

INTERNATIONAL MONETARY FUND

AFRICAN DEPARTMENT

Digital Payment Innovations in Sub-Saharan Africa

Prepared by an IMF team led by Luca Antonio Ricci, Calixte Ahokpossi, Saad Quayyum, and Rima Turk, comprised Anna Belianska, Mehmet Cangul, Habtamu Fuje, Sunwoo Lee, Grace Li, Xiangming Li, Yibin Mu, Nkunde Mwase, Jack Joo Ree, and Haiyan Shi, under the guidance of Vitaliy Kramarenko.

2025



DEPARTMENTAL PAPER

This page intentionally left blank

INTERNATIONAL MONETARY FUND

AFRICAN DEPARTMENT

DEPARTMENTAL PAPER

Digital Payment Innovations in Sub-Saharan Africa

Prepared by an IMF team led by Luca Antonio Ricci, Calixte Ahokpossy, Saad Quayyum, and Rima Turk, comprised Anna Belianska, Mehmet Cangul, Habtamu Fuje, Sunwoo Lee, Grace Li, Xiangming Li, Yibin Mu, Nkunde Mwase, Jack Joo Ree, and Haiyan Shi, under the guidance of Vitaliy Kramarenko.

Cataloging-in-Publication Data
MF Library

Names: Ricci, Luca Antonio, author. | Ahokpossi, Calixte, author. | Quayyum, Saad Noor, author. | Turk Ariss, Rima, author. | Belianska, Anna, author. | Cangul, Mehmet, author. | Fuje, Habtamu, author. | Lee, Sunwoo, 1993-, author | Li, Grace Bin, author. | Li, Xiangming, 1966-, author. | Mu, Yibin, 1968-, author. | Mwase, Nkunde, author. | Ree, Jack Joo, author. | Shi, Haiyan, author. | Kramarenko, V. (Vitaliy), author. | International Monetary Fund, publisher.

Title: Digital payment innovations in Sub-Saharan Africa / Prepared by an IMF team led by Luca Antonio Ricci, Calixte Ahokpossi, Saad Quayyum, and Rima Turk, comprised Anna Belianska, Mehmet Cangul, Habtamu Fuje, Sunwoo Lee, Grace Li, Xiangming Li, Yibin Mu, Nkunde Mwase, Jack Joo Ree, and Haiyan Shi, under the guidance of Vitaliy Kramarenko.

Other titles: International Monetary Fund. African Department (Series).

Description: Washington, DC : International Monetary Fund, 2025. | June 2025. | Includes bibliographical references.

Identifiers: ISBN:

9798400232220 (paper)

9798400234088 (ePub)

9798400234057 (WebPDF)

Subjects: LCSH: Digital currency—Sub-Saharan Africa. | Digital currency—Technological innovation—Sub-Saharan Africa.

Classification: HG1710.R5 2025

Acknowledgments

This paper was prepared by an IMF team led by Luca Antonio Ricci, Calixte Ahokpossi, Saad Quayyum, and Rima Turk, comprised Anna Belianska, Mehmet Cangul, Habtamu Fuje, Sunwoo Lee, Grace Li, Xiangming Li, Yibin Mu, Nkunde Mwase, Jack Joo Ree, and Haiyan Shi, under the guidance of Vitaliy Kramarenko.

The following contributors prepared a box or an annex where their name is also listed: Marianne Bechara, Jacques Bouhga-Hagbe, Laila Drissi Bourhanbour, Adrian Dorel Dumitrescu Pasescinic, Davide Furceri, Khushboo Khandelwal, Mesmin Koulet-Vickot, Amina Lahreche, Mouhamadou Ly, Lawrence Norton, Silvia Núñez, Mika Saito, Félix Fernando Simione, Nour Tawk, Johanna Tiedemann, Ursula Wiriadinata, and Solo Zerbo.

The team received excellent support from Hatem Alsokhebr, Ignacio Gutiérrez, Juan Fernando Morán Arce, Miguel Eduardo Otero Nule, Sandrine Ourigou, and Rahul Raju, in collaboration with other members of the African Department CBDC and Digital Payments Working Group: Gbedia Gomez Agou, Reginald Darius, Kouame Desire Kanga, Neree Noumon, Henry Nguyen Quach, Marcos Rietti Souto, Jose A. Sulemane, and Karim M. Youssef.

The paper benefitted from invaluable comments by Ernest Kwamina Yedu Addison, Tobias Adrian, Salvatore Luigi Alonzo, Jolie Aloysius Tarlue, Aivo Handriatiana Andrianarivelo, Johnson Pandit Asiama, Michael Atingi-Ego, Yvon Sana Bangui, Ehi Binitie, Chris Brummer, Carmelle Cadet, Eugenio Cerutti, Subhashini Chandran, Piero Cipollone, Tito Nicias Teixeira da Silva Filho, Marco Valerio Della Penna, Dorothee Delort, Dante Disparte, Dimitrios Dosis, Matthew, Driver, Óscar Humberto Évora Santos, Yasuko Fumuro, Johannes !Gawaxab, Soraya Hakuziyaremye, Martina Hengge, Roshan Iyer, Natalie Haynes, Dong He, Julapa Jagtiani, Agnija Jekabsone, Michael Jennings, Malangu Kabedi-Mbuyi, Christian Kajeneri, Jean-Claude Kassi Brou, Candace Kelly, Lesetja Kganyago, Leora Klapper, Tayo Koonprasert, Tansaya Kunaratskul, David Lee Kuo Chuen, Bo Li, Inutu Lukonga, Tommaso Mancini Griffoli, Dea Markova, Tony McLaughlin, Georgina Merhom, Luca Mibelli, Phil Mnisi, Sopnendu Mohanty, Pierfrancesco Molina, Ian Moloney, Tara Muehlschlegel, Harish Natarajan, Harry Newman, Patrick Njoroge, Manisha Patel, Kingsley Obiora, Julius Oloufadi, Kwame Oppong, Patrizio Pagano, Leonardo Pio Pérez, Konstantin Peric, Matteo Rizzi, John Rwangombwa, Henry F. Saamoi, Buah Saidy, Fabian Schaer, Harvish Kumar Seegolam, Wolfram Seidemann, Abebe Aemro Selassie, Raadhika Sihni, Rama Sithanen, Gabriel Soderberg, Nobuyasu Sugimoto, Tao Sun, Jeremy Tan, Paolo Tasca, Miriam Tembo Kamuhuza, Katie-Ann Wilson, and Rogério Zandamela, as well as colleagues from the IMF (following departments: AFR, COM, FIN, LEG, MCM, RES, and SPR) and the World Bank.

The Departmental Paper Series presents research by IMF staff on issues of broad regional or cross-country interest. The views expressed in this paper are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.

Publication orders may be placed online or through the mail:

International Monetary Fund, Publication Services

P.O. Box 92780, Washington, DC 20090, USA

T. +(1) 202.623.7430

publications@IMF.org

IMFbookstore.org

elibrary.IMF.org

Contents

Executive Summary	v
Acronyms and Abbreviations	1
1. Introduction	3
A. Digital Payment Innovations in Sub-Saharan Africa.....	3
B. Structural Features of Sub-Saharan African Economies.....	6
C. Key Issues for the Development of Digital Innovations in Sub-Saharan Africa.....	6
2. Digital Payment Landscape in Sub-Saharan Africa	9
3. CBDC in Sub-Saharan Africa	22
4. Fast Payment Systems (FPS) in Sub-Saharan Africa	33
5. Private Mobile Money in Sub-Saharan Africa	44
6. Crypto Assets in Sub-Saharan Africa	51
7. Policy Recommendations to Strengthen the Digital Payments Ecosystem across Sub-Saharan Africa	57
A. Addressing Structural Impediments and Bottlenecks for the Development of Efficient Digital Payment Innovations.....	58
B. Mitigating Specific Risks.....	58
C. Supporting Private Sector Development and Innovations through the Promotion of an Enabling, Competitive, and Safe Environment.....	60
D. Exploring Public Sector Digital Payment Innovations—including CBDC—as Complements Rather Than Substitutes for Private Sector Digital Solutions.....	61
E. Leveraging Digitalization in Public Finance.....	63
F. Synergies of Digital Finance with Capital Flows, Climate Financing, and AI for a Broader Effect.....	63
G. Collaborating across Borders to Enhance Efficiency and International Interoperability of Payment Systems.....	65
H. Sound Macroeconomic Policy as the Essential Foundation for the Digital Reform Agenda.....	66
Annex 1. CBDC as Complement or Substitute to Private Mobile Money?	67
Annex 2. Robust Determinants of Crypto Asset Adoption	70
Annex 3. Digital Payment Innovations and Remittances	74
Annex 4. Regional Trade Benefits	78
Annex 5. The Emergence of Digital Assets, CBDC, and Informality in SSA	82
Annex 6. eNaira: Initial Stocktaking	86
Annex 7. South Africa’s Fast Payment System: PayShap	90
Annex 8. Digital Social Safety Net: The Case of Togo and Lessons Learned	92
Annex 9. WAEMU Digital Payments and the BCEAO’s New Fast Payment System PI-SPI	94

Annex 10. Digital Payments Landscape in CEMAC	<u>98</u>
Annex 11. Lessons and Experiences from Countries That Adopted Crypto Assets as Legal Tender: The Case of the CAR	<u>102</u>
Annex 12. Bank of Ghana’s Experience with eCedi Pilot	<u>105</u>
References	<u>108</u>

BOXES

Box 1. China’s Experience with CBDC	<u>17</u>
Box 2. Retail CBDC and the Law	<u>26</u>
Box 3. Monetary Policy Transmission	<u>28</u>
Box 4. M-PESA—Mobile Money Pioneer in Africa	<u>35</u>
Box 5. Mauritius’ RuPay and Unified Payments Interface with India	<u>40</u>
Box 6. Brazil’s Experience with the Fast Payment System PIX.....	<u>41</u>
Box 7. Harnessing Payments and Fintech Innovations for Climate Change in Sub-Saharan Africa.....	<u>64</u>

FIGURES

Figure 1. Sub-Saharan Africa Lags in Key Digital Infrastructure, Despite Substantial Progress	<u>10</u>
Figure 2. Digital Technology Is Facilitating Access to Finance in Sub-Saharan Africa Where Traditional Banking Services Are Limited.....	<u>12</u>
Figure 3. Heterogeneous Fintech Development across Sub-Saharan African Countries	<u>13</u>
Figure 4. Low Financial Inclusion, High Informality, and Dependence on Remittances.....	<u>14</u>
Figure 5. Cost of Sending Remittances.....	<u>15</u>
Figure 6. Crypto Adoption Is High in Some Sub-Saharan African Countries, while Most Impose Some Restrictions	<u>16</u>
Figure 7. Status of CBDC Development in Sub-Saharan Africa	<u>19</u>
Figure 8. Sub-Saharan Africa Remains Behind in the Development of Key Digital-Friendly Institutions ...	<u>20</u>
Figure 9. Funding Raised by Startups in Africa since 2019–21, by Sector	<u>46</u>
Figure 10. Mobile Money Account Ownership and Digital Payments Adoption in 2021	<u>48</u>
Figure 11. Cross-Sectoral Mobile Money Regulatory Score in Sub-Saharan Africa, 2021.....	<u>48</u>
Figure 12. Crypto-Asset Flows	<u>52</u>
Annex Figure 1.1. Mobile Money Interoperability: Before and After CBDC	<u>69</u>
Annex Figure 2.1. Rate of Crypto Adoption versus Key Macroeconomic Determinants (2015–21).....	<u>72</u>
Annex Figure 3.1. Cost of Sending \$200 in Remittances by Methods, 2014:Q1–2022:Q2	<u>75</u>
Annex Figure 3.2. Cost of Receiving Remittances and Value of Mobile Money Transactions Sub-Saharan Africa	<u>76</u>
Annex Figure 3.3. Sub-Saharan Africa: Average Percentage Cost of Sending Remittances (2021)	<u>77</u>
Annex Figure 4.1. Adoption of E-Commerce Legislation in Africa.....	<u>80</u>
Annex Figure 6.1. eNaira Wallet Downloads	<u>87</u>
Annex Figure 6.2. eNaira-Transaction by Weeks.....	<u>87</u>
Annex Figure 9.1. WAEMU: Usage of Electronic Money Services, 2012–22	<u>95</u>
Annex Figure 9.2. WAEMU: Use of Financial Services and Banking Rate, 2012–22.....	<u>96</u>
Annex Figure 9.3. WAEMU: Use of Financial Services and Banking Rate at end-2022.....	<u>96</u>
Annex Figure 10.1. Mobile Money Transactions and Volumes in CEMAC.....	<u>99</u>
Box Figure 3.1. Relationship between Lending Rate Changes and Policy Rate Changes	<u>28</u>
Box Figure 5.1. Mauritius’ Trade with India	<u>40</u>
Box Figure 5.2. Mauritius’ Card Transactions	<u>40</u>

Executive Summary

This paper takes stock of developments and policy issues related to digital payment innovations across sub-Saharan Africa. The focus is on Central Bank Digital Currencies (CBDCs), fast payment systems (FPS), private mobile money, and crypto assets, which are now at the forefront of policymakers' attention in the region. On the one hand, these digital innovations offer potential complementarity and substitutability for key policy goals related to boosting financial inclusion—particularly unleashing a digitally enabled youth—improving financial sector efficiency and lowering transaction costs. On the other hand, achieving these goals requires addressing challenges and mitigating risks, which are particularly heightened in the sub-Saharan African region. These include limited financial development, lack of information technology (IT) resources, and constraints on central bank capacity in many countries. In this context, managing risks arising from crypto assets is particularly challenging. The paper takes into account sub-Saharan Africa-specific characteristics and offers tailored recommendations related to policy, regulation, and design. The goal is to help countries enhance financial efficiency and inclusion, including through promoting interoperability both domestically and across borders, as well as supporting digital financial innovations such as smart contracts, tokenization, and fractionalization, while minimizing risks to financial stability.

The paper draws insights from a recent IMF survey of sub-Saharan African central banks (Ricci and others 2024). About 75 percent of surveyed sub-Saharan African central banks are exploring CBDCs for its potential to boost financial inclusion and improve the efficiency of domestic payments. Key benefits of adopting CBDC include reducing transaction costs and facilitating remittances. Wider access to financial services through CBDCs could also potentially lower informality. Fast payment systems and mobile money are viewed as quick wins, despite their heterogeneous development across the region. The use of crypto assets is limited and concentrated in a few countries, and many central banks lack adequate frameworks to regulate them. The survey suggests there is scope to improve the digital payment landscape, leading to a more competitive and efficient financial sector, with better-regulated financial technology (fintech) activities, and ultimately leading to deeper financial development. A more efficient and inclusive cross-border payment system can also support regional trade integration and thus promote exports.

The analysis in this paper is grounded in the unique characteristics of sub-Saharan Africa compared with other regions. Whereas emerging literature now offers key policy recommendations for a broad set of countries, this paper focuses on the key policy issues associated with the special economic and structural features of sub-Saharan African countries. These include structural impediments, low financial development, limited access to capital flows, as well as weaknesses in governance, management of data privacy, and technical capacity. Many sub-Saharan African countries exhibit structural challenges, particularly with respect to mobile and internet penetration, but also in terms of unreliable electricity supply, large IT skill gaps, low financial and digital literacy, and slow and costly payment systems (notably for cross-border transactions). At the same time, most countries exhibit high informality, low financial inclusion, and shallow financial systems with weak traditional banking penetration. Remittances, which are affected by high transaction costs, are a vital source of household (HH) income and external financing in sub-Saharan Africa. Many countries extensively rely on capital flow management measures, including those for reserve management. Capacity and resource constraints are often significant in public administrations, whereas the human and physical costs of developing new financial instruments are large. The tax revenue-to-GDP ratio remains low, often reflecting extensive informality and the need for a more efficient collection and administration system. These characteristics lay the ground for more nuanced policy recommendations for sub-Saharan Africa compared with those that are generally being discussed for advanced economies or even emerging markets.

Several risks are also more prominent in sub-Saharan Africa than in other regions. Potential threats to financial integrity (including both ML/TF and corruption considerations), capital flow management, consumer protection, privacy, competition, and rule of law are quite pervasive in sub-Saharan Africa and could be exacerbated by the growing use of crypto assets, weak regulatory capacity, and limited financial education. Risks associated with network failures, internet disruptions, business continuity, and cybersecurity breaches would also be exacerbated by inadequate infrastructure and weak capacity potentially. Limited trust and poor adoption increase reputational risks, whereas the rapid obsolescence of new technological platforms and challenges in interoperability could be exacerbated not only by weak capacity but also by poor design and fast technological progress. Risks of banking disintermediation and financial instability, weaker monetary policy transmission, currency substitution, capital account volatility, and other cross-border issues—in part associated with inadequate instrument design or regulation—would be aggravated by weak macroeconomic stability in some countries.

The paper offers some high-level recommendations specific to the various digital payment innovations:

- **Supporting the adequate development of private mobile money through the establishment of a robust operating environment** would continue to revolutionize payments in Africa, particularly given its track record of improving financial inclusion and supporting remittance flows. Developing an adequate regulatory environment that lowers barriers to entry and promotes interoperability can stimulate competition and portability among digital payment providers. Regulations should seek to minimize risks for users, while ensuring the system remains robust to operational risks. Mobile money deposits, for example, need to be adequately backed, while digital lenders need to be regulated as other lending institutions. Digital payments through mobile phones could also help reduce informality and support better tax collection (though the extent could depend on the quality of public financial management and legal frameworks).
- **Intensifying country efforts to leverage fast payment systems** would improve payment speed, reduce transfer costs, and encourage wide adoption of rapid and more affordable digital payment options, while promoting competition and interoperability across different payment providers, including mobile money services. Fast payment systems are emerging as a key form of public-private collaboration to create a conducive environment for financial development by expanding digital payment access beyond those offered through traditional means. This offers a unique opportunity for technological leapfrogging in a region characterized by low financial literacy. Hence, the combination of an adequate FPS with a well-developed, competitive, efficient mobile money sector could deliver large gains of efficiency and inclusion in the payment system.
- **CBDCs can complement and support the development of private mobile money and fast payment systems** and could be pursued when there are well-identified market failures or other strategic reasons that require public intervention in the digital payment space. Many of the motivations for CBDCs, including greater financial inclusion, could often be efficiently addressed with private payment systems or through other public policy interventions. Hence, countries in sub-Saharan Africa could generally prioritize the development of adequate fast payment systems and well-regulated and competitive private mobile payments. At the same time, central banks could explore the complementary roles that CBDCs can play, assess specific market failures that a CBDC can uniquely address, and evaluate other strategic rationales for CBDCs. In countries where adequate fast payments and well-developed mobile money operations still give rise to market failures, a well-designed CBDC might potentially be the right way to contribute to financial development as well as financial inclusion (see IMF's CBDC Virtual Handbook Page [<https://www.imf.org/en/Topics/digital-money-and-fintech/central-bank-digital-currency/virtual-handbook>]). Some other strategic reasons why central banks may want to pursue CBDCs include risks of failure of private digital payment solutions, high costs of meeting demand for central bank physical cash, having programmable public money in the digital payment space, and the need for the central bank to interact more efficiently with well-advanced digital markets, including tokenized markets. CBDCs could indeed complement the combination of FPS and private mobile money by facilitating settlement, ensuring greater resilience in

payments, and reducing fragmentation. Conducting research and pilots and discussing with all stakeholders are important for assessing the likely effect of launching CBDC in the local context. Authorities should also gauge benefits against associated costs and risks, as well as consider alternative solutions, available resources, technical capacity, and macroeconomic conditions. Because CBDCs pose complex technological, policy, and regulatory challenges, it is important for authorities to consider the adequacy of technological infrastructure, internet connectivity, IT skills, and financial and digital literacy. A sound legal basis and effective regulatory framework are essential to contain risks to bank disintermediation, monetary transmission, capital flows, and ultimately financial stability (IMF 2020b), as well as to ensure that operational, cyber, and privacy risks are mitigated (Murphy and others 2024). Managing reputational risk and possible risks of limited trust and poor adoption would require appropriate communication policies as well as sound macro policies that support confidence in the local currency.

- **Crypto assets should not be adopted as official currency or legal tender.** Developing and enforcing comprehensive regulations and institutions, including prudential, conduct, and oversight requirements for crypto market actors (including local exchanges), would help contain their associated risks, such as those related to financial, external, and fiscal stability (IMF 2023d; IMF-FSB 2023). The regulatory environment should envisage a clear distinction between crypto assets which are fully backed and those that are not, because the former present lower risks for consumers and the financial system, notably in relation to valuation volatility. Granting crypto assets official currency or legal tender status should be avoided, because it would raise significant macrocritical legal issues as well as impair monetary sovereignty and monetary and financial stability.

The paper outlines four key sets of policy priorities to safely enhance digital payment innovations across sub-Saharan Africa:

Priority set 1: Addressing structural impediments and bottlenecks for the development of efficient digital payment innovations

- Urgent efforts need to be devoted to improving access to electricity, internet, and mobile networks because broader connectivity and lower risks of disruptions provide opportunities for wider and safer access to digital payments, thus deepening financial inclusion.
- Given the heterogeneity in the ability to develop internet and mobile connectivity across the region, it may be essential in many countries—at least in the immediate term—to favor, to the extent possible, technological solutions that allow for offline capabilities for digital payments while mitigating risks.
- Expanding coverage of national and digital IDs (generally a precondition for opening digital accounts) would broaden access to digital systems while facilitating operators' and regulators' ability to address financial integrity and ML/TF concerns.
- Greater investments in human capital would also be necessary to unlock the potential of digital payment innovations by promoting an environment in which new skills would emerge to develop digital finance.
- Broadening efforts to deepen financial literacy would not only promote financial inclusion but also enhance consumer protection and reduce exposure to consumer fraud.

Priority set 2: Supporting the robust development of private digital payment innovations and effective and interoperable fast payment infrastructures within an enabling, competitive, and secure environment that mitigates sub-Saharan Africa-specific risks.

- Governments can promote the development of digital payment innovations by creating an enabling regulatory, operational, and supervisory environment for digital payment systems, services, and providers. In particular, they should focus on developing interoperable digital payment platforms, at least domestically or regionally, along with enhancing governance and management of data privacy. These measures would

level the playing field, support safe and efficient digital payments, stimulate fair competition, promote portability of services across providers, prevent arbitrage, and contain disintermediation. In addition, they can help minimize risks for users, contain risks related to ML/TF, provide an alternative to some functionalities of crypto assets, and strengthen cybersecurity while enhancing consumer protection. Overall, developing an adequate FPS and a competitive and efficient mobile money sector would go a long way in delivering an efficient and inclusive digital payment system.

- Private digital service providers should be subject to similar prudential rules for comparable activities (if any) offered by traditional financing actors, including banks. It would be essential for e-money issuers (EMIs) to meet statutory minimum requirements for licensing on an ongoing basis. Their initial capital should be sufficient to undertake the proposed costly new activities, absorb startup losses as needed, and meet the cost of nonproductive assets. Customer deposits with EMIs should be invested in safe assets.
- Because often large segments of the sub-Saharan African population are at the fringe of the economic and financial system and may not have access to digital finance, safeguarding the provision of cash and the obligation to accept cash as a form of payment will be essential to ensure that financial exclusion is not exacerbated by the declining use and acceptance of cash.
- Bringing crypto assets into the regulatory and supervisory environment, along with strengthening regulatory capacity, would mitigate risks associated with their use. Particular attention should be given to consumer protection—considering the limited financial education among users—and to ML/TF considerations—given the generally weak regulatory and supervisory environment. There is also a need to strengthen institutional capacities and legal frameworks, especially for detecting and prosecuting corruption in fragile and conflict-affected state. In addition, addressing capital flow risks is crucial, given the high exposure to these risks, as well as promoting financial education, particularly for the older population and for navigating more complex digital products.
- Policymakers should stand ready to manage potential unanticipated effects on monetary transmission and financial stability. Mobile money balances may respond more significantly and quickly to monetary policy instruments, leading to higher velocity of money and faster shifts in deposits between traditional banks and online payment service providers (PSPs) during monetary policy cycles. The growth of a broader set of mobile money operators may potentially promote the emergence of large systemic depositors.
- Safeguarding bank intermediation, which is already low in sub-Saharan Africa, should be taken into account in policy choices regarding mobile money or CBDC, including on fees, interest rates, or limits on amounts.
- Promoting adequate investment in infrastructure and the development of a system involving multiple actors could help mitigate risks of network failures, disruptions, or breaches. Collaborating with other central banks would help contain risks associated with the rapid obsolescence of new technological platforms and essential interoperability. Risks to reputation, limited trust, and poor adoption could be managed through adequate design and regulation and by promoting private sector solutions.

Priority set 3: Establishing the expectation that public sector digital payment innovations—including CBDC—are complements rather than substitutes for private sector digital solutions.

- By supporting adequate fast payment systems and competitive private digital payment solutions, public sector digital plans and initiatives would not be seen as competing with mobile money providers and commercial banks. As discussed previously, an assessment of the persistence of market failures associated with private digital solutions (for example, insufficient reduction in transaction costs or reach of population) or of other rationales for a CBDC would be needed before developing CBDC (or publicly developed FPS).

- CBDC could complement FPS. CBDC could be settled on a private fast payment infrastructure, ensure greater resilience in payments, reduce fragmentation, and help discipline the market without necessarily being widely adopted. Moreover, a well-functioning fast payment system available to nonbanks which back their mobile money issuance with central bank reserves (for safety) would be very close to replicating CBDC (and could perhaps be provided more efficiently with CBDC itself). However, at present, the human and financial resources necessary to develop, maintain, and update CBDC would be larger than establishing an adequate FPS, especially in light of existing available standards for both, and notably the lack of an international standard for CBDC.
- Enhancing central bank capacity in digital technologies would ensure efficiency, help keep up to date on technological developments, and reduce risks of obsolescence and cyberattacks. Central banks with limited resources can take advantage of peer learning from central banks with more advanced digital payment systems to boost capacity.
- Digitalizing public finance could promote the regular use of private mobile money or CBDC for public transfers or paying taxes. This shift has the potential to expand the digital network, reduce waste and leakages in public spending by reaching individuals directly, enhance the targeting of vulnerable people, improve fiscal transparency, and reduce informality while enhancing tax compliance. Whereas the ensuing reduction in informality and enhancement of tax compliance could be seen as a deterrent for the adoption of the new digital solutions, the resulting higher efficiency gains and network effects may provide adequate incentive for the private sector to take advantage of digitalized transactions with the public sector.
- Government borrowing can also be fractionalized through a digital payment system that handles transactions in very small amounts (for example, by breaking up larger denominations into smaller ones), while remaining integrated within the broader digital financial system. This approach would facilitate lending to the government in small denominations through digital solutions, which would offer new savings opportunities also for people at the low end of the wealth spectrum. In addition, fractionalized digital payment systems could also be connected with both digital credit systems and digital investment vehicles, which would further expand access to overall digital finance.
- Artificial intelligence (AI) can accelerate the adoption of digital financial solutions and help countries explore synergies with climate financing. There is significant potential for digital finance and AI capabilities to offer impressive synergies, for example, by facilitating the collection and validation of information for crime detection, smart digital contracts, and supporting a broader development of financing opportunities. Some of these benefits and synergies can be harnessed through the blockchain technology used by CBDCs and crypto assets. This would support not only the fractionalization of public borrowing as noted earlier but also initiatives related to diaspora bonds and climate-related financing.

Priority set 4: Collaborating across borders to foster the efficiency and international interoperability of payment systems.

- Engaging in regional (if not global) consultations early on can help promote interoperability, so that ongoing and future digital developments would rely on consistent cross-border legal, regulatory, and technological solutions, which would help avoid the proliferation of potentially incompatible systems.
- Such collaborations would promote regional cross-border flows and reduce regulatory arbitrage, with possible beneficial effects also on trade integration. This would be particularly true if an interoperable, fast, and efficient regional payment system were realized. Additional interconnection with domestic records of credit history would promote cross-border lending and international financial integration.
- Concerns about the volatility of capital flows and sudden stops would need to continue to be addressed through appropriate macroeconomic policies and ongoing capital flow management measures, alongside adequate regulation of new digital financial instruments.

- International collaboration will be crucial not only for addressing interoperability but also for managing the rapid obsolescence of existing technological platforms.

Finally, it is essential to place the digital reform agenda in the context of sound macroeconomic policies. Designing an effective digital development plan and regulatory framework alone is insufficient to ensure financial development and stability. Such efforts must be accompanied by sound macroeconomic policies and adequate governance arrangements that buttress confidence in the local currency and in the economy, as well as foster consumer trust and protection.

Acronyms and Abbreviations

AACB	Association of African Central Banks
AE	Advanced Economy
AfCFTA	African Continental Free Trade Area
AMF	Arab Monetary Fund
AML	Anti-Money Laundering
API	Application Programming Interface
BCEAO	Central Bank of West African States
BCRG	Central Bank of the Republic of Guinea
BEAC	Bank of Central African States
BNR	National Bank of Rwanda
BSA	BankservAfrica
CAR	Central African Republic
CBDC	Central Bank Digital Currency
CBK	Central Bank of Kenya
CDD	Customer Due Diligence
CEMAC	Central African Economic and Monetary Community
CFA	<i>Communauté Financière Africaine</i>
CFT	Combating the Financing of Terrorism
CLT	Central Ledger Technology
COBAC	Regional Banking Commission
COMESA	Common Market for East and Southern Africa
DLT	Distributed Ledger Technology
DPS	Digital Payment Systems
EAC	East African Community
EAPS	East African Payment System
ECOWAS	Economic Community of West African States
EM	Emerging Market
EMIs	Electronic Money Institutions
EPSS	ECOWAS Payment and Settlement System
FCS	Fragile and Conflict-Affected States
FMI	Financial Market Infrastructure
FPS	Fast Payment Systems
G2P	Government-to-Person
GIMAC	<i>Groupement Interbancaire Monétique de l'Afrique Centrale</i>
IMF	International Monetary Fund
MAG	Monetary Authority of Singapore
ML	Money Laundering
MNOs	Mobile Network Operators
MTN	Mobile Money Service by MTN Group

P2B	Person-to-Business
P2G	Person-to-Government
P2P	Peer-to-Peer or Person-to-Person
PAPSS	Pan-African Payments and Settlement System
PASA	Payment Association of South Africa
PI-SPI	<i>Païement Instantané-Système de Paiement Interopérable</i>
PKI	Public Key Infrastructure
PSP	Payment Service Providers
REPSS	Regional Payment and Settlement System
RTC	Real-Time Clearing
RTGS	Real-Time Gross Settlement
SADC	Southern African Development Community
SARB	South African Reserve Bank
SSCBT	Small-Scale Cross-Border Trade
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TA	Technical Assistance
TCIB	Transactions Cleared on an Immediate Basis
TF	Terrorism Financing
UMAC	Central African Monetary Union
USSD	Unstructured Supplementary Service Data
VPA	Virtual Payment Address
WAEMU	West African Economic and Monetary Union
WAMZ	West African Monetary Zone