Central Bank of Kenya

Discussion Paper on Central Bank Digital Currency: Comments from the Public

May 2023

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1.0 EXECUTIVE SUMMARY

Central Bank Digital Currency (CBDC) has been a subject of interest for jurisdictions all over the world, including African central banks. In a May 2022[1] survey, the Bank for International Settlements (BIS) found that about 90 percent of the 81 central banks in their survey (representing 94 percent of global economic output) are exploring CBDCs with more than half developing or running concrete pilot projects.

Being at the forefront of developments in CBDC, the Central Bank of Kenya (CBK) has undertaken national and international initiatives on CBDC. In particular, CBK has been collaborating with other central banks to gain a deeper understanding of CBDC. Additionally, CBK has participated in international high-level CBDC discussions convened by international development partners. These initiatives have expanded CBK's knowledge of global CBDC developments.

A key milestone was reached in February 2022, when CBK released a Discussion Paper on Central Bank Digital Currency.[2] The Discussion Paper examined the applicability of a potential CBDC in Kenya. It assessed Kenya's payments landscape and outlined the potential opportunities and risks of a CBDC in the Kenyan context. The Discussion Paper also evaluated CBDC initiatives by other jurisdictions globally. The Discussion Paper contained a short survey to gauge the public's perception of CBDCs and their acceptability as an alternative to fiat cash. This is in line with CBK's initiatives to ensure informed policy decisions regarding financial sector innovations. The Discussion Paper was underpinned by three broad themes: **people centricity**, **country context** and **balance between opportunities and risks**.

The CBK Discussion Paper on CBDC elicited the responses of a diverse range of individuals, government, commercial banks, Payment Service Providers (PSPs), technology providers, academia, the legal fraternity, and international development partners. CBK received responses from 9 countries: Kenya, South Africa, United States of America, United Kingdom, the Netherlands, Germany, Switzerland, Sweden, and Japan.

The respondents widely discussed potential benefits of CBDC, including increased efficiency, transparency, and lower costs, thereby spurring financial inclusion. Conversely, the responses identified key risks such as disintermediation of banks, high implementation costs, technology and cyber risks and financial exclusion.

The responses noted that there is need to develop robust legal and governance frameworks to address the roles and responsibilities of CBDC. Further, legal considerations will include amending the laws to define CBDC as currency.

On the design aspect, respondents indicated that a hybrid CBDC model, interoperability, cybersecurity, and the use of blockchain should be considered. A key concern was the aspect of sustainability of CBDC.

Additionally, public education and stakeholder consultation would be imperative for the successful implementation of CBDC. This is especially important, given that some respondents opined that CBDCs could be substituted by crypto assets, whereas CBDC is intended to serve as legal tender.

[1] https://www.bis.org/publ/bppdf/bispap125.pdf

[2] https://www.centralbank.go.ke/uploads/discussion_papers/CentralBankDigitalCurrency.pdf

The public views collected by CBK have been influential in internal and external consultations with other central banks and international financial institutions, to determine the next steps to be taken by CBK regarding CBDCs. Broadly, responses have indicated that while a CBDC may be useful for cross-border transactions, its risks should be carefully considered. This is in line with the key themes underpinned in the Discussion Paper: The Discussion Paper was underpinned by three broad themes: **people-centricity, country context and balance between opportunities and risks**.

Since the issuance of the Discussion Paper, BIS, IMF, and other central banks have continued to research on and/or implement CBDC projects. Nevertheless, on the global stage, the allure of CBDC is fading. In recent years, there was a race by central banks to be the first to adopt CBDC. However, this has been tempered by implementation challenges. Further, recent instability in the global crypto assets market has amplified the need for a careful review of innovation and technology risks. Major global central banks have deferred the adoption of CBDC. This measured approach is aligned with the approach that CBK has taken.

The importance of key considerations in the adoption of CBDC including the **problem** being solved, **country context** and the **balance between opportunities and risks** have become clearer. In this context, CBK is working closely with central banks who have issued CBDC to understand if the expected benefits have been realised.

Ultimately, the rollout of CBDC should not be a race to be first. CBK's vision is for a payments system that is secure, efficient, and widely available to and works for Kenyans. Presently, Kenya's pain points in payments can potentially be solved by strengthening innovations around the existing payment ecosystem. Accordingly, implementation of a CBDC may not be a priority in Kenya in the short to medium term. However, CBK will continue to monitor developments in the CBDC world and periodically assess the need for CBDC in Kenya.

2.0 BACKGROUND

Central Bank Digital Currency (CBDC) has been a subject of interest for jurisdictions all over the world, including African central banks. In a May 2022[3] survey, the Bank for International Settlements (BIS) found that about 90 percent of the 81 central banks in their survey (representing 94 percent of global economic output) are exploring CBDCs with more than half developing or running concrete pilot projects.

Being at the forefront of developments in CBDC, the Central Bank of Kenya (CBK) has undertaken national and international initiatives on CBDC. In particular, CBK has been collaborating with other central banks to gain a deeper understanding of CBDC. Additionally, CBK has participated in international high-level CBDC discussions convened by international development partners. These initiatives have expanded CBK's knowledge of global CBDC developments.

A key milestone was reached in February 2022 when CBK released a Discussion Paper on Central Bank Digital Currency.[4] The Discussion Paper examined the applicability of a potential CBDC in

[3] https://www.bis.org/publ/bppdf/bispap125.pdf

[4] https://www.centralbank.go.ke/uploads/discussion_papers/CentralBankDigitalCurrency.pdf

Kenya. It assessed Kenya's payments landscape and outlined the potential opportunities and risks of a CBDC in the Kenyan context. The Discussion Paper also evaluated CBDC initiatives by other jurisdictions globally. The Discussion Paper contained a short survey to gauge the public's perception of CBDCs and their acceptability as an alternative to fiat cash. This is in line with CBK's initiatives to ensure informed policy decisions regarding financial sector innovations. The Discussion Paper was underpinned by three broad themes: **people centricity**, **country context** and **balance between opportunities and risks**.

Several CBDC developments have sprung up since the issuance of the Discussion Paper as summarised below:

- **BIS** has undertaken and continues to undertake exploratory CBDC projects in collaboration with central banks. A key lesson from the projects is that a greater focus on cross-border regulations and governance is needed.

- **The International Monetary Fund (IMF)** released a paper in February 2022 titled '*Behind the Scenes of Central Bank Digital Currency*'.[5] The paper sought to shine a spotlight on the countries at the frontier of CBDC development, with the aim of identifying and sharing insights, lessons, and open questions for sharing of experiences. IMF also released a regional survey in September 2022,[6] exploring the considerations and acceptability of CBDC in the Asia Pacific region. The IMF survey indicated that a surge in crypto assets has accelerated many central banks' interest in CBDCs to provide alternative means of payment and counteract the volatile nature of unbacked private crypto assets and contain their risks to the financial system. However, it was noted that while there is a significant interest in CBDCs, very few countries are likely to issue CBDCs in the near to medium term.

- **Eastern Caribbean Central Bank (ECCB)** launched a pilot program in March 2021 to successively extend DCash throughout the countries of the Eastern Caribbean Currency Union (ECCU) and run the program for 12 months. Given its rapid adoption, ECCB is now considering transitioning to an official CBDC launch. No decision has been made to formally issue DCash.

- **Central Bank of Nigeria (CBN)** introduced a digital version of its official currency, the Naira, in November 2021. The introduction of the e-Naira was partly a response to concerns that the rising popularity of crypto assets in the country was threatening the banking system. About 45 percent of the Nigerian population did not have a bank account as of 2021. The e-Naira therefore also sought to increase financial inclusion using mobile phone financial services. According to Bloomberg[7], however, only 0.5 percent of the Nigerian population was using the e-Naira as of November 2022.
  - Probable reasons for low adoption are insufficient education and awareness on the difference between CBDC and cryptocurrency, lack of support by the banking sector as the e-Naira was deemed to compete with banking products, low distribution by banks as e-Naira is non-interest bearing, and lack of internet and electricity in remote parts of the country.

[5] https://www.imf.org/en/Publications/fintech-notes/Issues/2022/02/07/Behind-the-Scenes-of-Central-Bank-Digital-Currency-512174

[6] https://www.imf.org/en/Publications/fintech-notes/Issues/2022/09/27/Towards-Central-Bank-Digital-Currencies-in-Asia-and-the-Pacific-Results-of-a-Regional-Survey-523914

[7] https://www.bloomberg.com/news/articles/2022-11-01/how-is-nigeria-s-enaira-africa-s-first-digital-currency-doing-one-year-in

- **Bank of Tanzania (BOT)** announced on January 14, 2023, that it had adopted a phased, cautious, and risk-based approach to the adoption of CBDC.[8] BOT is considering several issues for further research on key considerations in selecting an appropriate approach to the adoption of CBDC from the country's perspective, including the type and model of CBDC, degree of anonymity and risks and controls associated with CBDC.

- **Bank of England (BoE)** on February 7, 2023, issued a consultative paper on the proposed digital pound.[9] The paper delves further into the possibility of BoE rolling out a retail CBDC for everyday payments by households and businesses. It marks the conclusion of the 'research and exploration' phase of BoE's work on the digital pound – Phase 1 of the digital pound roadmap. BoE seeks to move to Phase 2 – the 'design' phase, to develop further in both technology and policy terms.

A detailed description of the experiences of these and other jurisdictions is attached as **Annex I.**

On the global stage, the allure of CBDC is fading. In recent years, there was a race by central banks to be the first to adopt CBDC. However, this has been tempered by implementation challenges. Further, recent instability in the global crypto assets market has amplified the need for a careful review of innovation and technology risks. Major central banks have deferred the adoption of CBDC. This measured approach is aligned with the approach that CBK has taken.

The importance of key considerations in the adoption of CBDC including the **problem** being solved, **country context** and the **balance between opportunities and risks** have become clearer. In this context, CBK is working closely with central banks who have issued CBDC to understand if the expected benefits have been realised.

Since the issuance of the Discussion Paper in February 2022, there have been significant developments in the crypto assets markets. The crypto market in 2022 was characterized by extreme volatility and collapse of stablecoins and crypto exchanges. These developments slowed down the uptake of crypto assets leading to a reduction in the value of crypto assets. Further, market capitalization of crypto assets reduced by more than half between 2021 and 2022. This volatility has led to investor caution and reduced interest in crypto assets. It has also highlighted key liquidity issues faced by cryptocurrency firms, exacerbated by poor governance frameworks. A technical paper on recent developments on crypto assets is attached as **Annex II**.

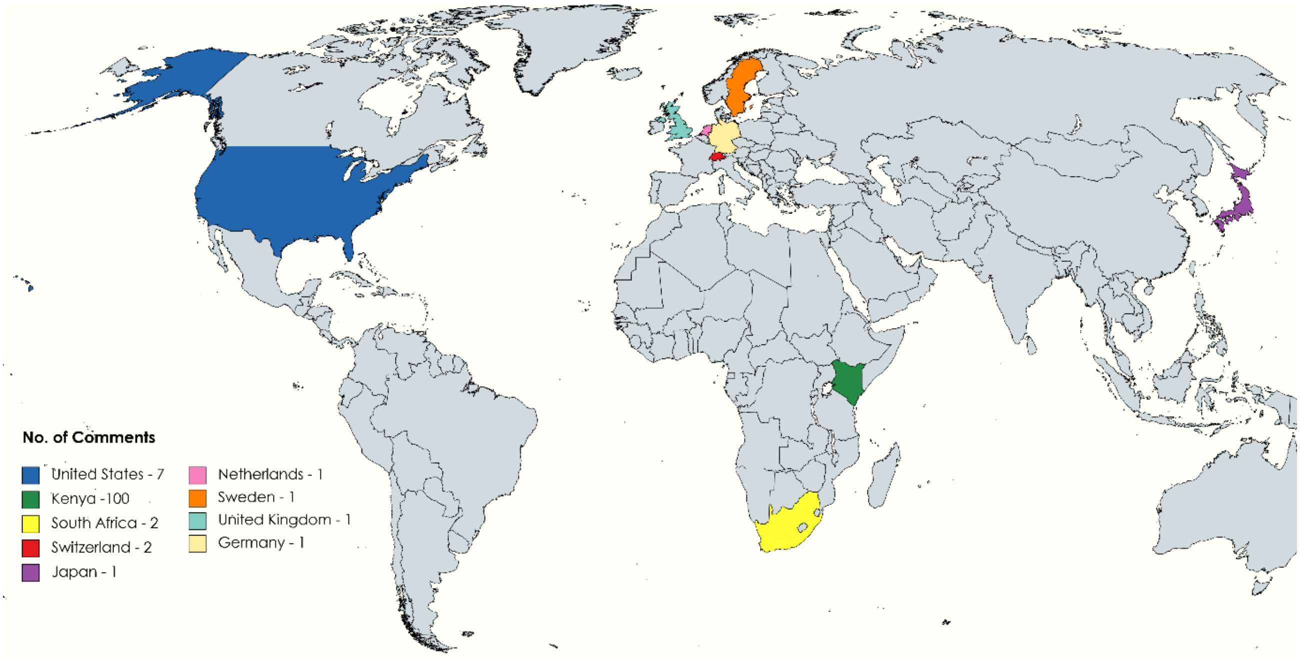
[8] https://www.bot.go.tz/Adverts/PressRelease/en/2023011413181519.pdf

[9] https://www.bankofengland.co.uk/paper/2023/the-digital-pound-consultation-paper?sf174942394=1

3.0 COMMENTS ON THE DISCUSSION PAPER

The CBK Discussion Paper on CBDC elicited the responses of a diverse range of individuals, government, commercial banks, Payment Service Providers (PSPs), technology providers, academia, the legal fraternity, and international development partners. CBK received a total of 116 responses across 9 countries as illustrated below.

Diagram 1: Geographical spread of respondents to the CBK Discussion Paper on CBDC

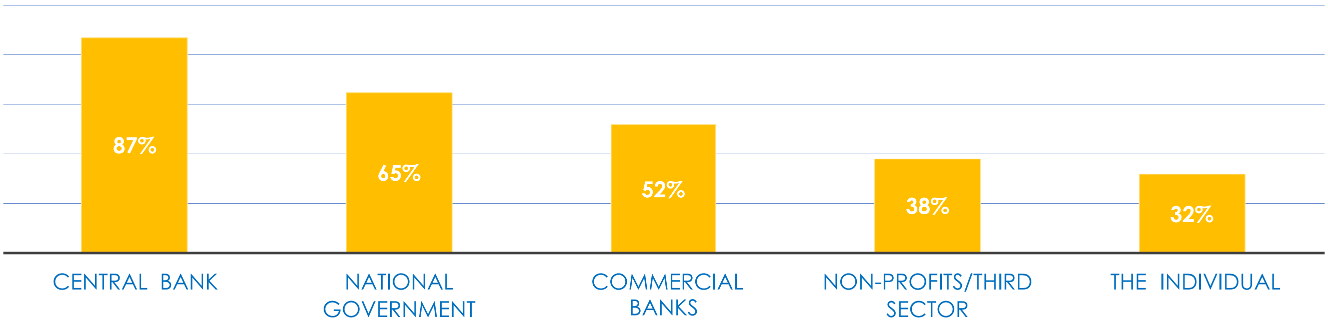


The survey responses are summarised below.

3.1 Responsibility for Tackling Financial Exclusion

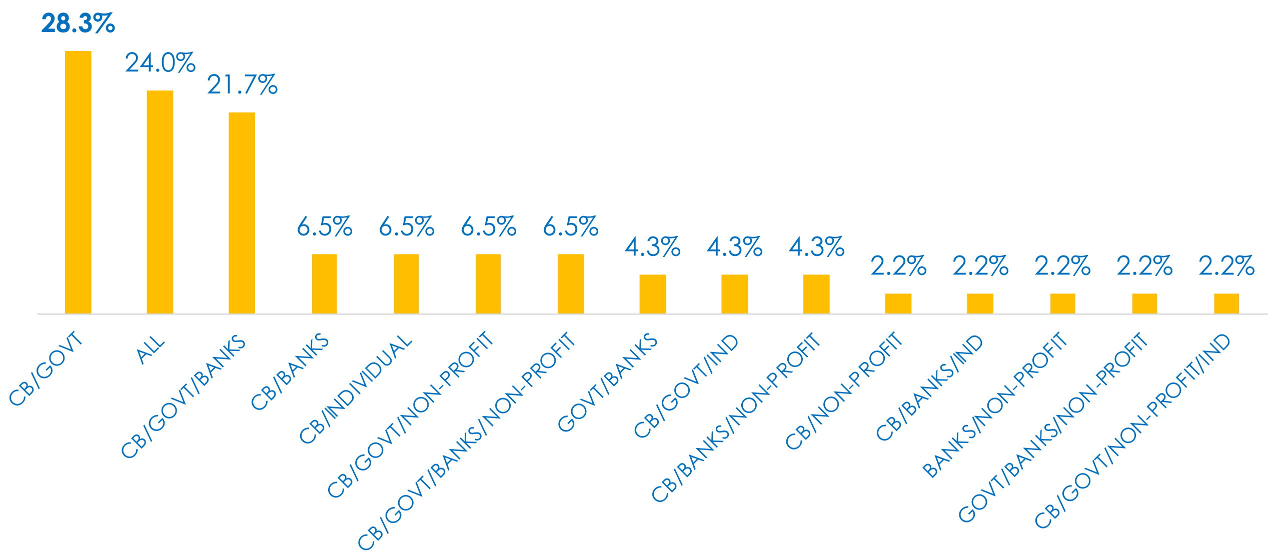
- On an institutional level, **87 percent of respondents indicated that Central Bank** should be responsible for tackling financial exclusion, followed by **National Government, commercial banks, non-profit organizations** and **individuals** at **65 percent, 52 percent, 38 percent, and 32 percent**, respectively (ref. **Chart 1** below).

Chart 1: Distribution of responsibility for tackling financial exclusion



- At a collective level, **most of the respondents suggested a collaboration between the Central Bank (CB) and National Government**, followed by a collaboration of all specified stakeholders (Central Bank, National Government, commercial banks, non-profit organizations, and individuals), and Central Bank/National Government/commercial banks (ref. **Chart 2** below).

Chart 2: Collective-level responsibility for tackling financial exclusion



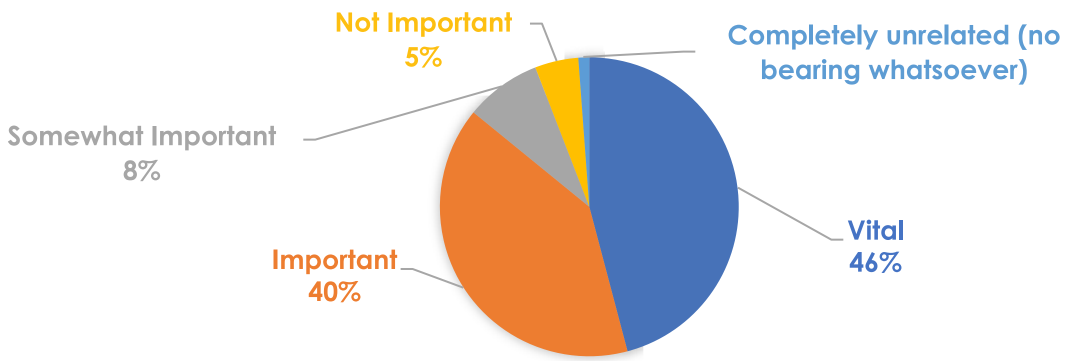
- The comments pointed out some of the roles of each of the institutions as follows:
  - **Central Bank** - Licensing of financial institutions, policy development, regulation, and supervision of efficient and effective payment, clearing and settlement systems.
  - **National Government** - Establishment of a conducive and enabling environment through the formulation of proper laws, provision of security and development of infrastructure.
  - **Commercial banks** - Provision of affordable financial services and customer relations.
  - **Non-Profit Organization** - Non-profit organizations are an integral force for improving the quality of life for members of our communities.
  - **The individual** - Self-development through engagement in gainful employment.

- CBK notes that CBDC is a complex and multidisciplinary topic requiring active analysis and deliberate engagement. As such, clearly and appropriately defined roles for the relevant stakeholders in a CBDC ecosystem is critical for its success. Multi-stakeholder input and public consultations on potential CBDC issuance are imperative and are likely to critically inform CBDC design and eventual adoption. Thus, stakeholders should continue to work collaboratively on CBDC, further exploring the practical implications of the core features of CBDC.

3.2 Financial Inclusion and Domestic Retail CBDC

- Majority of the respondents indicated that the domestic retail CBDC is vital in furthering financial inclusion, as shown in **Chart 3** below.

Chart 3: Importance of Financial Inclusion to Domestic Retail CBDC



- Conversely, it was also evident from the responses that there was limited knowledge of CBDC, which is understandable given that CBDC is still in its infancy.

- It is worth noting that CBDC is a “double-edged sword” in relation to financial inclusion. A retail CBDC may be introduced to give those financially excluded access to a digital payments channel. However, users would require access to the underlying technology and the technical know-how, which could be a constraint for some individuals, ultimately excluding them. As such this would require penetration of CBDC infrastructure in areas that have been marginalized by the private payment providers due to a lack of market viability.

- Further, CBDC issuance should stem from a rigorous evaluation of the policy objectives or goals (what problem does CBDC solve?) that the CBDC could support, and the capabilities and opportunities that it could enable. These should be closely weighed alongside alternative methods of achieving those goals or opportunities, and the downsides and risks arising from the CBDC. In the case of Kenya, mobile money has been a game changer, it has significantly expanded financial inclusion to 83.7 percent and reduced financial exclusion to 11.6 percent.

3.3 Impact of CBDC on Financial Inclusion

- The respondents indicated that the CBDC may have a positive impact on financial inclusion. It would specifically: -
  - Lower costs on financial transactions and enable increased access to financial services.
  - Reduce financial intermediaries thus reducing the cost of transactions, especially low value transactions.
  - Attract smaller financial players to participate, which would increase competition, choice, quality, and cost thus enhancing financial access.
  - Facilitate interoperability of financial platforms that would benefit consumers by enhancing efficiencies in time and cost.

- Several drawbacks were also identified in the responses: -
  - There was a broad understanding in several responses that CBDC would be implemented using smart phones requiring internet penetration and access. This would lead to high costs relating to the purchase of smart devices. In addition, limited internet penetration in rural areas may pose an entry barrier in access and costs and thus become a deterrent to the enhancement of financial inclusion.
  - It was noted by some respondents that if the CBDC was non-interest bearing, it would not be as attractive leading to a strong preference for cash.

- It was also noted from the comments that to enhance financial inclusion, there would be a need for public awareness and elevation of financial literacy levels. Consumers need to be enlightened on the benefits, impacts and risks of digital currency and how to minimize the risks that come with digital transactions.

3.4 CBDC and Cross-border Transactions

- The respondents indicated that CBDC would positively impact cross-border transactions through enhanced efficiency. Some of the specific impacts posited by the respondents included:
  - Real or near real-time settlement.
  - Lower transaction costs.
  - Transactional transparency.
  - Diversity in payment options for cross-border transactions.

- However, the respondents also observed that since CBDC is technological, it would be vulnerable to system failures and downtimes, as well as cyber-attacks and threats.

- Further, there would be potential conflicts with other countries' payment systems and existing payment systems.

- The respondents, therefore, concluded that CBDC can only ensure efficient cross-border transactions if it is designed to be interoperable with other countries' payment systems, CBDCs, as well as private existing payment systems.

3.5 Impact of CBDC on the Financial Sector

- Respondents primarily noted that CBDC would increase efficiency in the financial sector through:
  - Real or near real-time settlement of transactions.
  - Lower transaction costs.
  - Transactional transparency.
  - Diversity in payment options.
  - Increased innovation by financial institutions to adapt to changes occasioned by the introduction of CBDC.

- However, respondents raised concerns about the following potential adverse impacts:
  - Disintermediation and threats to financial stability, particularly where the direct or retail model is adopted and the Central Bank issues CBDC directly to customers. This is because customers would perceive CBDC as risk-free and convert their deposits to CBDC. This would in turn stress bank deposits, threaten financial stability, and adversely impact monetary policy transmission due to an increase in central bank-issued money, and a reduction in deposits held by banks.
  - Where the retail model is adopted, then there would be potential conflicts between the roles of the Central Bank with those of banks and other financial institutions.
  - The CBDC system's vulnerability to failures and downtimes, as well as cyber-attacks and threats, are also points of concern.

- For purposes of risk mitigation, some of the respondents suggested that the disintermediation risks can be mitigated by adopting a non-interest-bearing retail CBDC to discourage the conversion of deposits to CBDC. To mitigate financial inclusion concerns, it was proposed that CBDC should be designed on low-cost technology that can operate in both online and offline environments.

- From the comments, a CBDC design that does not threaten financial institutions and financial stability should be considered. CBDC should also be anchored on a simple and secure technology to address the risks of financial exclusion and cyber threats.

3.6 Factors Affecting the Level of Adoption of CBDC for Payments

- Respondents indicated the following as key factors that will affect the level of adoption of CBDC as a means of payment:
  - Solving current inefficiencies present with the existing systems, especially those of high transaction costs, and low speed of cross-border transactions.
  - Ease of use of the CBDC, and its wide adoption by different players, including commercial banks, PSPs, merchants, and individuals, leading to a vibrant CBDC ecosystem. This can be enhanced by public awareness and building integrated functionalities that will encourage the use of CBDC for day-to-day payments.
  - Assurance of anonymity, privacy and security, trust, and public confidence.
  - Design considerations such as interoperability, ease of conversion to cash, offline capabilities, efficient distribution, and programmability for social welfare programmes.
  - Availability of affordable smart phones, network and internet access, and access to affordable technology for the development of CBDC.
  - Implementing government incentives, and deposit insurance covering CBDC.

- Respondents highlighted the adoption of blockchain, Web 3.0 and open-source platforms as key technology elements that will enhance the efficiency of CBDC. This would encourage its adoption due to their perceived benefits of anonymity, privacy, low costs, and security.

- Further, respondents proposed the creation of a CBDC Decentralised Anonymous Organisation (DAO) which is linked to one's CBDC wallet.[10]

[10] A DAO is an organization represented by rules encoded as a computer program that is transparent and controlled by the organization members. This shall allow more streamlined democratic decision-making that enhances innovation and allow easier public participation by members of the DAO.

- A few posited that volatility and appreciation of the CBDC like how crypto assets appreciate will enable quick adoption of CBDC.

- In view of the comments on the impact of CBDC on the financial sector, it is necessary to note that the adoption of a CBDC will be pegged on its ability to solve problems faced with the current payment systems, such as speed and transaction cost. Ease of access is also a critical factor in the design of a CBDC distribution model. The underlying technology, together with financial and other incentives, would also need to be considered. It would also be important to take into account the implications of CBDC on the entire financial sector, including the aspect of deposit protection.

3.7 Advantages and Disadvantages of CBDC

- The respondents identified several advantages of CBDC including lower transaction costs, safer and faster cross-border payments, better forex rates and increased transparency to enhance the fight against Money Laundering (ML).

- Conversely, respondents identified disadvantages such as financial exclusion due to lack of access to technology, and conflict in the role of CBK as a regulator. It was noted that CBDC may lead to CBK competing with banks, resulting in system-wide bank runs. Concerns were also raised over issues of lower economic growth as a net effect of these disadvantages.

- The table below summarises the advantages and disadvantages of CBDC as identified by the respondents.

Table 1: Advantages and Disadvantages of CBDC

Advantages	Disadvantages
• Lower transaction costs • Safer and faster cross-border payments • Better forex rates • Increased transparency • Promote the fight against money laundering	• Financial exclusion • Conflict in the role of CBK as a regulator • Lower economic growth • Bank runs

- It should be noted that CBDC is intended for use as legal tender. Its forex rate against other currencies would be affected by the same factors affecting fiat currency. Public education on the differences is necessary.

- An appropriate CBDC implementation model would be considered to determine the potential effects on the financial sector and how to address them. CBDC is not a cryptocurrency and is instead intended for use as legal tender. Public education on the differences is necessary.

3.8 Opportunities, Risks and Considerations of CBDC

- Respondents indicated that the introduction of CBDC is likely to promote efficiency, interoperability, and financial inclusion and improve cross-border payments.

- They also raised concerns over issues of privacy and anonymity, cybersecurity, as well as the cost of implementation as relates to the cost of infrastructure.
- Further, respondents anticipated that the adoption of CBDC would lead to the disintermediation of banks.
- Lack of expertise, financial exclusion, and legal regulation frameworks were cited as potential risks towards the adoption of CBDC.
- Respondents asked CBK to consider issues such as policies to regulate, privacy and cybersecurity if CBDC is to be adopted in Kenya.
- These issues are summarised in the diagram below.

Diagram 2: Opportunities, Risks and Considerations of CBDC

Opportunities	Risks	Considerations
• *Efficiency* • *Interoperability* • *Financial Inclusion* • *Cross-border payments*	• *Privacy* • *Anonymity* • *Cybersecurity* • *Cost of implementation*	• *Policies to regulate* • *Privacy* • *Cybersecurity*

- It is necessary to take these issues into account in the design of a CBDC implementation model.

3.9 Risk Mitigation Measures

- Respondents identified key risks as illustrated below.

Diagram 3: CBDC Risks

- Respondents indicated the following mitigants of these potential risks:
  - Design principles to protect bank deposits and prevent disintermediation. These could include a hybrid model, imposing transaction/balance limits, having no interest paid on CBDC balances, ensuring no convertibility of bank deposits to CBDC, and a fund to assist the transition of financial institutions adversely affected by CBDC.
  - Use of smart contracts, offline capability, interoperability, and consumer education to decrease the risk of exclusion. Further, customer-centricity is key – there is a need to ensure that CBDC addresses a real need. Other mitigants are running a parallel system of cash and CBDC to ensure inclusion.
  - Use of quantum-resistant[11] technology and permissioned Distributed Ledger Technology (DLT) to address cyber risks. Permissioned DLT would also enhance transparency, thereby addressing Money Laundering/Terrorism Financing (ML/TF) risks.
  - Collaboration and partnership to address blockchain technology resource gaps, ensure funding of CBDC, and collaborate on ecosystem-level monitoring tools, threat intelligence and information sharing. Capacity building for the implementation team should also be enhanced.
  - Appointment of independent trustees to focus on and address data privacy risks of CBDC. Legal and governance frameworks, use of tiered KYC and storage of minimum required data should also address these risks.
  - A standardized set of requirements for interoperability.
  - Pilot CBDC with smaller populations to further assess benefits and risk mitigation.
  - Review of existing monetary policy tools and impact of CBDC on such tools.

- Some respondents proposed the adoption of Bitcoin as a legal tender in place of CBDC. However, CBDC is intended for use as legal tender and is not to be confused with crypto assets. Accordingly, there is a need for public sensitization on the differences between CBDC and crypto assets.

- It was proposed that a smart bank note[12] would serve the same purpose as CBDC without requiring similar resources. Further, respondents noted that there is a need to assess the potential risks of CBDC to the environment and devise mitigants. These issues should be studied further.

- The design of CBDC should consider risk mitigants as indicated above. Further, there is a need for collaboration with stakeholders and public awareness to address the risks of financial exclusion. Notably, the choice of technology should take into consideration the potential environmental impact.

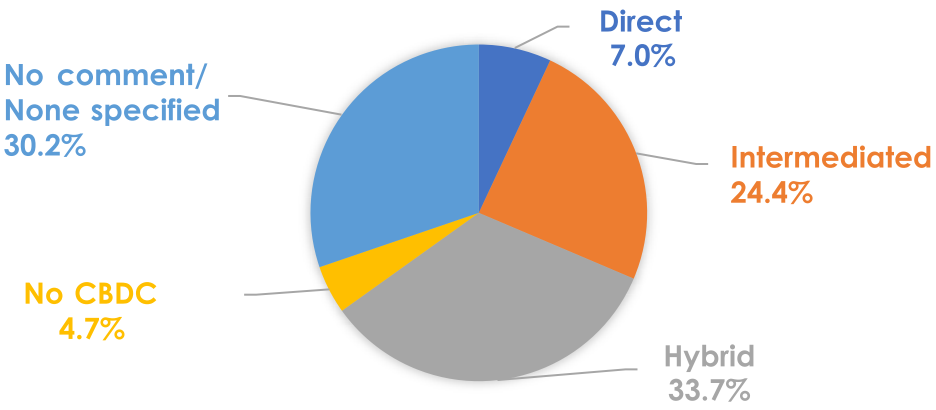
3.10 Suitability of CBDC Models in Kenya's Context

- The CBDC Discussion Paper noted that a CBDC solution can be designed to be technology agnostic, and independent, given that it delivers on the required functionality. The Paper highlighted the possible architectures behind a CBDC framework, these being the **direct** model, **intermediated** model, and **hybrid** model, and sought to identify the most suitable model in Kenya.

[11] Quantum resistance refers to algorithms that withstand code-breaking efforts from quantum computers.
[12] A smart banknote is a physical banknote on a paper or polymer substrate that can communicate with an electronic network. Noll, Franklin, Smart Banknotes Defined: Features and Criteria (October 7, 2020).

- As shown in the chart below, **33.7 percent** of respondents noted that the **hybrid** model of CBDC would be the most suitable in Kenya. The respondents indicated that adopting this model would ensure a smooth transition with minimal adverse effects due to an already existing regulatory framework, citing the National Payment System Act and the National Payment System Regulations. Additionally, with the hybrid model, CBK maintains a copy of the retail ledger. This would allow CBK to settle any pay-outs if a PSP experiences technical difficulties or a financial institution goes under receivership.

Chart 4: Model of CBDC Suitable in Kenya



- **24.4 percent** of respondents indicated that the **intermediated** model of CBDC would be the most suitable, highlighting that this model was least likely to disintermediate the banking sector. Respondents noted that commercial banks play a critical role in the financial sector and the economy, and need to maintain this role, even if a CBDC is rolled out. The intermediated model, according to respondents, would also make CBDC cash-like, allowing users more privacy over how they spend their money. Moreover, respondents cited interoperability, ease of distribution, and ability to promote innovation, as reasons for adoption of the intermediated CBDC model.

- **7 percent** of respondents stated that the **direct** model of CBDC would be the most suitable. Respondents indicated that because, instantly, the direct model would be adopted faster compared to the intermediated and hybrid models. Respondents also favoured this model as it allows consumers to open accounts directly with CBK, without the use of intermediaries.

- Notably, **4.7 percent** of respondents indicated that **a CBDC is not suitable for Kenya**, citing technological risks and a need for extensive research to ensure existing financial service providers and consumers are not negatively impacted by a CBDC.

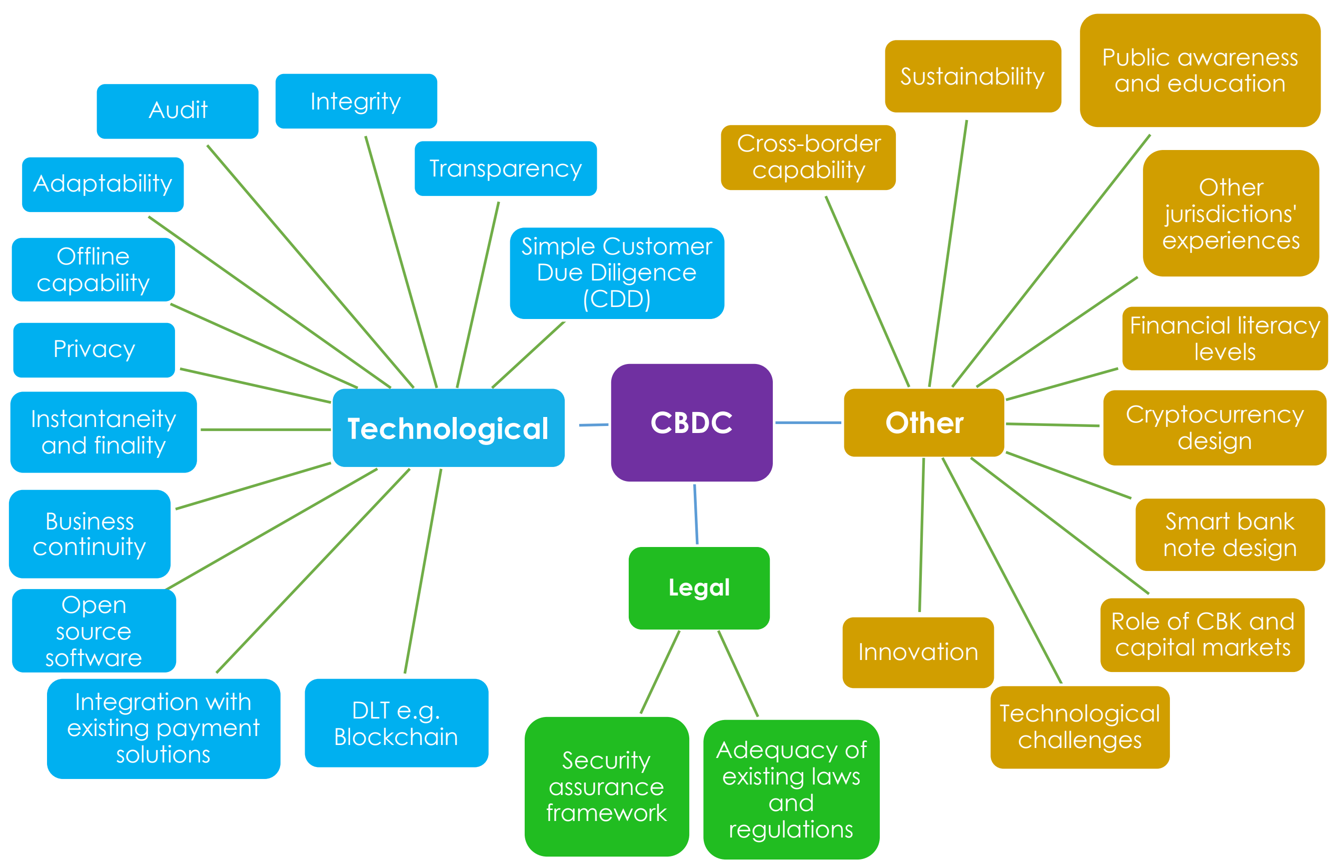
- Further, **30.2 percent** did not respond to the question or did not specify a suitable CBDC model. This indicates how nascent the concept of CBDC is to the populace, and the need for public sensitization to keep the public informed of emerging issues.

- In selecting a model of CBDC, its impact on the financial ecosystem, as well as the roles of regulators, financial institutions, PSPs, and consumers, need to be considered.

3.11 Additional CBDC Design Principles

- In identifying additional design principles, respondents highlighted technological, legal, and other general considerations as illustrated below.

Diagram 4: Additional design principles



I. **Technological Considerations**

a) Use of **Distributed Ledger Technology** such as **blockchain technology** in the design of CBDC. Blockchain technology provides global-scale performance like centralized solutions, while also delivering the safety, security, and resilience of a decentralized system.
b) Seamless integration with existing payment solutions but independent of it to ensure that the CBDC would still be operational if some/all other systems fail.
c) Use of **open-source software** and platforms and adoption of a CBDC run by an open community as opposed to corporate entities.
d) A CBDC design should provide a **business continuity** plan even in extreme circumstances where technology providers and partners are forced to close business.
e) CBDC should be designed such that settlements made are **instant and final**.
f) A CBDC design would need to safeguard **privacy without undermining AML/CFT requirements** and fraud detection by regulators.
g) A CBDC design should provide **offline capabilities** that allow transactions even where systems are down due to power outages or other forms of electronic shortfalls.

h) A CBDC ecosystem needs to be **adaptable** to meet future user demands and interoperate with new and current systems and arrangements while maintaining policy objectives and system resilience.
i) Real time **audit log** of all configuration changes, with notification capabilities.
j) The success of the CBDC will be underpinned by the **integrity** and **transparency** of the underlying technologies used.
k) Alignment with **simple customer due diligence processes** to improve accessibility and promote financial inclusion.

II. **Legal Considerations**

a) Develop a CBDC security assurance framework.
b) Assess the adequacy of existing laws and regulations to enable the issuance and proper oversight of CBDC.

III. **Other Considerations**

a) CBDC and sustainability – the impact of CBDC on the environment, such as high levels of energy consumption to maintain CBDC servers, should be considered.
b) Cross-border capabilities, including interoperability and complementarity that ensure a Kenyan CBDC is interoperable with those of other global central banks, should be considered. This is critical even though they are country-specific and built to meet the unique domestic characteristics of those jurisdictions.
c) Technological challenges that could negatively impact consumer protection and user acceptance should be considered.
d) A CBDC should promote innovation in the financial sector.
e) Consider the role of CBK and capital markets in a financial ecosystem with CBDC.
f) Adoption of a smart bank note design.
g) Adoption of cryptocurrencies such as Bitcoin and Litecoin.
h) Financial literacy levels of consumers.
i) Public awareness and education on CBDC.
j) Other jurisdictional experiences with CBDC.

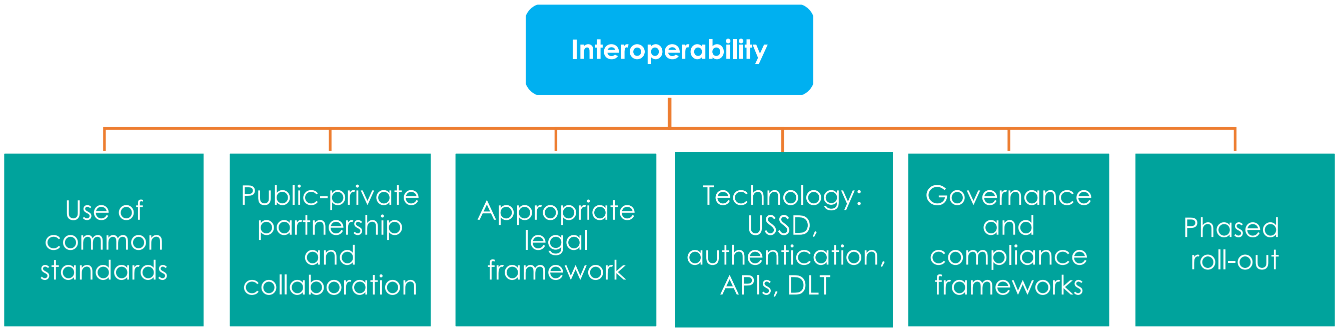
- Adoption of open-source software may not be ideal due to security concerns associated with it, such as the presence of known vulnerabilities among open-source software.
- Similarly, the adoption of cryptocurrencies as opposed to CBDC may not be feasible since CBDC, unlike cryptocurrencies, is intended to be a virtual legal tender. Accordingly, public education needs to be done to assert the difference between CBDC and cryptocurrencies.
- Further research needs to be done on the impact of interest rates and transaction costs on economic models, and appropriate design principles should be considered.

3.12 Interoperability of CBDC with Existing Payment Platforms

- From the comments received, a CBDC could be designed to achieve maximum interoperability through:
  - The use of common standards.
  - Collaboration between public and private stakeholders.

- Having an appropriate legal framework in place.
- Leveraging on Unstructured Supplementary Service Data (USSD), Distributed Ledger Technology (DLT), and authentication technology.
- Leveraging on application programming interfaces (APIs).
- Well-defined governance and compliance requirements.
- Incorporating a phased approach in the introduction of a CBDC.

Diagram 5: CBDC and Interoperability



3.13 Legal Considerations and Other Comments

Respondents provided comments on the following issues in addition to the survey questions.

i) Legal Considerations

- Respondents underscored the need for a clear legal framework that anchors CBDC. In this regard, the legal framework should demystify CBDC and set out the roles of the Central Bank and other players in the CBDC ecosystem to avoid conflicts in those roles. It would be needful to amend the laws to consider updating the definition of currency to include CBDC.
- Harmonization of cross-border frameworks is also critical to smoothen cross-border transactions and ensure interoperability with other CBDCs and cross-border payment systems.

ii) General Comments

- CBK received a request from an International Development Financial Institution to have the Discussion Paper translated into French and Portuguese. The translated version would then be used for capacity building programs in French and Portuguese speaking African countries. In addition, various respondents appreciated CBK's approach to CBDC and the issuance of the Discussion Paper.

- Various individuals and institutions sought to share knowledge as experts on CBDC. CBK continues to engage with various stakeholders in discussions on CBDC.

- Some respondents indicated that there is no value proposition for CBDC in Kenya given that the Kenyan financial landscape is advanced compared to other jurisdictions. The Discussion Paper noted that the trend in Kenya's domestic payments indicates the existence of a digital currency (e-money) that is robust, inclusive, and highly active. Therefore, the consideration of introducing a CBDC in the payments system in Kenya would not majorly focus on enhancing access to financial services given the existing and growing penetration of mobile money. The consideration could however target cost reduction, interoperability and enhancing cross-border payments. This is an area that CBK is closely monitoring and exploring in collaboration with other central banks.

- Respondents noted that the key questions that would need consideration in the design of a CBDC are:

  i) What value could a CBDC provide to Kenyan households and enterprises specifically? What are the motivations for a Kenyan CBDC?
  ii) How might CBDC help to address (or not address) existing Kenyan market barriers and challenges?
  iii) What implications do those local considerations have on trade-offs and design options?

  In the discussion paper, CBK reiterated that people must be at the centre of assessing any innovation. The usefulness of technology does not lie in its uniqueness but in its ability to solve a pressing societal problem. Therefore, the focus of the assessment of CBDC innovation must be on functionality and the problem it resolves for the people rather than the technology.

- There was a proposal for CBK to introduce CBDC to mitigate the risks brought about by cryptocurrencies. CBK has been at the forefront of monitoring CBDC developments to inform sound policy decisions in the area. It is against this backdrop that CBK issued the Discussion Paper.

4.0 BROAD THEMES FROM THE REVIEW OF COMMENTS

The responses focused on the following major issues:

i) Roles and responsibilities.
ii) Potential opportunities and benefits.
iii) Potential risks and adverse impact.
iv) Design considerations.
v) Considerations for the adoption of CBDC in Kenya.

4.1 Roles and Responsibilities

- Most of the respondents suggested that collaboration of stakeholders (Central Bank, National Government, commercial banks, non-profit organizations, and individuals), is necessary in tackling financial exclusion in relation to CBDC.

- CBK notes that it is important to appropriately define the roles for the relevant stakeholders in a CBDC ecosystem. Multi-stakeholder input and public consultations on potential CBDC issuance are very important and are likely to critically inform CBDC design and eventual adoption. Thus, stakeholders should continue to work collaboratively on CBDC, further exploring the practical implications of the core features of CBDC.

4.2 Potential Opportunities and Benefits

- Respondents primarily noted that CBDC would positively impact the financial sector through increased efficiency.
- The increased efficiency would be through real or near real-time settlement of transactions, lower transaction costs, transactional transparency, interoperability, diversity in payment options, and increased innovation by financial institutions to adapt to changes occasioned by the introduction of CBDC.
- These benefits will lead to increased financial inclusion, and efficiency in cross-border payments.

4.3 Potential Risks and Adverse Impact

- Respondents raised concerns about disintermediation and threats to financial stability, and potential conflicts between the roles of the Central Bank with those of banks and other financial institutions. Other risks include issues of privacy and anonymity, implementation costs, cyber risk, lack of capacity and financial exclusion.

4.4 Design Considerations

- Majority of respondents preferred the hybrid model of CBDC. However, most focused on key design considerations, including interoperability, flexibility, degree of anonymity, identity management, availability, access, interest and fees, programmability, and cyber security. Other considerations were the use of blockchain, offline capabilities, and legal frameworks. A key concern was the aspect of sustainability of CBDC.
- Some respondents opined that CBDC can be substituted by cryptocurrency. In this regard, it is important to sensitise the public on the differences between CBDCs and crypto assets.
- In selecting a model of CBDC, its impact on the financial ecosystem, as well as the roles of regulators, financial institutions, payments service providers and consumers, need to be considered.
- Further research needs to be done on the impact of CBDC on interest rates and transaction costs, with regard to monetary policy transmission.

4.5 Considerations for the adoption of CBDC in Kenya.

- Respondents highlighted that a CBDC would be well adopted in Kenya if it solves the current payment problems of high transaction costs of digital payments, and speed and efficiency of cross-border payments. It would also be necessary to ensure CBDC is highly and easily accessible and available in order to mitigate the risk of financial exclusion. These benefits should be assessed against the technology and cyber risks, as well as risk of disintermediation of banks, among others. Accordingly, stakeholder engagement at all stages of CBDC development is critical for purposes of ascertaining the use case for CBDC and developing a CBDC that is fit for purpose.

- It was evident that a robust legal and governance framework that defines the roles and responsibilities of the Central Bank and other players in the CBDC ecosystem would be necessary.
- Public education would also be imperative in order to ensure the populace understands the uses of CBDC and differences between CBDC and crypto assets.

5.0 CONCLUSION

The public views collected by CBK have been influential in internal and external consultations with other central banks and international financial institutions, to determine the next steps to be taken by CBK regarding CBDCs. Broadly, responses have indicated that while a CBDC may be useful for cross-border transactions, its risks should be carefully considered. This is in line with the key themes underpinned in the Discussion Paper: The Discussion Paper was underpinned by three broad themes: **people-centricity, country context and balance between opportunities and risks**.

The rollout of CBDC should not be rushed just to be first or ride on trends. Presently, Kenya's pain points in payments can potentially be solved by strengthening innovations around the existing payment ecosystem.

CBK's vision is for a payments system that is secure, efficient, and widely available to and works for Kenyans. The usefulness of technology does not lie in its uniqueness, but in its ability to solve a pressing societal problem. A case in point has been the rise of mobile money in Kenya, which has placed it as a cradle of innovation. As is with mobile money, the focus of the assessment of CBDC must be on functionality and the problem it resolves for the people rather than the underlying technology.

Kenya's context should also be considered, noting the high financial inclusion rate of 83.7 percent as of 2021. Further, there is a need to weigh the opportunities against the risks presented by a potential CBDC. Globally, there is a slow interest and uptake of CBDC. Major global central banks have deferred the adoption of CBDC. This measured approach is aligned with the approach that CBK has taken.

The responses to the Discussion Paper indicated that these three broad themes of people-centricity, country context and balance between opportunities and risks are a critical anchor and should be assessed prior to the decision to implement CBDCs. Accordingly, implementation of a CBDC may not be a priority in Kenya in the short-medium term. Going forward, CBK will continue to monitor developments on CBDC and collaborate with other stakeholders in order to make timely and informed data-driven policies and regulations.

Annex I: Update on Key CBDC Developments

Several CBDC developments have sprung up since the issuance of the Discussion Paper. Accordingly, CBK has compiled this section on updates happening globally around the topic of CBDC.

A. International Monetary Fund

i) Paper on 'Behind the Scenes of Central Bank Digital Currency'

The International Monetary Fund (IMF) released a paper in February 2022 titled '*Behind the Scenes of Central Bank Digital Currency*'. The paper sought to shine a spotlight on the handful of countries at the frontier of CBDC development, in the hope of identifying and sharing insights, lessons and open questions for the benefit of the many countries following in their footsteps, to gain time by building on the experience of others. To this end, the IMF paper studied six advanced CBDC projects. The CBDC projects fulfilled at least one of the following criteria:

a) A CBDC is already issued. Selected project: **Central Bank of The Bahamas (CBOB)**.
b) A pilot CBDC has been or is being tested involving actual households and firms. Selected projects: **People's Bank of China (PBOC)**, **Eastern Caribbean Central Bank (ECCB)**, and **Banco Central de Uruguay (BCDU)**.
c) A CBDC project has been brought onto the country's political agenda and is being analysed by government or parliamentary bodies outside of the central bank. Selected project: **Sweden's Sveriges Riksbank**.
d) The central bank has carried out a CBDC project and decided against issuing a CBDC for the time being. Selected project: **Bank of Canada (BOC)**.

According to the IMF paper, below was the status of CBDC projects in the above jurisdictions:

i) **CBOB, Sand Dollar:** The Sand Dollar was officially launched in October 2020. In late 2021, there were around 20,000 active Sand Dollar wallets in a population of about 400,000, and functions are continuously being developed.
ii) **BOC:** The BOC has not found a pressing case for a digital currency given the robust state of the Canadian payments system. However, it continues to build the technical capacity to issue a CBDC and monitor developments that could increase its urgency.
iii) **PBOC, digital Chinese Yuan (e-CNY):** No formal decision has been taken to launch the e-CNY. The PBOC runs a pilot in parallel in different regions. By October 2021, there were over 123 million e-CNY wallets registered with individuals and about 9.2 million wallets held by firms—a rapid increase from approximately six million active e-CNY wallets in April 2021. In a population of nearly one and a half billion, the share of e-CNY users is now approaching 10 percent.
iv) **ECCB, DCash:** No decision has been made to formally issue DCash. In March 2021, the ECCB launched a pilot program to successively extend DCash throughout the countries of the Eastern Caribbean Currency Union (ECCU) and run the program for 12 months. Given its rapid adoption, ECCB is now considering transitioning to an official CBDC launch.
v) **Sweden's Sveriges Riksbank, e-krona:** No decision has been made to issue the e-krona. The Riksbank has developed a proof of concept and is exploring the technological and policy angles of CBDC. A government inquiry is investigating the role of the state in the digital payments system, including the potential role of a CBDC.

vi) **BCDU, e-peso:** After ending a pilot in 2018, the BCDU has changed leadership and has opted not to pursue a second pilot due to other priorities and a lack of resources. Potentially, a second pilot will be launched in the future.

The policy goals (Financial Inclusion, Access to Payments, Improving Payments Efficiency and Resiliency, Reducing Illicit use of Money, Monetary Sovereignty, and Competition) of the different jurisdictions define the particular use cases of CBDCs. The main choices and considerations for a CBDC project are also determined by technology, operating model, design features, legal foundations, and project implementation.

The bottom line of the IMF paper is, if CBDCs are designed prudently, they can potentially offer more resilience, safety, greater availability, and lower costs than private forms of digital money. That is the case when compared to unbacked crypto assets that are inherently volatile. Even better managed and regulated stablecoins are not a match against a stable and well-designed CBDC.

ii) Updated Regional Survey ‘Towards Central Bank Digital Currencies in Asia and the Pacific’ (September 2022)

IMF released a regional survey in September 2022, exploring the considerations and acceptability of CBDC in the Asia Pacific region. The survey indicates that as of August 2022, two central banks had launched a CBDC globally: the Central Bank of Bahamas (CBOB) and Central Bank of Nigeria (CBN), and two others were in advanced pilot stages: Bank of Jamaica (BOJ) and ECCB (DCash). There has been a rapid increase in considering a CBDC in the Asia Pacific region, including advanced economies such as China, emerging markets such as India and Thailand (who are making progress), and several low-income countries and Pacific Island countries such as Nepal and the Marshall Islands, who are looking into research and development.

The IMF survey indicated that a surge in crypto assets has accelerated many central banks’ interest in CBDCs to provide alternative means of payment and counteract the volatile nature of unbacked private crypto assets and contain their risks to the financial system.

- Some countries, including India and the Philippines, have built very successful payment systems, yet financial innovation in the form of a CBDC could let the countries improve their current frameworks by lowering transaction costs and increasing efficiency. The promotion of financial inclusion and financial stability are among other motivating factors for countries across the region, especially in middle-income countries.

- Australia announced a limited-scale CBDC pilot in August 2022. Korea, Japan, Malaysia, and Singapore have started experiments or proofs-of-concept, and another 12 Asian economies are currently in the research and development stage.

- Only a few countries currently have the legal authority to issue a CBDC, while others are contemplating legal reforms. The issuance of CBDCs requires a legal framework where central banks have the authority to do so. Currently, only two countries in the Asia-Pacific region, that is China and the Philippines, have the legal authority to issue CBDCs.

- The key drivers for countries' interest in CBDCs differ by income group. High-income countries are generally more interested in the ability of CBDCs to enhance the efficiency and safety of the payment system as well as to satisfy the growing demand for digital cash/payments. For middle-income countries, apart from payment system efficiency, promoting financial inclusion and financial stability are also important drivers. Regional development was a key driver in countries such as Lao P.D.R. and Nepal while maintaining monetary sovereignty was important for India. Some drivers are closely interrelated with others: for example, payment stability is integral to financial stability, and demand for digital cash is related to the need to create alternatives for crypto assets.

The closing remarks of the IMF survey were that while there is a significant interest in CBDCs, very few countries are likely to issue CBDCs in the near to medium term. Most countries in the region have shown interest in CBDCs with work ranging from research and development to live pilots. However, very few are ready to issue.

B. Bank for International Settlements (BIS) Projects – mBridge, Dunbar and Tourbillion

i) Project mBridge by the Bank for International Settlements and four other Central Banks

The payment system underpinning cross-border financial flows has not kept pace with the rapid growth in global economic integration. The global network of correspondent banks that facilitates international payments is hindered by high costs, low speed and transparency, and operational complexities. It is in this regard that in October 2021, BIS and four central banks (Hong Kong Monetary Authority, the Bank of Thailand, the People's Bank of China, and the Central Bank of the United Arab Emirates) sought to collaborate to build a multiple CBDC (multi-CBDC) platform, known as mBridge. Multi-CBDC directly connects jurisdictional digital currencies in a single common technical infrastructure, thus offering significant potential to improve the current system and allow cross-border payments to be immediate, cheap, and universally accessible with secure settlements.

The central banks came up with a blockchain platform, the mBridge ledger, to facilitate real-time, peer-to-peer, cross-border payments and foreign exchange transactions using CBDCs. The pilot involved real corporate transactions that centred around international trade and were conducted on the platform among participating central banks, selected commercial banks and their customers in the four jurisdictions.

In October 2022, BIS released the results of Project mBridge. 20 banks in the four jurisdictions used the mBridge platform to conduct 164 payments and foreign exchange totalling over $22 million settled directly on the platform during the six-week effort. According to BIS's press release, mBridge demonstrated that it was realistic to aim for a tailored multi-CBDC platform solution to tackle the limitations of today's cross-border payment systems. The next phase would explore additional use cases and participants, with future work involving the legal and governance framework.

ii) Project Dunbar

This project, which included Australia, Malaysia, Singapore, and South Africa, started in November 2021 in partnership with the BIS and shares many common features with Project mBridge. It is built for wholesale use to utilize Distributed Ledger Technology (DLT) for more efficient and secure cross-border payments and settlements between financial institutions using digital currencies issued by multiple central banks. By enabling direct transactions on a common platform, the multiple CBDC networks could reduce reliance on intermediaries and thereby the costs and time associated with cross-border payments and settlements.

Two prototypes have been developed with technology partners, which enabled international settlements using digital currencies issued by multiple central banks. The study also identified challenges of implementing a multi-CBDC platform shared across central banks, in the areas of access eligibility, compliance with varying regulatory requirements across jurisdictions, and governance arrangements to safeguard national payment systems. Several practical design solutions are proposed to address these challenges, which support the technical viability of such a platform.

The key takeaway from the project was that international projects can help solve interoperability with other CBDCs/digital currencies to allow smooth cross-border trade and financial transactions. Prototypes developed so far have shown great promise in improving international payments and settlements. However, a greater focus on cross-border regulations and governance is needed.

iii) Project Tourbillon

Tourbillon, a new project launched in November 2022, by the Bank for International Settlements Innovation Hub (BISIH), explores how to improve cyber resiliency, scalability, and privacy in a prototype CBDC. Central banks have identified cyber resiliency, scalability, and privacy as core features of CBDCs. However, designing them involves complex trade-offs between the three elements. For example, higher resiliency against cyber-attacks requires additional cryptography[13], which can slow down payment processing. Privacy must also be weighed against the need to counter money laundering, terrorism financing (AML/CFT) and other illicit payments.

Project Tourbillon aims to reconcile these trade-offs by combining proven technologies such as blind signatures[14] with the latest research on cryptography and CBDC design. BISIH seeks to achieve a balance through the following approach:

i) **Cyber resiliency** supports safe and effective digital payment infrastructures. The project achieves this by experimenting with the strongest known type of advanced cryptography.
ii) **Scalability** accommodates the potential for high transaction volumes. Tourbillion achieves this by using an architecture that is compatible with, but not based on, distributed ledger technology. By making each transaction separate, the system resources scale linearly. The project seeks to verify the linear scalability of the design with realistic parameters.
iii) **Privacy** is an important user requirement but at the same time raises issues concerning countering illicit activities. Tourbillion resolves this by providing privacy for the payment sender but not for the recipient. Regulatory compliance checks will continue to apply.

The BISIH plans to complete the prototype by mid-2023 and expects the results to be relevant to both wholesale and retail CBDCs.

[13] **Cryptography** is the application of techniques to ensure secure communication that allow only the sender and intended recipient of a message to view its contents.

[14] In cryptography, a **blind signature** is a form of digital signature in which the content of a message is disguised (blinded) before it is signed. The resulting blind signature can be publicly verified against the original, unblinded message in the manner of a regular digital signature.

C. Experimenting with a Digital Yen by the Bank of Japan

The Bank of Japan (BOJ) began its research and experiments to decide whether to issue a CBDC in 2020. In November 2022, BOJ reportedly announced it will begin preparations to conduct a pilot experiment with private financial institutions in 2023, towards issuing a Digital Yen. The move will follow two years of experiments that BOJ has been conducting to decide whether to issue a CBDC. The BOJ will work with Japan's three megabanks and regional banks to test whether a CBDC can operate amid natural disasters and support offline functions.

D. National Bank of Kazakhstan's integration of its CBDC on Binance's Blockchain

The National Bank of Kazakhstan (NBK) launched a CBDC research project in 2021, to provide a comprehensive analysis and study of the potential benefits of launching a digital currency – the Digital Tenge. NBK noted the tremendous increase in the use of digital channels for transactions, especially during the COVID-19 pandemic, and sought to satiate the growing demand for secure and neutral payment systems. NBK also sought to promote financial inclusion, innovation, and system openness/democratization.

Accordingly, NBK released a white paper in 2021 on the Digital Tenge Project results. The paper proposed the running of Kazakhstan's CBDC on DLT technology, which would also tackle the concerns raised around its feasibility as follows:

i) **Improvement of transaction reliability** since distributed technologies are averse to the risk of single points of failure (due to their decentralized nature) and thus reduce the risk of data loss.
ii) **Traceability of transactions by participants**, which helps comply with AML/CFT requirements.
iii) **Programmability capabilities**, enable the creation of smart contracts that can increase the speed of transactions by automating some payments and transfers.

In October 2022, following the approval of Binance to operate as a cryptocurrency and crypto-assets service provider in Kazakhstan, Binance announced that NBK planned to integrate its CBDC, the Digital Tenge, on Binance's blockchain - the BNB chain. NBK is expected to decide on whether to launch a CBDC by the end of 2022 and will test use cases on the BNB chain. There has been no communication on a change of stance even after the fallout of the FTX cryptocurrency exchange provider in November 2022, with which Binance had a previous business relationship/ entanglement.

E. Zimbabwe's Consumer Survey on the Possibility of issuing of CBDC

The Reserve Bank of Zimbabwe (RBZ) released a consumer survey in November 2022, as part of its efforts to explore the possibility of introducing a CBDC in line with global trends. The survey aimed to collect views on the design and nature of the CBDC and its overall acceptance by the public. The responses that were due on December 7, 2022, will assist the RBZ in CBDC research and assessing its acceptability in the country, to complement the existing payment options in the country.

No details have since been shared on the results of the survey, and the questionnaire remains open on the RBZ's official website.

F. U.S. Federal Reserve Results on the wCBDC Project Cedar

The United States of America (USA) Federal Reserve released the results of Phase I of wCBDC Project Cedar in November 2022. The project examined how to improve cross-border wholesale payments through the development of a blockchain-enabled wholesale CBDC prototype. The prototype developed under Phase I demonstrated the potential of blockchain to improve the speed, cost, safety, and access to foreign exchange (FX) spot transactions.

FX spot trades are among the most common wholesale cross-border payments, as they are often required to support broader transactions, such as international trade or foreign asset investment. While cross-border payments function well, there are opportunities for improvement. In general, it takes around two days for an FX spot transaction to settle. During these two days, counterparties are exposed to settlement, counterparty, and credit risk which, among other things, can hinder an institution's ability to access liquidity.

The wCBDC prototype developed under Phase 1 showed that blockchain-empowered cross-border payments can be faster, cheaper, and safer. The Fed will partner with the Monetary Authority of Singapore in the next phase to explore interoperability and ledger design questions.

G. Her Majesty (H.M.) Queen Máxima of the Netherlands, on 'CBDCs for the People'

In various international financial forums, H.M. Queen Máxima of the Netherlands has expressed support for CBDC exploration and adoption, guided by the key motivation to expand the currency network for access to the unbanked, and to serve the vulnerable and the poor. In an excerpt developed together with Mr. Agustin Carstens, General Manager of BIS on April 18, 2022[15], Queen Máxima reiterated her support for the rapid adoption of digital payment technologies, including central banks' opportunity to explore reforms and new tools, such as issuance of their own digital currencies, as a key driver for financial inclusion and innovation.

In her speech[16] at the IMF event CBDC and Financial Inclusion: Risks and Rewards at the Annual Meetings of the IMF and World Bank in Washington, D.C., United States of America, on October 14, 2022, Queen Máxima expounded that CBDCs could help provide the best of both worlds: encouraging providers to lower costs and broaden access, while also incorporating the advantages of central-bank money – such as safety, finality, liquidity, and integrity.

She underscored that central bankers and other public-sector representatives must ensure the financial system is inclusive, open, competitive, and responsive to the needs and interests of all groups. If designed properly, CBDCs hold great promise to help support a digital financial system that works for everyone.

15 https://www.project-syndicate.org/commentary/cbdc-design-for-financial-inclusion-by-agustin-carstens-and-queen-maxima-of-the-netherlands-2022-04

16 https://www.royal-house.nl/documents/speeches/2022/10/14/speech-of-queen-maxima-at-the-imf-event-cbdc-and-financial-inclusion-risks-and-rewards-at-the-annual-meetings-of-the-imf-and-worldbank-in-washington-dc

H. European Central Bank Publications on CBDCs

European Central Bank (ECB) has released several publications about their acceptability of CBDC and the possible launch of a digital Euro. In July 2021, the Eurosystem decided to launch the investigation phase of the digital euro project, which aims to provide Euro-area citizens with access to central bank money in an increasingly digitalized world. The paper analyses the mechanisms through which commercial banks and the central bank could react to the introduction of a digital euro. Overall, effects on bank intermediation are found to vary across credit institutions in normal times and to be potentially larger in stressed times. Further, a potential digital euro's capacity to alter system-wide bank run dynamics appears to depend on a few crucial factors, such as CBDC remuneration and usage limits.

In November 2022, the ECB expressed interest to design digital public money, to ensure that confidence in the monetary system is maintained and innovation is nurtured, amidst the rapid adoption of private digital assets such as cryptocurrencies. Issuing a digital Euro would safeguard people's confidence in the stable value of the currency. The digital Euro would also be based on a European infrastructure, facilitating intermediaries to scale payments innovation throughout the Euro area and thus strengthen Europe's strategic autonomy.

ECB's focus of its work now shifts to the concrete design and embedding of the digital euro in a sound legal framework. The ECB intends to work with various European Commission stakeholders to develop a legislative proposal for establishing a digital Euro.

I. Monetary Authority of Singapore's Explorative Projects around CBDCs

i) Project Ubin+

On November 3, 2022, the Monetary Authority of Singapore (MAS) launched Project Ubin+, an expanded collaboration with international partners on cross-border foreign exchange (FX) settlement using wholesale CBDCs. Ubin+ focuses on the following:

a) **Study business models and governance structures** for cross-border FX settlement, where simultaneous and instant (atomic) settlement, based on digital currencies, can improve efficiencies, and reduce settlement risks compared to existing payment and settlement rails.
b) **Develop technical standards and infrastructure** to support cross-border connectivity, interoperability, and atomic settlement of currency transactions across platforms using DLT, and non-DLT-based financial market infrastructures.
c) **Establish policy guidelines** for the connectivity of digital currency infrastructure across borders, for better access and participation. This includes policies related to governance, access, and compliance issues for such linkages.

As part of Ubin+, the following projects will be undertaken with international partners:

- **Foreign Exchange and Liquidity Management: Project Mariana** is a collaborative initiative that explores the exchange and settlement of Swiss franc, Euro, and Singapore dollar wholesale CBDCs with an automated market maker (AMM) arrangement.

- **Interoperability between DLT and non-DLT payment systems**: MAS is participating in SWIFT's CBDC Sandbox, together with more than 17 central banks and global commercial banks, to explore cross-border interoperability across digital currencies based on DLT and non-DLT payment systems.
- **Connectivity across heterogeneous digital currency networks**: As wholesale digital currencies gain traction, MAS is studying possible mechanisms to maintain connectivity across CBDC and other heterogeneous digital currency networks. MAS will also study the use of smart contracts to optimize efficiency and reduce counterparty risks in the settlement of cross-border transactions.

ii) Project Cedar Phase II x Ubin+

On November 11, 2022, The Federal Reserve Bank of New York's New York Innovation Center (NYIC) and the Monetary Authority of Singapore (MAS) announced Project Cedar Phase II x Ubin+, a joint experiment to investigate how wholesale CBDCs (wCBDCs) could improve the efficiency of cross-border wholesale payments involving multiple currencies.

Project Cedar Phase II x Ubin+ will enhance designs for atomic settlement of cross-border cross-currency transactions, leveraging wCBDCs as a settlement asset. The effort, which entails establishing connectivity across multiple heterogeneous simulated currency ledgers, aims to significantly reduce settlement risk, a key pain point in cross-border cross-currency transactions.

iii) Project Orchid

According to a report[17] released on October 31, 2022, MAS completed the first phase of its CBDC project, Orchid. This stage of Project Orchid explored the potential use cases for a digital Singapore dollar (SGD) as well as the infrastructure required to implement one. It looked at the concept of purpose-bound digital SGD, which allows senders to specify how and where the money will be used. They found there is currently no urgent need for a retail CBDC but said they want to be prepared in case that changes. As stated, although MAS does not see an urgent case for retail CBDC, it is envisioned that the study of potential use cases for a programmable digital SGD and the infrastructure required, would enable MAS and the financial services ecosystem in Singapore to develop capabilities to support a retail CBDC should the need arise.

In the report, MAS believes that a CBDC would be a small part of the money supply in the same way that physical cash is. Banknotes and coins issued by MAS only account for around 8 percent of the entire money supply, while privately issued money makes up 92 percent.

J. South African Reserve Bank's Take on CBDCs

SARB commenced its undertaking of a feasibility study in May 2022, to investigate if it would be feasible, appropriate, and desirable for the SARB to issue a CBDC to be used for retail purposes, complementary to cash in South Africa. It will highlight the different CBDC design options and the potential policy and/or regulatory implications associated with these options. The insights gained will inform the decision around whether to pursue the issuance of a South African CBDC. Even if the

[17] https://www.mas.gov.sg/news/media-releases/2022/mas-report-on-potential-uses-of-a-purpose-bound-digital-singapore-dollar#6

outcome of the feasibility study suggests that the issuance of a CBDC in South Africa may be feasible and/or desirable, it does not necessarily imply that it will be pursued. The SARB is currently with two vendors to explore the different deployment solutions to unpack and understand the options and considerations for a CBDC in South Africa.

SARB is also collaborating with BIS and other central banks in **Project Dunbar** (Section 2.1 above).

K. Malaysia's Approach to CBDC

In March 2022, Bank Negara Malaysia (BNM) expressed that it had no intention to issue a CBDC as the domestic payment system remains efficient to support the needs of the economy and allow real-time digital payments. BNM pointed out that associated risks arising from CBDC issuance were a key consideration in making any policy decision on CBDC.

However, given the rapid development in the payment and digital currency space, BNM is actively scaling up its internal capacity to support informed decisions on the CBDC. As such, it has commenced a multi-year CBDC exploration through a three-phased proof-of-concept (POC), which will first focus on wholesale payment applications via its collaboration with international partners — the BISIH, the Reserve Bank of Australia, the MAS, and the SARB — on **Project Dunbar**.

L. Nigeria's Take and Reception of the e-Naira

In November 2021, the Central Bank of Nigeria (CBN) introduced a digital version of its official currency, the Naira. The introduction of the e-Naira was partly a response to concerns that the rising popularity of crypto in the country was threatening the banking system. About 45 percent of the Nigerian population does not have a bank account. The e-Naira also sought to encourage them to join a formal financial access chain and especially with the ease of accessibility through mobile devices.

According to Bloomberg[18], however, only 0.5 percent of the Nigerian population (1 million out of 200 million) is currently using the e-Naira currency. Below are the possible reasons why the rate of adoption of the e-Naira has been low:

a) Insufficient education and awareness campaigns by the government on the use-cases of e-Naira, compared to other digital financial products. Cryptocurrency is still heavily used in Nigeria, and the population cannot still distinguish between privately issued and central bank-issued digital currency.
b) The banking industry has not been fully receptive, as the e-Naira bears competition to products offered by them, including the use of a digital wallet instead of the respective banks' applications. Banks also lack the incentive to distribute the e-Naira, as it is non-interest-making even as an account at the respective bank. This is because the e-Naira remains a claim on the central bank, and not a claim on the lender/holder of a person's account.

18 https://www.bloomberg.com/news/articles/2022-11-01/how-is-nigeria-s-enaira-africa-s-first-digital-currency-doing-one-year-in

CBN is still optimistic about the future usage of the e-Naira. Various propositions have come up to boost usage of the digital currency, such as the proposed payment of salaries to civil servants through e-Naira to encourage uptake by the public. CBN has also resorted to conducting education and awareness campaigns, to expound to the public the usability advantages of the e-Naira, given that it is central bank money and more secure than other digital currencies.

M. The Rollout of the Digital Rupee by the Reserve Bank of India (RBI)

RBI commenced its wholesale CBDC pilot on November 1, 2022, with use cases in the settlement of secondary market transactions in government securities; and launched its retail CBDC pilot on December 1, 2022. Settlement in the wholesale Digital Rupee is expected to reduce the transaction costs by anticipating the need for settlement guarantee infrastructure, or for collateral to mitigate settlement risk.

The retail Digital Rupee pilot will cover select locations in a closed user group comprising participating customers and merchants. Users will be able to transact with the Digital Rupee through a digital wallet offered by the participating banks and stored on mobile devices. Transactions can be both Person to Person (P2P) and Person to Merchant (P2M). The pilot will test the robustness of the entire process of digital Rupee creation, distribution, and retail usage in real time.

N. Bank of Tanzania's (BOT) Cautious and Phased Approach to CBDC

BOT announced on January 14, 2023, that it had adopted a phased, cautious, and risk-based approach to the adoption of CBDC.[19] The announcement followed months of research by a BOT multidisciplinary technical team. The team was formed to examine practical aspects of CBDC and building capacity of BOT in CBDC. BOT has engaged other central banks, international development partners, and technology providers to further their understanding of CBDC. BOT is considering several issues for further research on key considerations in selecting an appropriate approach to the adoption of CBDC from the country's perspective. These include:

- Type of CBDC to be issued (wholesale, retail, or both).
- Models for issuance and management (direct, indirect, or hybrid).
- Form of CBDC (token-based or account-based).
- Instrument design (remunerated or non-remunerated).
- Degree of anonymity or traceability.
- Risks and controls associated with issuance, distribution, counterfeit, and usage of currencies.

BOT will continue to monitor, research, and collaborate with stakeholders, in determining a suitable and appropriate use and technology for the issuance of Tanzanian shillings in digital form. The research will conclude in BOT providing a way forward, which may include a roadmap for the transition to the adoption of CBDC.

[19] https://www.bot.go.tz/Adverts/PressRelease/en/2023011413181519.pdf

O. Bank of England Consultation Paper on 'The digital pound: a new form of money for households and businesses?'

The Bank of England (BoE) and His Majesty's Treasury (HM Treasury) published a consultation paper[20] in February 2023, on *'The digital pound: a new form of money for households and businesses?'*. The paper builds on the Emerging Thoughts set out in BoE's Discussion Paper[21] of 2021 on *'New forms of digital* money'. The consultation paper delves further into the possibility of BoE rolling out a retail CBDC for everyday payments by households and businesses. It marks the conclusion of the 'research and exploration' phase of BoE's work on the digital pound – Phase 1 of the digital pound roadmap. BoE seeks to move to Phase 2 – the 'design' phase, to develop further in both technology and policy terms. This entails BoE seeking a balance between supporting the take-up of the digital pound and managing risks to monetary and financial stability from its introduction. The design phase will evaluate comprehensively the technology feasibility of a digital pound, determined by the optimal design and technology architecture, and supported business model innovation through knowledge sharing and collaboration between the private and public sectors.

To ensure that the modern forms of money and payments met the evolving needs of individuals and businesses in the United Kingdom (UK), the BoE and HM Treasury judged that it is likely a digital pound would be needed in the future. However, they also note in the paper that it is too early to commit to building the infrastructure for the digital pound, but that further preparatory work is justified. BoE and HM Treasury consider two primary motivations for developing the digital pound:

i) To sustain access to UK central bank money – ensuring its role as an anchor for confidence and safety in the UK monetary system, in an ever more digital economy, and to underpin monetary and financial stability and sovereignty.
ii) To provide a platform for partnership with the private sector, promoting innovation, choice, competition, and efficiency in domestic payments, and contributing to the resiliency and functionality of payments in the UK.

The consultation paper highlights the below guiding principles for the design of the digital pound:

a) The digital pound would be used like a **digital banknote**. It would be designed for everyday payments – both in-person and online – and would be a direct claim on BoE. Like a physical banknote and many current accounts, no interest would be paid on a digital pound. This makes it useful for everyday payments but not designed or intended for savings.

b) **The digital pound system would be a public-private partnership**. BoE would provide the digital pound and the central infrastructure, including the 'core ledger'. Private sector companies – which could be banks or approved non-bank firms – would be able to integrate into the central digital pound infrastructure and provide the interface between BoE and users. They would do this by offering digital wallets to end users. End-users would interact with these wallets on their smartphones or smart cards, rather than directly with BoE. Overall, experience from overseas digital currency projects indicates that building user familiarity and understanding and ensuring that innovative and customer-friendly applications emerge will be critical to success.

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[20] https://www.bankofengland.co.uk/paper/2023/the-digital-pound-consultation-paper?sf174942394=1

[21] https://www.bankofengland.co.uk/paper/2021/new-forms-of-digital-money

c) **To support trust and confidence**, the digital pound would have the same (or stronger) privacy protections as bank accounts, debit cards or cheques. Individuals' personal details would be known to their private sector wallet provider in the same way they are for bank account providers today (and subject to the same privacy protections). The details, however, would not be known by the Government or the BoE. By providing the same privacy as most of the money we use, the digital pound would be designed to protect against fraud and counterfeiting, while not facilitating financial crime.

d) The digital pound would be designed to support UK's commitments to mitigate **climate change**. To this end, while the digital pound would be a new form of digital money, it would be fundamentally different to a cryptoasset and would therefore not make use of the same energy-intensive technologies that underpin cryptoassets.

e) Although a digital pound would be designed with UK users in mind, it would be available to non-UK residents too. If in future, digital money denominated in other currencies became widely available, the digital pound could play an important role in preserving the Pound Sterling as the unit of account in the UK. For example, by offering users the new functionalities in sterling as offered by new non-sterling digital money, the digital pound would reduce the incentive to use such non-sterling money.

f) Another type of function the digital pound could enable is **micropayments**, which are payments of extremely low value. Supporting micropayments could enable new business models, such as paying a small amount to read a single newspaper article, rather than having to pay for a whole subscription. To this end, the digital pound's support for greater efficiency in retail payments in the UK would complement BoE's efforts to enhance wholesale payments through RTGS.

The introduction of the digital pound would require adjustment in the financial system. Depending on the speed and scale of uptake by households and businesses, the transition in particular could affect some bank business models. This could affect the cost and availability of credit in the economy and there could also be an impact on the transmission of monetary policy. It is particularly important, therefore, to manage that period, during which the behavioural response of households and businesses would become clearer, and the financial sector would adjust. Limits on individual holdings of the digital pound during a transition period would constrain the extent of outflows from bank deposits and allow UK authorities to learn more about its impact.

Like other digital payments systems, such as card networks, the digital pound would be exposed to risks of electricity outages, cyber-attack, and payment fraud. BoE and other UK authorities would need to ensure the digital pound has the highest standards of resilience against such risks. Learning lessons from previous implementations of digital payments innovations would be of paramount importance.

Tackling financial exclusion, particularly as financial services become more digital, is a priority for the UK Government. Advancements in technology, societal changes and economic trends foster innovation and provide opportunities to make products and services more inclusive and accessible. However, they may also result in new risks for consumers – especially those who are vulnerable. These risks need to be mitigated by adequate and flexible policy development, effective regulatory frameworks, and consideration of inclusive digital pound design.

P. Massachusetts Institute of Technology Digital Currency Initiative and Maiden Labs CBDC and Financial Inclusion Research on 'Expanding Financial Inclusion or Deepening the Divide – Exploring Design Choices that Could Make a Difference?'

Massachusetts Institute of Technology (MIT) Digital Currency Initiative (DCI) and Maiden Labs have prepared a report funded by the Bill and Melinda Gates Foundation, titled "CBDC: Expanding Financial Inclusion or Deepening the Digital Divide?". In the report, they have examined the affordances and features of intermediated digital payment platforms alongside cash and discussed how a CBDC (and its surrounding ecosystem of financial intermediaries) might be best designed to address factors leading to financial exclusion.

Currency Affordances: Insights from the Research

- **Access:** Digital funds are less accessible and thus less inclusive than cash. Identification remains a problem for many, and those without ID typically rely on informal solutions, which may entail exploitative social dynamics. In some countries, consumers who lack the full suite of identity documentation to open a traditional bank account may instead open a low volume, low transaction value account under regulations that permit simplified customer due diligence (sometimes called "tiered KYC") and require little identity documentation. But these accounts can be limited in how well they meet user needs due to restrictions on the value or volume of payments they can make. New digital identity programs may help, but consent and privacy need careful consideration. Reliable communications infrastructure remains a problem, so capability for offline transactions should be a priority.

- **Finality**: Cash transactions settle instantly, but digital transactions entail processes of authentication, authorization, and settlement. A CBDC that makes funds available for reuse immediately would offer an advantage to users but achieving finality at scale requires high-performance and fault-tolerant systems. Reversibility is also an important consideration. For those living in extreme poverty, success or failure in reversing payment can be the difference between eating and going hungry. Designing the process of dispute arbitration is an important challenge for CBDC design.

- **Data:** Cash transactions typically do not produce data trails, whereas digital transactions do. Data leaks can have dire consequences, particularly for the most vulnerable. Increased datafication of users' routines and behaviors is a lucrative enterprise but puts users at risk of exploitation—including furthering indebtedness through behavioral micro-targeting—often without their consent. Encumbering CBDC with restrictions on how it may be spent may reduce users control over their own money, particularly those who receive government benefits. Data-sharing can also have significant benefits to both system operators and users, such as better traceability and leveraging data to gain access to more services. Striking a balance between risks and rewards of data usage is critical to the design of CBDC. Smart decisions about privacy can yield many benefits, including building public trust and avoiding centralization of data vulnerable to attacks.

- **Distance:** Cash transactions typically cannot be transmitted over distance, whereas digital transactions can, including remittances. Remittances are an important use case for CBDC. All the problems that people encounter in other payment domains—such as lack of identification, connectivity issues, fees, settlement time, lack of recourse when things go wrong, and lack of privacy—are present and exacerbated in the context of remittances. There are several architectural options presently being considered for cross-border CBDC, which might or might not address a subset of these issues. More research needs to be done to understand how these options impact user experience.

- **Custody:** Today's monetary landscape requires users to either custody funds themselves (in the form of cash) or deposit funds with an intermediary. Depositing funds with a custodial intermediary is typically viewed as more secure than holding cash and it enables funds to be transmitted electronically. However, this also requires trusting intermediaries that, as our fieldwork demonstrates, may be plagued with problems. As a result, people default to cash. Especially for those who have extraordinarily little money, cash affords much-needed control and certainty. CBDC designers should consider how to preserve the benefits of self-custody, which, for state-issued currency, is currently impossible in the digital realm. They can consider a wider range of custody designs opened up by new possibilities with digital currency technology.

Looking Ahead
More research will be required to better understand user practices and possible way forward for CBDC design. Throughout the course of our research, we have identified a range of issues that warrant deeper exploration:

- Evaluation research of the successes and shortcomings of the public adoption of existing CBDCs.
- Systems design research on the technical trade-offs of key CBDC design decisions, such as transaction speed with reversibility and programmability, and offline access with security.
- Privacy research on management of user data, with the goal of striking a safe and effective balance between operational issues, security concerns, and data ethics.
- Research from a technical perspective about how specific innovations from decentralized cryptocurrency intermediaries might be deployed in relation to a CBDC.
- Policy research on the role(s) of public, private, and civil society entities in the CBDC ecosystem, operations, and governance.
- User experience research on cross-border CBDC payments—an important use case that is fraught with problems for the most vulnerable.
- Public opinion research on trust, misinformation, and communication related to CBDC considering levels of distrust worldwide in existing institutions.

Annex II: Technical Paper on Recent Developments on Crypto Assets

CENTRAL BANK OF KENYA

TECHNICAL PAPER ON RECENT DEVELOPMENTS ON CRYPTO ASSETS

May 2023

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1.0 EXECUTIVE SUMMARY

Rapid technological innovation is ushering in a new era of public and private digital money. Digital currencies that have emerged to facilitate payment transactions include electronic money (e-money), crypto assets (also sometimes referred to as cryptocurrencies), stablecoin and Central Bank Digital Currency (CBDC).

The growth of the crypto industry has been driven by the speed of transactions, low transaction costs, decentralization of finance, and anonymity. Additionally, crypto assets have attracted users due to offering more control as opposed to fiat currency. Further, the promise of high returns due to the high volatility and erratic growth in value of crypto assets have attracted a swathe of crypto investors, spanning both individuals and institutions. Moreover, lack of taxation mechanisms has made crypto attractive to users. While these factors have attracted growing investments into the crypto space, the same factors have enabled the flow of illicit finance and presented cyber and other risks to holders of crypto assets.

Crypto assets are at a critical global conjecture. Globally, due to extreme volatility of the crypto market and recent collapse of stablecoins and crypto exchanges, there has been a slowdown in the uptake of crypto assets. The global crypto industry *winter* started in 2022 with developments that have led to the reduction in value of crypto assets and market capitalization by more than half since 2021. This volatility has led to investor caution and reduced interest in crypto assets. More importantly, it has highlighted key liquidity issues faced by cryptocurrency firms, exacerbated by poor governance frameworks.

Global standard-setters have taken steps to guide the financial sector on treatment of crypto assets. Additionally, various jurisdictions have also adopted policies on dealing with crypto assets. The guidance from standard-setting bodies and lessons of other jurisdictions underscore a keen focus on financial stability, money laundering/terrorism financing (ML/TF) risks, retail investor protection and governance of crypto markets. Further, the transnational reach of crypto assets has heightened calls for cross-border regulatory and supervisory cooperation. A key trend is the foundation of wide public consultation prior to regulatory and policy action.

The Central Bank of Kenya's (CBK) philosophy on fintech is to ensure people are at the centre of innovation, so that Kenya maximises the benefits of innovation while minimising risks. Accordingly, in assessing the need for regulation of crypto assets in Kenya, the broad guiding principles of **people-centricity**, **country context** and **balance between opportunities and risks** should be taken into consideration. CBK has prepared this paper on crypto assets as part of its research on digital currencies, in line with keeping informed of emerging issues. The paper highlights broad trends in crypto regulation, noting lessons from global standard-setters and other jurisdictions. The paper also proposes next steps on crypto assets in Kenya.

In considering next steps for crypto assets in Kenya, there is need to take into account the country-specific context. While the collapse of crypto exchanges in 2022 sent ripples into the crypto world, Kenya has not experienced significant effects of these developments. So far, there has been no survey done to establish the extent of crypto asset usage in the country. Accordingly, Kenya will benefit from an ML/TF risk assessment on crypto assets. Further, wide public consultations through a consultative paper will assess the use cases, opportunities, and risks of crypto assets in Kenya. The result of these activities will pave way for informed policy decisions on crypto assets, including whether to develop a regulatory framework.

2.0 BACKGROUND

2.1 Evolution of the Global Crypto Industry

Crypto assets, also sometimes referred to as cryptocurrencies, are private sector digital assets that depend primarily on cryptography[22] and distributed ledger (blockchain) or similar technology.[23] Bitcoin, the most widely used cryptocurrency, was established in 2009 following the publication of a seminal paper on peer-to-peer transactions by "Satoshi Nakamoto" in 2008. This innovation was created as an answer to the deficit in trust in the financial industry following the 2008 Global Financial Crisis. Bitcoin remains the biggest and most known crypto asset.[24] The IMF[25] categorizes crypto assets as follows:

- **Unbacked crypto assets**: These crypto assets are transferable and primarily designed to be used as a medium of exchange. They are often decentralized. However, there are examples of unbacked crypto assets that are centrally issued and controlled. Most unbacked crypto assets are currently used for speculation and not for payment purposes. Prominent examples include Bitcoin and Ether.
- **Utility tokens**: These tokens provide the token holder with access to an existing or prospective product or service. These are usually limited to a single network (that is, the issuer) or a closed network linked to the issuer. For example, a tokenized store card or certain gaming tokens might be considered types of utility tokens.
- **Security tokens:** These are tokens that provide the holder with rights like that of a traditional security, for example, the right to a share in the profits of the issuer.
- **Stablecoins:** This type of crypto asset aims to have a stable price value. This objective is normally pursued by the crypto asset being linked to a single asset or a basket of assets, for example, fiat funds, commodities such as gold, or other crypto assets. Stablecoins can also seek stabilization using a mechanism other than being linked to an asset, for example, through an algorithm. These "algorithmic" stablecoins are mainly used in decentralized finance (DeFi). Prominent examples include Tether, Binance USD, and USD Coin.

The growth of the crypto industry has been driven by the speed of transactions, low transaction costs, decentralization of finance, and anonymity. Additionally, crypto assets have attracted users due to offering more control as opposed to fiat currency. Further, the promise of high returns due to the high volatility and erratic growth in value of crypto assets have attracted a swathe of crypto investors, spanning both individuals and institutions. Moreover, lack of taxation mechanisms has made crypto attractive to users. While these factors have attracted growing investments into the crypto space, the same factors have enabled the flow of illicit finance and presented cyber and other risks to holders of crypto assets.

[22] National Institute of Standards and Technology (NIST): The discipline that embodies the principles, means, and methods for the transformation of data in order to hide their semantic content, prevent their unauthorized use, or prevent their undetected modification.

[23] IMF: Digital Money 101, 2022

[24] https://www.gov.uk/government/publications/economic-crime-and-corporate-transparency-bill-2022-factsheets/fact-sheet-cryptoassets-technical

[25] IMF: Regulating the Crypto Ecosystem, 2022

Despite significant data gaps due to the lack of transparency, crypto assets have attracted a global following of an estimated 100-200 million people by 2021,[26] with an estimated market size of more than USD2.8 trillion.[27] However, crypto assets form only a small percentage of the volumes and values of transactions in different jurisdictions. Due to their high volatility and liquidity challenges, crypto asset failures often result in investor runs and losses, as well as resultant effects on other crypto assets. Accordingly, while they would not ordinarily be considered systemic, crypto assets are now considered systemic due to their growing interconnectedness to the financial sector and potential impact on financial stability.[28]

2.2 Recent Global Developments

Globally, due to extreme volatility of the crypto market and recent collapse of stablecoins and crypto exchanges, there has been a slowdown in the uptake of crypto assets. The global crypto industry *winter* started in 2022 with developments that have led to the reduction in value of crypto assets and market capitalization by more than half since 2021. Key developments from 2022 include:

- Binance, the world's largest crypto exchange, suspended USD transfers for international customers from February 8, 2023, pending the signing of a new banking partner.[29]
- Coinbase reached a USD100 million settlement with regulators over anti-money laundering failures.[30]
- Celsius Network filed for bankruptcy in 2022, leading to investor losses of more than USD4.7 million.
- Terra stablecoin filed for bankruptcy, leading to the collapse of its sister currency, Luna.[31]
- FTX, the world's second largest crypto exchange, announced bankruptcy in November 2022.[32] The collapse of the crypto exchange shocked its own investors, the financial sector, and most importantly, its customers. The collapse of FTX was attributed to weak governance concerning transactions with Alameda Research, a related party. This led to liquidity challenges and its subsequent insolvency.
- Binance was prevented by the US Securities Exchange Commission (SEC) from purchasing the assets of Voyager Digital, a crypto brokerage firm. This was later allowed by the court.[33]
- Genesis, a crypto broker, stopped withdrawals from its lending programme in 2022, and reduced staffing in 2023, indicating reduced business as a result of the failure of FTX.

These events have led to ripple effects being felt in the cryptocurrency world. Bitcoin, for instance, was trading at below USD16,000 on November 20, 2022, down from USD58,000 exactly a year earlier.[34] This volatility has led to investor caution and reduced interest in crypto assets. More importantly, it has highlighted key liquidity issues faced by cryptocurrency firms and other fintechs, exacerbated by poor governance frameworks.

26 https://blogs.worldbank.org/developmenttalk/ascent-crypto-assets-evolution-and-macro-financial-drivers

27 IMF Global Stability Report, 2022

28 Regulating the Crypto Ecosystem – IMF, 2022: https://www.imf.org/-/media/Files/Publications/FTN063/2022/English/FTNEA2022007.ashx

29 https://www.cnbc.com/2023/02/06/binance-will-suspend-us-dollar-transfers.html

30 https://techcrunch.com/2023/01/04/bankruptcy-judge-rules-celsius-network-owns-users-interest-bearing-crypto-accounts/

31 https://www.forbes.com/sites/qai/2022/09/20/what-really-happened-to-luna-crypto/

32 https://www.nytimes.com/2022/11/11/business/ftx-bankruptcy.html

33 https://www.reuters.com/technology/voyager-seeks-expedite-national-security-review-binance-deal-2023-01-10/

34 Source: CoinDesk: https://www.coindesk.com/price/bitcoin/

A key development in the crypto industry in 2021-2022 was the legalization of Bitcoin as currency in El Salvador and the Central African Republic.

- **El Salvador:** On June 9, 2021, El Salvador's government published in the official gazette, the legislation making Bitcoin legal tender within the country, making it the first country in the world to do so.[35] The legislation went into effect on September 7, 2021. The Salvadoran government approached the World Bank for assistance with implementation of Bitcoin as legal tender. However, the World Bank rejected this request, indicating that the Word Bank could not support the venture, given the environmental and transparency shortcomings.[36] The International Monetary Fund (IMF) cautioned the country against plans to use Bitcoin as a national currency, citing various risks involved such as macroeconomic, financial, and legal issues that required careful analysis.[37] One year on, as of October 2022, the use of Bitcoin in El Salvador appeared to be low, as the currency had lost about 60 percent of its value.[38]

- **Central African Republic:** The Central African Republic (CAR) became the first country in Africa, and the second in the world after El Salvador to designate Bitcoin as a legal tender. On April 27, the presidency of the CAR announced the country would adopt Bitcoin.[39] The move sparked a backlash from the Bank of Central African States (BEAC), which manages the Central African CFA Franc. In response, BEAC declared the CAR's adoption of the new cryptocurrency law null and void and in violation of the regional bloc tenets. The IMF also protested the CAR's decision, indicating that the move was made without consulting the regional economic union, the Central African Economic and Monetary Community (CEMAC). CAR froze the adoption of Bitcoin on July 26, 2022, pending the issuance of crypto regulations by BEAC for CEMAC.[40]

2.3 Kenya's Treatment of Crypto Assets

In December 2015, the Central Bank of Kenya (CBK) issued a public notice cautioning the public on virtual currencies such as Bitcoin.[41] The notice advised that virtual currencies such as Bitcoin are not recognized as legal tender and are not regulated in Kenya. The notice further cautioned the public against transacting in Bitcoin and similar products, citing that no protection exists in the event that the platform that exchanges or holds the virtual currency fails or goes out of business.

A Banking Circular was also issued to all banks in 2015 by CBK cautioning them against dealing in virtual currencies or transacting with entities that are engaged in virtual currencies. The CBK position was consistent with decisions which have been taken by the G20, various regulatory agencies such as Japan, United Kingdom, China, and international standard setting bodies such as the Financial Stability Board (FSB) and the Bank for International Settlements (BIS).

Due to the emergence of online marketing of virtual assets and online fraudulent investment options, CBK and other financial sector regulators issued notices in 2018 warning the public against

[35] https://www.pwc.com/gx/en/financial-services/pdf/el-salvadors-law-a-meaningful-test-for-bitcoin.pdf

[36] https://www.reuters.com/business/el-salvador-keep-dollar-legal-tender-seeks-world-bank-help-with-bitcoin-2021-06-16/

[37] https://www.imf.org/en/News/Articles/2022/01/25/pr2213-el-salvador-imf-executive-board-concludes-2021-article-iv-consultation

[38] https://www.cnbc.com/2022/10/13/el-salvadors-bitcoin-holdings-down-60percent-to-60-million-one-year-later.html

[39] https://www.theeastafrican.co.ke/tea/business/central-african-republic-adopts-bitcoin-as-legal-currency-3798272

[40] https://www.irishtimes.com/business/2022/09/23/countries-adopting-cryptocurrency-on-a-risky-path/

[41] https://www.centralbank.go.ke/images/docs/media/Public_Notice_on_virtual_currencies_such_as_Bitcoin.pdf

the use of unlicensed financial products and services.[42] In 2019, CBK warned the public against trading with unlicensed online forex dealers.[43] Due to re-emergence of fraudulent financial schemes in the wake of the COVID-19 pandemic, CBK and other financial sector regulators reiterated their warning against use of unlicensed financial products and services.[44] CBK also issued circulars to banks and Payment Service Providers (PSPs) warning them against dealing with unlicensed entities.

The Capital Markets Authority (CMA) issued a warning in 2019 cautioning investors against Kenicoin initial coin offering.[45] This was challenged in the High Court, leading to a 2019 ruling that cryptocurrencies are securities under the jurisdiction of CMA. CMA convened a consultative meeting in June 2022 on the proposed oversight of crypto assets activities and players in Kenya. Following the meeting, CBK engaged CMA through correspondences on broad concerns for consideration. These considerations included the need for an analysis of risks and opportunities in the crypto space prior to policy and oversight. CBK also proposed wide public ventilation, given the far-reaching implications of crypto regulation.

Kenya's Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) Mutual Evaluation Report by the Eastern and Southern Africa Anti-Money Laundering Group (ESAAMLG) recommended that Kenya takes a policy decision regarding Virtual Asset Service Providers (VASPs) providing crypto assets and other virtual/digital assets services. Accordingly, the National Treasury and Economic Planning recommended vide letter of December 9, 2022, the formation of a Technical Working Group of concerned regulators. The group would deliberate on the oversight of crypto assets in Kenya and advise the Cabinet Secretary for the National Treasury and Economic Planning. This was adopted as a resolution by the 13th Joint Financial Sector Regulators Board Meeting.[46]

3.0 RECENT PRONOUNCEMENTS BY GLOBAL STANDARD SETTERS

3.1 Financial Stability Board: focus on financial stability

The Financial Stability Board (FSB)'s work and pronouncements on crypto assets and markets are focused on their impact on **financial stability**. FSB released a statement on July 11, 2022, regarding the international regulation and supervision of crypto asset activities.[47] The statement was issued in light of the turmoil in crypto asset markets in 2022, which highlighted their volatility, structural vulnerabilities, and increased interconnectedness with the financial system. FSB noted that:

- Crypto assets and markets must be subjected to effective regulation and oversight commensurate to the risks they pose domestically and internationally.

42 https://www.centralbank.go.ke/uploads/press_releases/130503108_Public%20Notice%20-20Fraudulent%20Financial%20Services%20Products%20and%20Applications.pdf

43 https://www.centralbank.go.ke/uploads/press_releases/1083595003_Public%20Notice%20%20Unlicenced%20Online%20Foreign%20Exchange%20Dealers.pdf

44 https://www.centralbank.go.ke/uploads/press_releases/1843446732_Joint%20Press%20Release%20-%20Public%20Notice%20on%20Fraudulent%20and%20Unlicensed%20Financial%20Schemes.pdf

45 https://www.cma.or.ke/index.php/news-publications/press-center/273-cma-warns-against-kenicoin-initial-coin-offering-and-trading

46 https://www.centralbank.go.ke/uploads/press_releases/834999694_Communique%20on%20the%2013th%20Joint%20Financial%20Sector%20Regulators%27%20Board%20Meeting.pdf

47 https://www.fsb.org/wp-content/uploads/P110722.pdf

- Crypto asset service providers must comply with existing legal obligations in the jurisdictions in which they operate.
- Stablecoins should be captured by robust regulations and supervision of relevant authorities if they are to be adopted as a widely used means of payment.
- FSB members support the implementation of existing international standards on crypto asset activities, notably the Financial Action Task Force (FATF) Recommendation 15 on New Technologies[48] and Recommendation 16 on Wire Transfers (travel rule).[49]

On October 11, 2022, FSB published a proposed framework for the international regulation of crypto asset activities for consultation. The framework comprises:

i) Recommendations that promote the consistency and comprehensiveness of regulatory, supervisory and oversight approaches to crypto-asset activities and markets and strengthen international cooperation, coordination, and information sharing; and

ii) Revised high-level recommendations for the regulation, supervision, and oversight of “global stablecoin” arrangements to address associated financial stability risks more effectively.

The proposed recommendations were issued for public consultation. The two sets of recommendations are closely interrelated, reflecting the interlinkages between stablecoins and the broader crypto asset ecosystem. The recommendations focus on financial stability.

- The recommendations on crypto asset activities are grounded in the principle of “same activity, same risk, same regulation”. Accordingly, FSB proposes that where crypto assets and intermediaries perform an equivalent economic function to one performed by instruments and intermediaries of the traditional financial sector, they should be subject to equivalent regulation.
- Consequently, regulation should address potential financial stability risks that could arise from the growing interlinkages between the crypto asset ecosystem and the traditional financial system.
- Further, FSB recommends that activities of Global Stablecoins (GSC) should be subject to additional requirements as these could be widely used as a means of payments and/or store of value, thereby potentially posing significant risks to financial stability.
- In January 2023, FSB announced that they will publish the final reports in June 2023, following expiry of the period for public consultation.[50]

[48] FATF Recommendation 15: New Technologies indicates that countries and financial institutions should identify and assess the money laundering or terrorist financing risks that may arise in relation to the development of new products and new business practices. To manage and mitigate the risks emerging from virtual assets, countries should ensure that virtual asset service providers are regulated for AML/CFT purposes, and licensed or registered and subject to effective systems for monitoring and ensuring compliance with the relevant measures called for in the FATF Recommendations.

[49] FATF Recommendation 16: Wire Transfers - Also known as the Travel Rule, FATF Recommendation 16 requires that countries collect identifying information from the originators and beneficiaries of domestic and cross-border wire transfers to create a suitable AML/CFT audit trail.

[50] https://www.fsb.org/2023/01/public-responses-to-fsbs-proposed-framework-for-international-regulation-of-crypto-asset-activities/

3.2 Basel Committee on Banking Supervision – financial stability and prudential regulation

The Basel Committee on Banking Supervision (BCBS) is of the view that the growth of crypto assets and related services has the potential to raise financial stability concerns and increase risks faced by banks. Crypto assets are an immature asset class given the lack of standardisation and constant evolution. Certain crypto assets have exhibited a high degree of volatility, and could present risks for banks as exposures increase, including liquidity risk; credit risk; market risk; operational risk; money laundering/terrorist financing risk; and legal and reputation risks.

To that end, BCBS has taken steps to address these risks. In March 2019, BCBS published a newsletter on the risks associated with crypto-assets, outlining a set of minimum supervisory expectations for banks that are authorised, and decide, to acquire crypto-assets and/or provide related services. The Committee was of the view that such assets do not reliably provide the standard functions of money and can be unsafe to rely on as a medium of exchange or store of value.

Additionally, these types of crypto assets are not legal tender and are not backed by any government or public authority. Therefore, if banks are authorised, and decide, to acquire crypto-assets or provide related services, they should manage the risks stemming from such exposures in a conservative prudential manner.

Accordingly, BCBS in December 2019 published a discussion paper[51] to seek the views of stakeholders on a range of issues related to the prudential regulatory treatment of crypto assets, including:

i) The features and risk characteristics of crypto-assets that should inform the design of a prudential treatment for banks' crypto-asset exposures; and
ii) General principles and considerations to guide the design of a prudential treatment of banks' exposures to crypto assets. The principles with respect to the prudential treatment of crypto-asset exposures are:

- **"Same risk, same activity, same treatment":** prudential treatment should account for crypto-specific risks, but otherwise a crypto-asset should be regulated the same as its corresponding traditional asset if they are truly economically equivalent.
- **"Simplicity":** the pace of innovation in the crypto-asset market warrants starting with a simple framework that can be revised if needed.
- **"Minimum standards":** Jurisdictions can comply with the regime by setting more conservative measures or prohibitions. As such, jurisdictions that prohibit their banks from having any exposures to crypto assets would be deemed compliant with a global prudential standard.

On June 30, 2022, BCBS issued a public consultation paper on the **Prudential Treatment of Cryptoasset Exposures**.[52] The consultative paper that focuses on the capital to be set aside by banks that are exposed to crypto assets was finalized and endorsed on December 16, 2022, after

51 Discussion paper - Designing a prudential treatment for crypto-assets (bis.org)

52 https://www.bis.org/bcbs/publ/d533.htm

considering public comments.[53] The standards provide a global baseline framework for banks' crypto asset exposures that promotes responsible innovation while preserving financial stability. To determine the prudential classifications, crypto assets will be categorised into two broad groups:

i) **Group 1 crypto-assets** include tokenized traditional assets (Group 1a) and crypto-assets with effective stabilization mechanisms (Group 1b). Group 1 crypto-assets are subject to capital requirements based on the risk-weights of underlying exposures, as set out in the existing Basel framework. Stablecoins would fall into Group 1b.

ii) **Group 2 crypto-assets** are crypto-assets that fail to meet all the Group 1 classification conditions. As a result, they pose additional and higher risks compared with Group 1 crypto assets. They are therefore subject to a newly prescribed conservative capital treatment (1,250 percent risk weighting to ensure that banks must hold risk-based capital at least equal in value to their Group 2 crypto-asset exposure). This conservative regime is to protect senior creditors and depositors from the volatility of Group 2 crypto assets. This would include, for example, Bitcoin.

Additional key features of the standard include:

- **Infrastructure risk add-on** to cover infrastructure risk for all Group 1 crypto assets that member jurisdictions can activate based on any observed weaknesses in the infrastructure on which crypto assets are based.

- **Redemption risk test and a supervision/regulation requirement** to ensure that only stablecoins issued by supervised and regulated entities that have robust redemption rights and proper governance are eligible for a Group 1 qualification.

- **Group 2 exposure limit** to serve as an additional guardrail against Group 2 exposures growing too large in a bank's portfolio. A bank's total exposure to group 2 crypto assets must not exceed 2 percent of the bank's Tier 1 capital and should generally be lower than 1 percent.

- **Other elements** to (i) prescribe the supervisory review process and disclosure requirements as well as (ii) specify how the operational risk, liquidity, leverage ratio and large exposures requirements must be applied in the context of banks' crypto-asset exposures.

3.3 CPMI-IOSCO – guidance on stablecoins

In July 2022, the Committee on Payments and Markets Infrastructures and the International Organization of Securities Commissions (CPMI-IOSCO) issued a final guidance on stablecoin arrangements, following public consultations from October 2021.[54] The guidance confirmed that Principles for Financial Market Infrastructures apply to systemically important stablecoin arrangements that transfer stablecoins. CPMI-IOSCO applied the rule of "same risk, same regulation" to stablecoins. Accordingly, international standards for payment, clearing and settlement systems also apply to stablecoins. Further, the guidance provided direction on

53 https://www.bis.org/bcbs/publ/d545.htm

54 https://www.iosco.org/library/pubdocs/pdf/IOSCOPD707.pdf

application of PFMI to stablecoins in the areas of governance, risk management, settlement finality and money settlements.

3.4 The Financial Action Taskforce (FATF) – Virtual Assets (VAs) and Virtual Asset Service Providers (VASPs)

3.4.1 Current FATF position on Virtual Assets (VAs) and Virtual Asset Service Providers (VASPs)

The Financial Action Task Force (FATF), the international standard setter on anti-money laundering, combating the financing of terrorism and proliferation financing (AML/CFT/PF) measures, has adopted changes to its Recommendations that clarify that the recommendations apply to financial activities involving Virtual Assets (VAs) and Virtual Asset Service Providers (VASPs).

FATF also added two new definitions to the FATF Glossary namely:

- **Virtual Asset (VA)** which is defined as "a digital representation of value that can be digitally traded, or transferred, and can be used for payment or investment purposes." Virtual Assets do not include digital representations of fiat currencies, securities and other financial assets that are already covered elsewhere in the FATF Recommendations.
- **Virtual Asset Service Provider (VASP)** which means "any natural or legal person who is not covered elsewhere under the FATF Recommendations, and as a business conducts one or more of the following activities or operations for or on behalf of another natural or legal person:

i. Exchange between virtual assets and fiat currencies.
ii. Exchange between one or more forms of virtual assets.
iii. Transfer of virtual assets.
iv. Safekeeping and/or administration of virtual assets or instruments enabling control over virtual assets.
v. Participation in and provision of financial services related to an issuer's offer and/or sale of a virtual asset".

3.4.2 Money Laundering and Terrorism Financing (ML/TF) vulnerabilities/risks arising from VA and VASPs

Some of the primary ML/TF vulnerabilities and risks associated with VAs and VASPS[55] include:

- **Anonymity and the availability of features that enhance anonymity:** When using a platform like Bitcoin, transactions are frequently available online and may be traced from one wallet to another. However, it can be difficult to connect a certain address or wallet to a specific person. The existence of systems intended explicitly to impede the tracing of flows only serves to heighten the risks associated with VAs. They often contain features that increase anonymity (such as mixers, numerous levels of encryption, stealth addresses, and so on), which restrict the information that is available, including the value and counterparties of a transaction.

[55] https://www.imf.org/en/Publications/fintech-notes/Issues/2021/10/14/Virtual-Assets-and-Anti-Money-Laundering-and-Combating-the-Financing-of-Terrorism-1-463654

- **Non-face-to-face activities:** VA-related activities are typically undertaken online without physical proximity to the client. This makes it more difficult to identify the client during the onboarding process or during transactions and raises the possibility that false or inaccurate identifying information may be provided. It is also not possible to verify the identity of the clients/customers.
- **Decentralization and fragmentation of global financial services**: The fast-moving nature of VAs provides an opportunity to quickly exchange between different VAs for a more sophisticated disguise of the origins of funds in a cross-border context. VASPs can have a physical presence in one jurisdiction, be registered in another, place their server in yet another (or multiple others), and provide services globally without the need for a centre of command. This complicates the prevention of illegal transactions and the analysis of financial intelligence derived from suspicion. It also complicates law enforcement action as there is generally no single entity to investigate and target.
- **Uneven application of domestic AML/CFT measures.** Most countries are still in the preliminary stages of implementation of the relevant FATF standards, which creates significant potential for regulatory arbitrage, thus providing opportunities for criminals to exploit VASPs domiciled or operated in countries with non-existent or minimal VAs and VASPs AML/ CFT regulations. Ultimately, these factors pose significant challenges to domestic authorities as well as to VASPs. They hinder the effective implementation of the AML/CFT preventive framework and law enforcement action.
- **ML/TF threats most commonly associated with VAs and VASPs**: In terms of predicate offences, the most common criminal activities associated with VAs and VASPs include money laundering, the sale of controlled and narcotic substances and other illegal items (including firearms), fraud, tax evasion, sanctions evasion, computer crimes (e.g., cyberattacks resulting in thefts), child exploitation, human trafficking, and terrorism financing. Among them, narcotics-related and fraud offences (e.g., investment scams and swindling, blackmail, and extortion) have been identified as the most prevalent.

3.4.3 FATF and the Risk-Based Approach (RBA) to AML/CFT Supervision of VAs and VASPs

FATF Recommendation 15 requires countries to identify, assess and understand the ML/TF risks emerging from VA activities and the activities or operations of VASPs. The results of the risk assessment should provide the basis for implementing a risk-based approach to ensure that the preventive and mitigating measures are commensurate with the ML/TF risks identified.

3.4.4 Risk-Based AML/CFT Supervision of VAs and VASPS

Kenya underwent an assessment of its AML/CFT regime, a process commonly referred to as mutual evaluation by the Eastern and Southern Africa Anti-Money Laundering Group. (ESAAMLG) between October 2021 and July 2022. One of the key recommended action items in the mutual evaluation report, is for the Kenyan authorities to undertake an ML/TF risk assessment on VAs and VASPs. This requirement is to be met by August 2023, which means that the country has about 6 months to a year to undertake an ML/TF risk assessment on VAs and VASPs. The results of the risk assessment will be expected to form the basis for developing/adopting a policy decision on the extent to which the country will regulate and supervise VAs and VASPs. Once a policy position has been adopted, the country's authorities will be expected to develop frameworks for licensing, registration, and risk-based AML/CFT supervision of VAs and VASPs.

3.4.5 Undertaking an ML/TF risk assessment on VAs and VASPs – Best Practice

Most African countries are yet to undertake a risk assessment on VAs and VASPs and are in the initial stages of developing a policy on the supervision and regulation of VAs and VASPs. Kenya could borrow lessons from Mauritius and Seychelles, two countries that have successfully undertaken a risk assessment on VAs and VASPs. Key highlights of the process:

- **Methodology:** Both Mauritius and Seychelles adopted the World Bank's methodology and risk assessment tool to identify and assess the combined ML/TF risks of VAs and VASPs in its eco-environment. The risk assessment identifies and evaluates the ML/TF threats and vulnerabilities of VA/VASPs through a sectoral approach and reaches a residual risk rating after factoring in mitigating measures.
- **Working Group:** In accordance with the World Bank methodology, both countries established a multi-agency Risk Assessment Working Group composed of all relevant competent authorities including:
  - Ministry of Finance
  - The Attorney General's Office (AGO)
  - Central Bank
  - Non-Bank Financial Sector Regulators
  - Anti-Corruption Agency
  - The Police
  - The Financial Intelligence Unit (FIU)
  - The Revenue Authority
  - The Counter Terrorism Unit/Agency
  - The Asset Recovery Unit/Agency
  - Professional Accounting Associations
  - Regulatory Authority responsible for gambling
  - Registrar of Companies (ROC)
  - Institutions of higher learning such as universities and colleges
- **Private Sector Participation:** Consultations were also held with the private sector, which provided useful data, trends, and reflections, for the purpose of analysis and formulation of recommendations for this risk assessment. This included:
  - Representatives from the financial sector including banks, foreign exchange bureaus, money remittance providers and fintech companies
  - Trust service providers
  - Management Companies
  - Virtual Asset Providers
  - Lawyers

The Assessment Process comprised of the following steps:

i) Mapping out the VA landscape and ecosystem by identifying the diverse types of VAs whose use is prevalent in the country.
ii) Identifying the ML/TF risks/threats associated with the different types of VAs.
iii) Considering the adequacy and effectiveness of the existing AML/CFT framework of the reporting institutions and the VASPs to mitigate the ML/TF threats and vulnerabilities identified.
iv) Findings: Identifying key findings.

v) Action Plan: An action plan was formulated to propose additional mitigating measures to be implemented both at national and sectoral levels.
vi) Based on findings of the risk assessment development/adoption of a policy on the regulation and supervision of VAs and VASPs.
vii) Enactment of new legislation that provides for the regulation and supervision of VASPs: in the case of Mauritius, following the completion of the risk assessment, the Virtual Asset and Initial Token Services Act Mauritius was enacted in December 2021. The legislation provides a comprehensive legislative framework to regulate and supervise the business activities of different classes of VASPs (such as a marketplace or exchange, broker-dealer, etc.) and Issuers of Initial Token Offerings (ITOs), in accordance with the international standards to mitigate and prevent identified ML/TF risks.

4.0 RECENT DEVELOPMENTS IN KEY JURISDICTIONS

The recent turmoil in crypto asset markets has highlighted their intrinsic volatility, structural vulnerabilities, and the issue of their increasing interconnectedness with the traditional financial system. An effective regulatory framework ensures that crypto asset activities posing risks similar to traditional finance activities are subject to the same regulatory outcomes, while taking account of novel features of crypto assets and harnessing potential benefits of the technology behind them. To regulate digital assets, various jurisdictions and institutions around the world have adopted various strategies.

4.1 United Kingdom – Crypto Regulation

The UK seeks to become a global crypto hub.[56] In July 2019, the Financial Conduct Authority (FCA) published its "Final Guidance on Cryptoassets[57]," which sets out that security tokens (crypto assets that provide rights and obligations similar to "specified investments") fell inside its regulatory purview, whereas utility and "exchange tokens" (i.e., unbacked crypto assets) were outside of prudential and conduct regime. Since then, the FCA has conducted significant consumer research to better understand the crypto asset market.

In 2021, the UK launched a consultation on crypto regulation with a focus on stablecoins. In April 2022, the UK Treasury set out its roadmap for crypto asset regulation.[58] Although there was considerable focus on stablecoins, the paper proposed a sandbox regime for blockchain-based FMIs with a longer-term aim to extending the regulatory perimeter to cover crypto assets like Bitcoin.

In January 2022, the UK Treasury proposed bringing crypto assets within its Financial Promotions Regime. Subsequently, in October 2022, the House of Commons voted to give HM Treasury the power to make crypto assets a regulated financial instrument. The proposal is included in the Financial Services and Markets Bill, which is expected to be assented to in 2023. The Bill proposes that Digital Settlement Assets, including crypto assets and stablecoins, be brought within the scope of existing provisions of the Financial Services and Markets Act 2022.

56 https://www.gov.uk/government/news/government-sets-out-plan-to-make-uk-a-global-cryptoasset-technology-hub
57 https://www.fca.org.uk/publication/policy/ps19-22.pdf
58 https://www.gov.uk/government/news/government-sets-out-plan-to-make-uk-a-global-cryptoasset-technology-hub

In December 2022, the UK announced a set of reforms to drive growth and competitiveness in the financial sector.[59] These include consulting on CBDC with the Bank of England and implementing a Financial Markets Infrastructure Sandbox in 2023. Accordingly, the Bank of England on February 7, 2023, issued a consultative paper on the proposed digital pound.[60] Further, the Treasury is in the process of finalising plans for a package of rules to regulate the crypto industry. The rules will include:

- Limits on foreign companies selling into the UK.
- Provisions for how to deal with the collapse of companies.
- Restrictions on the advertising of products.

4.2 United States – Consumer Protection and AML/CFT

On January 3, 2023, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Office of the Comptroller of the Currency issued a joint statement on crypto asset risks to banking organizations. This followed the significant volatility and the exposure of vulnerabilities in the crypto asset sector in 2022. The agencies are continuing to assess whether or how current and proposed crypto asset-related activities by banking organizations can be conducted in a manner that adequately addresses safety and soundness, consumer protection, legal permissibility, and compliance with applicable laws and regulations, including anti-money laundering and illicit finance statutes and rules. They noted that issuing or holding crypto assets is highly likely to be inconsistent with safe and sound banking practices and may raise significant safety and soundness concerns. The institutions supervised by FDIC are requested to notify FDIC if they engage in activities related to crypto assets.

In 2022, the Biden administration released an Executive Order outlining the government's approach to address risks emanating from the growth of digital assets while supporting innovation. The government pledged to both support development of cryptocurrencies and to restrict their illegal uses.[61] On September 16, 2022, the Biden administration released a comprehensive framework for responsible development of digital assets.[62] The framework proposes that the responsible agencies ensure consumer protection, pursue enforcement as appropriate and issue guidance and rules to address emerging risks.

4.3 European Union – AML/CFT, Consumer Protection, and Financial and Market Stability

4.3.1 Markets in Crypto Assets Regulation Bill (MiCA)

On October 10, 2022, the European Union Parliament Committee on Economic and Monetary Affairs passed the Markets in Crypto Assets Regulation Bill (MiCA) after debate and consultations over the last two years.[63] The Regulation is expected to come into force in 2024 and provides for the oversight of crypto assets by the European Securities and Markets Authority and the European Banking Authority.

59 https://www.gov.uk/government/collections/financial-services-the-edinburgh-reforms

60 https://www.bankofengland.co.uk/paper/2023/the-digital-pound-consultation-paper?sf174942394=1

61 https://www.whitehouse.gov/briefing-room/presidential-actions/2022/03/09/executive-order-on-ensuring-responsible-development-of-digital-assets/

62 https://www.whitehouse.gov/briefing-room/statements-releases/2022/09/16/fact-sheet-white-house-releases-first-ever-comprehensive-framework-for-responsible-development-of-digital-assets/

63 https://www.apexgroup.com/insights/the-european-union-has-endorsed-crypto-assets-regulation-bill-mica/

MiCA aims to ensure industry regulation, consumer protection, prevention of market abuse and upholding the integrity of crypto markets. It defines compliance obligations for:

- Crypto asset issuers.
- Asset-referenced tokens and electronic money tokens.
- Crypto asset service providers.

Key provisions by MiCA include:

- Liability for loss of crypto assets is placed upon the providers of crypto asset services.
- Crypto-asset Whitepaper to be published by all entities seeking to offer crypto asset activities, so that they are held accountable by what they offer in the white paper.
- Agreement and Register of Positions for CASPSs that offer services in collaboration with third parties, to ensure roles and responsibilities are well defined.
- Transparency and governance.

4.3.2 EU AML Package

In July 2021, the European Commission presented an AML Package, a set of legislation to strengthen EU's AML/CFT rules of terrorism rules.[64] The proposed changes aim to improve detection of suspicious transactions and activities and close money laundering loopholes that criminals exploit. The package includes:

- The proposal for a regulation establishing the Authority for AML and CFT (AMLA).
- The proposal for a regulation on the prevention of the use of the financial system for the purposes of money laundering and terrorist financing.
- The Directive on AML/CFT that will replace the existing Directive, incorporating updates to the AML/CFT requirements.
- Amendment of the Regulation 2015/847 of May 20, 2015, on the information accompanying the transfers of funds. This will make it possible to trace transfers of crypto assets.

AMLA is to be established in early 2023, while the other proposals had an implementation timeline of up to 2026.

4.4 Monetary Authority of Singapore – Financial Stability and AML/CFT

In January 2022, the Monetary Authority of Singapore (MAS) published guidelines to restrict the marketing of crypto assets in Singapore.[65] The guidelines limit the public marketing of crypto assets in areas like public transport, broadcast media, third-party websites, social media platforms (including the use of "influencers"), public events, or road shows. Promotions include the use of crypto ATMs, which are also considered a form of crypto asset marketing. In essence, MAS's approach limits crypto asset promotions to an entity's own corporate website, official social media accounts, and mobile applications while ensuring such marketing is not "trivialized."

64 https://finance.ec.europa.eu/publications/anti-money-laundering-and-countering-financing-terrorism-legislative-package_en

65 https://www.mas.gov.sg/news/media-releases/2022/mas-issues-guidelines-to-discourage-cryptocurrency-trading-by-general-public

On December 23, 2019,[66] MAS published a consultation paper relating to the scope of e-money and Digital Payment Tokens (DPT). The paper was an early attempt to explore how MAS might need to review its regulatory approach to accommodate stablecoins with the potential to become more widely used as payment instruments. The feedback received was mixed, with no conclusive recommendations, reflecting the nascent stage of the industry back then. Since then, there have been various industry and international regulatory developments which have gone beyond the original issues discussed in the previous consultation paper. Consequently, in October 2022, MAS published two consultation papers proposing regulatory measures to reduce the risk of consumer harm from cryptocurrency trading and to regulate stablecoin issuers and intermediaries, whose comments and feedback were to be received until December 21, 2022.[67]

The Consultation Paper on Proposed Regulatory Measures for Digital Payment Token Services[68] set out proposed regulatory measures for licensees and exempt payment service providers that carry on a business of providing a digital payment token service under the Payment Services Act 2019.

The Consultation Paper on Proposed Regulatory Approach for Stablecoin-Related Activities[69] set out MAS' policy thinking regarding the overall regulatory approach on stablecoin-related issuance and intermediation activities and highlighted the key requirements that will be imposed on such activities. They include proposals for adequate risk-warning disclosures of the product to customers, timely transfer of stablecoins, segregation of stablecoins for consumer protection and additional provisions for regulation of systemic stablecoin arrangements.

MAS Managing Director in his speech during the 2022 Singapore FinTech Festival, noted that programmable money, which has embedded rules, provide for more assurance that funds are used as intended. There are four options of programmable money:[70]

i) **Cryptocurrencies**, which have performed poorly as a medium of exchange due to their volatility and speculative nature. MAS discourages retail investment in cryptocurrencies.
ii) **Stablecoins**, which are backed by reserves. If well regulated, they combine benefits of stability and programmability. MAS proposes the facilitation of stablecoins through regulation.
iii) **Tokenised bank deposits**, which is a digital representation of commercial banks' deposits that can be used as digital cash to make payments or transact in digital assets without going through the banking system. MAS allows tokenised bank deposits.
iv) **CBDCs** as direct liabilities of the central bank. MAS is experimenting with CBDC.

MAS introduced AML/CFT requirements on digital assets that are aligned with FATF standards through the Payment Services Act.

66 https://www.mas.gov.sg/publications/consultations/2019/consultation-on-the-payment-services-act-2019---scope-of-e-money-and-digital-payment-tokens

67 https://www.mas.gov.sg/news/media-releases/2022/mas-proposes-measures-to-reduce-risks-to-consumers-from-cryptocurrency-trading-and-enhance-standards-of-stablecoin-related-activities

68 https://www.mas.gov.sg/-/media/mas/news-and-publications/consultation-papers/2022-proposed-regulatory-measures-for-dpt-services/consultation-paper-on-proposed-regulatory-measures-for-digital-payment-token-services-v2.pdf

69 https://www.mas.gov.sg/-/media/mas-media-library/publications/consultations/pd/2022/consultation-on-stablecoin-regulatory-approach_finalised.pdf

70 https://www.mas.gov.sg/news/speeches/2022/fintech-in-its-element

4.5 South Africa – Consumer Protection and AML/CFT

South Africa has put crypto regulations in place to address AML/CFT and consumer protection risks.

4.5.1 Crypto-Asset Regulatory Working Group – AML/CFT

South Africa's National Treasury and financial sector regulators issued a statement in 2014 warning members of the public about the risks associated with the use of crypto assets, and the lack of legal protection as they were unregulated.[71] In 2019, the Government established a Crypto-Asset Regulatory Working Group to investigate all aspects of crypto assets with a view to develop a cohesive government response. The group made a few key recommendations through its policy paper published in June 2021[72]:

- Implementation of AML and KYC frameworks.
- Adopting a framework for monitoring crypto asset cross-border financial flows.
- Aligning and applying relevant financial sector laws to crypto assets.

The policy document also identified two further priorities:

- Limiting the exposure of prudentially regulated financial institutions and financial market infrastructures to crypto assets as the risk could over time spill over and create financial stability risks.
- Implementing a monitoring programme for crypto assets to monitor progress on implementing policy recommendations as well as keep abreast of domestic and global developments on crypto assets.

4.5.2 Prudential Authority – AML/CFT

Subsequently, in August 2022, the South Africa's Prudential Authority (PA) issued a guidance note for banks on AML/CFT controls in relation to crypto assets and crypto asset service providers (CASP). The note highlighted the requirement for a risk-based approach to managing risks, instead of adopting a blanket de-risking policy.[73]

4.5.3 Financial Sector Conduct Authority – Consumer Protection

On October 20, 2022, Financial Sector Conduct Authority (FSCA) declared crypto assets as a financial product under the Financial Advisory and Intermediary Services Act, 2022.[74] This followed a two-year public consultation process that commenced in November 2020. The declaration was accompanied by a detailed policy document with input from the public consultation. The policy document covered the following issues:

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71 https://www.fsca.co.za/News%20Documents/Joint%20media%20statement%20-%20crypto%20assets%20consultation%20paper.pdf#search=crypto

72 https://www.treasury.gov.za/comm_media/press/2021/IFWG_CAR%20WG_Position%20paper%20on%20crypto%20assets_Final.pdf

73 https://www.resbank.co.za/content/dam/sarb/publications/prudential-authority/pa-deposit-takers/banks-guidance-notes/2022/G10-2022%20-%20Supervisory%20guidelines%20for%20matters%20related%20to%20the%20prevention%20of%20unlawful%20activities.pdf

74 https://www.fsca.co.za/News%20Documents/FSCA%20Press%20Release_Declaration%20of%20Crypto%20Assets%20As%20A%20Financial%20Product_20%20October%202022.pdf

- Definition of crypto assets: FSCA considered FATF's definition of virtual assets in their definition of crypto assets.[75]
- Distinction between different types of crypto assets, including utility tokens, securities, vouchers, property, gold, non-fungible tokens (NFTs) like art and effectively any tokenized assets.
- Exemption of persons rendering certain types of crypto asset financial services, such as mining node and node operators, and non-fungible tokens.
- Fit and proper requirements of key representatives of crypto asset firms.
- Transitional arrangements for existing crypto asset service providers.

The Act requires those who offer advisory or intermediary services in relation to crypto assets to apply for a license under the Act by the end of November 2023. The establishment of the actual legal and regulatory framework is be completed by December 2023. Regulations that the authorities have said they planned to introduce include applying foreign exchange controls and licensing crypto trading companies.

4.5.4 Financial Intelligence Centre

In November 2022, the Financial Intelligence Centre amended the definition of an 'Accountable Institution' in the Financial Intelligence Centre Act of 2001 to include persons who carry on the business of exchanging crypto assets or crypto assets to a fiat currency or vice versa, conducting a transaction that transfers a crypto asset from one crypto asset address or account to another, offering safekeeping or administration of a crypto assets or participating or providing financial services related to an issuer's offer or the sale of a crypto asset.[76] The regulation requires such persons to comply with additional governance, risk and compliance requirements under the Act, including specific obligations in relation to AML/CFT and sanctions controls. These requirements came into effect on 19 December 2022.

Other country experiences are attached as **Annex I**.

5.0 BROAD TRENDS IN CRYPTO REGULATION

The guidance from standard-setting bodies and experiences, lessons of other jurisdictions, and recent developments in the crypto assets industry highlight the following broad regulatory trends:

- **Retail investor protection:** Countries are taking steps to ensure citizens are protected from losses due to volatility.
- **Stability of crypto exchanges:** Following the failure of crypto exchanges in the past year, the focus has shifted to ensure crypto exchanges are adequately stabilized through asset backing in fiat currencies and financial assets. This is in line with the need to protect retail investors.
- **AML/CFT Considerations:** As is the case in Mauritius, Singapore, the UK and other jurisdictions, crypto asset service providers are now tasked with stopping the flow of illicit funds through

[75] Source: https://www.treasury.gov.za/comm_media/press/2021/IFWG_CAR%20WG_Position%20paper%20on%20crypto%20assets_Final.pdf A crypto asset is a digital representation of value that is not issued by a central bank, but is capable of being traded, transferred or stored electronically by natural and legal persons for the purpose of payment, investment and other forms of utility; applies cryptographic techniques and uses distributed ledger technology.

[76] https://www.fic.gov.za/Documents/Media%20release%20-%20Schedule%20amendments%20-%20Final%20(002).pdf

adequate KYC at onboarding. The travel rule[77] is being implemented in the wake of AML/CFT developments, thereby mitigating the risk of money laundering and other criminal activities due to anonymity of crypto asset holders.

- **Linkages with banks and other Financial Institutions:** Jurisdictions are exploring the linkages between crypto assts and the financial sector, with a focus on ensuring the high volatility of crypto markets do not negatively impact financial stability.
- **Wide consultation:** Different countries are taking time to consult the public and standard-setting bodies prior to making pronouncements on the regulation of crypto assets. The consultations broadly cover an assessment of the status quo, potential or present risks to financial stability and markets, and changes to the legal mandate of regulatory bodies to ensure they can regulate crypto assets.
- **Cross border collaboration:** Jurisdictions are taking note of the cross-border nature of crypto asset service providers, and therefore the need for collaboration in setting standards and regulating crypto assets.

6.0 BROAD NEXT STEPS FOR KENYA

In considering next steps for crypto assets in Kenya, there is need to take into account the country-specific context. While there are unverified reports that Kenyans are using crypto assets, the anonymous nature of cryptocurrency might indicate inaccuracies in reporting. Further, there has been no survey done to establish the extent of crypto asset usage in the country. While the collapse of FTX and other crypto exchanges sent ripples into the crypto world, Kenya has not experienced significant effects of these developments.

Kenya has been tasked with undertaking an ML/TF risk assessment on VAs and VASPs by August 2023. The results of the risk assessment will be expected to form the basis for developing/adopting a policy decision on the extent to which the country will regulate and supervise VAs and VASPs. Once a policy position has been adopted, the country's authorities will be expected to develop frameworks for licensing, registration, and risk-based AML/CFT supervision of VAs and VASPs.

Against this backdrop, the Central Bank of Kenya recommends the following next steps for policy on crypto assets in Kenya:

i) **ML/TF Risk Assessment on VAs and VASPs:** This is a critical element of Kenya's deliverables from the mutual evaluation. The potential derisking of Kenya from the global financial system needs to be considered given the use of cryptocurrency for illicit transactions including ransom payments for recent cyber-attacks. A risk assessment as an extension of the National Risk Assessment on the risks presented by VAs/VASPs in Kenya will provide a basis for policy recommendations with regard to VAs/VASPs. The risk assessment will assess usage of VAs/VASPs in the country and identify and evaluate the ML/TF threats and vulnerabilities of VA/VASPs, factoring in mitigating measures.

[77] The FATF travel rule requires all financial institutions to pass on information about the transacting customer to the next financial institution, in funds transmittals involving more than one financial institution.

ii) **Consultative Paper/Policy Paper:** A consultative paper should be issued exploring the broad guiding principles of **people-centricity**, **country context** and **balance between opportunities and risks**. Regulation of crypto assets requires widespread public discussion. It is imperative to consult the wider public before taking any decisions on next steps of coming up with policies. The recent public consultation by CBK on a potential Central Bank Digital Currency (CBDC) has been illuminating given the extensive public interest and submissions that we have received. This approach is backed by various international standard bodies and jurisdictions as outlined above. Accordingly, CBK proposes the following considerations for public ventilation on crypto assets in Kenya:

- **People-centricity (define the problem statement):** The problem being solved should be clearly articulated. While noting the focus on crypto assets, what is the gap in our capital markets being addressed, particularly in relation to investment alternatives? Who will be the beneficiaries? Is it a narrow range of investors in crypto exchanges and high net-worth individuals? The benefit to the broader Kenyan populace must be clear.
- **Country context (assess the timing and priorities):** The FinAccess Survey Report 2021 highlighted that Kenya's financial inclusion improved to 83.7 percent in 2021.[78] Conversely, gaps were noted in usage, quality, and impact of financial services. In this regard, Kenya should prioritise improving financial health of its citizenry in the short to medium term. Accordingly, the public consultation should review whether crypto assets are a priority for Kenya's capital markets space.
- **Balance between opportunities and risks:** A detailed analysis of opportunities and risks in the crypto space needs to be done. We flag some key risk considerations:
    a) What is the potential contagion effect-How do crypto assets interface with the rest of the financial sector and what are the potential contagion effects and how can they be mitigated to ensure continued financial stability?
    b) In light, particularly of cybersecurity being a key risk, it is imperative that the National Cyber Command Centre (NC3) be engaged given that cyber is now a national security matter following the enactment of the Computer Misuse and Cybercrimes Act of 2018.
    c) How will AML/CFT risks be addressed?

iii) **Regulatory Framework:** The outcomes of the ML/TF risk assessment on VAs/VASPs and consultative paper will enable Kenya to make informed policy decisions on crypto assets. This may include development of a legal and regulatory framework on crypto assets in Kenya.

CENTRAL BANK OF KENYA
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[78] https://www.centralbank.go.ke/wp-content/uploads/2022/08/2021-Finaccesss-Survey-Report.pdf

Annex I: Recent Developments in Other Jurisdictions

1. Mauritius – AML/CFT

On February 7, 2022, the Virtual Asset, and Initial Token Offering Services (VAITOS) Act was brought into force in Mauritius[79]. The Act provides a regulatory framework for new and developing activities regarding Virtual Assets (VAs) and Initial Token Offerings (ITOs) in Mauritius, as well as to safeguard against money laundering and financing of terrorism associated with VAs. The Act empowers the Financial Services Commission (FSC) to regulate and supervise Virtual Asset Service Providers (VASPs) and issuers of ITOs within the non-bank financial services sector[80]. Regulating services involving VAs help to ensure that only legitimate business takes place in the country, which in turn protects the users of these services.

2. India – conservative

In 2018, the Reserve Bank of India (RBI) prohibited financial institutions under its supervision from facilitating the purchase and sale of cryptocurrencies.[81] However, this was ruled unconstitutional by the Supreme Court in 2020.[82] In 2021, the government listed the Cryptocurrency and Regulation of Official Digital Currency Bill to be introduced in Parliament. The Bill aimed to create a framework for creation of CBDC and prohibit all private cryptocurrencies in India. As of December 2022, the Bill had not been tabled.

While RBI is conservative about crypto assets, it is open to CBDC. In 2022, RBI initiated a pilot for a wholesale CBDC to test infrastructural capabilities. It also launched a retail CBDC pilot with a selected group of customers, banks, and merchants.

RBI maintains that crypto assets are high risk and speculative, and that RBI will continue to advise the government against regulating the crypto industry as this will have the unintended effect of legitimizing digital assets.[83]

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79 https://www.mondaq.com/fin-tech/1249298/mauritius-fsc-issues-rules-for-virtual-assets-and-initial-token-offerings

80 https://www.fscmauritius.org/media/119930/faqs-vaitos-act-2021.pdf

81 https://www.rbi.org.in/scripts/FS_Notification.aspx?Id=11243&fn=2&Mode=0

82 https://rbi.org.in/Scripts/NotificationUser.aspx?Id=12103

83 India's central bank governor warns of South Asian debt distress | Financial Times (ft.com)

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