



Payment Systems Oversight Annual Report 2023

Payment Systems Department

Got To Pay?

Dial

Merchant Name:

Merchant ID:

Just dial it





BANK OF GHANA

PAYMENT SYSTEMS OVERSIGHT

ANNUAL REPORT 2023

Payment Systems Department
Bank of Ghana

GOVERNOR'S FOREWORD



The digitalisation of the Ghanaian payment landscape is accelerating at a fast pace, largely due to changing consumer habits, business practices, preferences, and advances in Artificial Intelligence (AI) and Machine Learning (ML). To support the digitalisation process, banks and FinTechs have continuously invested in digital technologies to provide a variety of payment products to the general public, thereby offering ample choices to satisfy the needs of diverse use cases and user groups.

Over the years, the Bank of Ghana has enhanced its oversight and supervision of payment infrastructures to foster digital payments and ensure the safety and efficiency of the Ghanaian payments landscape. In 2023, the Bank focused on enhancing governance, operational arrangements and cyber security of the Ghana Interbank Settlement (GIS) system, Ghana Interbank Payment and Settlement System (GhIPSS), and mobile money platforms. The systemic significance of these platforms necessitates that they operate in accordance with the highest industry standards to provide reliable service and bolster confidence in the Ghanaian currency.

To further stimulate digital payments and promote financial inclusion, since 2020, the Bank of Ghana has been exploring the issuance of a Central Bank Digital Currency (CBDC). In 2023, the CBDC project successfully ended with a hackathon which attracted 88 prospective developers offering innovative solutions that could address the various payment needs of the Ghanaian society. The brilliant ideas churned out by the ten (10) finalists underscored the importance of co-opetition and co-creation in the generation of technology solutions that could address critical socio-economic challenges in Ghana. The learnings from the project will serve as the basis for broader stakeholder engagement on the future direction and the role of the CBDC in the evolving Ghanaian financial service industry.

Oversight of the GIS was taken a notch higher during the review year, as the settlement system was assessed against the Principles for Financial Market Infrastructures. The outcome of the assessment was satisfactory, with a recommendation to strengthen Failure to Settle rules. In response, the Bank issued an Exposure Draft of Failure to Settle rules to improve settlement arrangements. The Exposure Draft is expected to build additional safety buffers and enhance resilience in the growing payment space in Ghana.

Generally, policies implemented by the Bank of Ghana to foster digital payments are yielding significant results, as evidenced by the continuous shift from paper payment instruments to electronic alternatives.

Going forward, the Bank is committed to ensuring that the payment ecosystem remains resilient to foster the delivery of safe, efficient, and inclusive digital financial services that would drive the formalisation of the Ghanaian economy.

Dr. Ernest K. Y. Addison
Governor, Bank of Ghana

CONTENT

	Governor's Foreword	i
	Content	ii
	Abbreviations	iv
	Executive Summary	v
1	CHAPTER 1: GLOBAL DEVELOPMENTS IN THE PAYMENT ECOSYSTEM	
	1.1 Introduction	1
	1.2 Global Developments in the Payments Landscape	1
2	CHAPTER 2: DEVELOPMENTS IN THE GHANAIAN PAYMENT SYSTEM	
	2.1 Introduction	4
	2.1.1 Assessment of the Ghana Interbank Settlement System against the Principles for Financial Market Infrastructures	4
	2.1.2 Enhancement of Regulatory Framework	4
	2.1.3 Introduction of ISO 20022 Messaging Standard	4
	2.1.4 Implementation of e-Cedi Hackathon	4
	2.1.5 Review of the Inward Remittance Guidelines	4
	2.1.6 Financial Inclusion	5
	2.2 Payment Substitution Effect	5
3	CHAPTER 3: APPROVED PRODUCTS AND SERVICES	
	3.1 Introduction	7
	3.2 In-bound Remittance Services	7
	3.3 Mobile Banking Services	7
	3.4 Online Payment and Collection (e-commerce)	7
	3.5 Remote Account Opening	7
	3.6 Digital Loans	7
	3.7 Agency Banking	7
	3.8 ATM Services	7
	3.9 Card Issuance	7
	3.10 Point of Sale (POS) Deployment	7
4	CHAPTER 4: PAYMENT SYSTEMS TRANSACTIONS	
	4.1 Introduction	10
	4.2 Ghana Interbank Settlement (GIS) System	10
	4.3 Cheque Codeline Clearing	10
	4.4 Ghana Automated Clearing House	10
	4.4.1 Direct Credit	10
	4.4.2 Direct Debit	11
	4.5 E-zwich Transactions	11
	4.6 gh-link™	12
	4.7 GhIPSS Instant Pay	12
	4.8 Internet and Mobile Banking	13
	4.9 Automated Teller Machines and Point of Sale Devices	13

4.10	Cards	13
4.10.1	Debit Cards	13
4.10.2	Credit Cards	13
4.10.3	Prepaid Cards	13

5

CHAPTER 5: DEVELOPMENTS IN THE GHANAIAN FINTECH ECOSYSTEM

5.1	Introduction	16
5.1.1	Total Applications Received	16
5.1.2	Status of Applications	16
5.2	FinTech Industry Performance	16
5.2.1	Mobile Money Services	16
5.2.2	Mobile Money Interoperability (MMI)	17
5.2.3	Float Account Trends	17
5.3	Oversight and Supervision	18
5.3.1	Oversight and Supervision Activities	18
5.3.2	Fraud and Investigations	18
5.3.3	Mobile Money Surveillance	18
5.4	Regulatory Sandbox	18
5.4.1	Sandbox Participation	18
5.5	Central Bank Digital Currency (CBDC) Project	18
5.5.1	Hackathon Application Reviews and Onboarding	18
5.5.2	Demonstration of Innovation Prototypes and Awards Dinner Ceremony	19
5.6	FinTech Industry Workshops, Exhibitions, Conferences and Engagements	19
5.6.1	FinTech Survey	19
5.6.2	Singapore FinTech Festival	19

6

CHAPTER 6: PAYMENT SYSTEMS RISK AND OVERSIGHT

6.1	Assessment of Systemically Important Payment Systems against the Principles for Financial Market Infrastructures (PFMI)	21
6.2	Enhancement of Regulatory Framework	21
6.3	Issuance of Cheque Printer Accreditation Certificate	21
6.4	Examination of Payment Service Operations of Banks and other Licensed Financial Institutions	21

7

CHAPTER 7: FINANCIAL INCLUSION IN GHANA

7.1	Introduction	23
7.2	Financial Inclusion Policy Interventions	23
7.2.1	Policy and Regulatory Framework for the Promotion of Financial Inclusion	23
7.2.2	Financial Education and Literacy Policy Framework	23
7.3	Peer Learning and Study Visits	23

Appendix		24
-----------------	--	----

ABBREVIATIONS

ACH	Automated Clearing House
AFI	Alliance for Financial Inclusion
ATM	Automated Teller Machine
APM	Alternative Payment Methods
BOG	Bank of Ghana
B2W	Bank-to-Wallet
CBDC	Central Bank Digital Currency
CCC	Cheque Codeline Clearing
CPMI	Committee on Payments and Market Infrastructures
DEMI	Dedicated Electronic Money Issuers
DESFT	Digital Economy Semi-Fungible Token
E-money	Electronic Money
EPSP	Enhanced Payment Service Provider
EU	European Union
GHS	Ghana Cedis
GIFE	Ghana Integrated Financial Ecosystem
GhIPSS	Ghana Interbank Payment and Settlement System
GIS	Ghana Interbank Settlement
GIP	GhIPSS Instant Pay
G2P	Government-to-Person
GPF	Global Policy Forum
IOSCO	International Organization of Securities Commissions
MSME	Micro, Small and Medium Enterprise
MMI	Mobile Money Interoperability
MAS	Monetary Authority of Singapore
MTO	Money Transfer Organisation
NFIDS	National Financial Inclusion and Development Strategy (2018-2023)
NRT	Near Real Time
PAPSS	Pan-African Payment and Settlement System
PSP	Payment Service Provider
P2P	Person-to-Person
POS	Point of Sale
PFMI	Principles for Financial Market Infrastructures
RTGS	Real Time Gross Settlement System
SIPS	Systemically Important Payment System
SME	Small and Medium-sized Enterprises
QR	Quick Response
UK	United Kingdom
UNDP	United Nations Development Programme
UTC	Universal Trusted Credentials
USSD	Unstructured Supplementary Service Data
W2B	Wallet-to-Bank

EXECUTIVE SUMMARY

In 2023, Ghana's payment, clearing, and settlement infrastructure continued to improve, supported by technological advancements and evolving customer preferences. As part of the Bank's regulatory and supervisory responsibilities, it issued several guidelines and directives aimed at increasing customer utilisation of digital payment methods. These measures were designed to create a secure, efficient, and modern payment environment and foster financial inclusion. The Government of Ghana also leveraged on the continuous growth of the payment system and promoted the adoption of digital payment to achieve the country's cash-lite agenda.

The notable developments in the payment, clearing and settlement ecosystem in 2023 included the following:

- a. Assessment of the Ghana Interbank Settlement (GIS) system against the Principles for Financial Market Infrastructures (PFMI)
- b. Enhancement of the Regulatory Framework
- c. Introduction of ISO 20022 Messaging System
- d. Implementation of e-Cedi Hackathon
- e. Review of the Inward Remittance Guidelines

In the year under review, the Bank approved twenty-seven (27) products and services from various regulated financial institutions compared with a total of twenty-one (21) approvals in 2022. In-bound remittance and mobile banking services recorded the highest number of approvals.

The total volume of Ghana Interbank Settlement (GIS) transactions in 2023 increased by 2.1 per cent. Similarly, the value of transactions increased by 49.0 per cent to GH¢3,443.98 billion in 2023, from GH¢2,312.06 billion in 2022.

The volume of inter-bank cheques cleared reduced by 244,995 in 2023, representing a 4.3 per cent decline compared to a decline of 3.4 per cent in 2022.

The gh-link™ platform recorded an increase in both transaction volumes and values in the year under review. ATM transactions continued to dominate on the gh-link™ platform and constituted 98.3 per cent of

transactions.

The number of registered internet banking and mobile banking customers increased in 2023, by 16.6 per cent and 51.5 per cent respectively, while transaction volumes for both channels recorded an increase of 30.7 and 2.5 per cent growth, respectively.

The total volume of mobile money transactions increased to 6.81 billion in 2023, from 5.07 billion in 2022, representing a 34.3 per cent growth. Additionally, the total value of transactions increased significantly by 79.0 per cent to GH¢1.92 trillion in 2023, from GH¢1.07 trillion in 2022. The number of active mobile money customers and agents also showed a growth of 2.6 per cent and 21 per cent, respectively.

Float balances held by banks increased by 44.3 per cent to GH¢18.86 billion in 2023, from GH¢13.07 billion in 2022.

The rise in overall transactional volume was due to a surge in wallet usage among engaged mobile money customers. The top five (5) transactions performed by users according to value of transactions included the following: cash-in, cash-out, bank-to-wallet (B2W), wallet-to-bank (W2B) and person-to-person (P2P) transactions. Together, these transactions represented 42.0 per cent of the total transaction values in 2023.

Mobile Money Interoperability (MMI) transaction values and volumes both recorded a 24.0 per cent growth in 2023.

Transferring funds from one wallet to another remained the most use case for mobile money interoperability. Wallet-to-Wallet transaction activities remained the dominant transaction type for 2023, with the product accounting for 83.0 per cent of total transaction value for the year.

Similarly, Wallet-to-Bank transactions accounted for 17.0 per cent of transactions in 2023.

GLOBAL DEVELOPMENTS IN THE PAYMENT ECOSYSTEM

1



1.1 Introduction

Globally, various regions experienced advancements within their payment ecosystem, indicating the increasing prevalence of digital economies worldwide. Innovations, such as, real time payment schemes, electronic transactions, Alternative Payment Methods (APMs), and other retail digital channels are increasingly revolutionising the payment ecosystem and overall customer experience.

1.2 Global Developments in the Payments Landscape

Some of the major developments within the global payment ecosystem in 2023 included:

Africa

In Africa, real-time payment initiatives continued to broaden across the region with modernised payment infrastructures promoting the delivery of fast, inclusive, and convenient payments. The Pan African Payment and Settlement System (PAPSS), which was launched in 2022 to promote cross-border real-time transfers across countries in the sub-region, went live in 2023. The platform plays a critical role in transforming Africa's payment systems landscape by facilitating fast, secure, and convenient payments for intra-African trade. Ghana recorded its first transaction on PAPSS in March 2023, where a Ghanaian company initiated a supplier payment in the local currency – the Ghana Cedi – from a commercial bank to a recipient in Nigeria who received it instantly in its local currency – the Naira.

South Africa launched “PayShap”, a real-time fast payment platform to offer its citizens a faster, more convenient, and safer form of payment. This was a collaborative effort driven by BankservAfrica, the Payments Association of South Africa and the South African banking community to modernise the payments industry in South Africa. The objective is to facilitate real-time payments at a lower cost across all banks.

Furthermore, the use of mobile money continued to rise during the year under review and remained the most dominant form of digital payments in Africa. The use of QR code as a form of contactless payment continued to increase, thereby providing convenience to retailers and customers.

The Buy Now Pay Later (BNPL) model, which enables individuals to buy goods and pay for them later, was also on the rise in Africa, particularly among the youth. In Ghana, most of these innovations were driven by FinTech companies in collaboration with banks and other financial institutions to provide convenience to customers.

Europe

• European Digital Identity Wallet

The European Union (EU) launched the European Digital Identity Wallet in April 2023. The Digital Identity Wallet allows EU citizens to access electronic services across Europe. Therefore, citizens have full control of the data they share using the wallet and can access services, such as requests for birth certificates, opening of bank accounts, renting a car, applying for a university, and accessing hotel services.

• Open Banking to Open Finance

The United Kingdom (UK) has begun to shift from the concept of open banking to focus on a broader concept of open finance where other third-party institutions, such as FinTechs, can access financial data from banks and other financial institutions through open Application Programming Interfaces (APIs). This allows for the development of innovative financial services and applications that can leverage individuals' financial data to provide tailor-made financial services.

• Buy Now Pay Later (BNPL)

The Buy Now Pay Later (BNPL) scheme is on the rise within the European community. Merchants and retailers are providing more flexible payment options for online shoppers through this scheme, which allows individuals to purchase items online and pay for them later over a period without accruing any interest payments.

Asia

In Southeast Asia, there has been a great shift towards the use of digital forms of payment following the onset of the COVID-19 pandemic. The region has seen an increase in the number of mobile phone owners who use the devices as a medium of payment to access financial services. According to PricewaterhouseCoopers International Limited (PwC), a multinational professional services company, digital payments using electronic wallets amounted to US\$22.0 billion in 2019, and this is expected to exceed US\$114.0 billion by 2025.

Thailand's PromptPay enables individuals to make and receive payments to and from their bank accounts using their national IDs, mobile numbers, or email addresses. Singapore is also committed to urging and incentivising hawkers to adopt contactless QR code payment services.

The Americas

A key development within the payments landscape in the United States of America was the development and launch of the FedNow Service by the Federal Reserve in 2023. This is an instant payment infrastructure that facilitates payments in a safe, fast, and secure manner through eligible financial institutions.

Additionally, Latin America has seen some major improvements in payments due to interoperability and the rise of contactless payments and P2P payments. More specifically, Brazil has been a role model for the region following the introduction of Pix as a payment method by

its central bank in 2020. Pix is an instant payment scheme that allows the transfer of funds within a few seconds at any time, including non-business days.

As of October 2023, the volume of transactions recorded on the platform exceeded four million. Pix is now more preferred for transactions than credit and debit cards. It is expected that by the end of 2026, Pix would account for more than 40 per cent of online payments. Countries, such as Argentina, Bolivia, Mexico, El Salvador, Peru, and Costa Rica are following in the steps of Brazil.

DEVELOPMENTS IN THE GHANAIAAN PAYMENT SYSTEMS

2



2.1 Introduction

The Bank continued to monitor the payment ecosystem as part of its objective to promote a safe, modern and resilient payment system. In 2023, the Bank undertook the following major initiatives to enhance the development of the payment and settlement system:

- Assessment of the Ghana Interbank Settlement (GIS) system against the Principles for Financial Market Infrastructures (PFMI)
- Enhancement of the Regulatory Framework
- Introduction of ISO 20022 Messaging System
- Implementation of e-Cedi Hackathon
- Review of the Inward Remittance Guidelines

2.1.1 Assessment of the Ghana Interbank Settlement System against the Principles for Financial Market Infrastructures

During the year, the Bank took a bold decision to assess the performance of its major payment infrastructure, the Real Time Gross Settlement (RTGS) system to guarantee its integrity and efficiency. This exercise was critical in repositioning the Ghanaian payment ecosystem to drive the seamless transfer of funds.

The Bank therefore conducted a self-assessment examination based on relevant and applicable sections of the Principles for Financial Market Infrastructures (PFMI). The initial comprehensive assessment of the RTGS, the first of its kind in Ghana, commenced at the pilot phase of the introduction of the principles. Overall, 18 principles were applied to the assessment of the RTGS, together with consideration of critical areas such as the legal and regulatory regime. In the end, it was observed that the RTGS was broadly compliant with international principles.

2.1.2 Enhancement of Regulatory Framework

Further to the completion of the assessment of the RTGS, it was noted that despite the utility of the existing arrangement regarding settlements, there was the need to enhance the settlement rules to provide clarity on the processes involved.

As a result, the Exposure Draft of “Failure to Settle” rules were issued to improve settlement arrangements by participants. The rules are regulatory in nature and aim to provide a safety net to ensure that losses resulting from unsettled positions on the RTGS are minimised.

2.1.3 Introduction of ISO 20022 Messaging Standard

The Bank, in line with international standards, commenced the shift from the current Swift MT

message format to ISO 20022. This is imperative to the payment system in Ghana as this new standard provides detailed data for analytics, policy making, AML/CFT monitoring, increased automation, straight-through processing, and effective data reconciliation. In the process of transition, the Bank reviewed the various implementation strategies which included the Phased/Co-existence approach and the Big Bang approach. Taking into consideration the merits and demerits of each, the Bank opted to implement the Big Bang approach which requires Financial Market Infrastructures and banks to switch fully at a predetermined time to the new standard. This shift is timely for the RTGS system since it had been scheduled for a major upgrade allowing for better processing of large value payments.

2.1.4 Implementation of e-Cedi Hackathon

In collaboration with EMTECH Solutions Inc., the Bank launched the maiden edition of the e-Cedi hackathon to draw out innovative use cases for Ghana’s Central Bank Digital Currency (CBDC). Developers, innovators, and entrepreneurs participated in the competition. The task was for participants to create working prototypes, leveraging the e-Cedi in areas of merchant transactions, government payment, and data privacy, among others. The hackathon ended with an award ceremony on December 14, 2023, rewarding the three winners for their innovative use cases.

2.1.5 Review of the Inward Remittance Guidelines

The inward remittance guidelines were amended to bring clarity to some processes in the inward remittance space. The amendment provided certain requirements for Dedicated Electronic Money Issuers (DEMI)s and Enhanced Payment Service Providers (EPSPs) partnering with Money Transfer Operators (MTOs). Additional requirements were also put in place for settlement accounts.

The updated requirements included the following:

- A DEMI or EPSP seeking to partner an MTO to provide inward remittance services in Ghana must ensure that the partner MTO is registered and licensed by a competent authority in its country of registration to conduct international money transfer services.
- Where the partner MTO operates a remittance hub or aggregation model, the DEMI or EPSP is permitted to terminate remittances from the country where the MTO is licensed subject to approval from the Bank of Ghana.

- However, upon submission of the relevant documents, an MTO operating a remittance hub may terminate remittance from other countries participating in the aggregation, subject to approval from the Bank of Ghana.
- A DEMI or EPSP must have a local designated account for remittance settlement domiciled with a universal bank(s) only.
- A DEMI or EPSP may have up to a maximum of three partner banks for purposes of inward remittances terminations.
- The accounts for remittance settlements must be operationally distinct from all other accounts held by the DEMI or EPSP.

2.1.6 Financial Inclusion

Financial inclusion remained a key policy consideration in the year under review. The Bank, in 2023, collaborated with key stakeholders to implement initiatives under the National Financial Inclusion and Development Strategy (NFIDS) 2018-2023 to complement Government's

efforts at promoting financial inclusion.

The Bank won the 2023 Financial Inclusion Institutional Leadership Award at the Alliance for Financial Inclusion (AFI) Global Policy Forum (GPF), an annual flagship event of AFI, for its pioneering role in promoting financial inclusion and diverse contributions to AFI's Knowledge Products and Policy Guidelines.

2.2 Payment Substitution Effect

The interventions implemented by the Bank to deepen the payment space has started yielding phenomenal effects. This is reflected in the consecutive decline in the use of cheques as payment instruments, despite the increased value of transactions recorded for cleared cheques. Similarly, the RTGS recorded a modest increase of 2.1 per cent, while the values showed a significant increase of 49.0 per cent.

These developments are a result of the substitution of cheque payments and the use of the RTGS for lower value payments in favour of digital payment channels and platforms. The Bank will therefore continue to encourage the use of the available digital payment platforms to deepen financial inclusion.

APPROVED PRODUCTS AND SERVICES

3



3.1 Introduction

In 2023, banks and other payment service providers (PSPs) continued to be innovative in developing products and services to meet the payment needs of their clients. A total of twenty-seven (27) products and services for various regulated financial institutions were approved compared with a total of twenty-one (21) products and services approved in 2022. The products and services included In-bound Remittance Services, Mobile Banking Services, Online Payment and Collection Platforms, Card Issuance, Automated Teller Machine (ATM) installations, Remote Account Opening, Digital Loans, and Agency Banking Services. The list of the approved products and services for 2023 is illustrated in *Table 3.1 and Chart 3.1*.

3.2 In-bound Remittance Services

In-bound remittance services had the highest number of approved products for the year under review, in line with the growing demand for remittance services. Banks entered into partnerships with Money Transfer Operators (MTOs) to terminate in-bound remittances directly into bank accounts and mobile money wallets leveraging on the GhIPSS Instant Pay (GIP) platform and other FinTech solutions and further accelerating digitalisation of the

remittance value chain for efficiency. Seven (7) approvals were granted to banks to offer remittance services.

3.3 Mobile Banking Services

The drive to expand access to financial services and provide convenience to customers, in line with the national financial inclusion objective, accelerated with banks deploying services on Unstructured Supplementary Service Data (USSD), mobile application and internet banking. The Bank granted approval to seven (7) regulated institutions to roll out various mobile banking services as compared to four (4) approvals granted in 2022.

3.4 Online Payment and Collection (e-commerce)

The Bank granted approvals to three (3) banks to roll out online payment collection platforms. The solutions provided convenience to customers of banks and made it easier for Micro, Small and Medium Enterprises (MSMEs) to accept and make digital payments across multiple payment channels.

3.5 Remote Account Opening

The conducive regulatory environment and national digital infrastructure including the national identification platform continued to foster remote KYC account opening. The Bank granted approval to one (1) bank to offer remote account opening service using USSD and smartphone as compared to three (3) approvals in 2022.

3.6 Digital Loans

In 2023, one (1) bank was granted approval to offer a digital micro loan product accessible on USSD platform and mobile application channels, compared to three financial institutions in 2022.

3.7 Agency Banking

Two (2) financial institutions were granted approvals to offer agency banking services to their customers. This service allows financial institutions to engage agents to offer some financial services approved by the Bank. An institution was granted approval to engage in mobile money agency services for some Dedicated Electronic Money Issuers (DEMIIs). Some of the services to be provided included cash-in and cash-out at the branches of the financial institution.

3.8 ATM Services

In the year under review, one (1) bank was granted approval to install an ATM at its newly opened branch and two (2) financial institutions were granted approval to enhance services provided on their ATMs.

3.9 Card Issuance

In 2023, the Bank granted approvals to two (2) banks to issue payment cards. One was for the issuance of visa credit cards and the other for the issuance of visa virtual prepaid card.

3.10 Point of Sale (POS) Deployment

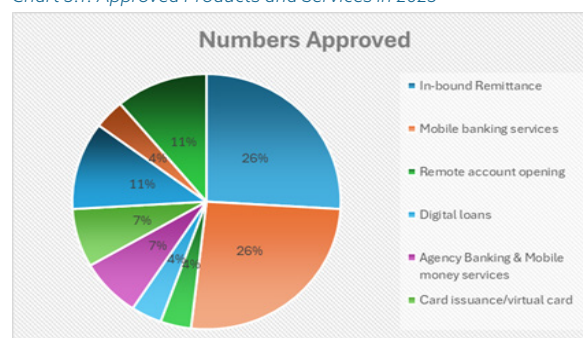
The Bank granted approval to one (1) financial institution to deploy POS devices to merchants to enable customers effect payments using payment cards or mobile money.

Table 3.1: Approved Products and Services in 2023

Products/Services	Numbers Approved
In-bound Remittance	7
Mobile banking services	7
Remote account opening	1
Digital loans	1
Agency Banking & Mobile money services	2
Card issuance/virtual card	2
ATM services	3
POS deployment	1
Others (online Payment and Collection)	3
Total	27

Source: Bank of Ghana

Chart 3.1: Approved Products and Services in 2023



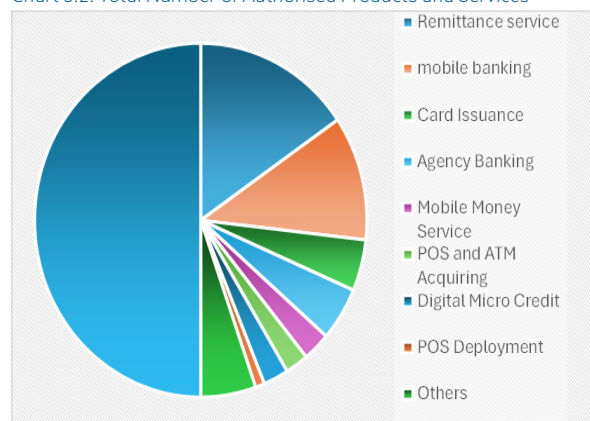
Source: Bank of Ghana

Table 3.2: Total Number of Authorized Products and Services (2016-2023)

Products/Year	2016	2017	2018	2019	2020	2021	2022	2023	Total
Remittance service	1	6	13	19	12	4	7	7	69
Mobile banking	8	11	2	6	7	6	4	7	51
Card Issuance	4	3	3	4	3	3	0	1	21
Agency Banking	2	5	4	2	2	2	4	1	22
Mobile Money Service	0	5	4	2	0	0	0	1	12
POS and ATM Acquiring	1	3	0	2	0	2	0	2	10
Digital Micro Credit	0	0	0	1	2	4	3	1	11
POS Deployment	0	3	0	0	0	0	0	1	4
Chat Banking	0	0	0	0	2	1	0	0	3
Cheques Clearing Service	0	0	0	1	0	0	0	0	1
Aggregation Service	0	1	0	0	0	0	0	0	1
ATM Deployment	0	1	0	0	0	0	0	1	2
Digital Micro Pension	0	0	1	0	0	0	0	0	1
Remote Account Opening	0	0	0	0	1	1	3	1	6
WhatsApp Banking	0	0	0	0	1	1	0	0	2
Virtual Card	0	0	0	0	1	0	0	1	2
Quick Response	0	0	0	0	1	1	0	0	2
Others	0	0	0	0	0	1	0	3	4
Total	16	38	27	37	32	26	21	27	224

Source: Bank of Ghana

Chart 3.2: Total Number of Authorised Products and Services



Source: Bank of Ghana

Table 3.2 and Chart 3.2 show the total number of authorised products and services between the period 2016 to 2023. Cumulatively, remittance services accounted for 31.0 per cent of authorised products and services from 2016 to 2023, followed by mobile banking services, agency banking, and card issuance which accounted for 23.0 per cent, 11.0 per cent, and 10.0 per cent of authorised products and services, respectively.

PAYMENT SYSTEMS TRANSACTIONS

4



4.1 Introduction

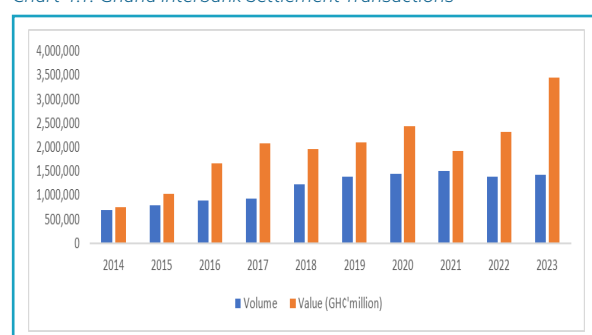
In line with its mandate under Section 42 of the Payment Systems and Services Act, 2019 (Act 987), the Bank collected and analysed data on the performance of payment channels and instruments. These included the Ghana Interbank Settlement (GIS) system, the Ghana Automated Clearing House (GACH) system, Cheque Codeline Clearing (CCC) system, National Biometric Smartcard Payment System (e-zwich™), Ghana Domestic Card Payment Scheme (gh-link™), GhIPSS Instant Pay (GIP), Retail Payment Interoperability system, Ghana's Paper Payment Instrument Accreditation Scheme, and the mobile money sub-sector.

Table 4.1: Ghana Interbank Settlement Transactions

Indicators	2020	2021	2022	2023	2023 Change	2023 Growth (%)
Volume	1,442,182	1,505,523	1,391,590	1,420,679	29,089	2.1
Value (GH¢' million)	2,433,537.47	1,922,865.47	2,312,063.55	3,443,976.00	1,131,912.44	49.0
Average value per transaction GH¢	1,687,399.70	1,227,207.63	1,661,454.56	2,424,176.05	762,721.49	45.9

Source: Bank of Ghana

Chart 4.1: Ghana Interbank Settlement Transactions



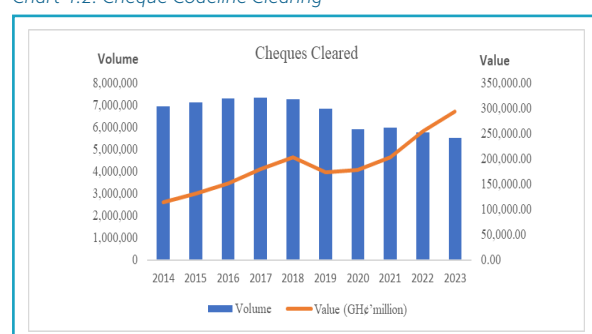
Source: Bank of Ghana

Table 4.2: Cheque Codeline Clearing

Indicators	2020	2021	2022	2023	2023 Change	2023 Growth (%)
Volume	5,903,331	5,975,750	5,770,593	5,525,598	(244,995)	(4.30)
Value (GH¢' million)	177,625.00	203,853.81	254,438.98	293,925.00	39,486.02	15.52
Average value per transaction GH¢	30,088.94	34,113.51	44,092.34	53,193.34	9,100.99	20.64

Source: Bank of Ghana

Chart 4.2: Cheque Codeline Clearing



Source: Bank of Ghana

4.2 Ghana Interbank Settlement (GIS) System

The GIS system is the Real Time Gross Settlement (RTGS) system and serves as the large value funds transfer system, the settlement platform for gross payments, and the cash-leg of securities transactions. In 2023, the total volume of GIS transactions increased by 2.1 per cent to 1,420,679. Similarly, the total value of transactions increased significantly by 49.0 per cent to GH¢3,443.98 billion. On average, the value per transaction was GH¢2.42 million in 2023 compared with GH¢1.66 million in 2022, showing an increase of 45.9 per cent. (Table 4.1 and Chart 4.1).

4.3 Cheque Codeline Clearing

In 2023, the volume of inter-bank cheques cleared reduced by 244,995, representing a 4.3 per cent decline, compared to a decline of 3.4 per cent in 2022. The total value of cheques cleared, however, increased by 15.5 per cent to GH¢293.93 billion in 2023 (Table 4.2 and Chart 4.2).

There has been a systematic decline in the volume of cheque transactions over the past few years which is attributable to increased availability and usage of new instant payment instruments.

4.4 Ghana Automated Clearing House

4.4.1 Direct Credit

The total volume of transactions cleared through the direct credit system declined by 3.2 per cent to 9,494,967 in 2023. The decline in volume of transactions could be attributed to the adoption of other instantaneous payment platforms such as the GIP, mobile money and mobile money interoperability. The total value of direct credit transfers increased by

GH¢12.10 billion, representing an increase of 15.8 per cent (*Table 4.3 and Chart 4.3*). The growth was driven

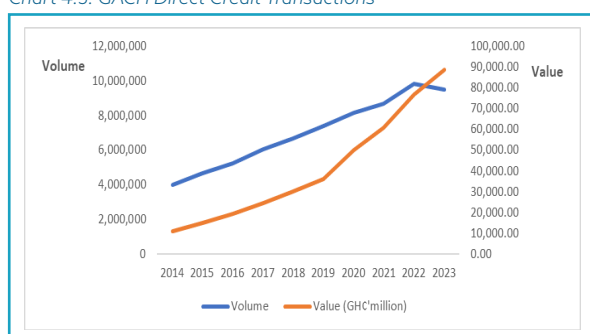
by institutional payments including pensions, salaries, and business-to-business payments.

Table 4.3: GACH Direct Credit Transactions

Indicators	2020	2021	2022	2023	2023 Change	2023 Growth (%)
Volume	8,131,989	8,688,154	9,812,298	9,494,967	(317,331)	(3.23)
Value (GH¢'million)	49,794.26	60,730.43	76,644.26	88,745.7	12,101.44	15.8
Average value per transaction (GH¢)	6,123.26	6,990.03	7,811.04	9,346.60	1,535.56	19.70
Express ACH Direct Credit Volume	1,229,629	1,403,720	1,963,121	1,746,218	(216,903)	(11.05)
Express ACH Direct Credit value (GH¢'million)	15,547.81	19,580.40	25,408.25	27,382.24	1,973.99	7.80
ACH Direct Credit Near Real-Time (NRT) Volumes	109,259	559,509	1,026,159	1,705,285	679,126	66.20
ACH Direct Credit Near Real-Time (NRT) Values (GH¢'million)	1,345.31	9,627.66	26,726.16	70,774.80	44,048.64	164.80

Source: Bank of Ghana

Chart 4.3: GACH Direct Credit Transactions



Source: Bank of Ghana

4.4.2 Direct Debit

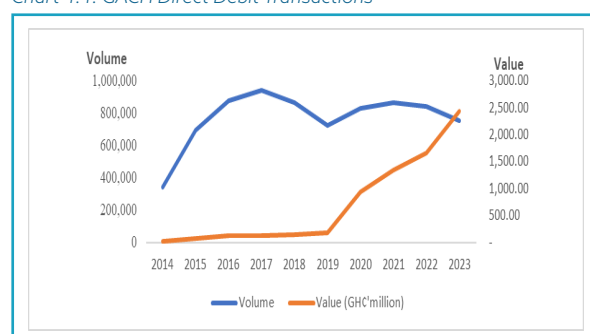
In 2023, the total volume of direct debit transactions declined by 91,543 (10.90 per cent) from 840,369 in 2022. The total value of transactions, however, increased by GH¢784 million to GH¢2,433 million (47.53 per cent). The average value per transaction increased from GH¢1,962 in 2022 to GH¢3,248 representing an increase of 65.56 per cent. (*Table 4.4 and Chart 4.4*).

Table 4.4: GACH Direct Debit Transactions

Indicators	2020	2021	2022	2023	2023 Change	2023 Growth (%)
Volume	827,901	860,858	840,369	748,826	(91,543)	(10.90)
Value (GH¢'million)	936.10	1,339.97	1,648.84	2,432.53	783.69	47.53
Average value per transaction (GH¢)	1,130.69	1,556.55	1,962.04	3,248.46	1,286.42	65.56

Source: Bank of Ghana

Chart 4.4: GACH Direct Debit Transactions



Source: Bank of Ghana

4.5 E-zwich Transactions

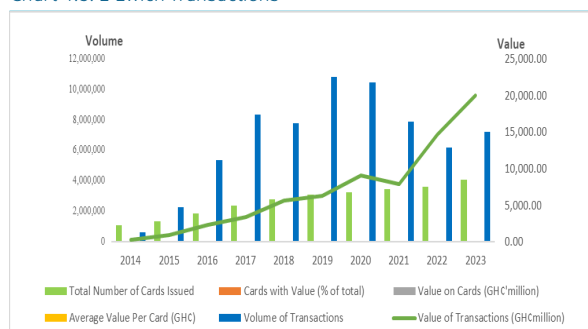
In 2023, the number of e-zwich cardholders increased by 11.63 per cent to 4,047,066. The total volume of e-zwich transactions increased by 17.19 per cent to 7,218,198 in 2023, while the total value of transactions increased by 36.54 per cent to GH¢20,002 million in 2023. (*Table 4.5 and Chart 4.5*). The results reflected a growth in access and usage of Ghana's biometric smart card payment system and the Bank's efforts at engendering inclusive financing.

Table 4.5: E-zwich Transactions

Indicators	2020	2021	2022	2023	2023 Change	2023 Growth (%)
Total Number of Cards Issued	3,252,493	3,468,894	3,625,543	4,047,066	421,523	11.63
Cards with Value (% of total)	67.14	67.42	64.51	64.9	0.39	0.6
Value on Cards (GH¢'million)	180.80	192.36	189.20	313.33	124.13	65.61
Average Value Per Card (GH¢)	82.79	82.75	80.90	119.4	38.50	47.59
Volume of Transactions	10,477,601	7,856,107	6,159,465	7,218,198	1,058,733	17.19
Value of Transactions (GH¢'million)	9,033.25	7,913.80	14,648.54	20,001.57	5,353.03	36.54

Source: Bank of Ghana

Chart 4.5: E-zwich Transactions



Source: Bank of Ghana

4.6 gh-link™

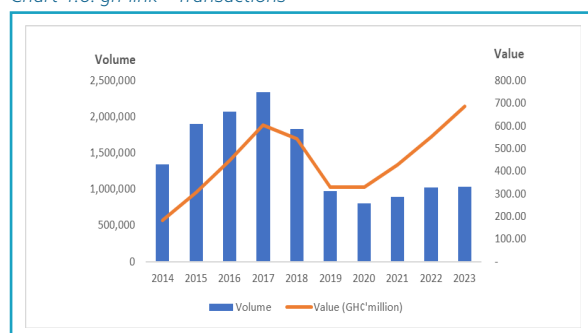
In 2023, the gh-link™ platform recorded a total volume of transactions of 1,032,484 compared to 1,018,456 in 2022. The value of transactions in 2023 was GH¢688.12 million compared to GH¢551.30 million in 2022, representing a 24.82 per cent growth. ATM transactions continued to dominate the gh-link™ platform and constituted 98.30 per cent of the total value of transactions. (Table 4.6 and Chart 4.6).

Table 4.6: gh-link™ Transactions

Indicators	2020	2021	2022	2023	2023 Change	2023 Growth (%)
Volume	806,486	889,266	1,018,456	1,032,484	14,028	1.38
Value (GH¢'million)	329.70	427.30	551.30	688.12	136.82	24.82
Average value per transaction GH¢	408.81	480.51	541.31	666.47	125.16	23.12

Source: Bank of Ghana

Chart 4.6: gh-link™ Transactions



Source: Bank of Ghana

Table 4.7: GIP Transactions

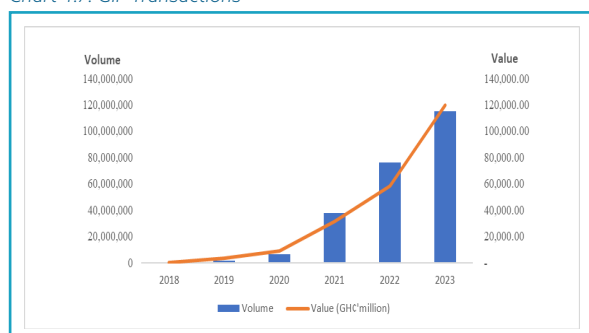
Indicators	2020	2021	2022	2023	2023 Change	2023 Growth (%)
Volume	6,804,754	37,672,319	76,483,008	115,368,700	38,885,692	50.84
Value (GH¢'million)	9,146.76	31,357.40	58,698.07	120,099.45	61,401.38	104.61
Average value per transaction GH¢	1,344.17	832.37	767.47	1,041.01	273.54	35.64

Source: Bank of Ghana

4.7 GhIPSS Instant Pay

The GhIPSS Instant Pay (GIP) recorded a total volume of 115,368,700 transactions in 2023 with a total value of GH¢120.10 billion compared with a total volume and value of 76,483,008 and GH¢58.70 billion, respectively, in 2022. This showed an increase of 50.84 per cent in transaction volumes and 104.61 per cent increase in transaction values. (Table 4.7 and Chart 4.7).

Chart 4.7: GIP Transactions



Source: Bank of Ghana

4.8 Internet and Mobile Banking

The number of registered internet banking customers increased by 16.60 per cent to 1,317,003 in 2023. Similarly, the number of registered mobile banking customers increased by 51.54 per cent to 7,287,579 in 2023. The total value of internet banking transactions increased by 22.90 per cent to GH¢98.87 billion in 2023 compared with GH¢80.44 billion in 2022. Total volume of internet banking transactions also increased by 30.65 per cent to 13,501,492 in 2023. The value of mobile banking transactions was GH¢80.40 billion in 2023 compared to GH¢38.48 billion in 2022. The volume of mobile banking transactions was 66,941,069 in 2023 compared to 65,322,898 in 2022. (Table 4.8).

Table 4.8: Internet and Mobile Banking

		2021	2022	2023	Growth (%)
Internet Banking	Number of registered customers	970,435	1,129,387	1,317,003	16.60
	Volume of transactions	9,077,471	10,334,353	13,501,492	30.65
	Value of transactions (GH¢)	56,237.59	80,438.22	98,869.40	22.90
	Average volume of transactions per day	24,869	28,313	36,990	30.65
Mobile Banking	Number of registered customers	4,062,731	4,809,103	7,287,579	51.54
	Volume of transactions	55,096,423	65,322,898	66,941,069	2.50
	Value of transactions (GH¢)	26,112.32	38,474.50	80,399.76	109.00
	Average volume of transactions per day	150,949	178,966	183,400	2.50

Source: Bank of Ghana

4.9 Automated Teller Machines (ATMs) and Point of Sale (POS) Devices

The cumulative number of ATMs deployed by banks at end-December 2023 was 2,287 showing an increase of

1.40 per cent over 2022 position. The number of POS terminals declined by 6.91 per cent to 12,491 at end-December 2023. The decline was attributed to some commercial banks decommissioning of non-functional POS terminals on the market (Table 4.9).

Table 4.9: Automated Teller Machines and Points of Sales

	2021	2022	2023	2023 Change	2023 Growth (%)
Automated Teller Machines (ATMs)	2,278	2,256	2,287	31	1.40
Point of Sales (POS) terminals	12,643	13,418	12,491	(927)	(6.91)

Source: Bank of Ghana

4.10 Cards

4.10.1 Debit Cards

The total number of debit cards issued by banks as at end-December 2023 was 6,050,264 showing an increase of 17.55 per cent as against 5,147,066 cards issued in 2022. The number of international scheme debit cards issued amounted to 4,885,882 and constituted 80.80 per cent of the total issued debit cards, compared with banks proprietary cards of 1,164,382 which constituted 19.30 per cent. International scheme cards increased by 25.40 per cent while banks' proprietary cards declined by 6.90 per cent in 2023. (Table 4.10).

4.10.2 Credit Cards

The number of credit cards issued as at end-December 2023 increased by 11.40 per cent to 54,082. The increase was on account of approvals granted to two (2) additional banks to issue credit cards. All the credit cards issued were international scheme cards (Table 4.10).

4.10.3 Prepaid Cards

The total number of prepaid cards issued declined by 28.27 per cent to 834,501 in 2023. (Table 4.10).

Table 4.10: Electronic Payments Cards

Type	2021	2022	2023	Growth (%)
Debit Cards:	4,936,246	5,147,066	6,050,264	17.55
Banks' own proprietary cards	1,288,961	1,250,553	1,164,382	(6.90)
International Scheme Cards	3,647,285	3,896,513	4,885,882	25.40
Credit Cards:	36,237	48,557	54,082	11.40
Banks' own proprietary cards	-	-	-	-
International Scheme Cards	36,237	48,557	54,082	11.40
Prepaid Cards:	834,584	1,163,339	834,501	(28.27)
Banks' own proprietary cards	56	-	-	-
International Scheme Cards	834,528	1,163,339	834,501	(28.27)

Source: Bank of Ghana

DEVELOPMENTS IN THE GHANAIAAN FINTECH ECOSYSTEM

5



5.1 Introduction

The year 2023 witnessed continued deepening of Ghana's FinTech space on account of enhanced risk-based supervision and oversight and the implementation of relevant laws, guidelines, and policies. This spearheaded an increase in the number of licensed FinTechs.

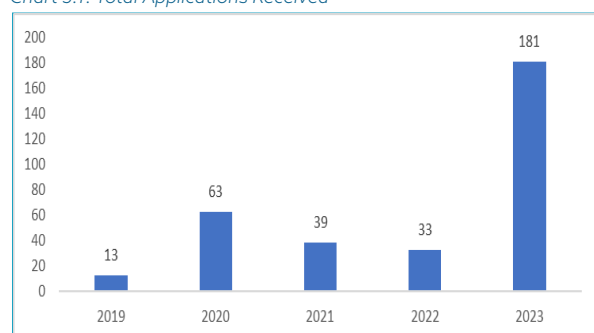
Furthermore, various initiatives were undertaken by the Bank to strengthen the FinTech ecosystem, notably: the FinTech industry workshops, enhancement of the Sandbox platform, the eCedi Hackathon, and an enhanced licensing framework.

Mobile money, which serves as a major driver in the industry, also continued to grow in transaction volume and value.

5.1.1 Total Applications Received

In 2023, the Bank received 181 applications for various Payment Service Provider (PSP) licences. (*Chart 5.1*). This represents a growth of 448.5 per cent, as compared to 33 applications received in 2022. The increase in the number of applications is an indication of the Bank's continuous dialogue with the industry, the initiatives put in place and the streamlining of the Bank's licensing processes for PSPs.

Chart 5.1: Total Applications Received



Source: Bank of Ghana

5.1.2 Status of Applications

The Bank granted approval to five (5) Payment Service Providers to operate under the Enhanced PSP category and two (2) under the Payment and Financial Technology Service Provider category.

The total number of licensed Financial Technology Companies as at year-end December 2023 was fifty-three (53). This was made up of five (5) Dedicated Electronic Money Issuers (DEMIs), thirty-nine (39) PSPs in the Enhanced licence category, four (4) in the PSP Medium category, and two (2) in the PSP Standard category. There were three (3) approved entities under the Payment and Financial Technology Service Providers (PFTSP) license category. (*Table 5.1*).

Table 5.1: Breakdown of Licensed Institutions

Licence Category	Number of Approved Entities
PSP Enhanced	39
PSP DEMI	5
PSP Medium	4
PSP Standard	2
PFTSP	3
Total	53

Source: Bank of Ghana

5.2 FinTech Industry Performance

The FinTech industry has seen impressive gains in its performance indicators as individuals and businesses adopt more electronic payment channels. This shows a general acceptance of payment solutions in the market and the possibility for even greater expansion of the industry.

5.2.1 Mobile Money Services

The total volume of mobile money transactions increased from 5.07 billion in 2022 to 6.81 billion in 2023 representing a 34.30 per cent growth. Total value of transactions, however, increased significantly by 79.07 per cent from GH¢1.07 trillion in 2022 to GH¢1.92 trillion in 2023. Active e-money customers also grew over the same period by 2.64 per cent. Similarly, active agents recorded a strong growth of 20.54 per cent from 505,122 to 609,000 agents by the close of the year (*Table 5.2*).

The growth in total transactional activities was driven by an increase in wallet usage by active mobile money customers. The top five (5) transactions performed by users according to value included the following: cash-in, cash-out, bank-to-wallet (B2W), wallet-to-bank (W2B) and person-to-person (P2P) transactions. These accounted for 42 per cent of total transaction values for 2023. Market share ranking on active customers and active agents remained unchanged.

Table 5.2: DEMI Statistics

Key Performance Indicator (KPI)	2022	2023	2023 change	Growth (%)
Registered e-money customers (Cumulative) (Thousands)	55,289	65,611	10,323	18.67
Active e-money customers* (Thousands)	20,381	20,918	537,583	2.64
Registered Agents (Cumulative)(Thousands)	700	817	117.20	16.75
Active Agents** (Thousands)	505	609	104	20.54
Total Value of e-money transactions (GHS' Millions)	1,072,157	1,919,874	847,717	79.07
Total Volume of e-money transactions (Millions)	5,068	6,806	1,738	34.30
Balance on Float (GHS' Millions)	13,071	18,861	5,789	44.29

Source: Bank of Ghana

Table 5.3: Quarterly DEMI Statistics

Key Performance Indicator (KPI)	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Registered e-money customers								
(Cumulative) (Thousands)	49,926	51,049	53,280	55,289	57,372	60,174	63,157	65,611
Active e-money customers* (Thousands)	18,881	18,839	19,946	20,381	20,653	22,149	21,950	20,918
Registered Agents (Cumulative) (Thousands)	602	625	661	700	745	742	803	817
Active Agents** (Thousands)	458	462	477	505	521	571	582	609
Total value of e-money transactions (GHS' Millions)	243,453	236,465	253,045	339,193	411,573	455,499	488,404	564,399
Total volume of e-money transactions (Millions)	1,151	1,163	1,294	1,461	1,524	1,641	1,751	1,890
Balance on Float (GHS' Millions)	9,480	9,315	9,799	13,071	12,807	14,043	13,687	18,861

Source: Bank of Ghana

* The number of customers who performed at least one e-money transaction within 90 days prior to reporting

** The number of agents who performed at least one e-money transaction within 30 days prior to reporting

5.2.2 Mobile Money Interoperability (MMI)

Mobile Money Interoperability (MMI) transaction values and volumes both recorded a 24.0 per cent growth in 2023 (Table 5.4).

Wallet-to-Wallet transactions remained the dominant transaction type for 2023, with the product accounting for 83.0 per cent of total transaction value for the year. Wallet-to-Account transactions accounted for 17.0 per cent of transactions for 2023. Transferring funds from one wallet to another remains the largest use case for mobile money interoperability.

5.2.3 Float Account Trends

Total float value stood at GH¢18.9 billion at the end of the year, representing a 44.0 per cent year-on-year growth in the float balance. The fourth quarter (Q4) of 2023 recorded the most significant growth within the year (Table 5.3).

Table 5.4: Mobile Money Interoperability Statistics

Item	2022	2023	YoY Growth (%)
Transaction Value (GHS)			
Wallet to Wallet	21,711,114,139	27,217,458,962	25
Wallet to Bank	4,695,379,193	5,573,317,718	19
Wallet to e-zwich	10,746,510	22,528,264	110
Total Transaction Value	26,417,239,842	32,813,304,944	24
Transaction Volume			
Wallet to Wallet	135,563,994	167,562,608	24
Wallet to Bank	2,953,007	3,710,872	26
Wallet to e-zwich	55,809	98,503	77
Total Transaction Volume	138,572,810	171,371,983	24

Source: Bank of Ghana

5.3 Oversight & Supervision

The Bank continued to conduct examinations of Payment Service Providers (PSPs) and Dedicated Electronic Money Issuers (DEMIs). Mobile money surveillance was also conducted with a focus on electronic money issuers, merchants, and agents across the country. These examinations assisted in the identification and resolution of supervisory concerns within the FinTech industry in Ghana.

The year 2023 witnessed immense progress in the supervision of the space as these examinations led to reforms including the enhancement of internal capacity, processes, and procedures to improve the monitoring of PSPs and DEMIs.

5.3.1 Oversight and Supervision Activities

The examinations ensured compliance with the Payment Systems and Services Act, 2019 (Act 987), Directives and Regulations, and covered the following thematic areas:

- corporate governance
- financial performance
- information systems and security
- onboarding procedures
- operational setup
- staffing

The Bank also organised workshops and training programmes to improve institutions' understanding and compliance with licensing requirements.

5.3.2 Fraud and Investigations

During the year under review, the Bank together with relevant stakeholders and security organisations uncovered illegal activities within the financial ecosystem. Investigations were carried out on fraudulent transactions, cryptocurrency services, illegal digital loan applications, and individuals and entities involved in illegal payment activities. This resulted in the suspension of over two hundred (200) illegal digital loan applications.

5.3.3 Mobile Money Surveillance

Mobile Financial Services contribute significantly to financial inclusion, and the Bank conducts surveillance to ensure stakeholders' compliance. The scope was expanded in 2023 to include verification of merchants' acceptance of mobile money. The surveillance revealed a widespread reliance on e-money, especially among small and medium-scale businesses, providing insights for the development of relevant policies to positively impact the space.

5.4 Regulatory Sandbox

Following the successful launch of Bank of Ghana's Regulatory Sandbox in August 2022, a significant number of applications were received by the Bank. These applications focused on payments, remittances, micro-lending, and crowdfunding and were potentially capable of generating meaningful change in the digital financial ecosystem.

Applications were reviewed by the Sandbox Technical Committee and subsequently considered for approval by the Sandbox Steering Committee. Successful applicants were able to test their innovations within the time frames provided.

5.4.1 Sandbox Participation

During the year under review, there were several innovative solutions approved by the Bank to participate in the Sandbox. One of such innovations was a partnership between a commercial bank and a FinTech to test its supply chain financing solution. The solution would enable the commercial bank to make pre-approved payments to key distributors of selected well established manufacturing companies in Ghana on behalf of MSME dealers that are supplied goods by these key distributors. Loan repayments are subsequently carried out by MSMEs to the commercial bank under pre-approved repayment terms. This innovation therefore seeks to promote growth of Ghanaian MSMEs by easing access to credit, e-commerce, and business services.

5.5 Central Bank Digital Currency (CBDC) Project

The Bank, in collaboration with EMTECH, launched an eCedi Hackathon as part of its CBDC research project in October 2023. The maiden edition of the hackathon which was targeted at FinTechs, developers and innovators, aimed at:

- encouraging local talent to develop eCedi-based innovative solutions to address financial inclusion gaps in the country
- encouraging both local and global collaborations on CBDC
- facilitating CBDC knowledge sharing among the industry

5.5.1 Hackathon Application Reviews and Onboarding

The Bank received a total of eighty-eight (88) applications which were scaled down to sixty-eight (68) applicants. The Bank, in collaboration with seasoned industry experts, shortlisted ten (10) applications within

the areas of agriculture, crowdfunding, investments and savings, government payments, collections, and credit scoring. The finalists were onboarded onto the EMTECH Hackathon Toolkit platform and were issued with eCedi tokens to test their innovative ideas.

5.5.2 Demonstration of Innovation Prototypes and Awards Dinner Ceremony

The ten (10) shortlisted applicants demonstrated their respective innovations, and were scored by judges from different jurisdictions with the relevant expertise in FinTech and payments. KPMG served as an assurance partner for the event.

The event was climaxed with an awards dinner ceremony held on December 14, 2023. The Forward Titans of Cal Bank emerged as the overall winner based on their solution aimed at facilitating Government-to-Person (G2P) payments through eCedi, and promoting transparency, efficiency and timely disbursements of funds.

5.6 FinTech Industry Workshops, Exhibitions, Conferences and Engagements

5.6.1 FinTech Survey

The Bank administered a survey to supervised FinTechs aimed at assessing the Bank's discharge of its mandate under the Payment Systems and Services Act, 2019 (Act 987) and relevant laws, notices and guidelines.

The survey revealed that the industry was pleased with the performance of the Bank with regards to its mandate of ensuring a safe, sound and secure payment system. However, there was the need for frequent regulator-industry engagements, improvement in service turnaround times and the enhancement of policies and regulations around emerging technologies.

5.6.2 Singapore FinTech Festival

The Bank participated in the Singapore FinTech Festival in November 2023.

In a roundtable discussion hosted by the United Nations Development Programme (UNDP), discussions were held on how the Universal Trusted Credentials (UTC) could be adopted by various jurisdictions in 2024. The UTC initiative aims to improve financial inclusion for underserved MSMEs by using alternative data (financial and non-financial) to create a flexible Digital Economy Semi-Fungible Token (DESFT). DESFT is a unique credential that would be assigned to each MSME for the purpose of expanding access to MSME financing and global trade.

The Bank highlighted its work on the Ghana Integrated Financial Ecosystem (GIFE), a joint initiative with the Monetary Authority of Singapore (MAS) and Development Bank Ghana. The GIFE project aims to empower SMEs through enhanced access to financing and cross-border markets.

PAYMENT SYSTEMS RISK AND OVERSIGHT

6



6.1 Assessment of Systemically Important Payment Systems against the Principles for Financial Market Infrastructures (PFMI)

Pursuant to Section 40 (1) (2) of Act 987, the Bank successfully assessed Ghana's Realtime Gross Settlement System (RTGS), also known as the Ghana Interbank Settlement (GIS) system against the CPMI/IOSCO Principles for Financial Market Infrastructures (PFMI). The objective of the assessment was to determine the extent of observance and implementation of the relevant principles applicable to this Systemically Important Payment System.

6.2 Enhancement of Regulatory Framework

To enhance regulation of the Real Time Gross Settlement system, the Bank issued an exposure draft of "Failure to Settle" rules to improve settlement arrangements by participants. The "Failure to Settle" rules, outlined in the exposure draft, is intended to guide participants on measures that can be utilized to address liquidity challenges; including instances where participants do not have adequate funds to meet their settlement obligations. The rules are expected to build additional safety buffers and enhance resilience in the growing payment space in Ghana.

Additionally, it is expected to compel Payment Service Providers (PSPs), who settle their interbank obligations on the GIS, to internalize as much as possible the cost of their participation in the payment system.

6.3 Issuance of Cheque Printer Accreditation Certificate

Cheques represent an important payment instrument within the Ghanaian payment ecosystem, especially for retail payments. Recognizing the importance of cheques as a payment instrument, the Bank in 2023, pursuant to Section 85 (1) (2) of the Payment Systems and Services Act, 2019 (Act 987) and Section 6 of the Cheque Printer Accreditation Standard, carried out its statutory mandate and assessed the operations of accredited cheque printers to ascertain their compliance with accreditation requirements. In the assessment, the performance of the two cheque printing firms, Camelot Ghana Limited and Checkpoint Ghana Limited, were found to be satisfactory.

6.4 Examination of Payment Service Operations of Banks and other Licensed Financial Institutions

Banks play a critical role in the provision of payment services in the Ghanaian payment ecosystem and contribute to a sound and robust payment system. To ensure resilience in the ecosystem, the Bank monitors and examines payment service operations of regulated financial institutions.

In 2023, the Bank examined the payment system operations of five (5) universal banks, four (4) savings and loans companies, and two (2) rural banks. The examinations were conducted to evaluate the compliance of these entities with the requirements of the Payment Systems and Services Act, 2019 (Act 987) and the regulations issued by the Bank to guide the delivery of payment products and services.

The examinations assessed the effectiveness of the Board's oversight function on payment services operations, cyber and technology security, risk management, operational controls, business continuity plans, and internal review processes of selected banks and other licensed financial institutions to ensure the stability and integrity of their activities in relation to payment system operations.

FINANCIAL INCLUSION IN GHANA

7



7.1 Introduction

Financial inclusion is a key policy of the Bank of Ghana on account of its positive contribution to financial stability and financial deepening. As a result, the Bank of Ghana in 2023, developed policies to strengthen and guide its financial inclusion programmes.

7.2 Financial Inclusion Policy Interventions

In line with the National Financial Inclusion and Development Strategy (NFIDS), the Bank of Ghana in 2023, with a grant from the Alliance for Financial Inclusion (AFI) refocused and strengthened its financial inclusion programmes by designing the following frameworks:

- Policy and Regulatory Framework for the Promotion of Financial Inclusion
- Financial Education and Financial Literacy Framework

7.2.1 Policy and Regulatory Framework for the Promotion of Financial Inclusion

The policy and regulatory framework for the promotion of financial inclusion was designed to restructure and streamline the Bank's internal policies, processes, and procedures to effectively discharge its mandate. This was designed to provide a holistic and coordinated financial inclusion policy and regulatory framework that promotes inclusive finance in Ghana. The framework also focuses on the roles and responsibilities of various actors and outlines parameters for a successful implementation of financial inclusion goals.

7.2.2 Financial Education and Literacy Policy Framework

The financial education and literacy policy framework complements that of the National Financial Literacy Strategy and is aimed at raising public awareness of available financial products and services, empowering consumers with the requisite knowledge to make sound financial decisions, protecting financial interest of customers, and enhancing consumer complaints and recourse mechanisms.

This framework was designed to respond to findings of a national financial literacy survey and draws on experiences from the design and implementation of similar frameworks by central banks of other countries as well as overall guidance provided by the Alliance for Financial Inclusion (AFI).

7.3 Peer Learning and Study Visits

The Bank of Ghana, in accordance with its commitment to peer learning hosted staff of other central banks and institutions to mutually exchange knowledge, experiences and lessons in payment systems development. The Bank carried out these programmes with key partners including GhIPSS, Payment Service Providers (PSPs) and banks. The 2023 peer learning programmes were largely focused on emerging issues in payments including Central Bank Digital Currency (CBDC), assessment of payment systems against the Principles for Financial Market Infrastructures (PFMI), and oversight and supervision of digital payment platforms.

APPENDIX

Table A1: Comparative Payment System Statistics

Category	Indicators	2019	2020	2021	2022	2023	Annual Change 2022 (%)
Institutions offering payment services							
	Licensed Banks (DMBs)	23	23	23	23	23	-
	Bank Branches	1,179	1,177	1,186	1,190	1,221	2.61
	Rural and Community Banks	144	145	145	147	147	-
	NBFI & SDIs	366	366	365	366	366	-
	Micro Finance Institution (MFI)	180	180	180	177	176	-0.565
	Mobile Money Operators	3	3	3	3	3	-
	Active mobile money agents	226,298	328,329	442,375	505,122	609,000	20.54
Large Value Payments (RTGS):							
	Volume	1,376,094	1,442,182	1,505,523	1,391,590	1,420,679	2.09
	Value (GH¢million)	2,106,117.85	2,433,537.47	1,922,865.47	2,312,063.56	3,443,976.00	48.96
	Average Value per Transaction (GH¢)	1,530,504.35	1,687,399.70	1,277,207.63	1,661,454.57	2,424,176.05	45.91
	Volume of transactions per day	5,548.77	5,815.25	6,070.66	5,611.25	5,728.54	2.09
Cheque Codeline Clearing (CCC)							
	Volume	6,831,417	5,903,331	5,975,750	5,770,593	5,525,598	-4.30
	Value (GH¢million)	173,623.25	177,625	203,854	254,439	293,925	15.52
	Average Value per Transaction (GH¢)	25,415.41	30,088.94	34,113.54	44,092.34	53,193.34	20.64
	Average Volume of transactions per day	27,546.04	23,803.75	24,095.77	23,268.52	22,280.64	-4.25
ACH Direct Credit							
	Volume	7,404,059	8,131,989	8,688,154	9,812,298	9,494,967	-3.23
	Value (GH¢million)	36,137.96	49,794.26	60,730.43	76,644.26	88,745.70	15.80
	Average Value per Transaction (GH¢)	4,880.83	6,123.26	6,990.03	7,811.04	9,346.60	19.70
	Average Volume of transactions per day	29,855.08	32,790.28	35,032.88	39,565.72	38,286.16	-3.23
ACH Direct Debit							
	Volume	722,337	827,901	860,858	840,369	748,826	-10.90
	Value (GH¢million)	173.10	936.10	1,339.97	1,648.84	2,432.53	47.53
	Average Value per Transaction (GH¢)	239.64	1,130.69	1,556.55	1,962.04	3,248.46	65.56
	Average Volume of transactions per day	2,912.65	3,338.31	3,471.20	3,388.58	3,019.46	10.90
E-zwich							
	Total Number of Cards Issued	3,072,965	3,252,493	3,468,894	3,625,543	4,047,066	11.63
	Volume of Transactions	10,796,560	10,477,601	7,856,107	6,159,465	7,218,198	17.19

Source: Bank of Ghana

Table A1: Comparative Payment System Statistics (continued)

Category	Indicators	2019	2020	2021	2022	2023	Annual Change 2022 (%)
	Value of Transactions (GHe'million)	6,308.37	9,033.25	7,913.80	14,648.54	20,001.57	36.54
	Average Volume of transactions per day	29,579.62	28,705.76	21,523.58	16,875.25	19,775.90	17.19
Gh_Link™ (National Switch)							
	Volume	972,746	806,486	889,266	1,018,456	1,032,484	1.38
	Value (GHe'million)	329.23	329.70	427.30	551.30	688.12	24.82
	Average Value per Transaction (GHe)	338.45	408.81	480.51	541.30	666.47	23.12
	Average Volume of transactions per day	2,665.06	2,209.55	2,436.35	2,790.29	2,828.72	1.38
GhIPSS Instant Pay (GIP)							
	Volume	1,905,267	6,804,754	37,672,319	76,483,008	115,368,700	50.84
	Value (GHe'million)	3,456.89	9,146.76	31,357.40	58,698.07	120,099.45	104.61
	Average Value per Transaction (GHe)	1,814.39	1,344.17	832.37	767.47	1,041.01	35.64
Mobile Money							
	Registered mobile money accounts (Cumulative)	32,470,793	38,473,734	48,308,975	55,288,500	65,611,000	18.67
	Active mobile money accounts	14,459,352	17,142,677	17,948,480	20,380,716	20,918,000	2.64
	Registered Agents (Cumulative)	306,346	423,892	579,672	699,592	817,000	16.75
	Active Agents	226,298	328,329	442,375	505,122	609,000	20.54
	Total volume of mobile money transactions	2,009,989,300	2,859,624,191	4,246,799,232	5,067,513,712	6,806,000,000	34.30
	Total value of mobile money transactions (GHe'Million)	309,352.25	564,155.90	978,323.79	1,072,157.00	1,919,874.00	79.07
	Balance on Float (GHe'Million)	3,633.83	6,980.03	9,744.38	13,071.43	18,861.00	44.29
	Average Volume of transactions per day	5,506,820	7,834,586	11,635,033	13,883,599	18,646,575	34.31

Source: Bank of Ghana

Table A2: Data on Payment Channels and Instruments

Item	Indicators	Year 2019	Ending 2019	Year 2020	Ending 2020	Year Ending 2021	Year Ending 2022	Year Ending 2023	Percent Change (2022)
ATMs	Number of ATMs (cumulative)		2,123		2,237	2,278	2,256	2,287	1.40
	Volume of transactions		55,709,252		56,603,211	52,146,614	53,840,588	57,607,694	7.00
	Value of transactions (GHe)		26,392,440,332		32,148,026,396	35,687,433,783	47,631,482,852	62,779,899,077	31.80
POS Terminals	Number of Terminals (cumulative)		8,802		10,489	12,643	13,418	12,491	-6.91
	Volume of transaction		14,251,259		15,159,237	12,511,893	12,283,651	13,045,371	6.20
	Value of transaction (GHe)		8,104,491,560		11,271,897,541	10,098,188,684	18,312,827,514	25,568,407,964	39.62
Internet Banking	Number of Customers registered		1,106,270		1,019,073	970,435	1,129,387	1,317,003	16.60
	Volume of transactions		4,651,290		7,055,793	9,077,471	10,334,353	13,501,492	30.65
	Value of transactions (GHe)		12,014,728,578		24,208,653,517	56,237,587,415	80,438,220,592	98,869,350,388	22.90
Mobile Banking	Number of Customers registered		4,245,479		4,767,719	4,062,731	4,809,103	7,287,579	51.54
	Volume of transactions		18,770,721		34,842,318	55,096,423	65,322,898	66,941,069	2.50
	Value of transactions (GHe)		6,687,332,884		12,940,760,028	26,112,324,108	38,474,504,827	80,399,757,837	109.00
Debit Cards	Number of cards issued (cumulative):		4,427,848		4,813,063	4,936,246	5,147,066	6,050,264	17.55
	International Scheme Cards		2,841,048		3,168,608	3,647,285	3,896,513	4,885,882	25.40
	Banks own proprietary cards		1,586,800		1,644,455	1,288,961	1,250,553	1,164,382	-6.90
	Volume of transaction		56,068,367		58,596,924	61,236,956	66,147,757	69,844,177	5.60
	Value of transaction (GHe)		27,758,120,613		37,903,559,526	47,483,659,668	197,459,245,588	71,436,700,580	-63.80
Credit Cards	Number of cards issued (cumulative):		29,050		33,039	36,327	48,557	54,082	11.40
	International Scheme Cards		29,050		33,039	36,327	48,557	54,082	11.40
	Banks' own proprietary cards		-		-	-	-	-	-
	Volume of transaction		465,906		460,876	524,418	974,151	574,893	41.00
	Value of transaction (GHe)		232,609,683		235,013,808	295,575,606	802,057,785	677,398,638	-15.54
Prepaid cards	Number of cards issued (cumulative)		372,586		573,703	834,584	1,163,369	834,501	-28.27
	Volume of transactions		489,672		382,678	583,438	2,837,175	8,659,950	205.00
	Value of transactions (GHe)		358,649,962		311,321,972	554,697,561	1,771,350,947	6,707,564,735	278.70

Source: Bank of Ghana

Got To Pay?

Dial

Merchant Name:

Merchant ID:

Just dial it



The background is a solid blue field composed of various geometric shapes, primarily triangles, in different shades of blue. A prominent five-pointed star is centered in the upper half of the image, rendered in a slightly darker shade of blue than the surrounding triangles. The overall effect is a modern, abstract design.

Designed and Printed by Printing and Publications Unit
Communications Department