PAYMENT SYSTEMS IN GHANA

OVERVIEW

The payment system is the entire matrix of institutional infrastructure arrangements and processes in a country set up to enable economic agents (individuals, businesses, organisations and Government) initiate and transfer monetary claims in the form of commercial and central bank liabilities.

Ghana's payment system has improved significantly since 1997 when the MICR cheques were introduced, and continues to evolve to meet the developmental needs of the country. The current trend in Ghana's payment systems development is being driven by economic, financial, public policy factors as well as a growing local ICT industry and global trends in payment systems development.

The development of payment and settlement systems in Ghana has been premised on the following key objectives:

- To prevent and or contain risks in payment, clearing and settlement systems;
- To establish a robust oversight and regulatory regime for the payment and settlement systems;
- To bring efficiency to fiscal operations of the Ghana Government
- To deepen financial intermediation;
- To discourage the use of cash for transactions whilst encouraging the use of paper-based instruments for payments as part of the short-term development plan;
- To promote financial inclusion without risking the safety and soundness of the banking system; and
- To develop an integrated electronic payment infrastructure that will enhance interoperability of payment and securities infrastructures.

PAYMENT SYSTEM LANDSCAPE

Ghana’s national payment system, like any other payment system, comprises the following:

- Payment instruments - cash, cheques, payment cards, mobile money and other forms of electronic funds transfer;
- Infrastructure - telecommunication network arrangements, ATMs, POS, switches, servers, computers, etc for transacting and clearing payment instruments;
- Participating institutions – banks and non-bank financial institutions, payment processing and switching companies, telecommunication companies, settlement institutions, cheque printing companies etc;
- Market conventions and regulations; and
- Legal and regulatory framework.
Currently, the country’s payment and settlements system is made up of the following channels:

1. Ghana Interbank Settlement (GIS) system, which is a real time gross settlement system (2002);
2. e-zwich payment system (a proprietary banking and retail payment system based biometric verification - 2008);
3. Cheque Codeline Clearing with truncation (CCC) system(2010);
4. Ghana Automated Clearing House (GACH) for electronic direct debits and credits (2010/2011);
5. gh-link™ - payment switch for ATM and POS interoperability (2012/2013);
6. Small value transactions systems such as the credit cards, proprietary debit cards, prepaid cards, other stored valued facilities; and
7. Internet banking and mobile phone banking has also begun to experience stronger growth.

The Payment System Landscape in Ghana
LEGAL AND REGULATORY FRAMEWORK

LAWS
Ghana’s payment system is supported by various laws in line with the 24 Principles for Financial Market Infrastructures (April 2012) issued jointly by BIS Committee on Payment and Settlement Systems (CPSS) and the Technical committee of the International Organisation of Securities Commissions (IOSCO) where applicable.

The laws which cover payment instruments, institutions, clearing and settlement systems, include the following:

(a) Bank of Ghana Act, 2002 Act 612: The Act makes the BOG the authority responsible for payment and settlement systems in Ghana. This is stated among the functions of BOG as indicated below:

- the promotion, regulation and supervision of payment and settlement systems; and
- the facilitation of the clearing of cheques and other credit instruments for banking institutions.

(b) The Payment Systems Act, 2003, Act 668: is a sound legislative framework which further empowers the BOG to oversee and manage the payment systems as contained in the provisions below:

- to establish, operate, promote and supervise payment, funds transfer, clearing and settlement systems subject to such rules as it may publish; and
- to designate any other payment, funds transfer, clearing and settlement systems operating in the country, which the Bank considers to be in the public interest to supervise.

The Act also provides for the following:
- principles of transparency as applicable to payment systems;
- minimum obligations of participating financial institutions;
- principles required to achieve irrevocability and finality of payment;
- admissibility of electronic evidence in the law courts;
- dispute resolution; and
- miscellaneous provisions covering disputes, offences, penalties and interpretations.

(c) The Bills of Exchange Act, 1961, Act 55: This is an adaptation of the English Bills of Exchange Act 1882 which specifies how cheques are drawn, accepted and paid.
A process has been set in motion by the Bank of Ghana to have this Act reviewed to reflect current trends.

(d) Other laws:

- Foreign Exchange Act 2006, Act 723;
• Credit Reporting Act 2007, Act 726;
• Central Securities Depository Act 2007, Act 733;
• Anti-Money Laundering Act 2008, Act 749; and
• Electronic Transactions Act 2008, Act 772.

RULES, REGULATIONS AND GUIDELINES

In addition to laws, there are rules, regulations and guidelines governing specific systems such as:

• Cheque Codeline Clearing with Cheque Truncation Guidelines and Operational Procedures;
• Ghana Bankers’ Clearing House Rules; and
• Ghana Automated Clearing House Direct Credits & Debits Guidelines and Operational Procedures.

These Rules and Guidelines provide an operational framework within which clearing and settlement is handled efficiently. They cover among others
• payment instruments standards and security features;
• processing procedures at the collecting bank;
• processing at the clearing house gateway;
• processing at bank’s in-house clearing systems;
• management of the clearing house;
• membership; and
• sanctions and settlement of disputes.

The Ghana Inter-bank Settlement (GIS) System's Terms and Conditions also provide the contractual basis for the operation of the large value funds transfer system.

New regulations and relevant laws are being crafted in line with developments in the ecosystem. Existing ones that have become outdated due to enhancements as well as new deployments and technological advancements are also being reviewed.
**PAYMENT SYSTEM LANDSCAPE**

**CENTRAL BANK DOMAIN**

**Ghana Interbank Settlement (GIS) System**
The GIS (Ghana’s Real Time Gross Settlement System (RTGS)) is wholly owned, operated and managed by the Bank of Ghana (BoG) and became fully operational on 11th October 2002. Designated as a systematically important system, the GIS is a highly secured system for domestic interbank funds transfers and complies with BIS core principles for payment systems.

The system operates on every working day between 8.30 and 17.00 hours and offers a mechanism for the settlement of large value interbank transactions on gross basis in real time. Within the GIS, settlement is final, irrevocable and unconditional and thus eliminates settlement and systemic risks inherent in the settlement process.

Participation in the GIS system is limited to licensed clearings banks in Ghana. Thirty-one (31) participants made up of twenty-seven (27) universal banks, the ARB Apex Bank and Bank of Ghana, operate on the GIS platform. The rest are two non-bank institutions namely Social Security and National Insurance Trust (SSNIT), the national pension funds manager, and the Central Securities Depository (CSD). Participants holding accounts in the GIS are able to operate their accounts in real time from their own premises via a computerized network system.

Net settlement of batches of multilateral retail payments (cheque clearing, ACH, ATM, e-zwich, and mobile money) emanating from the Ghana Interbank Payment and Settlement System (GhIPSS) are also settled in the GIS. The system also settles the cash leg of the security market from the CSD through an interface to achieve Delivery versus Payment (DvP).

Banks are able to settle immediately provided sufficient funds are available in their GIS account. When banks face temporary shortage of funds during the day the system temporarily keeps the transactions in a queue pending the availability of funds. Transactions are released for settlement when funds become available on the basis of ‘First In First Out’ (FIFO). Payments that do not settle by the close of the business day for lack of funds are cancelled automatically. The central bank is responsible for the management of queues while priority of transactions is carried out by participants. The BoG is in the process of finalising and availing to banks, an interest-free intraday credit in the form of a collateralized lending facility to enable banks mitigate any liquidity shortages during the business day.

The system has a functionality that allows for payments with future value dates to be set up by participants and the system will settle these on due dates provided participant’s GIS account is funded. Another functionality of the GIS affords participants to set up counterparty limits to control counterparty exposure in respect of payments. Other functions that the system does is to permit participants to set
aside reserve accounts designated to receive reserves for specific purposes as well as meet statutory requirements.

GIS uses SWIFT messaging standards and routing of payment messages in the GIS is based on the FIN Y-Copy. All GIS participants are therefore connected to SWIFT.

**The Clearing House**

Clearing House refers to a central location and/or processing mechanism through which member banks agree to exchange payment instruments. The Bank of Ghana has established and designated the Ghana Interbank Payment and Settlement Systems Limited (GhIPSS) to implement and manage specified payment systems on its behalf specifically, the day to day management of the Clearing House. In this context, the Clearing House comprises of the CCC, the Ghana Automated Clearing House (GACH) System and other approved payment systems/streams.

Following the introduction in 2010 of Cheque Codeline Clearing (CCC) with Cheque Truncation and the Ghana Automated Clearing House (GACH) systems nation-wide, both cheque and direct debit/credit transfer clearing cycles are D+1. The previous clearing zones have hence been abolished. Banks and savings and loans companies are required to give value to depositors of cheques within three days (D+2: D being day cheque is deposited at a bank).

Express clearing sessions have been introduced for both the CCC and GACH systems to enable the clearing and settlement of instruments on the day of deposit. Customers of banks can now pay in cheques and have them cleared and their accounts credited on the same day under the Express Clearing Session.

**Ghana Automated Clearing House Direct Credits & Debits System**

A manual paper credit transfer system was introduced in 2004 as a forerunner to an automated system. This system operated alongside the semi-automated cheque clearing system until September, 2009 when both systems were closed following the introduction of the Cheque Codeline Clearing system. Subsequently, the Ghana Automated Clearing House (GACH) operated by GhIPSS has enabled the electronic transfer of funds through direct credits and debits between financial institutions on account of their customers.

The introduction of GACH direct credits (‘credit push’) and direct debits (‘debit pull’) is aimed at increasing the variety of payment options and speeding up the payment process to provide choice and convenience for the consumer. It is also aimed at modernizing financial market infrastructure in Ghana and bringing it in line with payment trends worldwide. Transaction volumes average about 18,000 per day as at April 2014 but are expected to increase as more people become aware of the benefits.
**gh-link™ System**

In August 2012, GhIPSS installed the National Switch, gh-link™, an inter-bank switching and settlement system that enables banks and other financial institutions as well as switches to share each others’ Automated Teller Machines (ATMs) and Point of Sales terminals (POS). The gh-link™ interconnects the switches of financial institutions and systems of third party institutions to enable them utilize a common platform for inter-bank transactions in an effective and efficient manner.

The expansion of existing national switch infrastructure by the acquisition of an open switch has so far achieved interoperability for ATM and POS devices in Ghana and for local/proprietary cards including the e-zwich biometric smartcard through a hybrid ATM and POS interface. The gh-link™ is expected to further achieve the following when fully implemented:

- Implement and support e-commerce transactions through an internet payment gateway;
- Process international card transactions;
- Provide switching services for third party payment service providers; and
- Integrate Ghana National Switch with sub-regional switches such as the GIM-UEMOA and NIBSS.

**BANKS DOMAIN ELECTRONIC FUNDS TRANSFER**

**Credit Cards**

Some banks issue credit cards on international payment schemes like Visa and the Mastercard. International credit cards such as Visa, American Express and Mastercard, among others, are accepted by the ATMs of participating banks for cash withdrawals. These cards are also accepted by some retail outlets such as hotels, supermarkets and restaurants for the payment of goods and services at designated point of sales terminals.

**Debit Cards**

Pin-based debit cards that enable cardholders to make payments or withdraw cash from their deposit accounts at ATMs and POS terminals are available in Ghana and their use is growing. Both international (Visa, MasterCard, Union pay, American Express) and local proprietary cards are available in the country. Gradually, most banks in the country are migrating towards the adoption of global standardisation of electronic financial transactions, through the adoption of specifications developed by the consortium EMVCo.

**Other Stored Value Cards (Prepaid debit cards)**

Stored value cards (electronic debit card) have been available in Ghana for some time now. Available are both the closed loop and open looped cards, with the international branded ones such as Visa being used and accepted globally. Such cards are not linked to any bank account.
**e-zwich System**

e-zwich is the brand name for the biometric switch and smart card payment system implemented by all banks in Ghana in 2008. It enables accessibility to banking and retail services in Ghana. e-zwich cardholders can perform banking and retail transactions at the outlets of other e-zwich financial institutions as well as e-zwich Point of Sales (POS) and Automated Teller Machine (ATM) terminals. The e-zwich system offers deposit taking financial institutions (i.e. universal banks, rural banks and savings & loans) a platform that enables them to interoperate.

The e-zwich POS supports both online and offline transactions. This dual capability ensures that e-zwich services can be accessed in all parts of the country whether or not the area has good communications network. Transactions such as cash deposits, cash withdrawals and sales, are completed offline and consequently can be successfully completed in the remotest part of the country without regard to the efficiency of the telecommunication infrastructure.

E-zwich cardholders benefit from the highest security standards through the biometric (fingerprint) client authentication system. Any transaction that results in the movement of funds from an e-zwich card requires the biometric verification of the cardholder before the transaction can be successfully completed. By implication, a stolen or lost card cannot be used by anyone except the owner.

The e-zwich Payment Distribution System (PDS) is an application which provides a secure and convenient method that allows an organization to pay its beneficiaries on their e-zwich smart cards. The PDS system can be used for the distribution of salary, wage, pension and loan payments. This application can be run by a financial institution on behalf of an employer or by the employers themselves.

The implementation of the gh-link™ has enhanced some e-zwich transactions such as Card2Bank and Bank2Card transactions. e-zwich customers with their cards linked to their traditional bank accounts can check their bank account balances, move money from the e-zwich card to bank account or vice-versa on any e-zwich or hybrid POS.

**Electronic Funds Transfer-Cross Border Payments**

All banks are connected to the SWIFT network and use SWIFT FIN messaging to transmit payment instructions to their corresponding banks and other counterparties in respect of international transfers.

Most banks and non-bank financial institutions provide inward remittance services for the public using proprietary and global mechanisms such as Western Union and Moneygram. Remittances can also be received on mobile phones.

**Payment System Development Plans**

A new Payment System Strategy has been crafted to guide the development of the payment system in Ghana for the next seven to ten years. This will soon be launched and implemented.
BANKS’ SWIFT AND SORT CODES
To facilitate the efficient clearing and settlement of inter-bank payment instruments throughout the country, cheques and other debit payment instruments have been standardized to make them amendable to automated processing. All paper instruments presented to the Clearing House must be Magnetic Ink Character Recognition-encoded. Each bank branch has been assigned a unique 6-digit sort code, which identifies the Bank, location and branch number. SWIFT Codes are identification numbers used to identify banks on the SWIFT platform. Each bank in the country has been assigned an 8-digit bank identifier code (BIC).

OVERSIGHT OF PAYMENT SYSTEM INFRASTRUCTURE

Economic transactions in a market economy most invariably involve payment and settlement of funds among economic agents. Bank of Ghana is aware that payment systems can involve significant exposures and risks, as well as be a channel for the transmission of disturbances from one part of the financial system to another. The level of efficiency of economic activity in a country is dependent on how well the system of payment operates to facilitate exchange and how confident economic agents are in the system. An efficient and safe payment system is therefore critical to the monetary and financial stability of an economy. For this reason, the Bank has a keen interest in the safety, reliability and efficiency of the payment system to ensure that the public, businesses and Government machinery can make payments in a safe and efficient manner.

Oversight of the payment and settlement systems is therefore a key element in the Bank’s activities for maintaining financial stability. The Bank of Ghana, like central banks in other parts of the world, has oversight on the National Payment System in order to promote its safety and efficiency. This responsibility is complimentary to its broader responsibility for financial stability, and is enshrined in the Bank of Ghana Act 2002, Act 612 and the Payment Systems Act 2003, Act 662.

To provide certainty to the payments market, the Bank has published a policy statement on payment system oversight. The policy statement in addition to an oversight framework document indicates the objectives, scope and approach to Bank of Ghana’s oversight activities. The Bank’s oversight activities will deploy BIS CPSS and IOSCO tenets and principles to identify potential risks posed by the design and operation of financial market infrastructure and to take steps to control or eliminate them.