability to generate aggregate reports will aid effective and proper decision making that could build up the educational ecosystem. |
| | International | Medium | The solution will create appropriate and consistent awareness that attracts a positive image for Nigeria and possibly aid in the influx of aids and grants |

10.8.6 Risks and Dependencies

| | Dependency and Risk category | Level of risk or dependency | Rationale and approach to mitigate risk and dependency |
|---|------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Infrastructure | High | Service providers should be duly consulted and their input implemented where possible; telecommunication and power are highly central to the overall success |
| 2 | Legal and Regulation | High | Appropriate legal structures should be defined to ensure the implementation of the initiative sails seamlessly. |
| 3 | Public Awareness | High | Enlightenment campaigns to educate the public, relevant institutions, associations and agencies on the advantages and process of executing their transactions electronically. This is required to increase public adoption. |
| 4 | Resources – people | High | Admin personnel will require training to ensure that the service is used to satisfy the objectives of the initiative |
| 5 | Resources – finance | High | The acquisition of the equipment for the deployment of the e-channels will require some finances. The financial demands should be properly communicated to all stakeholders |
| 6 | Relevant Associations | High | Buy-In of important stakeholders (ASUU, NASU, ANCOPS, MDAs, etc.) should be gotten to ensure acceptability and usability of platform. |

10.8.7 Current Status

A survey has been conducted through conversations and questionnaires on the views of a collection of stakeholders especially in the areas of scheme providers. Feedback includes the need to:

Provide standardised payment information to feed into a larger database,

Offer flexibility in the mode of payments to allow for the use of card based and none card based payment options to students and parents noting that the current schemes already making some form of electronic collections have not totally eliminated the use of cash

Demonstrate values to open up the services to other potential entrants into the payment schemes

Extend to the possibility of promoting subscriptions to school portals to accommodate schools that may not be able to afford their own portals

Offer flexibility in the areas of payment modes to include instalment payment of school fees having the likeness of electronic bills or receipt processing; recognize the place of information protection

Above all to keep it SIMPLE.

Current solutions exist but in a very low scale with very few schemes taking advantage of the value propositions. The current approach is viewed to have embraced the cashless definition in relative terms as an amount of cash is still involved. To keep it simple and demonstrate a level of success testimonial, whatever approach currently being adopted by scheme operators would remain and considered as the first phase of the initiative while modifications to introduce flexibility to the use of card and non-card modes of payment, instalment payment and other features should be driven in subsequent phases.

The importance of creating awareness partially on the part of the institutions that cut across primary, secondary and tertiary and opening the frontiers for more service providers to join the schemes accordingly cannot be over emphasized. It is a scenario of plenty harvest but fewer laborers when we talk of a nationwide implementation space.

The next step would be dealing with a small sample - taking a cursory review of a state (Lagos State is considered) collaborating with both the private and public institutions, scheme operators and relevant stakeholders to determine the level of adoption within the state, success stories and the derived value to embracing the cashless initiative; these confirmations will feed into the proposed awareness campaign expected to be promoted by CBN.

10.9 Direct Debits and Bill Payment

To drive to conclusion the current initiative for Bill Payment by building on the significant improvements to the Direct Debit programs by increasing usage of Bill Payment programs across suitable industry segments such as insurance, pensions, telecommunications, Cable TV and utilities

10.9.1 Rationale

Bill Payments represents predictable and regular flows of payments that are ideally suited to automation. This initiative continues the successful work to date under the original PSV2020 publication:

The current initiative has been successful in implementing a more robust offering for direct debits.

Regulatory framework has been established for all stakeholders

It is important to realise the commercial success by a program of deployment of bill payment solutions and public awareness of direct debit as a payment method

10.9.2 Objectives

| | Objective Summary | Metric to measure success |
|---|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1 | Resolve mandate activation issues with banks. | Continuous reduction in number of returned direct debit items. |
| 2 | Resolve issues related to banks insisting on confirming each debit request received. | Same as above |
| 3 | Eliminate delays in upload/update of mandates by banks | Same as above |
| 4 | Grow usage through aggressive sensitization and publicity of benefits of automation of bill payment processes. | Growth in number of Direct Debit transactions. |
| 5 | Encourage billers to institute incentives to drive adoption of DD. | Growth in number of billers on-boarded by PSPs / Banks |

10.9.3 Stakeholders

| | Banking Industry | User Community | Service Providers |
|----|----------------------------|--------------------------------------------------------|-------------------|
| 1 | All DMB's in the industry. | Telecom/ISPs/Data Service Organizations | NIBSS |
| 2 | | Insurance Companies | E-tranzact |
| 3 | | Water and waste management boards of State Governments | Interswitch |
| 4 | | Power and Postal services | SystemSpecs |
| 5 | | Pensions and Investment funds | Others |
| 6 | | Cable/Satellite TV providers | |
| 7 | | Mortgage Institutions | |
| 8 | | Professional Organizations | |
| 9 | | Co-operatives | |
| 10 | | Clubs and Associations | |

10.9.4 Synergy with other initiatives

| | Initiative | Level of synergy | Rationale and approach to leverage synergy |
|--|---------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Financial Inclusion | Medium | DD can be and should be applicable to wallet accounts as well. It will leverage the development of mobile money and improve access to services in a convenient and efficient manner to the hitherto unbanked. |
| | National ID | Medium | A consequence of the National ID Scheme is the promotion of account opening (virtual/real) which in turn promotes bill payment via DD. |
| | Digital Inclusion | High | Supports digitization effort through dematerialization of cash in the transaction process. |

10.9.5 Synergy with FSS2020

Bill Payment and Direct Debit has a high level of synergy with all of the FSS2020 workstreams and is a core service to the following three streams:

Insurance – the most efficient method for collection of insurance premiums is via direct debit. Embedding this collection method as an acceptable means for paying premiums should drive down the overall cost, and therefore increase access to insurance services.

The same rationale applies to the **Mortgages and Pensions** workstreams

10.9.6 Risks and Dependencies

| | Dependency and Risk category | Level | Rationale and approach to mitigate risk and dependency |
|---|------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Infrastructure | Low | Process automation requires investment in technology infrastructure by stakeholders such as Payment Service Providers and Banks. The good news is that the investment has been made thus risk has been well contained. |
| 2 | Legal and Regulation | Medium/low | Regulations already in place with oversight provided by the Central Bank. Structure in place for handling customer complaints and dispute resolution. CBN must be seen to be more visible in its support for the adoption of this channel. |
| 3 | Public Awareness | High | This is a critical dependency as billers and users need to be assured of their protection under the scheme. The confidence drive must necessarily start from clear communication of the support of the regulators. Collaboration with the FSS2020 identified as key channel to push sensitization. |
| 4 | Resources – people | High | Stakeholders buy-in is a critical success factor for this initiative. To increase adoption requires confidence and incentives to change buying behaviour. These are people related and thus a most high dependency. This risk is the most critical and will be given the most focus at this implementation stage. |

10.9.7 Current Status

The focus for this pre-existing working group has been sensitisation and public awareness. The following steps are in progress and are being driven by the working group:

- To publish the developed FAQ on the CBN website. This has been submitted but is awaiting final approval and implementation by the Media and Communication Department.
- To directly engage identified Industry Segments to drive adoption of Direct Debit for collection of subscriptions. The following segments were identified for this purpose:

Professional Organizations
 Cooperative societies
 Insurance Companies
 Telecommunication companies
 Pensions
 Mortgage Institutions
 Clubs and Associations.

The format of the letter has been developed and agreed with the following elements:

Background of Initiative provided
 Benefits of adopting direct debit for collections highlighted.
 Request for invitation to present noted as well. The plan is to engage service providers to drive the engagement process when such invitations are received.
 A copy of the Direct Debit FAQ to be attached to the letter.

- The sensitization letter have been dispatched to 25 organizations as follows:

| | |
|---------------------------|----|
| Professional Associations | 17 |
| Labor Unions | 1 |
| Social Clubs | 7 |

This will be a continuing effort focused on covering a good cross-section of all the identified industry segments.

11 Capacity Planning and Awareness

It is clear from the recommendations in his document that the Nigeria Payments Systems will be taking another huge stride towards being *Internationally Recognised*. There is a strong requirement to increase both the depth and breadth of all implications of regulation, oversight, compliance, operation and participation across the stakeholder community.

It is proposed that the CBN Learning Institute and its partners create a full program of modules to provide appropriate training to all levels and all stakeholders. At the heart of the program will be the PFMI, but the specific modules will drill down to sufficient detail to allow participants to fully appreciate the implications and responsibilities of their role in the overall payments landscape.

A provisional foundation course outline is given below, based on three one-week modules. It is expected that individual elements of the program would be provided for participants that do not require the full detail of the one-week module.

11.1.1 Module 1 – The Payments Landscape

How Money Moves

High Value Payments (RTGS)

ACH (Credits and Debits)

Cheques

Cards

Mobile

Regional Payments (WAMZ and Ecowas)

International payments (Correspondent Banking)

The Unofficial Markets

Principles of Clearing and Settlement

RTGS vs DNS systems

Clearing vs Settlement

Examples of schemes in different countries

Ensuring Settlement finality

Liquidity and Liquidity Saving Mechanisms

Credit and Use of Collateral

Principles of Settlement

Defaulter Pays vs Survivor Pays

'Lender of Last Resort'

Summary of BIS/IOSCO PFMI

SWIFT

SWIFT role in Payment Systems

SWIFT Services

SWIFTNet FIN (Message Types and Formats)

SWIFTNET FileAct and File Formats

SWIFTNetInterAct

SWIFTNet Browse

Other SWIFT Services

Organisational Structure

Market Trends

Digital Money

Mobile Payments

Financial Inclusion

Regulation

11.1.2 Module 2 – Financial Market Infrastructure

| | |
|------------------------------------------|-------------------------------------------|
| The User Community and User Requirements | SME |
| Government | Retail |
| Corporate | Securities Markets |
| Typical Commercial Bank Products | Clearing and the Role of a Clearing House |
| Payments | Centralised Counterparty |
| Receivables | Role of CSD |
| Liquidity Management | Settlement and DVP |
| Information Services | FX Markets |
| Asset Classes (summary only) | Principles of FX |
| Equities | Trading, Confirmation, Settlement |
| Money Market | CLS for FX Settlement |
| Fixed Income | Principles of CLS |
| Derivatives | Operational Flows |
| Securities Markets | CLS Organisation |
| Market Infrastructure | |
| Trading (On-exchange, Off-exchange) | |

11.1.3 Module 3 – Regulatory and Legal Framework

| | |
|----------------------------------------------|----------------------------------------|
| BIS CPSS/IOSCO Principles for FMI | Management Principles |
| 24 Principles for FMI | Supervisory Monitoring |
| Central Bank 5 Principles | KYC and AML |
| Payment Scheme Governance | The Legal Environment |
| Structure | Principles of Legal Basis |
| Scheme Rules and Regulations | Key legal requirements |
| Principles of the Basel Accord and Basel III | Authority of the Regulators |
| Pillar 1 | Legal Enforceability |
| Capital | Admissibility of evidence |
| Risk Coverage | Zero-hour rule |
| Containing leverage | Local legal environment |
| Pillar 2 | Current relevant Laws |
| Risk Management and Supervision | Gaps identified |
| Pillar 3 | Current Statutes |
| Market Discipline | Non-interest Banking |
| Liquidity | Principles of Sharia-compliant banking |
| Liquidity Coverage Ratio | Implications for Payment Systems |
| Net Stable Funding | |

12 From Vision to Reality

The Payment Systems Vision 2020 includes many challenging targets. There will be a series of reviews with stakeholders at which the details of planning and execution will be debated and finalised. Some actions will be progressed by commercial organisations as they seek to gain competitive benefit from offering services to their customer base that support the objectives of the Vision. Other actions will be driven by the Central Bank.

Overall co-ordination will be critical to ensure that the intent of the Vision is realised. The proposed Governance structure provides the most effective method for driving forward on the Infrastructure Recommendations and the eight Initiatives.

12.1 The Transition Period

Setting up the new Governance structure will take time since it involves first a period of consultation and then formation of the various groups. The formal constitution of the new governance structure will require enactment of the Payment Systems Management Bill since the new senior body (the Payment Systems Strategy Board) will not have the legal authority to make decisions – such decision making will continue to reside with the CBN Committee of Governors.

In the interim, it is proposed that the transition follows four phases:

12.1.1 Phase 1 - September 2013 to December 2013

The PISC continues to drive the PSV2020. Continuity is important, and the current momentum must be maintained.

The proposed structure is communicated formally to all Deposit Money Banks and the proposed membership of the new governance structure for the payment system infrastructure is agreed.

The initiative working groups are opened for potential new members, based on the level of interest registered at the International Payments Conference in September 2013. The initiative working groups define a detailed workplan and deliverables.

12.1.2 Phase 2 - January 2014 – March 2014

The new Governance structure is out in place, but with the recognition that it will operate as a shadow board, with all proposed decisions being referred to the CBN Committee of Governors for approval.

A formal training program (based on the governance and regulatory elements of the core program outlined in the previous section) is out in place for the Payment Scheme Board members, combined with a walkthrough of the findings from the review of the payments infrastructure.

12.1.3 Phase 3 - March 2014 until enactment of the Payment Systems Management Bill

The new Governance structure continues to operate on the shadow Board principle, but the CoG tracks the number of requested decisions it has to reverse and rulings it has to impose. The objective is to ensure that the new Governance structure achieves its objective of 'board responsibility' for the well-being of the payment scheme, whilst CBN retains its primary function of payment system regulation and oversight

12.1.4 Phase 4 – Post Payment Systems Management Bill

The full delegation of scheme governance is completed and CBN focuses on regulation and oversight. At the appropriate time during this period, CBN will formally withdraw from the role of Lender of Last Resort for the payment systems.

13 Appendix 1 - Principles for Financial Market Infrastructures

The following extract is from the Principles for Financial Market Infrastructures jointly developed and published by the BIS Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions. The effort of these groups to produce an internationally recognised benchmark is gratefully acknowledged.

General organisation

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.

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.

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.

Credit and liquidity risk management

Principle 4: Credit risk

An FMI should effectively measure, monitor, and manage its credit exposures 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 participants and their affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions. All other CCPs 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 participant and its affiliates that would potentially cause the largest aggregate credit exposure to the CCP in extreme but plausible market conditions.

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.

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.

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.

Settlement

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.

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.

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 associated with such physical deliveries.

Central securities depositories and exchange-of-value settlement systems

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.

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.

Default management

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.

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.

*General business and operational risk management***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.

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.

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.

*Access***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.

Principle 19: Tiered participation arrangements

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

Principle 20: FMI links

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

*Efficiency***Principle 21: Efficiency and effectiveness**

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

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.

*Transparency***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.

Principle 24: Disclosure of market data by trade repositories

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

14 Appendix 2 - Responsibilities of Central Banks

The BIS/IOSCO Principles for Financial Market Infrastructure define the following five responsibilities of central banks, market regulators, and other relevant authorities for financial market infrastructures

Responsibility A: Regulation, supervision, and oversight of FMIs

FMIs should be subject to appropriate and effective regulation, supervision, and oversight by a central bank, market regulator, or other relevant authority.

Responsibility B: Regulatory, supervisory, and oversight powers and resources

Central banks, market regulators, and other relevant authorities should have the powers and resources to carry out effectively their responsibilities in regulating, supervising, and overseeing FMIs.

Responsibility C: Disclosure of policies with respect to FMIs

Central banks, market regulators, and other relevant authorities should clearly define and disclose their regulatory, supervisory, and oversight policies with respect to FMIs.

Responsibility D: Application of the principles for FMIs

Central banks, market regulators, and other relevant authorities should adopt the CPSS-IOSCO *Principles for financial market infrastructures* and apply them consistently.

Responsibility E: Cooperation with other authorities

Central banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs.

15 Glossary

| | |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACH | Automated Clearing House |
| ALGON | Association of Local Governments of Nigeria |
| ARDS | Agriculture and Rural Development Secretariat |
| ATA | Agriculture Transformation Agenda |
| ATM | Automated Teller Machine |
| BIS | Bank for International Settlements |
| BoA | Bank of Agriculture |
| CAMA | Companies and Allied Matters Act |
| CBN | Central Bank of Nigeria |
| CPSS | Committee for Payment and Settlement Systems – a committee within BIS |
| CSD | Central Securities Depository |
| CoG | Committee of Governors |
| DNS | Deferred Net Settlement |
| EMV | A standard for card security commonly known as 'chip and pin'. EMV stands for Europay MasterCard and Visa, the three organisations that developed the interoperable standard |
| FEPIPS | Farmer Electronic Payments Incentive Package Scheme |
| FMARD | Federal Ministry of Agriculture and Rural Development |
| FSS2020 | Financial System Strategy 2020 |
| IOSCO | International Organisation for Securities Commissions |
| MFB | Micro-Finance Bank |
| NASS | National Assembly |
| NDIC | Nigeria Deposit Insurance Corporation |
| NFC | Near Field Communication |
| NGF | Nigerian Governors' Forum |
| NIMC | National Identity Management Commission |
| NIMS | National Identity Management System |
| NIN | National Identity Number |
| NIP | NIBSS Instant Payments |
| NIRSAL | Nigeria Incentive-based Risk Sharing Agriculture Lending |
| NUBAN | Nigeria Uniform Bank Account Number |
| PFMI | Principles for Financial Market Infrastructure, a set of principle defined jointly by the Bank for International Settlement Committee for Payments and Securities Settlement (BIS-CPSS) and IOSCO |
| PMI | Primary Mortgage Institution |
| POS | Point of Sale terminal |
| RTGS | Real-time Gross Settlement |
| RUFIN | Rural Finance |

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Bank for International Settlements

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SWIFT

Bank of England

UK Payments Council

CLS (Continuous Linked Settlement)

UK Faster Payments

UK CHAPS

World Bank

Credit Bureau Association

EFinA and Gates Foundation

Office of the Accountant of the Federal Government (OAFG)

Governors Forum

Association of Local Government of Nigeria (ALGON)

PSTP Association

Financial Markets Dealers Association (FMDA)

NIBSS

CSCS

Interswitch

Mobile Money Operators

National Identity Management Commission (NIMC)

MasterCard

Citibank

Glo and MTN

