REPORT TO FSDA:

PEER BENCHMARKING
PAYMENT SYSTEM DEPARTMENT CAPACITY
IN AFRICA

Bankable Frontier Associates LLC
www.bankablefrontier.com
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Executive summary

Financial Sector Deeping Africa (FSDA) is a financial sector deepening trust whose core purpose is to support initiatives to expand access to financial services for the poor. FSDA aims to support financial sector development across the African continent by encouraging skills development and the transfer of skills across borders, especially in area of payment systems development, which is FSDA's core objective.

FSDA appointed BFA to create a pilot profile of the current and planned capacity of five National Payments System Departments (NPSDs, or their equivalents) at African central banks that will enable them to peer benchmark their own structure and capacity; and to plan better how to grow that capacity over time. This exercise should enable an understanding of possible gaps in knowledge and skills with regard to payments, potential for capacity building as well as possible requirements with respect to staff capability in key areas and potential structures.

All of the NPSDs welcomed this peer benchmarking exercise, agreeing to participate very soon after receiving the invitations. Before they had received their respective profiles, the NPSDs each indicated (when asked directly) that they had found the peer benchmarking exercise to be useful. In most cases, management felt that the study had made them aware of key gaps with respect to specific training needs for their staff.

The peer benchmarking analysis identified a range of issues for the participating NPSDs:
With respect to training and capacity-building:

- **Need for systemic approach:** There does not appear to be a systematic approach to training PSD staff members in key areas related to the NPS. This was apparent across all of the Central Banks interviewed.
- **Need for targeted training:** This study confirmed the overwhelming need and demand for additional formal training in key areas in payments. Interviews with staff and management at the PSD indicate a strong need for training which is targeted at key areas related to payments. It is key that this training is targeted, as simply providing additional training will not address gaps identified within each PSD.
- **Little formal training received to date in key areas:** While staff at the PSDs have received on-the-job training in some of the areas identified, PSD staff reported that they have received little formal training in many of the areas queried. This is problematic because on-the-job training is likely being delivered by individuals who themselves have had little formal training. Moreover, so few staff reported having received training in certain areas that it was difficult to assess the quality of their previous trainings due to small sample size.
- **Lack of technical skills:** There is a particular need for problem-solving and technical skills within the PSDs. In a self-assessment of four functional skill areas (verbal, written communication, quantitative and problem-solving skills) NPSD staff tended to view their own functional skills favourably. On average, PSD staff and management in all Central Banks rated each of four skills as either 'good' or 'adequate.' However, several NPSD heads noted that their staff were lacking in technical skills (e.g. problem-solving and quantitative skills).
- **Lack of consistency in approaches to training:** For areas in which training has been provided, the PSDs use a range of approaches to deliver it. There is little consistency

in the approaches taken to training. Some PSDs, like the BoU, rely on a mix of external and internal (e.g. in-house or on the job) providers, while others such as the BoZ tend to rely on external providers for most of their training needs. Training received tends to focus on a few key areas (e.g. SWIFT protocols and system) rather than comprehensive training in the NPS. This means that training tends to be 'siloed,' which may not prepare PSD staff and management to address and adapt to key changes and issues arising in the NPS. PSD staff ideally would keep abreast of emerging 'good' practices, which are constantly evolving (and hence are called good rather than 'best' practices).

With respect to the structure of the NPSDs and their roles within their respective markets:

- Though there is variation across the Central Banks, there are also underlying similarities in the functions performed by the five PSDs interviewed for this study. All of the PSDs perform oversight of the NPS and, with respect to policy, are tasked with creating directives, regulations and guidelines related to payments. Three of the five PSDs do not perform regular supervisory visits to individual PSPs.
- **Most of the PSDs are not full departments:** The PSD's of the BoZ, the BoG and the CBN exist as offices rather than department-level entities. Their heads along with that of the BoU's PSD all report to a superior who is not at the Deputy Governor level (DG). Most of the entities are small relative to the larger staff sizes of the departments they reside in, which has reduced their visibility within their respective Central Banks. Few of the NPSDs interviewed are able to focus on policy and oversight due to their time being occupied by operational issues. The heads of the PSDs which today exist as office-level entities each indicated that they would be more effective as departments.
- **Lack of resources:** Management within most of the PSDs feels that their respective PSD is not adequately resourced to deliver on its mandate today. This gap is less about hiring additional staff than about building staff capacity in key areas related to oversight and policy within the NPS.
- **State of the NPS:** A cornerstone of any NPS is whether sufficient legal certainty exists around the Central Bank's role of performing oversight over all PSPs in the market. Three of the five countries (Zambia, Ghana and Ethiopia) have an NPS Act in effect. These acts typically grant Central Banks the formal authority to perform oversight over payments systems. Without yet having an act in Nigeria, the CBN draws this power through its general governing act (2007); and in Uganda, the BoU has authority over banks in their role as PSPs but not necessarily in the broader payments arena. Yet while legal certainty with respect to the Central Banks' oversight role exists in each country, the fact that three of the five PSDs are offices rather than departments may indicate a lack of understanding within higher levels of government of the importance of the Central Bank's oversight function. Similarly, bringing an NPS Act into effect should also be a top priority in the two markets where one has yet to be passed.

The issues with respect to the structure and resourcing of the NPSDs as well as the gaps in training identified may be leading the PSDs to adopt a haphazard approach to risk management within the NPS. Although all of the PSDs are empowered to develop regulations, directives and guidelines to govern stakeholders' roles in the NPS, in many cases these documents are not in harmony with one another, e.g. the CBN's views on electronic payments in Nigeria, which are spread across several documents. The governance framework within the NPS of the five markets also remains disjointed, as none of the market has a PSMB and few have an NPC which serves as a true forum for industry to jointly discuss key issues of interest. Though a PSMB is catered-for in the case of Nigeria's draft Payments System Management Bill, it cannot move forward until this act is passed.

In short, the peer benchmarking analysis suggests that additional capacity-building would be welcomed by all of the NPSDs interviewed. Most of the departments feel challenged by new and/or growing offerings in payments in their respective markets yet are not sure how or where to develop additional capacity. At present most training tends to take place via conferences or one-on-one discussions. The NPSDs are trying to respond to market challenges but do not benchmark their capacity, structure or level of resourcing against other countries in a systemic way.

All of these issues result in reduced certainty for participants in each of these markets. PSPs in the five study countries likely do not perceive their respective Central Banks as adopting a consistent approach to oversight and risk management. This can have the effect of dampening incentives to innovate and of making it less likely that participants will see the benefits of sharing infrastructure (as all are competing in an uncertain world). In short, Central Banks may be sending problematic signals to market participants in a manner which exacerbates the challenges associated with the increasing usage of electronic payments in each market.

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1.0 Project background

Payments system departments bear the brunt of growing pressures within their respective markets. These range from new risks as non-banks enter the payment systems to the need for new knowledge about technology, standards, operational and economic models and related challenges around policy-making and oversight. However, there has been little consolidated peer benchmarking (i.e. comparison among a defined group of central banks) or benchmarking of the current and potential structure, resourcing and capacity of payment system departments in central banks across Africa, recognising the need to cater for these developments. In the absence of adequate capacity, not only are risks to the whole financial system heightened but there are bottlenecks which limit their ability to respond to innovation and enable greater financial inclusion.

FSDA appointed Bankable Frontier Associates (BFA) to create a profile of the current and planned capacity of National Payments System Departments (NPSDs, or their equivalents) of several countries that will enable them to peer benchmark their own structure and capacity; and to plan better how to grow that capacity over time. This exercise and resultant profile should enable an understanding of possible gaps in knowledge and skills with regard to payments, potential for capacity building as well as possible requirements with respect to staff capability in key areas and potential structures.

This report to FSDA is a compilation of data and information gathered during interviews with NPSD staff at five Central Banks in Africa: (BoZ), visited over October 28-29, 2013; the BoU, visited over November 7-8, 2013; the Bank of Ghana (BoG), visited over November 12-13, 2013; the National Bank of Ethiopia (NBE), visited over November 19-20, 2013; and the CBN, visited over November 24-25, 2013. While the peer benchmarking profiles delivered to each Central Bank which participated in the study were intended as articulations of data received absent any views or recommendations from BFA as to the functions, structure or capacitation of the NPSDs, this report to FSDA includes an additional section on the recommended way forward with respect to supporting capacity-building in the NSPDs.

2.0 Market context

The five study countries form a diverse group with respect to market dynamics and the state of development of their National Payment Systems (NPS). Nigeria is by far the largest market, with a deeper penetration of retail financial service outlets than the other study countries, judging from proxies such as the number of ATMs, Point of Sale (POS) devices and bank branches per 100,000 people (per 100,000 adults for bank branch penetration). Ethiopia, though the second-largest country in set, has achieved a far more limited penetration of financial service points, while Ghana, Uganda and Zambia range from small to mid-size markets, each having less than 10 million bank accounts in the country. There appear to be far more mobile money accounts in Uganda than in all other markets aside from Nigeria, though it is unclear how many of Uganda's reported 13.2 million accounts are active (still waiting on data from Nigeria). Banks in Nigeria, Uganda, Zambia and Uganda are permitted to act as mobile money issuers.

Figure 1: Market comparison of FSDA peer benchmarking study countries (2013 data unless indicated)

Indicator	Nigeria	Ethiopia	Uganda	Zambia (2012 data)	Ghana
Population (millions, 2012)[1]	169	91	36	14	25

[1] Source: World Bank

Indicator	Nigeria	Ethiopia	Uganda	Zambia (2012 data)	Ghana
No. bank savings accounts		13 million total	3.7 million	1.2 million	NA[2]
No. bank current accounts			0.7 million	0.5 million	NA
No. debit cards issued[3]	28.4 million		0.8 million	1.7 million	NA
No. credit cards issued	11,000		-	NA	NA
No. pre-paid cards issued	350,000		-	NA	NA
No. mobile money accounts issued	10.1 million		13.2 million	2.1 million[4]	
No. ATMs per 100,000 people	5.8	0.1	1.6	3.3	4.2[5]
No. POS devices per 100,000 people	71[6]	0.6	2.2	6.9	NA
No. bank branches per 100,000 adults (2011 data)[7]	6.4	2.0	2.4	4.4	5.5
May non-banks provide mobile money?	Yes	no	Yes	Yes	No

Source: Interviews and responses to BFA questionnaires

Despite these differences with respect to market structure and dynamics, the architecture of the NPS across the five study countries is similar in many ways. Three of the five countries (Zambia, Ghana and Ethiopia) have an NPS Act in effect, which grants Central Banks the formal authority to perform oversight over payments systems; in Nigeria, the CBN currently has this power through its general governing act (2007). Nigeria is awaiting passage of the Payment Systems Management Bill (effectively an NPS Act) which will make important changes to the NPS, including a "NPS Advisory Board" which is responsible for setting policy for the entire NPS as well as standards, objectives and criteria for participation in the NPS; and an "NPS Management Body" tasked with enforcement of these policy and driving adoption of related measure for regulation.[8] None of the other countries have a Payment Systems Management Body (PSMB) which would perform a similar role to Nigeria's NPS Advisory board, (though Zambia's NPS Act caters for a PSMB).

[2] Data as to the number of accounts and payment cards is not collected by the BoG. Nor was this information available in their 2012 annual report.
[3] Please note that some of these transactions are associated with Visa or MasterCard-branded cards while others are from locally-branded cards. BFA does not have adequate information to split the card transaction volumes along these lines.
[4] As of September 2013
[5] BFA calculation based on 2010 World Bank data.
[6] BFA calculation based CBN data on the number of POS devices in Nigeria.
[7] Source: World Bank. 2011 data.
[8] Please note that while these two bodies appear to map to the two entities described in PSV2020.R2, the two bodies are referred to differently. PSV2020.R2 calls the NPS Advisory Board the Payment System Strategy Board, and refers to the NPS Management Body as the Payment System Management Body.

Three of the five countries have an entity resembling a National Payments Council (NPC). In Zambia, Uganda and Nigeria (where they are referred to as Joint Technical Committees), these NPCs have tended to be consultative bodies in which the regulator meets with industry around operational issues; they are not typically decision-making forums.

The Central Banks of all five study countries have published vision documents which outline their principles and goals for the development of the NPS going forward (in some cases to 2020 or 2017, in others indefinitely until the publication of the next version of the document; please see footnote). As one example, Nigeria's updated vision statement, Payments System Vision 2020, commonly referred to as 'Release 2.0.' (PSV2020.R2), outlines the Central Bank's eight guiding principles for the development of the NPS. PSV 2020.R2 also contains an assessment of Nigeria's NPS infrastructure against the Principles for Financial Market Infrastructure (PMFI) issued jointly by the BIS Committee on Payment and Settlement Systems (CPSS) and the OSCO Technical Committee of the Organization of Securities Commissions. PSV2020.R2 also advocates several changes to the governance structure of the NPS in line with the entities outlined in the Payment Systems Management Bill.

Additional detail on differences between the NPS architecture by country is as follows:

Figure 2: NPS architecture by country

	Nigeria	Ghana	Ethiopia	Uganda	Zambia
NPS Act in effect?	No, but equivalent bill has been drafted	Yes	Yes	No	Yes
If yes: does Payments Act permit delegation of authority to a PSMB?	It will	No	No	-	Yes
Is there a PSMB in the market?	No. NPS Advisory Board is proposed.	No	No	No	No[9]
Payments vision document published?	Yes	Yes	Yes	Yes	Yes
If yes: in what year?[10]	2013 (second release)	2014[11]	2009	2003	2012

[9] The NPS Act caters for a PSMB, but none exists.
[10] The vision documents are valid for the following periods: Zambia, 2013-17; Uganda, 2012-2020; Ghana, 2012 going forward; Ethiopia 2009 going forward; Nigeria, 2013-2020.
[11] Known as the BoG's Policy Statement on National Payment Systems Oversight. Available on the BoG's website.

	Nigeria	Ghana	Ethiopia	Uganda	Zambia
Are there mobile money guidelines/ regulations in effect?	Yes (and currently under review)	Yes, but currently under review	Yes	Yes	No[12]
National Payments Council (NPC) in market?	No, but Joint Technical Committee meets regularly[13]	No[14], but Interim Committee in place	No	Yes	Yes
If yes: Does the Central Bank serve as secretariat to the NPC or its equivalent?	Yes	-	-	Yes	No
If yes: Is the NPC a consultative body?	Yes	-	-	Yes	Yes
If yes: Is the NPC considered a decision-making body?	No	-	-	No[15]	No
Does the department have formal power to designate payment systems?	No	Yes	Yes	No	Yes

Source: Interviews and responses to BFA questionnaires

The core retail payments infrastructure in most of the study countries is similar in that all have implemented a real-time gross settlement (RTGS) system for processing high-value payments which is domiciled at the Central Bank. All countries also have Electronic Funds Transfer (EFT) systems for debits and credits capable of providing interoperability across at least all bank participants, with the exception of Ethiopia, whose Ethiopia Automated Transfer System (EATS) is not fully-functional and does not present high volumes of EFT debits and credits at present. In all five study countries, the Central Bank has implemented a cheque truncation project with the result that cheques are cleared electronically (typically via clearing house) rather than manually. These initiatives have reduced cheque clearing times significantly in all markets where fully implemented.

Additional detail by market is as follows:

- In Uganda, Interswitch provides clearing services to 10 financial institutions including seven banks, two micro-deposit taking institutions (MDIs) and one Credit Institution for the following payment streams: POS, ATM, mobile payments (cash withdrawal for Airtel Money customers at certain Interswitch-owned ATMs) and bank branches (e.g.

12 In draft form. Expected to be published in 2014.

13 The Joint Technical Committee meets on an *ad hoc* basis around operational issues related to payments and the NPS.

14 The 2013 Oversight Framework provides detail as to number of Board members and the process through which they are nominated. However, the details of this are still being finalized as the document is in draft form.

15 This body is presently being re-constituted.

bill payments). Interswitch also provides a range of value-added services (VAS) including ATM management16 (for its own independent network as well as that of one financial institution); card management and production for Interswitch-branded local debit, pre-paid and smart cards used by government (e.g. civil servants' salary payments as well as contractor payments); and utility payment collection. However, there is no interoperability at POS or ATMs for non-Interswitch branded debit, ATM and credit cards

- In Ghana, The Ghana Interbank Payment and Settlement System (GhIPSS), a subsidiary of the BoG, performs clearing for locally-branded ATM and debit cards. GhIPSS' payment infrastructure is currently used by all banks in Ghana, including Rural and Community Banks and Savings and Loan institutions. GhIPSS is exploring performing clearing for Visa and MasterCard cards (both domestic and international) but does not perform this role at present.17 However, there is no interoperability for non-local ATM and debit cards at POS or ATMs.
- In Zambia, the Zambia Electronic Clearing House (ZECHL) provides clearing services for member banks in the Electronic Funds Transfer (EFT) debit and credit streams as well as Cheque Image Clearing (CIC) services. Limited interoperability exists for debit, credit and pre-paid cards on ATMs and POS devices as well as for mobile money services. The BoZ in conjunction with the Bankers Association of Zambia (BAZ) is currently18 implementing a national switch19 for ATM, POS, mobile banking, internet banking, CIC and Direct Debit and Clearing (DADCC) streams, which may improve interoperability levels within these streams.
- Ethiopia's Interoperability is either absent or functions at a low-level for most payment streams in Ethiopia including ATM, POS, internet and mobile banking. However, banks have agreed to fund a national switch which may improve interoperability levels.
- Nigeria's core retail payments infrastructure is relatively well-developed. Its central switch, the Nigerian Inter-Bank Settlement System (NIBSS), which is owned and operated jointly by Nigerian commercial banks and the CBN, supports interoperability for a range of retail transaction types including real-time credit push account transfers but not ATM and POS. There are also has several privately-owned payment switches in the market.20 NIBSS supports Electronic Funds Transfer (EFT) debits and credits through NEFT (NIBSS EFT). The NISBSS Instant Payments (NIP) service which debuted in 2011 provides interoperable real time clearing credit push electronic transactions and is offered by all commercial banks in Nigeria. This is a key component to enable

[16] Over 100 ATMs and 170 branches from the 10 member financial institutions are part of the Interswitch ATM network. Interswitch also manages 5 ATMs for DFCU directly.
[17] GhIPSS installed a new switch in 2012
[18] http://www.boz.zm/(S(bkijnl2kfpz55em5hti1sbbj))/%5Cpublishing%5CSpeeches%5CNational%20Financial%20Switch%20Project%20Manager.pdf
[19] It is unclear whether the switch will operate on a utility basis or not.
[20] Central Bank of Nigeria (September 2013), *Payments System Vision 2020: Release 2.0*, p. 19.

interoperable mobile money transactions. NIBSS does not support interoperability for all players in ATM and POS.

Figure 3: High-level view of interoperability within specific payment streams

Note: CB stands for Central Bank

Payment stream	Aspect	Nigeria	Ethiopia	Uganda	Zambia	Ghana
RTGS	Implemented?	Yes	Yes	Yes	Yes	Yes
	If yes: which year?	1994	2011	2005	2004	2002
EFT debits, credits	Country has this payments stream?	Yes	Partially via EATS[21], but not fully functional. Low-volume	Yes	Yes	Yes
	Interoperability of all participants?	Yes, through NEFTs		Yes	Yes	Yes
	Who performs clearing?	NIBSS	NBE	CB	ZECHL	GhIPSS
ATMs	Country has this payments stream?	Yes	Yes	Yes	Yes	Yes
	Interoperability of all participants?	No	No	No	Yes	Yes
	Who performs clearing?	NIBSS. Interoperability for some but not all ATMs.	-	Interswitch[22]	ZECHL	GhIPSS
Debit cards	Country has this payments stream?	Yes	Yes	Yes	Yes	Yes
	Interoperability of all participants?	No	No	No	No	Yes
	Who performs clearing?	NIBSS. Interoperability for some but not all ATMs and for Visa and MasterCard.	-	NA	Visanet (for Visa)	GhIPSS
Credit cards	Country has this payments stream?	Yes	No	Yes	Yes	Yes
	Interoperability of all participants?	No	No	No	No	Yes

[21] Ethiopia Automated Transfer System.
[22] For five banks

Payment stream	Aspect	Nigeria	Ethiopia	Uganda	Zambia	Ghana
	Who performs clearing?	NIBSS. Interoperability for some but not all ATMs and for Visa and MasterCard.	-	NA	Visanet (for Visa)	GhIPSS
Mobile money	Country has this payments stream?	Yes	Yes	Yes	Yes	Yes
	Interoperability of all participants?	No	No	No	No	No
CICO merchants: bank	Country has this payments stream?	Yes	No (though catered for in Proclamation)	NA	NA	Yes
	Interoperability of all participants?		No	No	No	No
CICO merchants: mobile money	Country has this payments stream?	Yes	No (though catered for in Proclamation)	Yes	Yes	Yes
	Interoperability of all participants?	No	No	No	No	No
	Who performs clearing?	-	-	-	-	-

Source: Interviews and responses to BFA questionnaires

Volumes of non-cash transactions are one indicator of the level of activity coursing-through each countries' payment systems, which the Central Banks are responsible for providing oversight over. Nigeria's volumes of non-cash transactions dwarf those of the other FSDA study countries. Based on data provided by the CBN, Nigerians made approximately 390 million non-cash transactions in 2012. Most of these were debit card transactions, as can be seen in the figure below. By comparison, Zambia, Uganda and Ghana recorded between 8-12 million electronic transactions in 2012[23]. In Uganda and Zambia, most recorded non-cash transactions by volume were EFT debits and credits. Ghana is the lone market of the three in which the number of cheques issued exceeds the volume of EFT credits for the relevant period, suggesting greater reliance on this instrument.

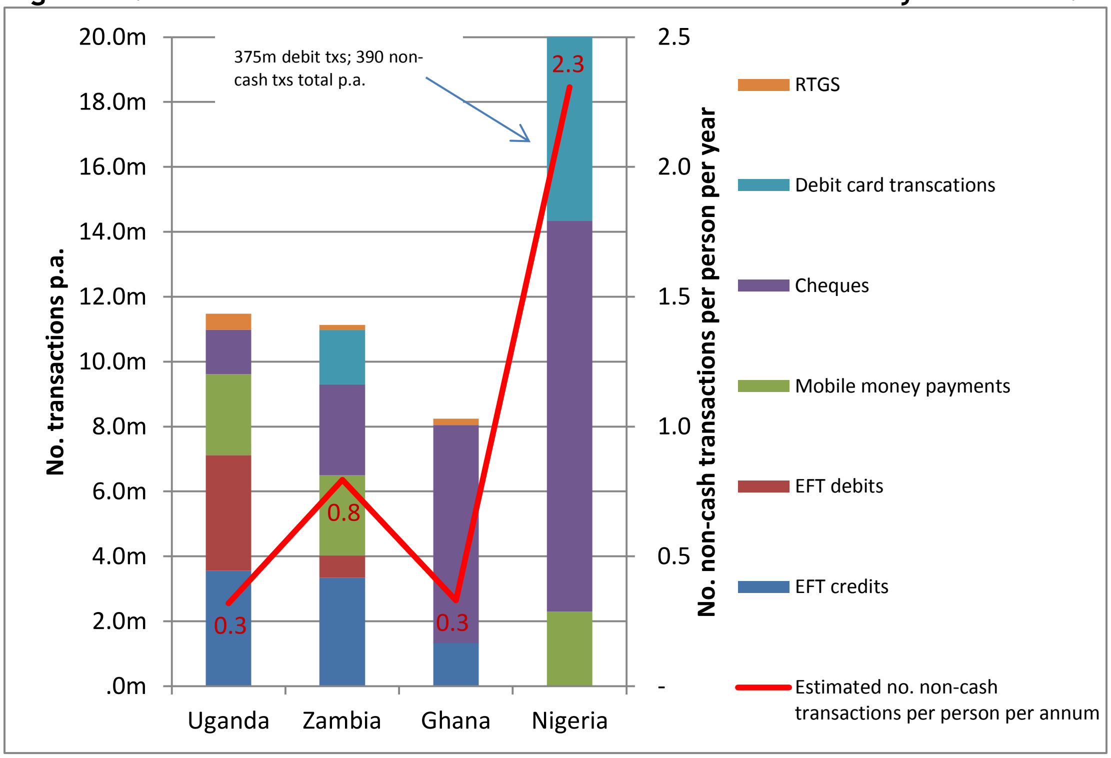
The discrepancy in non-cash transaction volumes between Nigeria and the other markets would appear to stem from the far larger size of Nigeria's population. However, even on a per capita basis, Nigerians tend to transact in means other than cash at greater rates. The figure of 2.3 non-cash transactions per person in Nigeria (see figure below) is nearly three-times larger than the comparable figure for Zambia, which has the next highest figure among other study countries. The level of development of Nigeria's core retail payments infrastructure

[23] The data for Uganda is from 2012. The NBE did not provide data in this area.

would appear to explain this difference, although additional demand-side research would be needed to corroborate these findings given the difficulty in tracking payments behavior.

It should be noted that these are high-level comparisons based largely on data submitted by banks and other PSPs to their respective Central Banks. These figures may therefore understate the number of non-cash transactions in each country due to limitations on the data provided, e.g. the Bank of Ghana's data comes from the Ghana Interbank Payment and Settlement System (GHiPSS) but does not include data relating to Visanet or MasterCard.

Figure 4: Volumes of non-cash transactions in FSDA study countries: 2012[24][25][26][27]



Source: Data provided by Central Banks and BFA research

3.0 Functions and structure of the national payments system departments

3.1 Functions of department

As noted above, all of the Central Banks from the FSDA study countries have the power to perform oversight over their respective NPS. Only two of the Central Banks interviewed, though, perform supervisory visits to individual PSPs: the CBN and the BoG. These visits (1-2 per year) typically entail investigations into compliance with rules and regulations (e.g. security standards) and reviews of the performance reports sent to the Central Bank. All of

[24] Data from Uganda from July 2012-June 2013 rather than for 2012.
[25] Figure excludes 34 million "ATM transactions" (Note sent to Lazarous) from Zambia and around 280,000 from Ghana as it is unclear what proportion are balance inquiries (which are not considered payments).
[26] Ethiopia has not provided this but has only implemented cheques and RTGS to date. Nigeria is likely to provide the data in short order (to be updated).
[27] The Bank of Uganda's data on EFT debits and credits had been provided as a single combined figure. To allow for comparisons with like payment streams in the other countries, this combined figure has been split 50/50 between EFT debits and credits in the figure above. (awaiting information from bank).

the Central Banks regularly collect data on a range of payment streams (see figure below for details). Most of this information is inter-participant only, though the CBN collects data on on-us transactions as well. This data is typically used for creating internal reports, though the BoZ publishes an annual report based on this data and the CBN makes this information available to participants upon request.

Most of the NPSDs have issued a range of directives and guidelines relating one or more of the following: agent banking, mobile payments, transaction switching services, ATM operations, and others.

Figure 5: functions performed by payments departments

	Functions: does this department:	Nigeria	Ethiopia	Ghana	Uganda	Zambia
General	Develop new regulations, directives and guidelines?	Yes	Yes	Yes	Yes	Yes
	Authorize or license payment service providers (PSPs)?	Yes	Yes	Some	Soon (with NPS Act)	Yes
	If yes: how long does this authorization normally take for a single PSP?	Varies: up to 12 months for MMO; up to 2 years if no previous licence	3 months	12 months	-	3 months
	Sit on the board of any payment service providers/switches?	Yes	No	In some areas	No	No
	If yes: which?	NIBSS	-	GhIPPS	-	-
Supervision	Does the department perform a supervisory role?	Yes	Soon (in mandate)	Yes	No	No
	If yes: number of visits per year?	At least 2; more in need	-	1	-	-
	If yes: What does each visit entail?	Review activities; Ensure compliance; verify reports.	-	Security printing inspection, production capacity, governance structure	-	-
Oversight	Does the department	Yes	In mandate (but	Not yet	No[28]	Yes

[28] This is currently in the Banking Supervision Department.

	perform an oversight role?		function is not yet performed)			
	If yes: How often do you perform oversight over entities?	Monthly	-		NA	Monthly
	If yes: What does this entail?	Analysis of data and performance reports sent, etc.	Collection of data-information on payment transaction and channels		NA	Analyze returns and statistics submitted

Source: Interviews and responses to BFA questionnaires

Figure 6: Information collection role performed by payments departments

Information collection	Nigeria	Ethiopia	Uganda	Zambia	Ghana
Do you get payments-related MIS from the participants?	Yes	Yes	No. Sits with oversight dept.	Yes	Yes
What payment streams do you receive this for (please list) in space to right)	NIBSS, payment stream data as submitted by banks. CBN collects data for all payment streams including card, EFT debits and credits, etc.	Only beginning to collect this information. Mainly data/information on payment transactions and channels	-	POS, ATM, mobile, remittances	ATM, Card (GhIPPS only), EFT
Do you collect all volumes and values, or rather just those between participants?	Both on-us and interbank	Yes started to collect all volumes and values	-	Interbank only	Interbank only
Do you collate and produce reports on payment system activity?	Yes	Not yet	-	Yes	Yes
If yes: how regularly are these reports published?	Internal, monthly; not regularly published on website, but available to stakeholders upon request	-	-	Annual report published[29]	Internal only

Source: Interviews and responses to BFA questionnaires

3.2 Interaction with other NPS stakeholders

With the exception of Nigeria's, the Central Banks interviewed do not tend to meet with key stakeholders regularly in an established forum[30]. Rather, they tend to meet on an *ad hoc* basis

[29] First was published in 2011.

around operational issues. The CBN's PPSO, by contrast, meets regularly with key stakeholders via Joint Technical Committees focused on particular operational issues. Most of the Central Banks do not have Memorandum of Understanding (MoU) with the telecommunications regulator or competitions authority in their market.

Figure 7: Role of NPSDs relative to other NPS stakeholders

	Nigeria	Ethiopia	Ghana	Uganda	Zambia
The Central Bank holds regular strategic meetings with key stakeholders at a senior level in manner that is not formalized through an entity (e.g. NPC, though having an NPC does not mean that the CB meets with this entity regularly)	Yes—Joint Technical Committees	No	No	No	No
If yes: how many times per year are these meetings held?	Ad hoc	-	-	-	-
The Central Bank consults stakeholders on particular operational issues (potentially leading to the creation of ad hoc task forces)	Yes (part of CBN's oversight function)	Yes	Yes	Yes	Yes[31]
If yes: how many times per year are these meetings held?	Not provided	Ad hoc as required	Ad hoc, e.g. had NPS strategy workshop in June 2013	Ad hoc. E.g. Met around NPS Act draft	Not regularly
The Central Bank consults stakeholders sporadically, mostly on a bilateral basis	No (consults jointly as well)	Varies	No	Yes	Yes
The Central Bank consults almost exclusively with the Bankers Association	No- more broadly	No. Also meets with individual banks.	No- with other PSPs as well	No- with others	Yes
Is there a memorandum of understanding (MoU) with the competition regulator in your market?	No	No	No	No	No
If yes: how many times per year do you meet with the competition regulator?	-	-	-	-	-
Is there a memorandum of understanding (MoU) with the telecommunications regulator in your market?	Yes- TOR in place	No	No		No
If yes: how many times per year do you meet with the telecommunications regulator?	Monthly	-	-	-	-

Source: Interviews and responses to BFA questionnaires

3.3 Structure of department

A key component behind whether NPSDs are able to deliver on their mandates is their position within their respective Central Banks. The PSDs of the BoZ, the BoG and the CBN exist as offices rather than department-level entities. Their heads along with that of the BoU's PSD all report to a superior who is not at Deputy Governor level (DG). With respect to total staff sizes, the PSDs range from 29 full-time staff at the BoU to 6 at the NBE.

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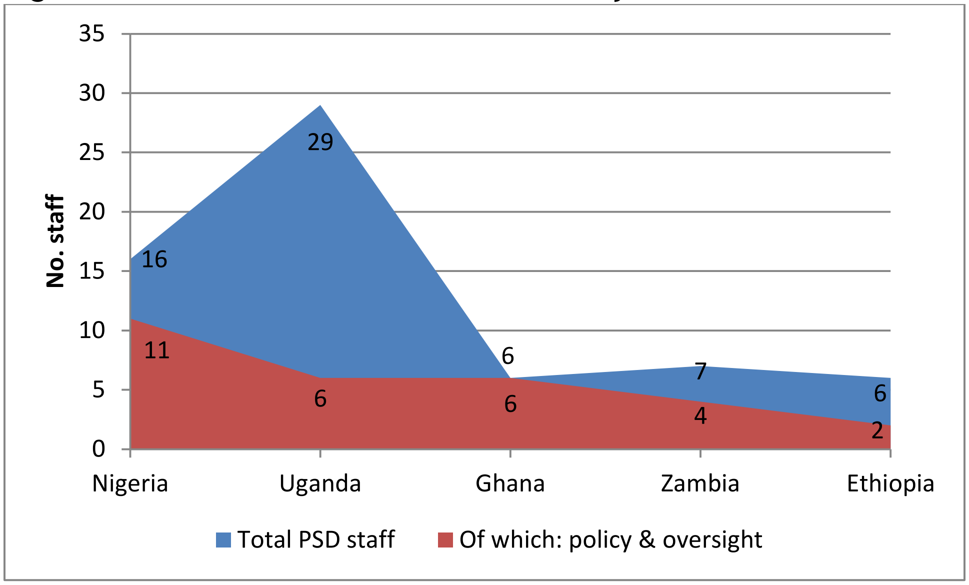
[30] Though Zambia and Uganda have NPCs, they still indicated that they did not use this forum to meet with key stakeholders on a regular basis. Zambia's NPC was largely ineffective according to the Head of the NPSD.

[31] Have a payments association, which is not active

Figure 8: Size of PSD staffs across FSDA study countries



Source: Interviews and responses to BFA questionnaires

Yet it is not just the total number of staff in each PSD but also staff numbers in two critical areas, policy and oversight, which helps determine whether the PSD can effectively manage Payment Service Providers (PSPs) and their offerings. The number of staff working in policy and oversight ranges from six to two persons across the five PSDs. It is unclear whether these levels of staffing at the Central Banks is sufficient to manage the range of payment streams and PSPs within their respective markets.

The following figure contains additional detail as to the structure of the NPSDs:

Figure 9: High-level comparison of the structure of payments departments in FSDA study countries

	Nigeria	Ethiopia	Uganda	Zambia	Ghana
Does Head of NPS sit on bank-wide management structures?	Yes	Yes	Yes	Yes	Yes
If yes: which?	Cashless CBN; Joint technical committees; NIPOST, ; Mobile payments working group; Nigerian Electronic Fraud Forum	Cheque standards; HR; Core banking	Payment systems policy committee; Financial market operations sub-committee	Monetary Policy Committee	Monetary Policy Committee

	Nigeria	Ethiopia	Uganda	Zambia	Ghana
Oversight within NPSD or equivalent?	Yes	Yes	No	Yes	Yes
Back office within NPSD or equivalent?	Yes	Yes	Yes	No	Yes

Source: Interviews and responses to BFA questionnaires

The majority of the heads of the PSDs interviewed for this exercise indicated that the structure of the PSD and its position within the larger bank had proven problematic. Issues relevant to the individual PSDs include the following:

- **In Nigeria,** CBN management feels that the office's stature is insufficient for the scope of its mandate. While the PPSO is tasked with performing extensive oversight activities for bank and non-bank PSPs alike, it operates as an office rather than a department. This limits its visibility within the CBN. The PPSO would also benefit from having a clear statutory basis for its role, which may come with the passage of the Payment Systems Management Bill. Furthermore, the collective skillset within the PPSO is insufficient for the office to fully execute on its role. There is a lack of diversity with respect to expertise, with most staff having an accounting or general business background. There is reportedly a dearth of knowledge about electronic payments within the office. Hence the problem is one of skills rather than staff numbers. According to executive management, PPSO is at present only '20% equipped' to deliver on its mandate.
- **In Uganda,** management expressed concern that while existing staff have strong operational expertise, there is a need for greater knowledge of payment systems, particularly risk management. Management not view the Department's current structure as optimal given that back office operations are housed within the Department. Furthermore, the oversight function, including that of PSPs sits outside the PSD, which hampers the ability of the department to address these market challenges. Management also feels that the department must strengthen its risk management systems as the failure of one or more payment systems could potentially have a far-reaching negative impact with respect to promoting greater usage of electronic payments.
- **In Zambia,** PSD management indicated that several issues relating to structure may be inhibiting its ability to function optimally. BoZ management tend to frame discussions around the department's capacity with respect to the larger Banking, Currency and Payment Systems Department, which employs about 80 people in total. However, several staff members in PSD noted that PSD's complement of six staff was insufficient to enable informed policy-setting and proper oversight in payments, which was widely-believed (among staff) to be a dynamic arena. The PSD's structure is 'flat' in that there are relatively few layers between the Head and the most junior staff members which may further inhibit its capacity (though this type of structure is to be expected in a small department). A related issue is that in recent years, the BoZ has begun to hire contractors on 2-3 year engagements as opposed to permanent staff, which may limit the PSD's ability to retain skills developed.
- **In Ghana,** The NPSOO's being an office rather than a department limits its visibility and perceived importance within the BoG according to management. This makes it

more difficult to attract skilled staff. Present staff members would benefit from greater international exposure and from training which would help equip staff with 'analytical tools' needed to perform their roles. Management believes the NPSOO should perform a mapping of the financial services landscape (e.g. adoption and usage of financial services) as part of its efforts to keep abreast of market developments. She also would like to see the BoG develop a database through which it can store and analyse the market data it collects regularly.

- **Finally**, **in Ethiopia,** management reports that for both private financial institutions and the NBE itself, expertise in key areas relevant to payments is severely lacking. Banks, for example, often have difficulties writing effective Requests for Proposals (RFPs) due to lack of in-house capacity. Financial institutions are unsure of which technology to procure, and how to go about acquiring it, i.e. purchasing from abroad or buying or creating it within Ethiopia. Management also reports having a lack of operational and technical expertise. It realizes the importance of keeping abreast of new market developments and hence feels it needs to focus on developing expertise in the areas of oversight and policy to implement its directives and guidelines. The NBE typically relies on donor funding to build capacity in key areas related to payments, which is not necessarily a sustainable approach.

These issues will likely put strain on all of the NPSDs to some extent in the short to medium term.

The following figure contains additional detail as to the structure of the various PSDs relative to the Central Bank overall:

Figure 10: High-level comparison of the structure of payments departments in FSDA study countries

	Nigeria	Ethiopia	Uganda	Zambia	Ghana
Does Head of NPS sit on bank-wide management structures?	Yes	Yes	Yes	Yes	Yes
If yes: which?	Cashless CBN; Joint technical committees; NIPOST,; Mobile payments working group; Nigerian Electronic Fraud Forum	Cheque standards; HR; Core banking	Payment systems policy committee; Financial market operations sub-committee	Monetary Policy Committee	Monetary Policy Committee
Oversight within NPSD or equivalent?	Yes	Yes	No	Yes	Yes
Back office within NPSD or equivalent?	Yes	Yes	Yes	No	Yes

Source: Interviews and responses to BFA questionnaires

To better gauge perceptions within the PSD as to its capacity and ability to source additional resources as needed, BFA incorporated a series of opinion statements into this study. We read six statements to each person we interviewed and asked whether they agreed or disagreed with each one along a scale from one to five (please see the note below for a full explanation of the ratings). [32] While we posed the six statements to both PSD staff and management, we have focused here on comparing the responses from PSD management across the five Central Banks. These individuals appeared to be best-positioned to evaluate key elements such as the PSD's ability to attract and retain staff as well as the PSD's ability to deliver on its mandate.

Based on the average responses across the staff of all PSDs interviewed, most of the Central Banks were neutral on the topic of whether their respective PSDs were fully resourced to deliver on their mandate. The majority of banks disagreed with the statement that their PSD found it more difficult to retain staff relative to other departments in the Central Bank (Statement F).

The average responses to the opinion statements were as follows:

Figure 11: opinion statements on NPSD capacity and resources available

Scale: 1 indicates that the respondent fully agrees with the statement, with 5 indicating that he or she fully disagrees with the statement vary, as per the analysis above.
Colored as follows:
Green indicates a response of 'agree' or 'fully agree' with the statement;
Yellow indicates a response of 'undecided'
Red indicates a response of 'disagree' or 'fully disagree'

	Opinion statement	Average across 5 Central Banks
A	The NPS department is fully resourced to deliver on its mandate today.	3.4
B	The NPS department is better off than private financial institutions in its ability to attract skilled staff.	2.7
C	The staffing position in the NPS department is worse than that of central bank overall.	3.4
D	Retaining skilled staff is hard to do.	3.1
E	Motivating for new staff positions in NPS is hard to do.	2.4
F	Relative to other departments in the central bank, NPS finds it harder to retain professional staff	3.5

Source: Interviews and responses to BFA questionnaires

4.0 Findings on capacity within key knowledge domains

[32] BFA posed a series of opinion statements to each staff member interviewed regarding the capacity and resources available to the PSD. The staff members were asked to rate their responses on a scale of 1-5, with a "1" indicating that they completely agreed with the statement and a "5" indicating they completely disagreed.

One of the principle tasks of the FSDA peer benchmarking study was to identify key areas in which further capacity-building was needed. Given that payments is considered a dynamic field in which a range of skills (e.g. financial analysis, understanding of PSPs, payments and payment instruments, regulation and compliance, etc.) is required, we wanted to ask Central Bank staff members of the various departments and offices which areas of focus were most critical to their roles. We identified 15 knowledge domains and asked staff to rate them on a scale from 1 to 5, with 1 indicating that the domain was very relevant and 5 indicating that it was completely irrelevant. The staff of the PSDs evaluated the knowledge domains as follows:

Figure 12: Relevance of key knowledge domains
Scale: 1 indicating very relevant, with 5 indicating totally irrelevant
Color code: average score of 2 or lower (i.e. very relevant or relevant) shaded in green

	CBN	BoU	BoG	NBE	BoZ
Settlement	1.5	1.1	1.7	1.0	1.1
Clearing	1.8	1.4	1.6	1.0	1.1
Risks and their management in payment systems	1.3	1.1	1.1	1.0	1.0
International messaging standards (e.g. SWIFT, ISO)	1.5	1.6	2.3	2.0	1.3
Regulation of payment systems and payment instruments	1.3	1.3	1.0	1.0	1.1
Risk management, e.g. ACH and clearing rules	2.0	1.3	1.1	1.0	1.0
Oversight and supervision of payment service providers	1.3	1.6	1.0	1.3	1.1
Oversight of bank participants	1.5	1.6	1.3	1.3	1.4
Oversight of non-bank mobile money issuers	1.5	1.6	1.1	1.7	1.3
Overseeing clearing switches	1.5	1.4	1.0	1.3	1.1
Strategies for payment system development	1.8	1.1	1.3	1.3	1.4
Regulation and oversight of mobile money	1.3	1.6	1.0	1.3	1.3
Digital currencies	2.0	2.0	1.4	1.3	1.7
Financial inclusion	1.5	1.3	1.3	1.7	1.1

Promoting adoption and usage of electronic payments	1.0	1.1	1.4	1.0	1.1
Pricing/ interchange	2.0	1.7	1.7	2.0	1.7

Question: Please rate each area below on the basis of how relevant it is to current need and future need.
Source: Interviews and responses to BFA questionnaires

The key finding is that most of these knowledge domains were considered relevant or very relevant to the roles of the PSD staff; not a single knowledge domain was rated a 3.0, or 'somewhat relevant.'

Following the staff workshop that BFA delivered to the CBN, we asked attendees to rank the importance of 17 key payments trends to their respective markets. Many of the knowledge domains rated as important or very important in the list above including clearing, settlement and risk management of PSPs and payment instruments also appeared on the list below of the most important trends in payments in their respective countries.

Staff of the PSDs viewed risk management frameworks along with the importance of financial inclusion in driving retail payments and fraud and growing cyber-crime as the key trends. The common thread across these trends appears to be that new business models driven by both the proliferation of electronic instruments and services and the business case for serving inclusion segments presents both opportunities for financial gain as well as risks (e.g. fraud, systemic risks posed by retail payment systems) which must be managed appropriately.

Figure 13: Top five key issues in retail payments identified across the PSDs[33]

	The top 5 key issues (average across all PSDS)
1	Importance of risk management frameworks
2	Financial inclusion has been a driving focus for payments innovations
3	Fraud and growing cyber crime
4	Proliferation of electronic instruments and services
5	Retail payments viewed as systemically important by regulators

Question: Please rank the following trends from most to least important to Nigeria/ your country (1= most important)
Source: Responses to BFA questionnaire

5.0 Training needs identified

A key factor in how PSDs will address the trends in payments identified is the capacity of and resources available to their respective staff members. To this end we asked PSD staff to assess (1) their own functional skills, (2) their perceptions on the adequacy of training received previously in key areas and (3) areas in which they would like additional training.

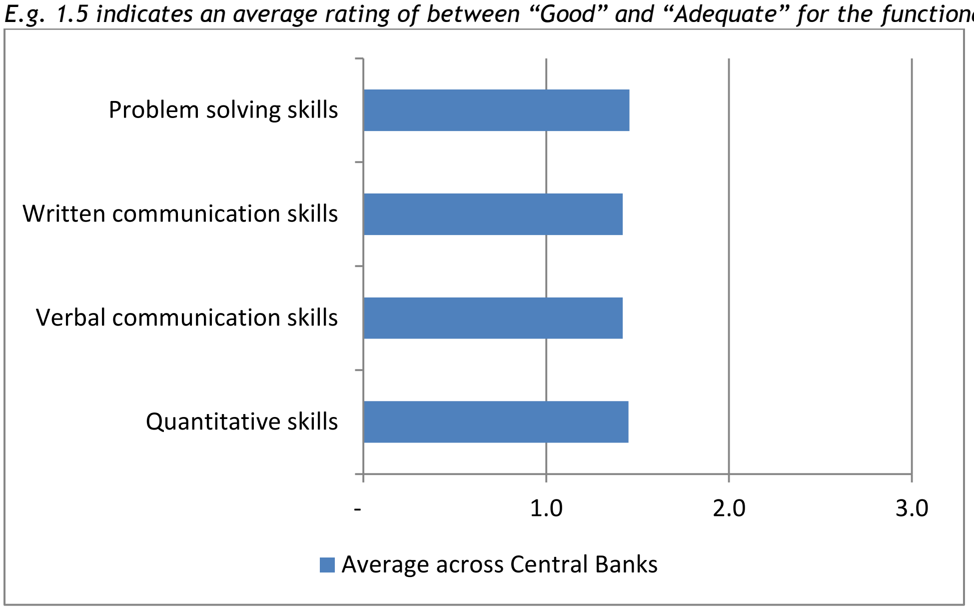
5.1 Functional skills of NPSD staff

[33] There was generally convergence across the ratings for the top trends. Most were ranked between 4 and 8 (average score) within each PSD, hence it would add little to show the average rankings for the top trends by the individual PSDs.

Across all the Central Banks, NPSD staff tended to view their own skills favourably. On average, each skill as rated by each PSD received a rating of between 'good' and 'adequate.' The PSDs on the whole rated their problem-solving and their quantitative skills worse (i.e. further to the right on the figure below) than their verbal and written communication skills. It is worth noting that several heads of PSDs noted that their staff were lacking in these types of technical skills, which supports these self-ratings to some extent.

The full results of the self-assessment of these skills are as follows:

Figure 14: NPSD staff self-assessments of functional skill areas
Note: Score of 1= "Good," 2= Adequate, 3= "Unsatisfactory"
E.g. 1.5 indicates an average rating of between "Good" and "Adequate" for the functional skill

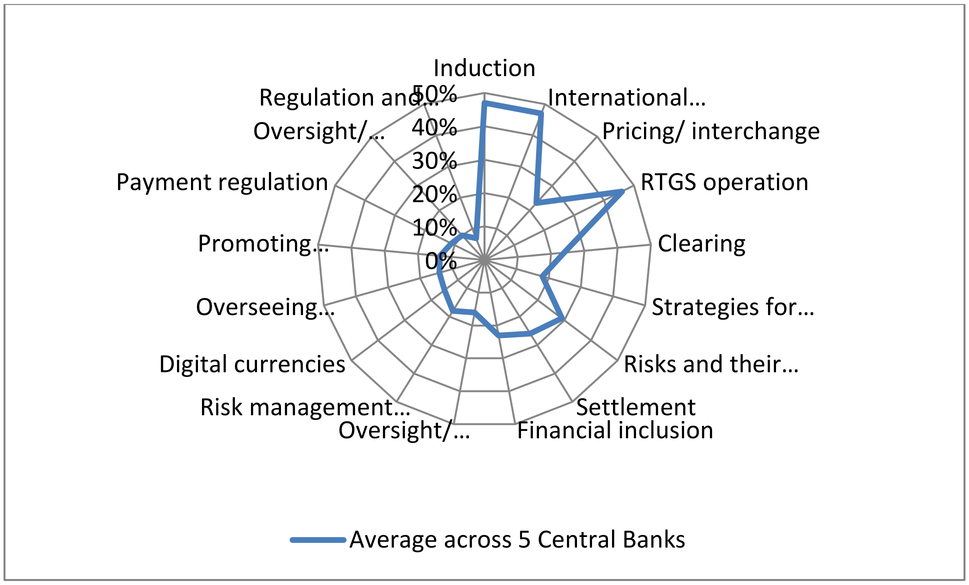


Question: Please rate your skills/ the skills of your staff in each of the areas below as "good," "adequate" or "unsatisfactory":
Source: Interviews and responses to BFA questionnaires

5.2 Training previously received by NPSD staff

The staff of the five PSDs were also asked directly whether they had previously received training in specific areas. As visible in the figure below, only a small portion of staff have received training in many of the areas queried. In fact, the large 'spikes' in the chart, i.e. areas in which staff received training in greater numbers, emerge as the exceptions to the majority of areas in which 30% of staff or less have received training.

Figure 15: Share of respondents having received training by area



Question: Have you received this type of training previously? (Yes/ No)
Source: Interviews and responses to BFA questionnaires

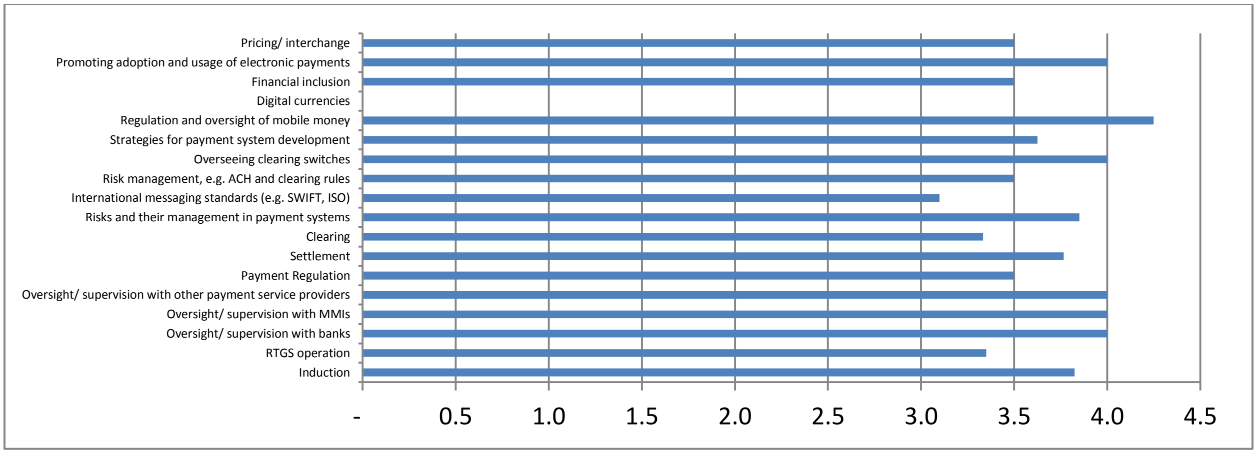
Given this finding, list of potential training focus areas is therefore quite extensive. The areas in the left-hand side of the figure are perhaps the areas of greatest need:

- Oversight/ supervision with banks
- Settlement
- Overseeing clearing switches
- Promoting adoption and usage of electronic payments
- Digital currencies
- Risk management, e.g. ACH and clearing rules
- Oversight/ supervision with MMIs
- Oversight/ supervision with other payment service providers
- Payment Regulation
- Regulation and oversight of mobile money

For many of these training areas, we received little data from PSD staff as to the adequacy of the training they have received. This is most likely because few staff have received such trainings. In the absence of data, it is difficult to draw comparisons among the PSDs in this regard. However, most of the areas for which the adequacy of training was rated received either a 3 for 'somewhat adequate' or 4 for 'adequate.' The full ratings of training received by training area are as follows:

Figure 16: Staff ratings of trainings received in specific areas

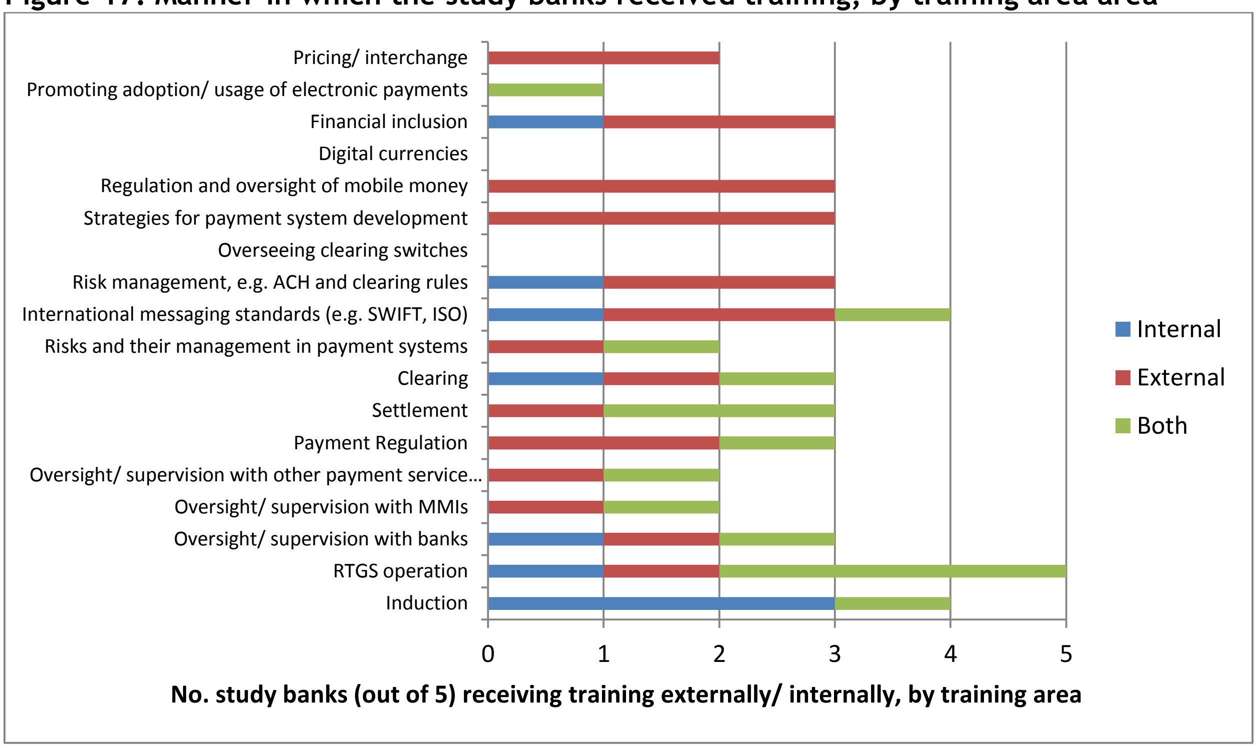
Scale of ratings of trainings received: 1 = training was totally inadequate, with 5= very adequate
"NA" indicates that not one individual PSD staff member from the given Central Bank/s has received training in this area
Score of 5 indicates 'very adequate'
Score of 4 indicates 'adequate'
Score of 3 indicates 'somewhat adequate'
Score of 2 indicates 'barely adequate'
Score of 1 indicates 'totally inadequate'



Question: On a scale of 1 to 5, how adequate do you think your training is in this area?
Source: BFA questionnaires given to PSD staff

Ideally, one could look for correlations between the adequacy of training received by area and the manner in which it was delivered to identify the most effective ways to train staff involved in payments going forward. The interviews and questionnaires established that the PSDs use a range of approaches to acquire needed training. Some, like the BoU, rely on a mix of external and (e.g. in-house or on the job) providers while others such as the BoZ tend to rely on external providers for most of their training needs. As with the figure above, though, for many areas there was no indication provided of how the respective PSDs receive training in some areas—likely because none is being received.

Figure 17: Manner in which the study banks received training, by training area area



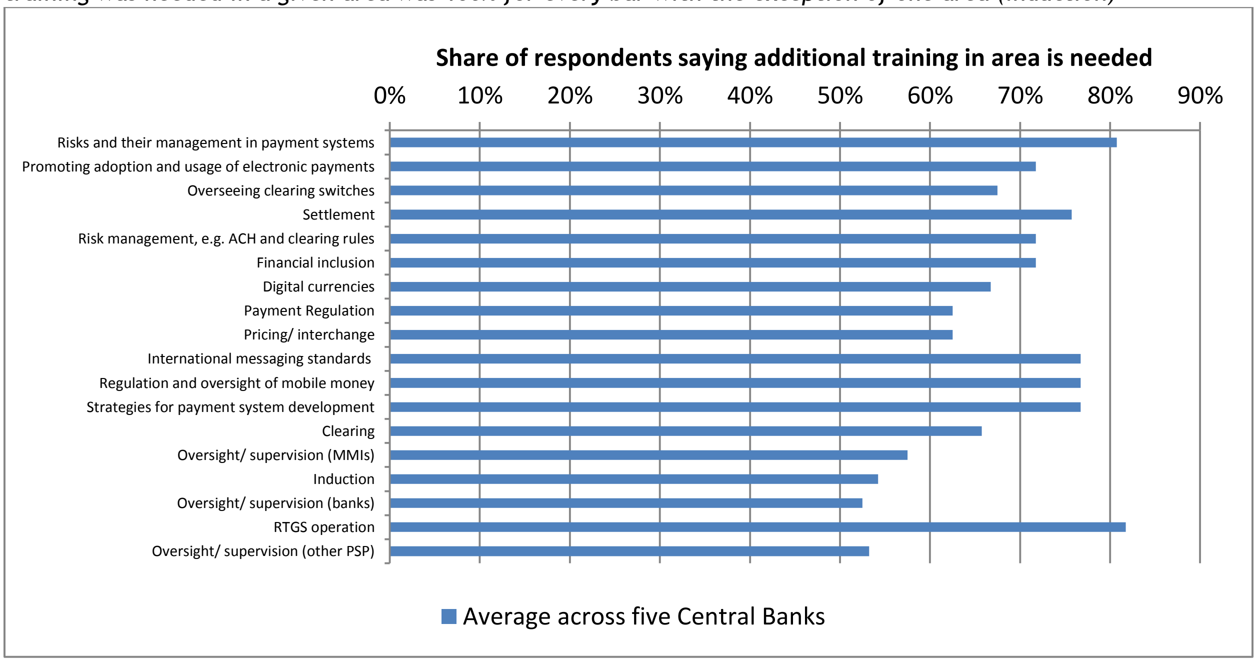
Note1: For some areas, data was not received by all study banks. Hence the total number of banks for any training area may be less than 5 in total.
Note 2: Internal refers to training that was received on-the-job, via in-house service providers. External refers to training received via workshops, seminars, secondments at other institutions, etc.

Source: BFA questionnaires distributed to PSD staff

The interviews and questionnaires distributed to the staff of the various PSDs confirmed the overwhelming need for additional training in key areas in payments. For many areas including risk management, promoting usage of electronic payments, overseeing clearing switches, settlement and financial inclusion, a majority of staff across nearly all PSDs indicated that additional training was warranted. The complete results are as follows:

Figure 18: Share of staff interviewed indicating that additional training was warranted in a given area

Please note: in the figure below, the results for Ethiopia have been removed, as the percent of staff indicating training was needed in a given area was 100% for every bar with the exception of one area (induction)



Question: Do you feel like you need more training in this area?
Source: Interviews and responses to BFA questionnaires

The training questionnaire distributed to PSD staff also asked an open-ended question as to areas in which staff would like to receive further training. Various staff noted over 40 areas, including:

- Clearing and settlement dynamics
- Oversight of e-payment channels
- Interchange/ pricing
- Retail payments
- International trends
- Analytics and quantitative analysis
- Risk management associated with e-payment channels
- Fraud management (and card fraud in particular)
- Payment system regulation
- Mobile payments
- Experience of other countries

6.0 Summary of findings

All five of the NPSDs which were issued invitations were enthusiastic to participate and agreed to do so once the authority to do so was granted. At the end of each of their respective country visits for the study, all five of the NPSDs also indicated (when asked directly) that they had found the peer benchmarking exercise to be useful. In most cases, management felt that the study had made them aware of key gaps with respect to specific training needs for their staff.

The peer benchmarking analysis identified a range of issues for the participating NPSDs:
With respect to training and capacity-building:

- **Need for systemic approach:** There does not appear to be a systematic approach to training PSD staff members in key areas related to the NPS. This was apparent across all of the Central Banks interviewed.
- **Need for targeted formal training:** This study confirmed the overwhelming need and demand for additional targeted formal training in key areas in payments. Interviews with staff and management at the PSD indicate a strong need for formal training which is targeted at key areas related to payments. It is key that this training is targeted, as simply providing additional training will not address gaps identified within each PSD.
- **Little targeted formal training received to date in key areas:** While staff at the PSDs have received on-the-job training in some of the areas identified, PSD staff reported that they have received little formal training in many of the areas queried. This is problematic because on-the-job training is likely being delivered by individuals who themselves have had little formal training. Moreover, so few staff reported having received training in certain areas that it was difficult to assess the quality of their previous trainings due to small sample size.
- **Lack of technical skills:** There is a particular need for problem-solving and technical skills within the PSDs. In a self-assessment of four functional skill areas (verbal, written communication, quantitative and problem-solving skills) NPSD staff tended to view their own functional skills favourably. On average, PSD staff and management in all Central Banks rated each of four skills as either 'good' and 'adequate.' However, several NPSD heads noted that their staff were lacking in technical skills (e.g. problem-solving and quantitative skills).
- **Lack of consistency in approaches to training:** For areas in which training has been provided, the PSDs use a range of approaches to deliver it. There is little consistency in the approaches taken to training. Some PSDs, like the BoU, rely on a mix of external and internal (e.g. in-house or on the job) providers, while others such as the BoZ tend to rely on external providers for most of their training needs. Training received tends to focus on a few key areas (e.g. SWIFT protocols and system) rather than comprehensive training in the NPS. This means that training tends to be 'siloed,' which may not prepare PSD staff and management to address and adapt to key changes and issues arising in the NPS. PSD staff ideally would keep abreast of emerging 'good' practices, which are constantly evolving (and hence are called good rather than 'best' practices).

With respect to the structure of the NPSDs and their roles within their respective markets:

- **Underlying similarities:** Though there is variation across the Central Banks, there are also underlying similarities in the functions performed by the five PSDs interviewed for this study. All of the PSDs perform oversight of the NPS and, with respect to policy, are tasked with creating directives, regulations and guidelines related to payments. Three of the five PSDs do not perform regular supervisory visits to individual PSPs.
- **Most of the PSDs are not full departments:** The PSD's of the BoZ, the BoG and the CBN exist as offices rather than department-level entities. Their heads along with that of the BoU's PSD all report to a superior who is not at the Deputy Governor level (DG). Most of the entities are small relative to the larger staff sizes of the departments they reside in, which has reduced their visibility within their respective Central Banks. Few of the NPSDs interviewed are able to focus on policy and oversight due to their time being occupied by operational issues. The heads of the PSDs which today exist as office-level entities each indicated that they would be more effective as departments.
- **Lack of resources:** Management within most of the PSDs feels that their respective PSDs is not adequately resourced to deliver on its mandate today. This gap is less about hiring additional staff than about building staff capacity in key areas related to oversight and policy within the NPS.
- **State of the NPS:** A cornerstone of any NPS is whether sufficient legal certainty exists around the Central Bank's role of performing oversight over all PSPs in the market. Three of the five countries (Zambia, Ghana and Ethiopia) have an NPS Act in effect. These acts typically grant Central Banks the formal authority to perform oversight over payments systems. Without yet having an act in Nigeria, the CBN draws this power through its general governing act (2007); and in Uganda, the BoU has authority over banks in their role as PSPs but not necessarily in the broader payments arena. Yet while legal certainty with respect to the Central Banks' oversight role exists in each country, the fact that three of the five PSDs are offices rather than departments may indicate a lack of understanding within higher levels of government of the importance of the Central Bank's oversight function. Similarly, bringing an NPS Act into effect should also be a top priority in the two markets where one has yet to be passed.

The issues with respect to the structure and resourcing of the NPSDs as well as the gaps in training identified may be leading the PSDs to adopt a haphazard approach to risk management within the NPS. Although all of the PSDs are empowered to develop regulations, directives and guidelines to govern stakeholders' roles in the NPS, in many cases these documents are not in harmony with one another, e.g. the CBN's views on electronic payments in Nigeria, which are spread across several documents. The governance framework within the NPS of the five markets also remains disjointed, as none of the market has a PSMB and few have an NPC which serves as a true forum for industry to jointly discuss key issues of interest. Though a PSMB is catered-for in the case of Nigeria's draft Payments System Management Bill, it cannot move forward until this act is passed.

In short, the peer benchmarking analysis suggests that additional capacity-building would be welcomed by all of the NPSDs interviewed. Most of the departments feel challenged by new and/or growing offerings in payments in their respective markets yet are not sure how or where to develop additional capacity. At present most training tends to take place via conferences or one-on-one discussions. The NPSDs are trying to respond to market challenges but do not benchmark their capacity, structure or level of resourcing against other countries in a systemic way.

All of these issues result in reduced certainty for participants in each of these markets. PSPs in the five study countries likely do not perceive their respective Central Banks as adopting a consistent approach to oversight and risk management. This can have the effect of dampening incentives to innovate and of making it less likely that participants will see the benefits of sharing infrastructure (as all are competing in an uncertain world). In short, Central Banks may be sending problematic signals to market participants in a manner which exacerbates the challenges associated with the increasing usage of electronic payments in each market.

Annex A: Positioning of NPSDs within Central Banks

Yes: Indicates potential structural issues

	Nigeria	Zambia	Ghana	Uganda	Ethiopia
Name of payments office/ entity	Payments System Policy and Oversight Office (PSPO)	Payment Systems Department (PSD)	National Payment System Operations Oversight Office (NPSOO)	Payment Systems Department (PSD)	Payments and Settlement System Directorate
Housed within larger department?	Yes	Yes	Yes	No	No
Which?	Banking and Payments Supervision Department (BPSD)	Directorate of Banking, Currency and Payment Systems	Banking Department	NA	NA
Reporting layer between head of payments and deputy governor level?	Yes	Yes	Yes	Yes	No
Does size of the staff of the department in which the PSD resides greatly exceed the staff size of the PSD itself?	Yes	Yes	Yes	NA	NA
Did the head of the PSD note that the payments entity ought to be made a department in its own right?	Yes	Yes	Yes	NA (though PSD is being renamed, possibly with change in focus)	Unclear; Reorganization proposed
Reported lack of visibility for payments	Yes	Yes	Yes	No	Yes

	Nigeria	Zambia	Ghana	Uganda	Ethiopia
office/ entity?					

Source: BFA interviews with PSD staff