



## Public CSD Rating Report

### Central Securities Clearing System

Publication Date: August 2010

Thomas Murray CSD Public Rating for: **Central Securities Clearing System** is **A-**

CSD Rating	Overall Rating	Asset Commitment Risk	Liquidity Risk	Counterparty Risk	Financial Risk	Operational Risk	Asset Servicing Risk
CSCS Rating:	<b>A-</b>	AA	A-	BBB	A+	BBB	N/R

The outlook for the rating is: **Stable**

#### Overall Risk Summary

Thomas Murray has assigned an overall central securities depository risk rating of A- to the Central Securities Clearing System (CSCS), which translates as low risk. The rating is a weighted average of five different risk components comprising of Asset Commitment risk, Liquidity risk, Counterparty risk, Financial risk and Operational risk. Since CSCS takes no active part in the entitlement calculation or processing of corporate actions in the market, the rating for Asset Servicing Risk has been omitted from the Overall Risk Rating.

CSCS is responsible for the settlement and clearing of all securities transactions of the Nigeria Stock Exchange (NSE) and for bond transactions conducted on the OTC market. The depository has a settlement model that focuses on containing and minimising counterparty risk exposure. However the measures taken up by CSCS on this front result in some side-effects on market liquidity.

There are structural shortcomings in the Nigerian financial industry, which have a direct impact on Counterparty and Operational risks in CSCS. These deficiencies are related to the maturity and sophistication of the local market, and the absence of legislation providing grounds for validity of electronic documentation. In addition, there is a gap between CSCS rules regarding settlement cycles and participants' perception of such rules. This lack of transparency is partly due to the communication mechanisms available in the Nigerian market. In turn, this is linked to a heavy dependency on manual processing and physical documentation in conducting business in the Nigerian financial sector.

In terms of Asset Commitment Risk (ACR), the non delivery-versus-payment (DVP) settlement model used by CSCS results in a short exposure period for buyers of on-exchange traded securities. This is also the case for over-the-counter (OTC) trades (both on the sell and the buy side). However, the asset commitment period for sellers of equities is extremely long as securities are blocked on trade execution until settlement on T+3. CSCS' AA rating for ACR is directly linked to the level of on-exchange and OTC market activity. In 2009, the value of traded securities in the NSE fell by 72%, while the value of OTC trades increased by 38%. Accordingly, the OTC market accounted for a much larger share (over 97%) of Nigeria's overall market activity than in previous years. In turn, this implied that OTC trades were given significantly more weight in the assessment of CSCS risk exposures.

The absence of securities borrowing and lending (SBL) is not deemed locally to be problematic for on-exchange transactions since adequate securities inventory must be available in the client's trading account with the broker before execution (i.e. no short sales). However, since most institutional investors (especially foreign) hold assets with custodians, and these must be shifted to the broker prior to trade, 'technical shorts' may exist which consequently stop trades being executed. Hence, the introduction of an SBL facility may be beneficial for managing these types of 'fails'. Fails management policies for both on-exchange and OTC transactions are inadequately developed. On-exchange transactions settle on a BIS Model 2 basis which optimises cash liquidity (but not securities),

while OTC settlement is on a BIS Model 3 basis which optimises both securities and cash settlement liquidity. The requirement for all on-exchange transactions to settle within CSCS (dematerialised environment) combined with only (on average) 50% of market value held in CSCS at any one time, results in some situations where investors may have to wait for prolonged periods for securities to be deposited into CSCS before they can trade and settle them.

CSCS' Counterparty Risk rating is linked to the fact that CSCS operates a non-DVP settlement model. Securities generally settle with finality before cash transfers commence and there is no systemic link between securities and cash settlement platforms which assure transfers are interdependent. Also, the guarantee fund is not large enough to cover liabilities in case of default of large participants.

CSCS' high financial rating is due to the fact that the depository not only has been profitable in the last five years, but it has also shown a great deal of financial flexibility in the face of challenging times. Indeed, when revenue fell, CSCS was able to adjust its cost structure, avoiding damaging to its profitability. Furthermore, CSCS has the full support of the NSE, the settlement banks, and other market participants. Finally, CSCS has significant capital resources in comparison to its peer group including healthy levels of reserves held in cash or short term investment forms, which provide for highly liquid financial resources.

The low rating for CSCS' Operational Risk is a combination of several factors. There is heavy dependency on manual intervention in both processing and communication, which increases the risk of fraud, error or loss as well as negating the possibility of Straight-Through-Processing (STP). In addition, there is a lack of identified key controls and an organised risk management policy. Although CSCS has adequate disaster recovery facilities there is an absence of fully documented disaster recovery and business continuity plans. Testing of facilities has been limited to internal (i.e. CSCS only) testing without the involvement of market participants.

### Outlook Summary

There are some developments taking place in the marketplace, which might have an impact on the rating after becoming operational. However, in the absence of definitive implementation dates for most of these projects, there is insufficient justification to assign any other rating than 'Stable'.

Among the changes in the pipeline is the development of a new proprietary communication system, which would automate information exchange with market participants and reduce the reliance on physical documentation. In addition, the process of implementing SWIFT communication with market participants has begun, although this is still in early stages.

CSCS is also working on becoming a direct participant of NIBSS to enhance the DVP process. Other plans include the enhancement of the disaster recovery plans (DRP) and business continuity plans (BCP).

Lastly, there is an ongoing review of the Investment and Securities Act (ISA) wherein the CSCS and its operations are being given more legal consideration.

### Role of the Depository

Central Securities Clearing System Limited (CSCS) is a private limited company incorporated on 29 July 1992 under the Companies and Allied Matters Act 1990. CSCS is operated as a profit-making entity. Participants are required to acquire a minimum of 100,000 CSCS' shares. The ownership of the CSCS is split between the NSE (27.2%), Settlement Banks (48.2%) and Brokers, Issuing companies, Institutional investors and registrars who own the remaining 24.4%.

CSCS commenced operations on 14 April 1997 and operates a depository, clearing, settlement and delivery system for transactions in shares listed on the NSE. Use of the CSCS is compulsory by market practice for clearing and settlement but not for safekeeping. It acts as the exclusive depository for equities, and is the optional depository for corporate bonds, local authority bonds and state and federal government bonds. The Central Bank of Nigeria also holds federal government bonds and other money market instruments, although in May 2007 it has appointed the CSCS as the clearing and settlement entity for Secondary market Nigerian Treasury Bills (NTBs) traded at the NSE. CSCS also performs clearing and settlement of securities traded on the OTC Bond market, while the Central Bank of Nigeria is the Settlement Bank for the cash leg.

CSCS is regulated by the Nigerian Securities and Exchange Commission (SEC), the Corporate Affairs Commission and the Nigerian Stock Exchange. Immobilised securities are kept in book-entry form at the CSCS. Physical certificates can be held by the respective registrars, by custodians, by brokers or by the beneficial owners. Securities held in physical form have the same ownership rights as securities immobilised at the CSCS but they cannot be traded, settled or otherwise have their ownership transferred without being deposited back into the CSCS at least 24 hours prior to trading. Nevertheless, issuance of share certificates is to be discontinued.

Risk Summary	Risk
<b>Overall Risk</b>	A-
<p><b>Asset Commitment Risk</b></p> <p>The settlement process in Nigeria is non-DVP, with OTC trades accounting for the bulk of market activity. In these cases, the asset commitment period for a seller could be up to 3 hours, while for a buyer it is negligible.</p> <p>In the case of on-exchange trades the Asset Commitment Risk is around 72 hours for a seller and is 0 hours for purchases. The buyer has to ensure that funds are in the brokers/custodian' account at their settlement bank by 10.00am local time on settlement day. However, by this time securities have already been transferred to the buyer's account at CSCS. Indeed, the buyer receives securities by 9.00am, 1 hour before the cash settlement cycle begins. Funds are finally transferred by 3.45pm at the central bank prior to being transfer to the settlement bank by 4.00pm.</p>	AA
<p><b>Liquidity Risk</b></p> <p>The overall liquidity risk exposure for securities at CSCS is the result of a combination of factors. On-exchange trades settle using a BIS model 2 (gross settlement of securities), which puts higher pressure on securities liquidity than net positioning. In addition, the fails management policy is underdeveloped and no securities lending and borrowing is not available in the market.</p> <p>Admittedly, there are several elements that partially mitigate CSCS' Liquidity risk exposure. Such elements include the use of BIS Model 3 for OTC trades (net settlement for both securities and cash), and the netting of cash obligations for on-exchange trades. Finally, the fact that settlement banks in Nigeria provide overdraft facilities to stockbrokers on a bilateral basis and the CBN can provide collateralised intra-day credit to settlement banks contributes to increased liquidity in the market.</p>	A-
<p><b>Counterparty Risk</b></p> <p>Non-DVP settlement implies that counterparty risk exist on principal value between participants, despite the arrangements set by CSCS to ensure both securities and funds are available on settlement day (SD). Financial authorities and the stock exchange conduct surveillance on participants, although this is not done on a daily basis. The CBN monitors settlement banks' financial positions continuously and sets minimum reserve requirements.</p> <p>For on-exchange trades, settlement of securities is assured by the CSCS system which checks that securities are available in CSCS prior to trading and places them on hold (short selling is not allowed). These mechanisms do not however exist on the OTC cycle. For on-exchange trades cash settlement is guaranteed by the settlement banks. In the case of OTC, the Central Bank of Nigeria (CBN) uses pledged T-bills as guarantees.</p> <p>For on-exchange trades the guarantee fund acts as a resource that mitigates against Counterparty Risk. However, the fund, which has been used twice to cover defaulted settlements, lacks an adequate contribution scheme and sufficient resources to cover the largest possible liabilities. There is no guarantee fund for OTC transactions.</p>	BBB
<p><b>Asset Servicing Risk</b></p> <p>The CSCS does not act as a resource in terms of asset servicing and is not responsible for corporate actions. In the market, these are handled by the respective company registrars as well as custodians.</p>	N/R
<p><b>Financial Risk</b></p> <p>CSCS is a privately-owned company with a total capital of NGN 11.26 billion (USD 76.3 million) at year-end 2009. Nigeria's CSD, which holds a high proportion of its assets in the form of bank balances and short term investments, has been profitable for the period 2003-2009. CSCS assumes liability for direct losses caused by its staff and the failure of the depository's system, which may be covered under the insurance policy. CSCS may be held liable for consequential loses leading to reasonable compensation. However, under Civil Law the company would not be subject to punitive damages.</p>	A+
<p><b>Operational Risk</b></p> <p>There are significant operational vulnerabilities that raise Operational Risk exposures. CSCS has basic internal controls documenting procedures and key controls. However, there is no risk management policy or risk assessment division within the organisation. In addition, staff are not specifically trained in this area. The internal audit department mainly focuses on data control and is not charged with a broader role of risk prevention and ensuring compliance to controls. CSCS processing and communications rely heavily on manual intervention and physical documentation precluding Straight-Through-Processing (STP) in the Nigerian</p>	BBB

market.

Regarding disaster recover arrangements, CSCS has several sites designed to back-up data. However, there is a flaw in the scheme, as the main back-up centre is a single point of failure. Finally, the business continuity plan has been poorly conceived and CSCS would not be ready to continue operations if the main offices were to shut down in the event of a disaster or broad emergency.

**CSD on CSD Credit Risk**

There are no international links operated by the depository with other CSDs.

**No Links**

# Asset Commitment Risk

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## Summary

The settlement process in Nigeria is non-DVP, with OTC trades accounting for the bulk of market activity. In these cases, the asset commitment period for a seller could be up to 3 hours, while for a buyer it is negligible.

In the case of on-exchange trades the Asset Commitment Risk is around 72 hours for a seller and is 0 hours for purchases. The buyer has to ensure that funds are in the brokers/custodian' account at their settlement bank by 10.00am local time on settlement day. However, by this time securities have already been transferred to the buyer's account at CSCS. Indeed, the buyer receives securities by 9.00am, 1 hour before the cash settlement cycle begins. Funds are finally transferred by 3.45 pm at the central bank prior to being transfer to the settlement bank by 4.00pm.

## Processing Cycles

Securities settle gross, on a T+3 basis for equities and T+2 for corporate bonds. Sellers must have the relevant stock available at the depository prior to trading. On trade date (TD) , the Nigerian Stock Exchange transmits to CSCS the details of trades executed using a real-time online link. The exchange also matches all trades prior to submitting the information to the depository.

Once CSCS receives details of the trade, the securities are placed on hold in the seller's account. The blocking of securities effectively means that short selling is not permitted in the Nigerian market.

By the close of business, the depository reports all net obligations to market participants involved. On T+3, the processing batch is manually initiated by CSCS around 8.00am and it concludes by 9.00am. Securities transferred to a buyer's account within CSCS cannot be used until cash finality.

## OTC

Nigeria's OTC market is mainly dedicated to Federal government bonds (FGN) and treasury bills (NTB), although some corporate bonds are traded from time to time. There is no standard settlement cycle in the Nigerian OTC market, rather it is negotiable between counterparties. Nevertheless, settlement is mainly on T+2, with some OTC trades settling on T+1 or T+0.

In the case of a T+2 cycle, after agreeing on the terms of the trade, primary dealers must send the instructions to the depository by 10.00am on T+1, latest. Accordingly, CSCS matches all trades and communicates to the parties the matching result. If there is an error, participants must submit a correction within 30 minutes of notification of the error by CSCS.

On T+2, securities must be in place at the beneficiary account by 1.00 pm when the processing batch is initiated manually. The batch runs for 30 minutes, concluding at 1.30 pm.

For the T+1 cycle, primary dealers must advise CSCS by 3.30pm of the trade executions on T+0. CSCS then proceeds to match securities, which must be available by 1.00pm on T+1. For trades settling on T+0, instructions must be sent to CSCS by 9.30am and securities must be available by 1.00pm.

## Cash

The Nigerian capital market has 23 settlement banks (as at July 2010). NSE and CSCS have a legally binding contract with some selected banks to act as Settlement Banks (Cash Clearing Banks) for the stock market. Each broker has an account with a settlement bank. The debit/credit instruction is effected on the settlement banks' accounts with the Central Bank in accordance with a schedule forwarded to it by CSCS.

## On-exchange Trades

In the case of on-exchange trades, on SD-1 CSCS advises participants of the net obligations due the next day. On SD brokers must make funds available by 10.00am in their accounts at their selected settlement bank. By 12.00pm monies must be placed on the settlement bank's account within the Central Bank of Nigeria (CBN). Between 12.00pm and 2.00pm the Nigerian Inter-Bank Settlement System (NIBSS) nets out cash obligations for participants.

Once this step has been completed, the RTGS system at CBN transfers cash from buyers to seller's accounts within the central bank. The RTGS batch for CSCS trades begins at 3.15pm and concludes by 3.45pm. Accordingly, by 4.00pm funds are placed in the seller's settlement bank account. Finality is achieved once cash settles.

## OTC

For OTC trades the cash settlement does not involve NIBSS and is far less transparent. After CSCS conducts the matching of instructions, the depository reports net cash obligations to the settlement banks and the CBN. CSCS runs its batch process after 1.30pm and informs the CBN, which then proceeds to transfer funds for OTC trades in the same batch for on-exchange operations. Finality is achieved once cash has been transferred after 4.00pm.

However, there is a potential problem on the broker-custodian side. In some cases, when the custodian bank is not domiciled with a settlement bank, the settlement to the client may occur after the closure of CBN's deadline to transfer funds, even though the settlement banks receive funds on SD for onward debiting/crediting of clients' accounts same day. As a result the settlement bank may not transfer the cash same day to the custodian.

### Asset Commitment Periods

On-exchange trades

Buyers have to ensure that funds are at their settlement bank in the settlement account by 10.00am on SD. Settlement banks fund their accounts at the CBN by 12.00pm local time on SD. The buyer receives securities around 9.00am local time on settlement day, thus ensuring there is no asset commitment period for the buyer.

A seller loses control of securities when these are put on hold on TD and then transferred around 9.00am local time on SD. The seller then receives funds via wire transfer by 4.00pm SD (T+3) and thus experiences a 72 hour asset commitment exposure.

OTC trades

In the case of the seller, the asset commitment period is at least 90 minutes, but it could last up to three hours. Cash finality is usually achieved after 4.00pm.

For the buyer, the asset commitment period is far shorter, as CSCS runs the cash netting batch between 1.30pm and 1.45pm. Once net obligations are advised to CBN, cash transfer takes place and by 4.00 pm funds are available in the seller's account in the settlement bank. However, since securities transfers have already been completed before 1.30pm, there is no asset commitment risk for the buyer.

### Irrevocability

Securities transfers become final once they have been made by CSCS even though the registrar may be notified later. The Investment and Securities Decree 45 1999 recognises CSCS transfers such that certificates are not the only evidence of title but book-entry by CSCS is also evidence of title.

#### Asset Commitment Risk - Key Indicators

##### *Irrevocable commitment to the processing cycle*

	<i>Transaction Type</i>	<i>Start</i>	<i>Finish</i>
<i>Securities</i>	On-exchange	TD	9.00am SD
	OTC	1.00pm SD	1.30pm SD
<i>Cash</i>	Central bank	3.15pm SD	3.45pm
	Settlement bank - via CBN	10.00am SD	4.00pm

##### **Comments (i.e., on pre-funding and irrevocability)**

Key Times:

SD-1, 4.00pm: CSCS reports settlement obligation to brokers/custodians

SD, 9.00am: securities are transferred at CSCS from seller's account to buyer's account

SD, 10.00am: funds should be in broker/custodian account at settlement bank

SD 12.00pm: settlement banks' Central Bank of Nigeria account to be funded by the respective settlement banks.

SD 3.15pm: cash is transferred between settlement banks' accounts within the central bank.

SD 4.00pm: cash is transferred at the settlement bank.

##### **Securities processing cycle outlined**

Securities transfers are effected on a gross DVP basis by 9.00am on T+3.

For OTC trades, the settlement cycle is negotiable, usually between T+0 and T+2.

Government bonds and Treasury bills are transferred by 1.30pm.

##### **Cash processing cycle outlined**

Funds transfers are effected on a net basis. Same day funds settlements is usually made through CBN.

Funds should be in the brokers/custodian' account by 10.00am local time on settlement day in order for the broker's settlement bank to be able to confirm to CSCS that the required funds are available.

Cash transfers for Government bonds and Treasury bills are effected by 3.00pm on SD.

# Liquidity Risk

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## Summary

The overall Liquidity Risk exposure for securities at CSCS is the result of a combination of factors. For a start, on-exchange trades settle using a BIS model 2 (gross settlement of securities), which puts significant pressure on securities liquidity. In addition, CSCS has a poor fails management policy and there is a ban on securities lending and borrowing. Also, dematerialisation of securities prior to trading and settlement is required which could take several days.

There are several elements that partially mitigate CSCS' liquidity risk exposure. Such elements include the use of BIS Model 3 for OTC trades (net settlement for both securities and cash), and the netting of cash obligations for on-exchange trades. Finally, settlement banks in Nigeria provide overdraft facilities to stockbrokers on a bilateral basis and the CBN can provide collateralised intraday liquidity to settlement banks.

## Processing Model

CSCS uses BIS Model 2 for settlement of trades conducted on the exchange; i.e. securities settle on a gross basis, cash on a net basis. The securities batch is conducted intraday at 9.00am. However, the depository does have stock netting capabilities, which have not been utilised yet. Netting of funds is undertaken by the Nigerian Inter-Bank Settlement System (NIBSS) but cash settlement is done through the CBN.

Short selling is not permitted by market regulation, hence securities for delivery must be available on TD. Funds only need to be made available on T+3. One batch per day is run on a BIS Model 2 basis with a cash netting efficiency of 50%, which represents a liquidity saving for participants of around half the requirements if cash settled gross.

In the case of OTC trades, the depository uses BIS Model 3 (net settlement for both securities and cash) settlement, which uses a single intra-day batch for securities and cash. For the former, settlement takes place at around 1.00pm on SD, while cash settles around 4.00pm. Netting efficiency for bonds is high at around 93% by value and 86% by volume.

## Fails Management

### On-exchange

The fact that securities are blocked by CSCS on TD (banning short selling), is an assurance that securities will settle. Brokers can only sell shares that are in the depository. While the market is open, the trading engine interrogates the depository for the availability of the requested shares for sale. Once securities have been traded, they are automatically flagged and blocked in the CSCS system.

However, most securities for institutional clients are held under the custodian and hence have to be transferred into the client's trading account under the broker prior to trade execution. This is done via manual instruction to CSCS and should the securities not be positioned into the trading account in time, the sale transaction cannot be executed. Since the trade will not be executed it will not count as a fail from the perspective of the market, but in terms of the client this would be regarded as a failed trade.

However, the risk of settlement failure exists on the cash side of the trade. While CSCS advises settlement banks of broker's cash obligation prior to SD, it is the responsibility of the broker to provide funds before the settlement cycle begins. In the event that the broker fails to adequately fund their account, the Trade Guarantee Fund (TGF) may be utilised to fill the broker's funding short. Where the guarantee is not sufficient, the settlement bank funds the shortfall on behalf of their broker-client. Afterwards, the securities purchased are sold by an NSE appointed stockbroker. The stockbroking firm is suspended from both clearing and trading until they make good on the debit to their TGF contribution. A fine may be charged against the failing participant of NGN=100,000 or 1% of the failed trade value (whichever is the greater).

In the case of over-trading by a broker, fails management techniques employed centre around fines on brokers and the guarantee fund which can be used to motivate the broker to execute a compensating trade or facilitate such a trade if they are unable to do so.

### OTC

The arrangements to deal with fails in the Nigerian OTC market are virtually non-existent. The only measure adopted by CSCS in order to prevent fails is to advise participants when (and if) there is a discrepancy in the trade matching details. Participants must then submit a correction within 30 minutes of notification.

After securities have been transferred, the only mechanism to assure cash settlement is the use of reserves at the central bank, which is responsible for transferring monies between settlement banks' accounts. In the event that funds are not available, the CBN, can use the T-bills pledged by the defaulting bank to cover the financial obligations at the moment. However, this is a riskier approach than a guarantee fund as it uses the settlement bank's statutory reserves.

## Credit Facilities

CSCS does not provide credit facilities to its participants. However, CSCS participants can obtain credit facilities from their settlement banks. Since brokers cannot use loans or overdrafts to fund their Trading Account, there should always be adequate pre-funding from the broker's client.

In the event that a settlement bank is short of liquidity intraday, the bank can either take an interbank loan or make use of the intraday, collateralised credit facility provided by the CBN.

## Securities Lending

CSCS does not provide stock lending facilities. Securities borrowing and lending and short selling are prohibited by market regulation. Although the CSCS system has the functionalities to support securities lending, these are not operational yet.

## Registration Model

Securities held in CSCS are dematerialised and the registration process is a mix of electronic and manual processes. CSCS' records act as a sub-register of the external issuers' registrars. Registration is in beneficial owner name. Investors can operate one CSCS account for each local broker used to execute their trades.

Any security listed on the NSE has to be dematerialised prior to trading. Thereafter, any subsequent delivery/receipt of this security will be in dematerialised form. Securities deliveries are achieved by automated book-entry, maintained by CSCS. All securities that are deposited at CSCS are treated as fungible and can be transferred or pledged by book-entry.

Securities are held in participants' (brokers and custodians) accounts. Participants have sub-accounts with the records of the beneficial owners' names, thus clients' securities are held in designated client accounts, although brokers are also able to hold securities in omnibus accounts. However, custodian participants hold securities primarily in a participant omnibus account unless the client requests otherwise.

The title to a security passes once the transfer is electronically processed on CSCS's books, which means shares will automatically register in the new owner's name, i.e. on settlement date. Once securities have been credited to a participant's account, reversals are not possible. Although in theory, the registrar could reject a registration, it is market practice for the registrars in Nigeria to recognise all securities transactions which have been recorded by the CSCS as being cleared and settled.

In order to update the registers of securities, CSCS sends data of all traded securities on CD to all registrars. Hard copies are also sent every 2 weeks or every week for active securities. Although, reconciliation data is provided on CD, it is not certain that all registrars have the capacity to auto-reconcile this data with their systems and some of the process may be done manually. In any case, the communication between CSCS and registrar is not conducted through electronic means as the CD must be delivered by hand (for more information on this issue, see Operational Risk below). The registrars are also informed of beneficial owner details after the close of the register for payment of dividends and the issuance of bonuses. The registrar is recommended by market practice to update the register within 48hrs of notification from CSCS and many are doing so, but registration can take up to 10 working days. There are around 35 registrars in the market but 70% of the business is concentrated within four (First Registrars Nigeria Ltd, Union Registrars Ltd, UBA Registrars and Citi Registrars).

The company register is closed once a year by the company to allow payment of dividends and/or bonuses.

## Deposited securities

Securities are held in participants' (brokers and custodians) accounts at CSCS. Participants have sub-accounts with the records of the beneficial owners' names, thus clients' securities are held in designated client accounts, although brokers are also able to hold securities in omnibus accounts. However, custodian participants hold securities primarily in a participant omnibus account unless the client requests otherwise.

Most securities are held in the custodian's nominee name, but institutional and high net-worth investors are able to have designated accounts. All of the securities held at CSCS are in dematerialised form. CSCS holds on average around 50% of all securities traded in Nigeria at any one time although securities are continuously being deposited and withdrawn. Since securities have to be dematerialised within CSCS in order to be traded on-exchange, it can be asserted that the vast majority of liquid securities are deposited at CSCS.

## Deposit and Withdrawal of securities

Physical certificates held outside the depository must be deposited back into the CSCS 24 hours prior to trading. The deposit and withdrawals processes are manually intensive. The seller has to provide the relevant certificates to verify ownership when selling securities. Certificates are verified manually by the issuing agent, who then lodges them with the depository. The registrar must send a list of the securities in hard and soft copies (CD). The information in the CD is automatically uploaded in the system but there is a manual checking process to make sure information is correct. Lodgement takes between 3-5 days end-to-end although the processes within CSCS are concluded within 24 hours. Securities cannot be traded or settled in the interim. Once dematerialised, equities can be re-certificated and physically held outside CSCS. The re-certification process takes around 1-2 days, during which time the securities cannot be traded and settled.

CSCS has introduced E –Lodgement, which means registrars can advise CSCS of verified items through a computer storage media (diskette, flash, CD etc) accompanied with the registrars' schedules of those verified certificates and signed by the Registrars authorised signatories. This process also depends on a significant amount of manual intervention and physical documentation.

The dematerialisation process is ongoing and affects all physical securities which have been deposited with the CSCS for trading. CSCS dematerialised 1.7 million share certificates in 2007, 3.3 million in 2008 and 2.0 million in 2009. A total of 13.4 million share certificates have been dematerialised since 1997.

New issues of securities and bonus issues can be issued in physical form and need to be verified and certified by registrars.

## Liquidity Risk - Key Indicators

### Settlement Models

On Exchange: BIS Model 2 - gross settlement of securities followed by net settlement of funds transfer.

OTC: BIS Model 3 - net settlement of securities and funds for OTC operations.

### Processing Periods

#### Overnight (by batch)

No

#### End of day

No

#### Batch daylight processing

Yes

#### Real-time and on-line

No

#### Other

Yes

### Comments

For on-exchange, shares move at 8.00am and cash at 12.00pm.

For OTC, securities move at 1.00pm and cash at 3.15pm.

### Credit Facilities

#### Central bank money used to settle cash elements of trades

Yes

#### Credit facilities provided by the CSD

No

#### Credit facilities provided by commercial banks

Yes

### Comments

Net settlement obligations must be pre-funded with the settlement bank by 9.00am SD.

### Stock Lending

#### Is stock lending permitted in the market

No

#### Are stock lending facilities provided by the CSD?

No

#### Are stock lending facilities provided by commercial banks/brokers?

No

### *Transfer of Securities*

**Are securities deliveries achieved by book-entry?**

Yes

### *Registration of Securities*

**Period of time required to register a holding?**

Immediate\*

2 days to 10 days for registration via registrar

### **Comments**

\* For securities dematerialised in CSCS.

# Counterparty Risk

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## Summary

Non-DVP settlement implies counterparty risk exposure exists on principal value between participants, despite the arrangements set by CSCS to ensure both securities and funds are available. Cash generally settles after securities and there is no technical link between the securities and cash settlement systems to ensure interdependence between the transfers. Financial authorities and the stock exchange conduct surveillance on participants, although this is not done on a daily basis. The CBN oversees the settlement banks and ensures they hold a collateral reserve on deposit in their central bank account which should be sufficient to cover their obligations in the event of default.

For on-exchange trades, settlement of securities is assured by the CSCS system which checks that securities are available in CSCS prior to trading and places them on hold (short selling is not allowed). These mechanisms do not exist on the OTC cycle. Regarding funds, for on-exchange trades cash settlement is guaranteed by the TGF and ultimately the settlement banks. In the case of OTC, the CBN uses pledged T-bills as guarantees.

For on-exchange trade the guarantee fund act as mechanism that mitigates the counterparty risk. However, the fund, which has been used twice to cover defaulted settlements, lacks an adequate contribution scheme and sufficient resources to cover the largest possible defaults. In the case of OTC trades, there is no guarantee fund to protect investors in case a participant defaults.

## Participant Counterparty Risk

All brokers are required to hold an account at one of the settlement banks. CSCS initiates instructions across these settlement bank accounts on behalf of participants. However, CSCS instructions to the settlement banks only include the trades entered by the brokers. As CSCS and the NSE systems are linked and there is no manual intervention, there is no effective responsibility on CSCS.

For both on-exchange and OTC transactions, settlement is not on a DVP basis, hence participants have direct counterparty risk exposure against each other on the principal value of the transaction. In practice, it is generally only the seller who runs the exposure, since funds settle after securities. Once securities have settled, instructions to settle the requisite funds are provided to NIBSS (for on-exchange trades) or directly to CBN (for OTC trades) to settle the cash. Since there is no automated communication at the point of settlement between the two systems which checks the positioning of adequate securities and funds balances, CSCS has no way of knowing at the point of securities settlement whether the commensurate countervalue is available in the payment system.

## Risk Containment Model

CSCS does not have a risk model in place. Liens are held on securities in the process of settlement, but do not extend to settled positions.

## Delivery Versus Payment

There is no DVP settlement in Nigeria, which means that counterparty risk exposure exists on principal value between participants. CSCS advises participants of securities balances and cash obligations in the accounts of the stock-broking firms prior to transfer. As described in the Asset Commitment Risk section, securities are transferred one hour before funds have to be made available at the settlement bank.

CSCS and CBN are working to achieve direct connectivity between CSCS and CBN's RTGS payment system to achieve simultaneous DVP. As at June 2010, the requirements for connectivity had been identified and implementation details were being worked on.

## Role of Central Counterparty (CCP)

CSCS does not act as central counterparty to settlements.

## Participant Criteria

The SEC defines all participation criteria in function of the role participants may have in the capital market. The main differences lay on the capital requirements that apply in each case (see list below). Eligible participants include settlement banks, registrars, issuing houses, institutional investors and brokers that, in addition to being registered with the SEC, must be licensed by the NSE.

All Settlement Bank participants are required to contribute to depository capital. The minimum contribution by any participant is 100,000 units of shares. In addition, all participants are subject to a review and approval process both prior to admission and after admission to ensure compliance with the depository's eligibility requirements. Participants' conditions are reviewed by the SEC, the CSCS and the stock exchange. Breaches of conditions may result in fines, restrictions, suspension and termination of participation. Those that have been accused of non-professional practices have been suspended, including several stock broking companies due to securities related fraud. Additionally, the license of one was withdrawn and their participation suspended.

Capital requirements for market participants.

In May 2007, the Ministry of Finance approved a new capital base for capital market operators. Accordingly, the minimum paid-up capital was raised significantly and operators were given until 31 December 2008 to comply with the new norm. Nonetheless, market

participants found the new requirements too stringent and the authorities decided to postpone the implementation of the new capital requirements until further notice.

Current participant requirements for the following institutions are as follows (USD value as of May 2010) :

- Underwriters: from NGN 150 million (USD 990,000);
- Broker/Dealers: from NGN 70 million (USD 462,000);
- Fund/Portfolio Managers: from NGN 20 million (USD 132,000);
- Registrars: from NGN 50 million (USD 330,000);
- Clearing and Settlement Agencies: from NGN 500 million (USD 3.30 million).

#### Requirements for Banks

Banks have different requirements to participate in Nigeria. The minimum capital adequacy ratio of capital to total risk-weighted assets is 10%. In addition, at least half of any bank's capital must be made of paid-up capital and reserves. All banks have to maintain a ratio of not less than 10% between its adjusted capital funds and total credit net of provisions.

The CBN has also established that a bank must maintain at all times capital funds unimpaired by losses in such a ratio to all or any asset or liabilities. Finally, all banks have to keep cash reserves and special deposits and hold specified liquid assets, with the CBN.

#### Participant Concentration

There are 23 settlement banks and five custodians (Stanbic/IBTC, First Bank of Nigeria Plc, UBA Plc FCMB Plc and Citibank) in the whole of the Nigerian market. However, foreign investors' assets are concentrated in Stanbic/IBTC.

Levels of settlement concentration are different for OTC and on-exchange trades. In the case of OTC, market activity is less concentrated than the on-exchange market. Indeed, for OTC, the largest ten participants accounted for over half of value of market capitalisation during June 2010. In this period, the largest dealer traded 8.1% of value total of OTC operations.

By contrast, the levels of concentration in the on-exchange market are considerably higher. The value of the trades from largest market participant account for 15.4% alone in 2009. Deals from the ten largest on-exchange traders in Nigeria accounted for 72.7% of total value of on-exchange activity.

#### Financial Compliance/Surveillance

Brokers' financial strength is monitored by the NSE and the SEC. The NSE is the primary supervisor for brokers. Annual financial statements must be submitted to the NSE and inspections are executed at least once a year. In addition, quarterly financial statements (returns) must be sent to the SEC. The SEC does on-site and off-site monitoring of brokers. They also execute inspections at least on a bi-annual basis.

Banks are monitored by the CBN. However, there is no monitoring of brokers' or settlement banks' daily exposure. The NSE depends on settlement banks to report any problem with a broker. CSCS reviews participants' compliance once a year or a need basis.

#### Guarantee Funds

The Trade Guarantee Fund (TGF), which only covers on-exchange trades, is funded by a fixed contribution from each participant and from penalties imposed on brokers. The fund operates on a 'defaulter pays' model, i.e. if the defaulting participant's funds are not sufficient to cover their obligations, the remaining losses are not shared across the other fund participants. The TGF covers direct depository participants plus the beneficial account owners and is held in nominee accounts at the settlement banks. The fund is replenished from the fines received from the defaulting stock broker in addition to the refund of resources used to bail out a defaulting participant.

The TGF increased 12.5% in 2009 from NGN 44 million in 2008 to NGN 49.5 million (USD 337,193) at the end of the following year. The fund's growth was mainly driven by interest income from the management of the Fund. Nevertheless, the size of the fund is deemed insufficient and there are plans to significantly increase the size of the fund. The fund has been used three times since its inception.

In the case of the OTC market, there is not any guarantee scheme available to cover a default by a participant. Currently, if a settlement bank is unable to fund its net cash obligations from OTC trades, the CBN would use the pledged T-bills of the defaulting settlement bank in order to cover its obligations. Currently, the CBN holds in reserves NGN 15 billion (USD 99.8 million) worth of T-bills from each settlement bank.

This is a risky policy as it uses banks' reserves for a different purpose instead of protecting the public's savings, which is the original objective of the reserve.

#### Counterparty Risk - Key indicators

**Capacity of CSD**

Agent

**Surveillance of participants by CSD**

Yes

**Settlement assurance**

Yes

**Participation criteria**

Yes

**Minimum Capital (local currency)**

Underwriters: NGN 150 million (USD 1 million)

Broker/Dealers: NGN 70 million (USD 464,656)

Fund/Portfolio Managers: NGN 20 million (USD 132,758)

Registrars: NGN 50 million (USD 331,895)

Clearing and Settlement Agencies: NGN 500 million (USD 3.3 million )

**Size of Guarantee Fund - (Name, local currency, Euro and USD - (millions))**

NGN 49.5 million (USD 330,500) as at end of 2009.

**Does the CSD act as a central counterparty**

No

**Participant Concentration (Local Currency Millions)****Value of transactions in the market by top 10% of participants**

For on-exchange trades: 72.7%

For OTC trades: 54.0%

**Volume of transactions by top 10% of participants**

For on-exchange market trades: 68.1%

For OTC trades: 53.5%

**Volume of largest individual participant**

For on-exchange trades: 9.1%

For OTC trades: 8.3%

# Asset Servicing Risk

## Summary

The CSCS acts as a limited resource in terms of asset servicing and is not responsible for corporate actions. In the market, these are handled by the respective company registrars as well as custodians.

## Information processing

CSCS is not responsible for the provision of notification of corporate events to investors. This is done directly by the registrars via the stock exchange, which is regarded as the official source of information to the market. However the stock exchange passes on the details to CSCS which has a website that publishes the corporate action information.

CSCS provides information on capitalisations including bonus issues, conversions, mergers, stock splits, rights issues and takeovers. CSCS does not accept any liability for losses arising from late, inaccurate or incomplete information provided to the market via its website.

## Instruction processing

CSCS is not responsible for handling the distribution of income nor is it responsible for handling the distribution of corporate action entitlements.

CSCS has however introduced an electronic bonus distribution process called E-Bonus. Within E-Bonus, the registrar instead of issuing physical certificates to investors in the CSCS Depository when a bonus issue is declared, advises CSCS through a computer storage media (diskette, flash, CD etc) accompanied with the Registrars' schedules of the various bonus units and duly signed by the Registrars Authorised signatories.

CSCS on receipt of the e-bonus file checks for correctness format and conformity with the signed hard copy and then process to credit the investors accounts in the CSCS system. After updating its system with the bonus issue, CSCS advises the Registrar of the successful up-load and sends to them details of the allotment to enable them to advise the various investors of the allotment. Allotments are made same day or the next day after advice. CSCS also provides participants with accounting statements on the allotments.

CSCS also runs an E-Allotment program, which electronically captures all allotted shares into investors accounts in the CSCS.

Interest payments on Federal Government of Nigeria (FGN) bonds are based on holdings as at the interest payment date, whereas previously they were based on booked positions as of 21 days before payment date, because the register was closed during this period up to pay date.

## Proxy Voting

Not applicable

## Other services

Not applicable.

### Asset Servicing Risk - Key indicators

#### *Information processing*

#### Securities covered

Equities

#### Information sources used

Stock Exchange

#### Information provided in English

Yes

#### *Number of Events during last full year*

#### Dividends

129 (2008)

#### Interest & Redemptions

None

**Corporate actions**

None

**Notification via**

Newsplash on ATS, Exchange Website, CSCS Website and Newspaper.

**SWIFT message types**

None

**Notification within**

Notification is sent 21 days before the Annual General Meeting (AGM).

***Instruction processing*****Use of depository**

Not market practice

**Settlement on due date**

Yes

**Optional corporate actions supported**

No

**Cash account credited**

No

**Central paying agent**

No

**Entitlements based on**

Holding position of the security as at record date

***Proxy voting services*****On-line**

No

**Outsourced**

No

**Announcement of meetings**

Yes

**Elections (Voting)**

Yes

**Results reporting**

No

# Financial Risk

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## Summary

CSCS is a privately-owned company with a total capital of NGN 11.26 billion (USD 76.3 million) at year-end 2009. The depository achieved healthy profits between 2003 and 2009. CSCS holds a high proportion of its assets in the form of bank balances and short term investments. In addition, the depository's strong reserves have become a non-cyclical source of revenue, essential to assure minimum level of income during volatile times. CSCS has also proven to be financially flexible cutting expenditure in the face of declining revenue.

CSCS assumes liability for direct losses caused by its staff and the failure of the depository's system, which may be covered under the insurance policy. CSCS may be held liable for consequential losses to the extent of reasonable compensation. However, the company cannot be subject to punitive compensation.

## Financial and other Resources

### Capital Structure

CSCS is a limited liability company incorporated on 29 July 1992 under the Companies and Allied Matters Act 1990. The largest single shareholder is the NSE. However, a group of settlement banks holds nearly half of CSCS ownership. Brokers, institutional investors and registrars hold around of 25% CSCS shares. The summary ownership structure is presented below:

Nigeria Stock Exchange - 27.24%  
Participant banks - 48.27%  
Brokers/ dealers - 19.13%  
Institutional Investors - 4.24%  
Registrars – 1.12%.

All investors are domestic; there is no foreign stake in the organisation. CSCS has authorised capital of 5 billion ordinary shares with a nominal value of NGN 1.

The total shareholders' capital of CSCS (including issued capital, surplus or share premium, and general reserve) amounted to NGN 11.26 billion (USD 76.3 million) at year-end 2009. The general reserve increased from NGN 5.27 billion in 2008 to NGN 6.26 billion in 2009; an increase of 8.7%.year-on-year (y/y).

### Earnings Performance

CSCS operates as a profit-making entity. The income comprises the value of fees payable for services rendered and interest income. CSCS fees include depository fees, eligibility fees, transaction fees, and participation fees. Interest income is accounted for on an accrual basis.

CSCS recorded yearly increases in net profit between 2004 and 2008 on the back of intense financial activity in the Nigerian market. Indeed, during this period of time CSCS' revenues grew at exponential rates that averaged 103% y/y. The peak was reached in 2007 when turnover increased by 269.2% y/y. However, after the financial crisis hit global markets in late 2008, turnover fell by 59.7% in 2009. Consequently, net profits dropped by 72.8% y/y – see below.

#### CSCS Net Profits

2004 - NGN 101.4 million (USD 762,979)  
2005 - NGN 234.1 million (USD 1.7 million)  
2006 - NGN 745.8 million (USD 5.7 million)  
2007 - NGN 3.5 billion (USD 28.2 million)  
2008 - NGN 4.2 billion (USD 35.9 million)  
2009 NGN 1.2 billion (USD 8.4 million)

(Figures in USD have been converted from local currency using the respective year average exchange rate.)

Another important element associated with CSCS' financial stability is the fact that the depository has additional sources of revenue, which are independent from business cycles and can soften decline in income from fees and market activity. Indeed, non-cyclical revenue, mainly interest income, accounted for 25.2% of CSCS total revenue in 2009, whereas between 2004 and 2008, it had averaged less than 10% of total revenue.

The collapse of CSCS total revenue was compensated against by a drastic cut in expenditure, with CSCS reducing spending by 40% y/y in 2009. This included reductions in salaries, staff bonuses, investment in IT upgrades and other improvements, subscriptions, office building maintenance, public relations, and staff training among others.

Some components of CSCS' in particular the staff retirement and gratuity fund have suffered large one-off charges in the last couple of years which have impacted on CSCS' profitability. For example, upper management decided to charge against the company's

profit a deficit of NGN 515.9 million (USD 3.4 million) from CSCS' staff gratuity scheme.

### Guarantee Funds (Central Counterparty Funds Only)

CSCS does not act as a central counterparty and does not guarantee settlement of trades.

The Nigerian Stock Exchange collects contributions to the guarantee fund from its participants, while the settlement banks manage the fund. The value of the guarantee fund was around NGN 30 million (approximately USD 236,000) as at 31 May 2006. The fund has been used twice since its inception, in September 2001 and February 2002 to cover a broker's default. On both occasions, the principal amount debited was refunded by the defaulting party within 24 hours after contractual SD. Additionally, 33.3% of the penalty fee (NGN 100,000) was added to the fund.

### Access to Credit

There are no legal restrictions banning CSCS from obtaining credit. That said, CSCS has no need for credit at the moment. About 80% of CSCS' assets are held in cash, which gives management at the depository great ability to cope with market fluctuations and/or to cover any investment requirements associated with ongoing projects such as development of the Data Centre.

### Insurance

CSCS maintains a portfolio of insurance coverage with a variety of local insurers, which aims to protect the depository against all possible eventualities. There are three main policies that account for the bulk of the insurance coverage: electronic equipment, fidelity guarantee and life insurance.

Electronic equipment - Amount insured NGN 1.6 billion (USD 10.5 million)

This policy protects CSCS against loss of or damage to computer hardware and software as well as accessories and other electronic equipment (typewriters, stabilisers, printers and photocopiers). However, the policy only applies if the equipment is held at CSCS' main premises in Marina. The policy also contains two additional clauses that extend CSCS coverage. One covers CSCS against the loss of or damage to external computer data. The other covers the cost the depository might incur when hiring substitute equipment during the interruption of operations caused by damage to computers and/or equipment. The deductible for this policy is NGN 50,000 (USD 330) or 10% of each claim. The deductible will be 10% for every claim thereafter.

Fidelity guarantee – Amount insured NGN 1 billion (USD 6.61 million)

CSCS fidelity guarantee insurance has a limit of 100 occurrences for any one period of coverage.

Life and Personnel insurance – NGN 2.7 billion (USD 17.6 million)

CSCS has two policies concerning staff coverage. The bulk of this coverage is for life insurance, equivalent to NGN 2.3 billion (USD 15.1 million). The second policy is for employee compensation. The sum insured under this scheme is NGN 387 million (USD 2.5 million).

CSCS insurance portfolio is complemented by a number of additional policies, which include:

Equipment breakdown – NGN 17 million (USD 112,374)

Vehicle and motor insurance – NGN 252.3 million (USD 1.6 million)

Housebreaking and fire – NGN 266 million (USD 1.7million).

(All figures have been converted from local currency to USD using spot exchange as at 1 June 2010.)

CSCS has secured re-insurance arrangements with four corporations (African Reinsurance Corporation – 50%, Continental Re-insurance – 25%, WAICA Reinsurance Pool – 15% and Nigeria Reinsurance – 10%).

### Potential Claims on Financial Resources

#### Credit Loss

CSCS does not provide credit to participants, thus there is no risk of credit loss.

#### Central Counterparty Exposure

None, as CSCS does not act as central counterparty.

#### Liability for Operational Losses

CSCS is a limited liability company that can sue and be sued. The corporation can be held liable for consequential losses leading to reasonable compensation. CSCS cannot be subject to punitive compensation.

CSCS assumes liability for direct losses resulting from theft of securities, for direct damages or losses to participants due to the depository's errors, omissions or fraud, and for direct damages or losses to participants caused by a failure of the depository's systems. This includes taking full responsibility for errors in calculating net settlement obligations. In addition, CSCS acknowledges responsibility for reconciliation errors with the registrar, the theft of securities, the failure of its systems that results in loss or damage to a participant because access cannot be obtained and losses to participants resulting from errors, omissions or fraud. However, the depository does not assume liability for force majeure events.

Since its inception, CSCS has had no incidence of errors or negligence in reconciliation with the registrars, and no fraud by or against CSCS has been reported. Moreover, there has not been any material loss suffered by the depository during the past three years.

According to the 2009 Annual Report, there is only one pending litigation against CSCS in which it is only a nominal party. The contingent liability has been assigned as nil, and the Directors of CSCS are of the opinion that the action will not succeed against the company.

### Investment in Infrastructure

Investment in infrastructure for 2010 was budgeted at NGN 215 million (USD 1.4 million), which CSCS aims to use for computer and office equipment.

The 2010 investment budget increased by 115% y/y. However, this large spike is mainly due to the fact that in 2009 the investment in infrastructure had shrunk by 80% from NGN 520 million in 2008 to NGN 100 million in 2009. This was part of the measures adopted by management to adjust the budget in reaction to the fall in market activity.

The CSCS has been appointed as the country's National Numbering Agency (NNA) for Nigeria by the SEC.

### Financial Risk - Key indicators

#### Ownership of the CSD

	Number - Domestic	Number - Foreign	Total Percentage
Central Bank	0	0	0
Stock Exchange	1	0	27.24%
Participant banks	17	0	48.27%
Broker/dealers	5	0	19.13%
Mutual funds	0	0	0
Private clients	0	0	0
Others	0	0	0
Other Institutional Investors	Not known	-	4.24%
RNSE (Registrar) Nominee	1	-	1.12%

#### Comments

-

#### Statistics

	Capital structure Local Currency
Issued capital	5,000,000
Reserves	6,264,413
Retained earnings	0
Total	11,264,413

#### Comments

Statistics (Audited as at 31 December 2009) in NGN thousands

## Fixed Income

	2006	2007	2008	2009	2010
Market Value	-	-	-	-	2.85
% of issued securities in the CSD	-	-	-	-	98.8%

## Comments

Figures in trillions of local currency units as at December 2010.

## Expenses

	2006	2007	2008	2009	2010
Expenses as % total operating revenue	59%	37%	42%	62%	-

# Operational Risk

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## Summary

There are significant operational deficiencies that increase CSCS' operational risk exposure. CSCS does not appear to have a detailed, standard approach to establishing and documenting procedures and key controls. Also, there is no risk management policy or risk assessment division within the organisation and staff are not trained in risk prevention. The internal audit department mainly focuses on data control and is not integrated with a broader role to assess compliance with internal controls and procedures. CSCS processing and communications rely heavily on manual intervention and physical documentation with no Straight-Through-Processing (STP) established in the Nigerian market.

Regarding disaster recover arrangements, CSCS has several sites designed to back up data. However, there is a flaw in the scheme, as the main back-up centre is a single point of failure. Finally, the business continuity plan has been poorly conceived and CSCS would not be ready to continue operations if the main offices were to shut down in the event of a disaster or broad emergency.

## Depository controls

### Established Procedures

CSCS has documented its core procedures; however, the manuals appear weak as they are a brief explanation of the functions executed in each area. There is no detailed description of the responsibilities of each team member within their respective divisions, and the documented procedures do not include process diagrams or daily check lists.

### Identification of key controls

CSCS procedures do not include an identification of controls to minimise risks, especially in manual-intensive operations. Furthermore, there is no risk management department, responsible of identifying potential risks across departments. In addition, proper controls have not been developed to minimise these risks.

### Internal Audit

Although CSCS does have an internal audit department, the functions executed by their members are more related to data checking and data-entry control. The internal auditors do not focus their efforts in making sure that CSCS staff properly follows procedures in observance of all established controls.

In addition, there is no internal audit programme and it appears that any area is audited on a regular basis. Furthermore, there is not a log where records are kept of last time each area was audited.

Internal Audit currently reports errors to the head of each department and the general manager. However, the Internal Audit does not report directly to the board and the main participants.

### Operational Audit

There is an external auditor, which performs the financial audit functions. As part of their financial audit process, they also supervise different processes and areas within CSCS. This seems to be more in-depth than other financial audit reports. The last audit was conducted in September 2010 based on the result of Accounts for 2009.

An external audit that examines all operational controls is regarded as 'highly desirable', preferably on an annual basis. In the absence of a full SAS 70 audit, annual external audits of critical operations are normally seen as a minimum requirement.

On the IT side, there is no specific audit of the system and IT security arrangements. CSCS has never hired a company to hack or penetrate their systems to identify their vulnerabilities and areas that might need improvement.

### Staff Training

When a new employee starts, there is an orientation programme that lasts between one and three months. However, there is no staff training programme for employees at CSCS and no specific qualifications are required. More importantly, no special training on risk awareness surrounding operational areas appears to be provided.

## Clearing controls

### Processing

There is no straight through processing (STP) in CSCS since there is significant manual intervention in all areas of core operations (i.e. clearing, settlement, and custody). Also, the matching system does not seem to be an integral part of the settlement system. Admittedly, there is an intensive data checking process executed by the members of each department / unit and the internal audit. However, human intervention always generates a certain degree of risk exposure. Given the volume of manual input in CSCS

processes, this is an issue of concern, especially for OTC trades.

In addition, CSCS' communications with other market participants (e.g registrars) are also on a physical basis. The transfer of information is mainly done using couriers who must deliver CDs and documents to the participants. This practice increased the risk of theft, loss and fraud of data and information.

CSCS has plans to improve its communications system with participants, which is expected to automate the instruction delivery process. However, no detailed timetables of the plans have been made available yet.

## Reporting

As mentioned above, most of CSCS communications with participants are not conducted through electronic means. This includes nearly all of CSCS reporting. Indeed, statements and confirmations are sent via a physical letter to all participants on a daily basis using couriers. There is no electronic message format which could be employed by market participants to use STP to forward the instructions directly to their clients. There is no SWIFT connectivity available in Nigeria, although there is an advisory group looking into this.

A consequence of the lack of electronic STP is that there is no tracking system of each stage in the settlement process (i.e. whether a transactions has matched, it is pending, etc). This is a serious concern for OTC. For on-exchange trades participants are able to monitor the settlement of transaction via CSCS's website.

In June 2010 CSCS conducted a series of upgrades in their website, which improved the look and feel of the site. The changes are part of CSCS' effort to enhance communications and reporting with market participants.

## Data processing controls

Every document, before processing, is vetted to ensure that requests are appropriate and the certified signatories of each stock broking firm duly signed according to their Signatory Mandate.

The software system has access levels for different categories of staff members. However, it has been determined that some of the user permission groups may be too broad to allow for sufficiently granular control over individual roles. Entries and exits to the menu and sub-menus are restricted depending on the job areas. The hardware system also has access restrictions. The file server is only accessible to the system administrator and its assistant. Entry to the network requires a user-identification code and a unique password for each member of staff.

CSCS supervises the data prior to being accepted.

In addition, the NSE operates an investor protection scheme product called 'Trade Alert' designed to protect subscribers of the product against unauthorised transactions on their accounts in CSCS. At close of trading time at the NSE, the day's transactions related to a 'Trade Alert' subscriber will be forwarded from the NSE database to a separate electronic platform, from where a trigger is instituted to access the GSM phones of shareholders. This gives the stockholder the opportunity to abort the transaction if they did not authorise the stocks to be traded. Any unauthorised transactions will be subject to investigation and arbitration by the NSE.

## Disaster Recovery/Business Continuity Procedures

CSCS backs-up data on a daily basis. For this, three radio-linked back-up centres are used: Parkview, Ikeja and Abuja. However, there are serious flaws in the disaster recovery procedures (DRP) and considerable improvements are needed in order to significantly mitigate the risks associated with data loss in case of disaster.

The first back-up of data is done in real-time to a server located next to the trading engine at CSCS main offices in Marina (Lagos). This is the first line of defence in case problems arise with the main server. However, this back-up machine is in the same room as the main server, which means that if the Marina offices cease to be operational, CSCS staff wouldn't be able to use this server in order to retrieve lost data.

CSCS's main back-up centre is located in the area of Parkview, 3 kms from the offices in Marina, which is not regarded as far enough from the main offices by international standards (20 kilometres minimum).

Parkview replicates data in real-time using redundant radio networks. In addition, tapes with data are also taken to this facility every night for storage. The main back-up centre acts as a communication hub between Marina and the other sites.

The most significant flaw of this scheme is that Parkview acts a single point of failure, which means that if Parkview were to shut down or cease operations, Marina would be isolated from Ikeja and Abuja. Also, the fact that there is a heavy dependency on radio links, implies that data back up is subject to atmospheric events, which could disrupt communications.

CSCS has conducted some tests on weekends to assess the backup facilities, but results of the tests have not been provided to the external auditor. These tests have not involved market participants and no live test has been executed to date.

Parkview is deemed as a warm business continuity centre (BCC). However, CSCS has not developed a full and documented business continuity plan (BCP). Parkview's dual role (DRP and BCC) actually increases concentration risk in terms of security and effectiveness in the face of disaster.

Parkview currently has about 10 workstations for employees to continue operations in the event the main site becomes inaccessible. This appears to be barely adequate for a company of over 100 employees, especially if it is for a prolonged period of time. Staff are expected to secure and use their laptop computers from the main sites in the event of evacuation at Marina. Moreover, the facilities at Parkview do not appear to be set up properly to be up and running and ready to host staff from Marina at short notice.

In addition, key personnel at CSCS that would be required to work from Parkview to continue operations in the event of an emergency in Marina have not been identified and fully briefed, and CSCS employees have not been to Parkview to get familiar with the BCC.

Since there is no documented BCP, no tests have been made so far to ensure the continuation of operations in the event of a disaster.

### Depository Liability

The CSCS assumes liability for direct losses resulting from theft of securities, for direct damages or losses to participants due to the depository's errors, omissions or fraud, and for direct damages or losses to participants caused by a failure of the depository's systems. This includes taking full responsibility for errors in calculating net settlement obligations. The depository does not assume liability for force majeure events. The depository provides protection against risk of loss of participant assets by the depository in the form of indemnification, insurance and acknowledgment of liability for losses caused by the depository's own actions.

There are pending litigations against CSCS amounting to NGN 15 million (USD 112,000) by December 2006 compared with NGN 12 million (USD 92,000) in December 2005. The solicitors are however confident that the action will not succeed against the company.

<b>Operational Risk - Key indicators</b>
<b>Control objectives identified by the CSD match standard objectives</b> No
<b>Key controls and procedures are identified by the CSD</b> No
<b>Independent evidence exists that key controls and procedures have operated effectively through the last year</b> No
<b>Material errors have been identified</b> No

## CSD on CSD (Credit) Risk

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### Summary

There are no international links operated by the depository with other CSDs. The Nigerian Stock Exchange has signed co-operation agreements with the Cairo and Alexandria Stock Exchange with Johannesburg Stock Exchange, but no trading links have been established which would require settlement links.

### CSD - CSD Links

None.

### *CSD on CSD (Credit Risk) - Key indicators*

#### **International Links: List of international links established and/or planned by the CSD**

There are no international links operated by the depository with other CSDs.

# Governance and Regulation

## Management and governance of the depository

CSCS is governed by a Board of Directors, which is made up of the managing director of CSCS and 7 non-executive Directors. The structure is tailored to ensure inclusiveness of all participants. However, CSCS regulations state that the board must be limited to a maximum number of 10 individuals. Changes to the structure of the board in terms of the number of directors would require that the Memorandum and Articles of CSCS be amended. In turn this would be subject to a special resolution by members of the Company.

The chairman of the board of CSCS is the NSE representative. CSCS management team, responsible for day-to-day administration of the company, is headed by the Managing Director/CEO.

The board, which meets twice a year, is responsible for:

- Representing CSCS in international boards and organisations;
- Making calls and request forfeiture of CSCS shares;
- Borrowing money and issue debentures on behalf of the Company.

The board has three committees (Technical Committee , Human Capital Committee, and Finance and Risk Management Committee). The latter is responsible for ensuring that all financial data is made available to the board in a proper manner. However, such committee does not appear to be involved with risk assessment and risk prevention in CSCS. The committees meet on a need-to basis.

## Regulatory and independent examination of the depository

CSCS is regulated by the Nigerian Securities and Exchange Commission (SEC), the NSE and the Corporate Affairs Commission. CSCS submits regular reports, containing market statistics and transaction details to the SEC. In addition, CSCS staff meet with SEC representatives on a quarterly basis.

Financial audits are carried out by independent external auditors on an annual basis. These audits include an operational component that can be deemed as a limited operational audit. However no full independent operational audit is undertaken.

## Internal controls and procedures for safeguarding investments

- Fire extinguishers are available and all members of staff have been trained to use them.
- There are smoke detectors installed.
- Only accredited representatives of participants and investors with proven identity are allowed into the depository.
- There is a resident company that maintains the buildings. They stay in the building 24 hours a day, 7 days a week.
- Sensitive areas are restricted even to members of staff.
- The systems are password controlled. Comprehensive audit trails are available.
- Authority levels are defined by users and enforced by the system.

## Other legal protection mechanisms

A lien may be placed on a participant's account for the purpose of collateral for overdrafts and securing payment for purchased securities. The lien is limited to securities that have settled.

CSCS transfers securities by book-entry under the auspices of Nigerian Company law and NSE/SEC rules and regulations.

<i>About the Depository</i>	<i>Segregation of Assets at the Depository</i>
<b>Name and Address</b> CSCS 1st, 12th & 15th Floors, Stock Exchange House 2/4 Customs Street PO Box 3168 Marina Lagos Nigeria	<b>Depository assets from participants</b> Yes
<b>Website</b> <a href="http://www.cscsnigeria.com/">www.cscsnigeria.com/</a>	<b>Participant assets from clients</b> Yes
<b>Date of establishment</b> July 29, 1992	<b>Eligible Securities Depository under SEC Rule 17f-7</b>
	<b>System of central handling of securities</b> Yes
	<b>Regulated by a financial regulatory authority</b> Yes

<b>Date commenced operations</b> April 14, 1997	<b>Holds assets of all participants on equivalent terms</b> Yes									
<b>Legal status</b> Companies and Allied Matters Act 1990										
<b>Type of legal entity</b> Private, limited liability company										
<b>Regulated by</b> Nigerian Securities and Exchange Commission (SEC), the Corporate Affairs Commission and the Nigerian Stock Exchange.										
<b>Is use of the CSD required?</b> <table border="1"> <thead> <tr> <th></th> <th>Settlement</th> <th>Safekeeping</th> </tr> </thead> <tbody> <tr> <td><b>By Law</b></td> <td>Yes</td> <td>No</td> </tr> <tr> <td><b>By Market Practice</b></td> <td>Yes</td> <td>No</td> </tr> </tbody> </table>			Settlement	Safekeeping	<b>By Law</b>	Yes	No	<b>By Market Practice</b>	Yes	No
		Settlement	Safekeeping							
<b>By Law</b>		Yes	No							
<b>By Market Practice</b>	Yes	No								
<b>How securities are held</b> Dematerialised at the CSCS										
<b>Domestic eligible participants</b> Settlement banks (23 as of July 2010) brokers that are licensed by the SEC and listed with the NSE, the NSE itself, registrars, issuing houses and institutional investors.										
<b>Ownership</b> Nigeria Stock Exchange - 27.24% Participant banks - 48.27% Brokers/ dealers - 19.13% Institutional Investors - 4.24% Registrars – 1.12%.	<b>Identifies and segregates participant assets</b> Yes									
	<b>Periodic reports to participants</b> Yes									
	<b>Periodic examination by a regulator or independent accountant</b> Yes									

## Internal Safety Measures

<b><i>Participant Eligibility Criteria</i></b>
<b>Minimum Capital Standards</b> Yes
<b><i>Financial Aspects</i></b>
<b>Ability to raise capital/borrow</b> Yes
<b>Committed lines of credit in place</b> No
<b>Publish audit financials</b> Yes
<b>Take lien on stock held</b> No
<b>Central Bank Guarantee</b> No

## Services Provided

<b><i>Matching</i></b>
<b>Pre-matching services</b> No
<b>Matching services</b> Yes
<b><i>Clearing</i></b>
<b>Clearing services</b> Yes
<b>Comments</b> CSCS calculates the net payment obligations of participants, and instructs the payment to the settlement banks.
<b><i>Securities Settlement</i></b>
<b>Book-entry settlement</b> Yes

<b>Other third party guarantee</b> No	<b>Fails management</b> No
<b>Third party insurance</b> Yes	<b>Cash Settlement</b>
<b>Comments</b> Liens are asserted on stocks under pledge operations to the order of the pledgee.	<b>Internal cash settlement</b> No
<b>Safeguard Facilities</b>	<b>Stock Lending</b>
<b>Offsite Backup</b> Yes	<b>Securities lending for fails coverage</b> No
<b>Disaster Recovery</b>	<b>Asset Servicing</b>
<b>Disaster Recovery Plan</b> Yes	<b>Notifications</b> No
<b>Back-up power generator</b> Yes	<b>Securities processing</b> Yes
<b>UPS (Uninterruptible power supply)</b> Yes	<b>Paying agent</b> No
	<b>Central registrar</b> No
	<b>Proxy voting services</b> No
	<b>Communications</b>
	<b>Electronic communications</b> Yes
	<b>Reporting Services</b>
	<b>Electronic reporting</b> Yes
	<b>Reporting of every movement</b> Yes
	<b>Regular statement of securities deposited</b> Yes

### Definition

Public Rating. This assessment has been compiled from information provided by third parties and the CSD and has been verified by Thomas Murray analysts during an on-site visit to the CSD. The report has been reviewed by the CSD. The ratings that have been assigned to the risks that are reviewed in the report have been determined by Thomas Murray analysts and approved by the Thomas Murray Rating Board. The ratings have been assigned in accordance with the process outlined in the published methodology as developed by Thomas Murray and on the basis of information confirmed by Thomas Murray analysts during a site visit to the CSD.

<b>Publication Date</b>	<b>RATING SCALE</b>
The publication date represented here is August 2010. This is the date that the assessment report has been reviewed by third parties including the CSD. The report is updated on an on-going basis throughout the year as new information	<b>AAA</b> Extremely low risk
	<b>AA+</b> Very low risk

is received and should be read in conjunction with the relevant newsflashes issued since the publication date.

#### RISK EXPOSURE DEFINITIONS

**Asset Commitment Risk - The period of time from when control of securities or cash is given up until receipt of countervalue.** This risk concerns the time period during which a participant's assets, either cash or stock, are frozen within the CSD and payment system pending final settlement of the underlying transaction(s). Following settlement, the risk period is extended until the transfer of funds and stock becomes irrevocable. It excludes any periods when assets, cash or stock, are committed to a market participant including brokers, banks and custodians, not caused by CSD processing.

**Liquidity Risk - The risk that insufficient securities and or funds are available to meet commitments; the obligation will be covered some time later.** This is where for certain technical reasons (e.g., stock out on loan, stock in course of registration, turn round of recently deposited stock is not possible) one or both parties to the trade has a shortfall in the amount of funds (credit line) or unencumbered stock available to meet settlement obligations when due. These shortfalls may lead to settlement 'fails' but do not normally lead to a default.

**Counterparty Risk - The risk that a counterparty (i.e., a participant) will not settle its obligations for full value at any time.** This is simply the total default of a direct participant of the CSD. This is the event when a participant is unable to meet its financial liability to other participants. This risk only goes as far as direct participants of the CSD and excludes clients of direct participants that default on liabilities to such participants, even if such a default should systemically cause the direct participant to subsequently default.

**Asset Servicing Risk - The risk that a participant may incur a loss arising from missed or inaccurate information provided by the depository, or from incorrectly executed instructions, in respect of corporate actions and proxy voting.** This risk arises when a participant places reliance on the information a depository provides or when the participant instructs the depository to carry out an economic transaction on its behalf. If the depository fails either to provide the information or to carry out the instruction correctly then the participant may suffer a loss for which the depository may not accept liability. The depository may provide these services on a commercial basis, without statutory immunity, or it may provide the service as part of its statutory role, possibly with some level of protection from liability. This risk is likely to become much higher when international securities are included in the service.

**Financial Risk - The ability of the CSD to operate as a financially viable company.** This risk concerns the financial strength of the depository and if its financial resources are sufficient to meet the on-going operation of the organisation. This risk also includes where the CSD may act as central counterparty, or otherwise acts in a Principal capacity.

**Operational Risk - The risk that deficiencies in information systems or internal controls, human errors or management failures will result in losses.** The risk of loss due to breakdowns or weaknesses in internal controls and procedures. Internal factors to be considered in the assessment include ensuring the CSD has formalised procedures established for its main services. The CSD should have identified control objectives and related key controls to ensure operation and proper control of established procedures. Systems and procedures should be tested periodically. There should be external audit processes in place to provide third-party audit evidence of the adequacy of the controls.

AA	
AA-	
A+	Low risk
A	
A-	
BBB	Acceptable risk
BB	Less than acceptable risk
B	Quite high risk
CCC	High risk
N/R	No rating has been given due to insufficient information

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Names of analysts available on request.

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## **Report Date**

### **Nigeria**

2 June 2011