Digital Currencies and the Challenges for Central Banks: Case of Tanzania

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Introduction

Digital currency refers to a medium of exchange that is generated, stored and transferred electronically.

Types

1. Crypto Assets/Currencies
2. Central Bank Digital Currencies(CBDC)

Introduction of Cryptocurrency

What is Cryptocurrency?

- Originated from "Cryptography" an art of hiding information. It uses cryptography to secure the transaction
- Digital asset working as a medium of exchange e.g., Bitcoin, etherium, etc .
- Designed to avoid CBs monopoly and facilitating peer to peer transfers
- Are peer to peer currency that allows processing of transactions without a central intermediary and a value guarantor.
- Generally are termed as non stable coins although there are some called stable coins
- A stablecoin is a new class of cryptocurrencies that attempts to offer price stability and are backed by a reserve asset such as a national currency or a gold.

Perceived Advantages of Cryptocurrencies

- Loosening of Government Currency Monopolies
- Self-Interested, Self-Policing Communities
- Cryptocurrencies are virtually immune from regulators
- Fewer Barriers to International Transactions.
- Support transfers without involvement of banks (eg. Paxful and Remitano)
- Low transaction cost (for Local and cross border) due to peer-to-peer operational approach, making settlements faster

Why do people in Tanzania have been interested in Cryptos?

- Since 2008, the Tanzanian shilling has lost 50% of its value against the dollar
- High short term returns in cryptocurrencies investment.
- Growing appetite among Young Tanzanians in crypto investments due to misinformation, and anticipation to win lotteries associated cryptocurrencies
- Preference of cryptos for Cross-border payments and remittances over foreign currencies.
- Avoid limits and visibility due to lack of regulation
- Emergence of affordable altcoins

Technological Challenges

- The system removes the control of banks and financial institutions on money, financial products, and financial services.
- It is **not compatible** to the existing systems and there are **no monitoring tools.**
- Cryptocurrency transactions **cannot be reversed once** committed, increasing risk to investors.
- Ease of losing value associated with cryptocurrency once someone loses his/her private keys as no mechanism to regenerate the key or to regain value.

General Challenges

- Their existence is outside the control of governments and regulatory authorities, leaving the role of risk management to users
- **High frequency of volatility and** Its value is set by the market
- Currencies **lack guarantor** of value and vulnerable to **cyber-attacks.**
- **Tax Evasion: Limited capacity to tax transactions**, income and wealth generated from cryptocurrencies.
- Loss of investments due to data loss.
- Illegal uses of cryptocurrencies in terrorism financing and money laundering
- Lack of regulatory framework to govern the cryptocurrency operations
- Uncertainty in redemption of value especially in Decentralized finance

Measure taken to address challenges

1

Continue with the current stand that involvement of individual in Cryptos is at own risk.

2

Capacity Building.
Find viable monitoring solutions.

Collaborations

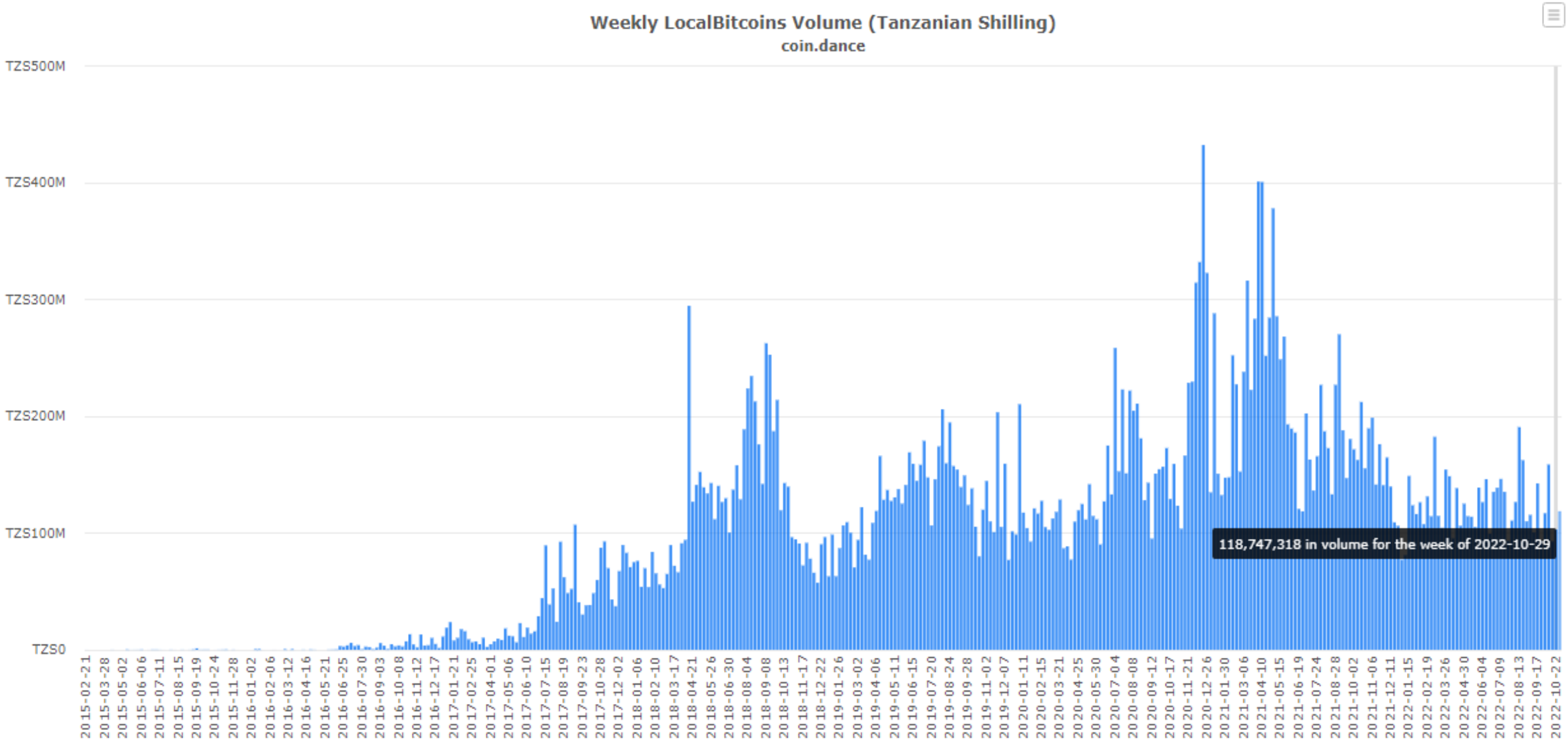
3

Prohibit facilitation of cryptocurrency operations through regulated FSPs.

4

Conduct awareness session to public and other stakeholders

Bitcoins volume in Tanzania



Tanzania position in Global Index

- Tanzania has dropped from 19th position to 47th
- Kenya dropped from 5th to 19th
- Measures taken
- Decrease in trust.
- Volatility
- Illicit transactions
- Other investment opportunities.

Country	Overall index ranking	Centralized service value received ranking	P2P exchange trade volume ranking	DeFi value received ranking
China	10	2	144	6
Nigeria	11	18	17	20
Morocco	14	19	21	33
Kenya	19	43	5	9
Egypt	24	15	110	57
South Africa	30	29	81	41
Somalia	44	75	7	131
Algeria	45	34	100	50
Tanzania	47	81	9	61
Ghana	49	66	14	68
Tunisia	50	63	22	64
Mozambique	60	36	125	63
Democratic Republic of the Congo	79	80	98	46
Rwanda	81	103	18	107
Uganda	100	89	91	105
Malawi	137	127	142	140

2022 Global Crypto Adoption Index

- Adoption has decreased compared to last year
- Ten are lower middle income: Vietnam, Philippines, Ukraine, India, Pakistan, Nigeria, Morocco, Nepal, Kenya, and Indonesia
- Eight are upper middle income: Brazil, Thailand, Russia, China, Turkey, Argentina, Colombia, and Ecuador
- Two are high income: United States and United Kingdom

Introduction to CBDCs

Central Bank Digital Currency (CBDC)

is a digital form of a fiat currency that is issued and regulated by central banks.

CBDC issued exclusively by a central bank and can perform the same function as traditional fiat currency; each unit can act as a **mode of payment**, **a store of value,** and **unit of account**.

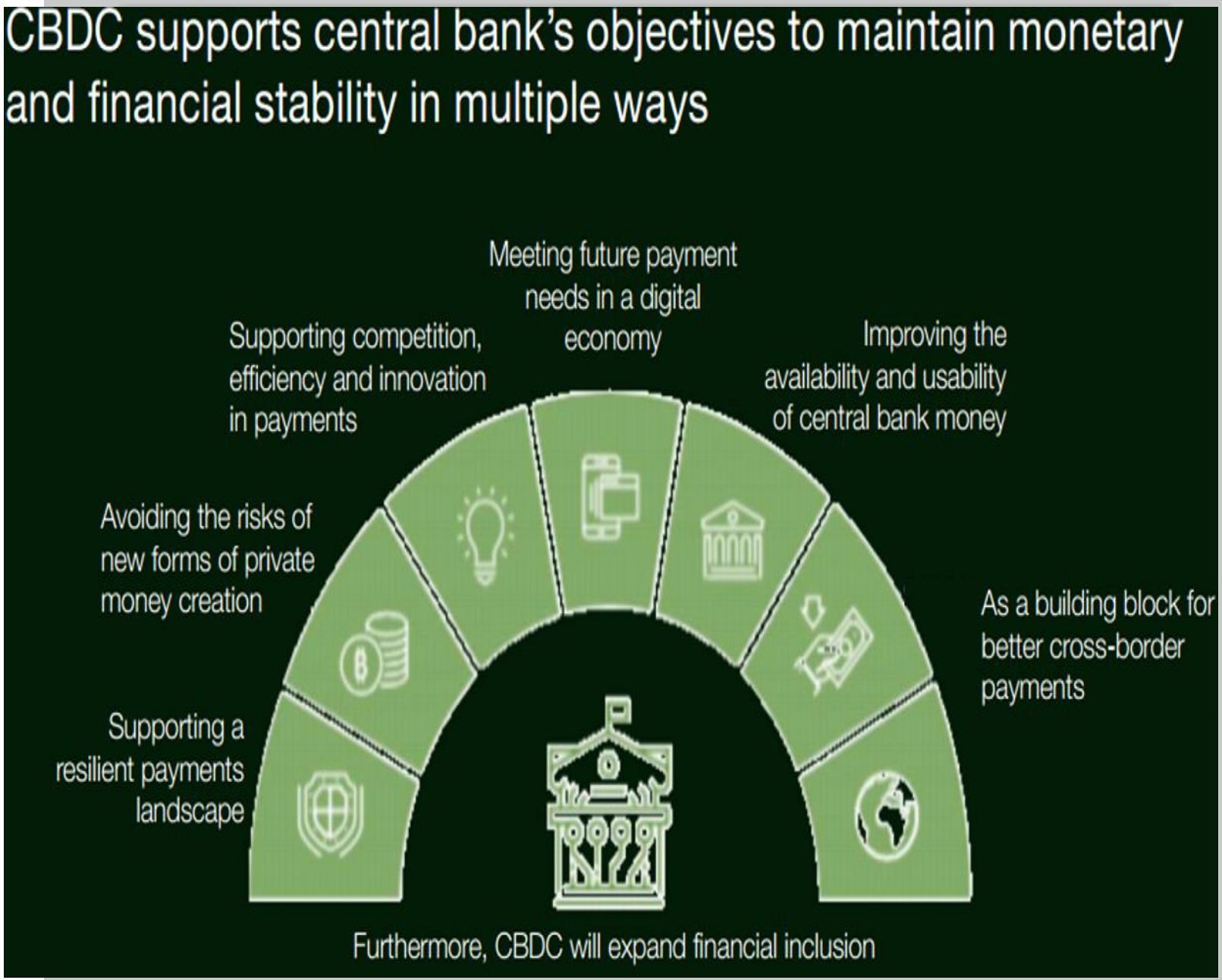
Why CBDC?

- CBDC was driven by emergence of private Stable coins and cryptocurrencies most notably Libra/Diem (2019) and bitcoin (2008).
- Uncertainty on the future of private currencies.
- Potential erosion in the central bank role in oversight and management of money.
- Increase efficiency in cross-border payments, Increase financial inclusion and reduce uses of cash.

What problem or market failure CBDC will solve?

CBDC case for Tanzania

1. Improve competition and adoption of digital payments in rural areas.
2. Eliminates the need of trust accounts.
3. Paves the way to real time cross boarder payments
4. Assist to counter other forms of digital money
5. Integrity (KYC and AML)



Cross border

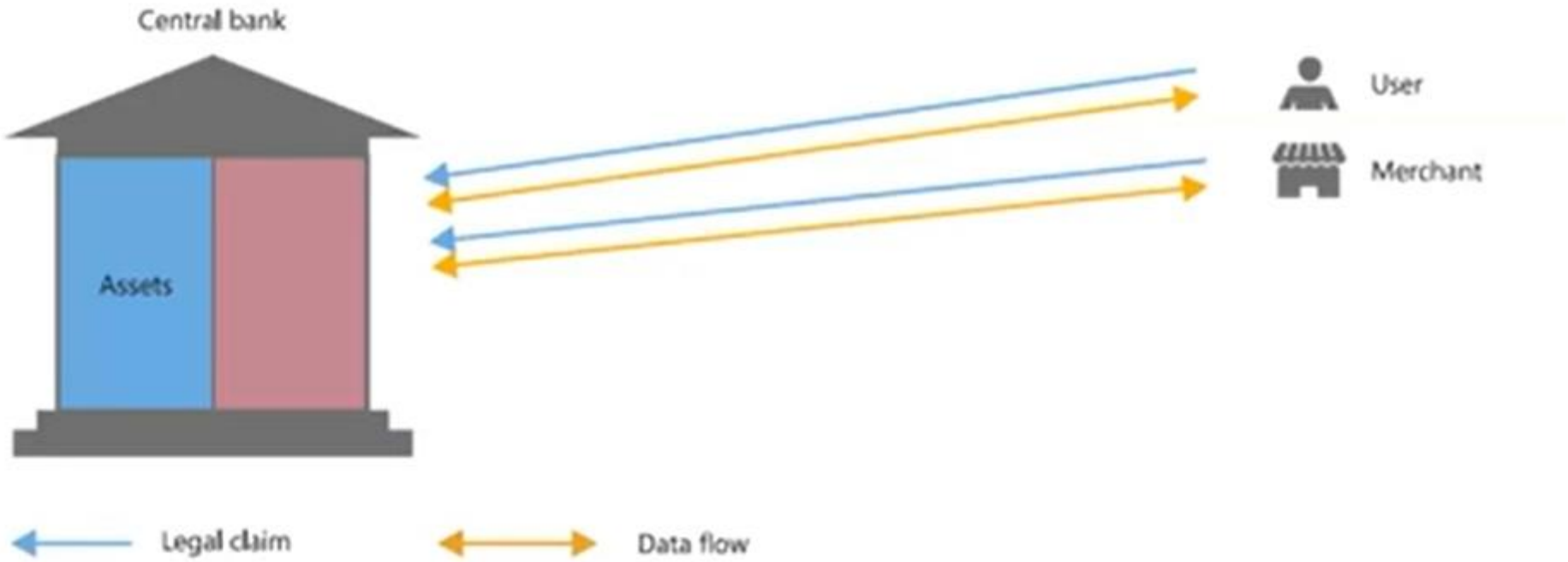
CBDCs could simplify the monetary architecture and substantially streamline the cross-border payment chain

Today's arrangement

mCBDC arrangement

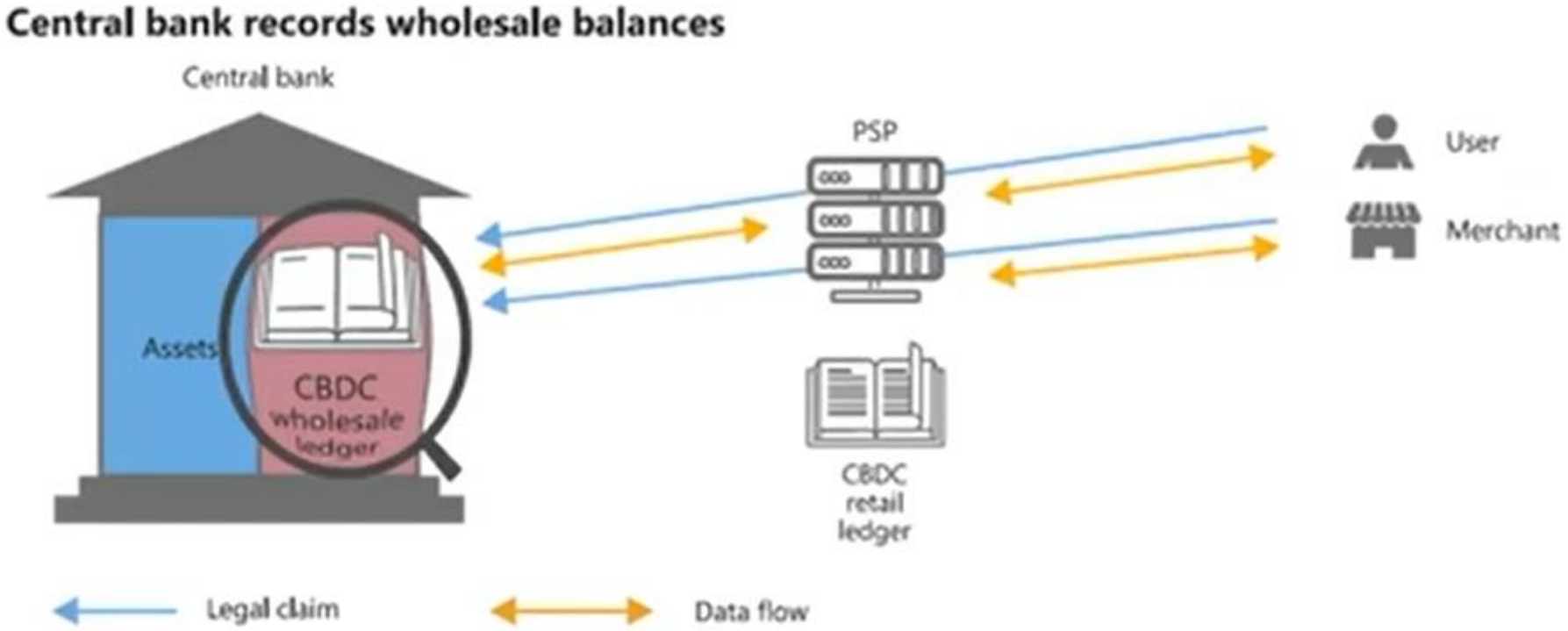
Direct CBDC

Payment information flows directly from users and merchants to the central bank..



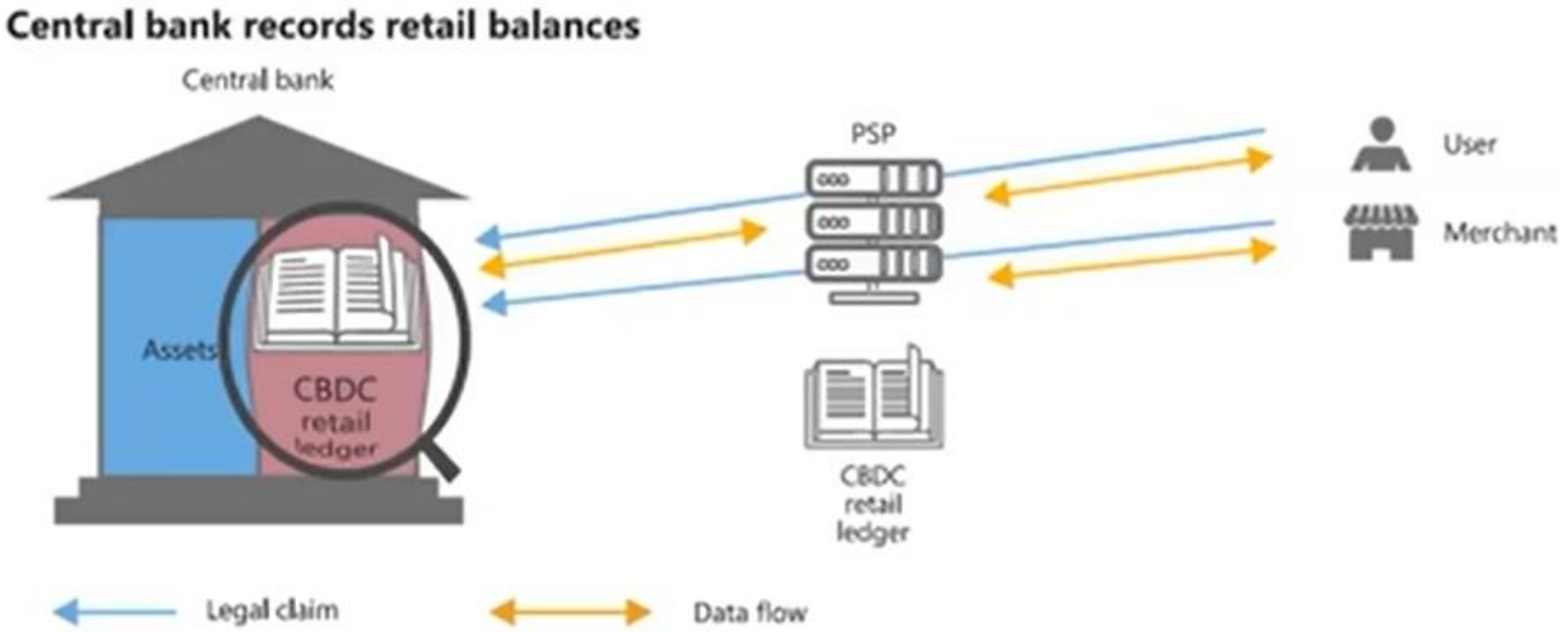
Intermediated CDBC

In the "intermediated model", the central bank has a wholesale ledger of only payments between PSPs, not those between the individual users



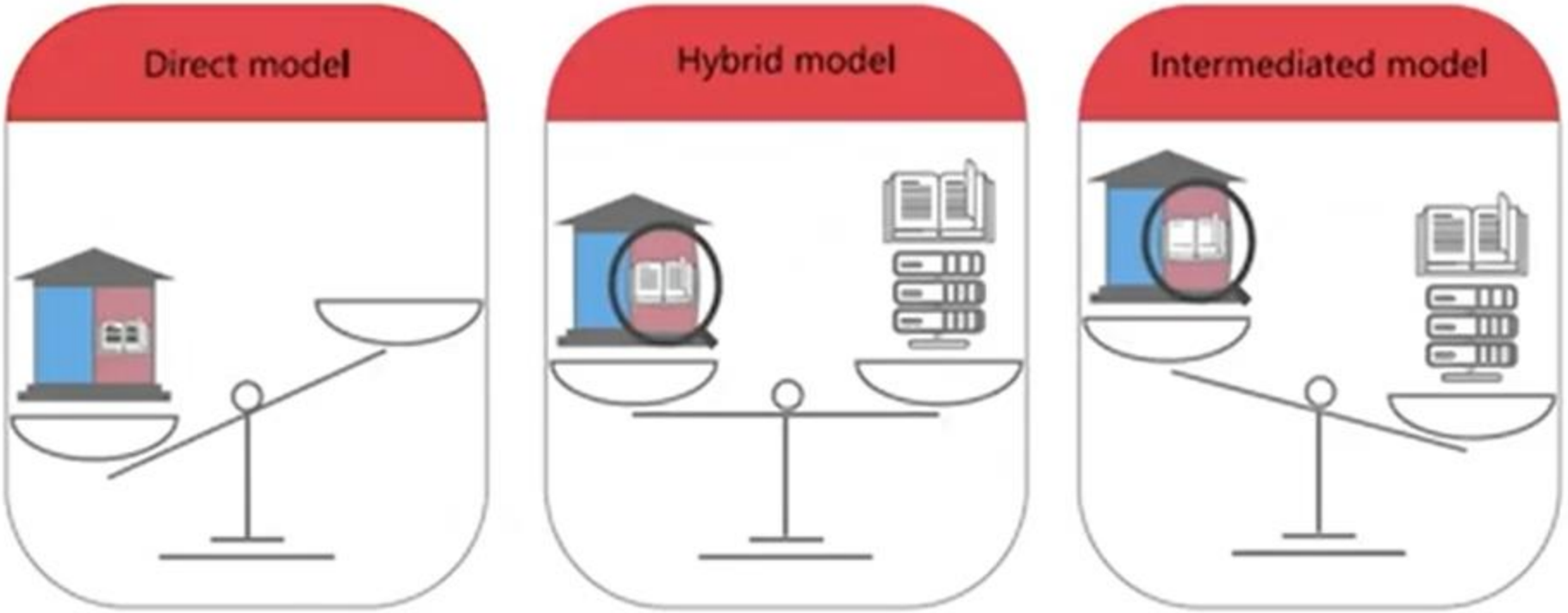
Hybrid CBDC

In the "hybrid model", the central bank retains a copy of the full retail ledger



CB roles

Operational involvement of the central bank is highest in the direct model, and lowest in the intermediated model



Challenges for CBs from CBDC

- Technological Challenges
- From domestic use of own CBDC
- From domestic use of foreign CBDCs.

Technological Challenges

- Gap in CBDC knowledge and resources
- A need to deploy new infrastructure to support CBDC.
- Payment System Infrastructure is needed to support interoperability among FSPs after adoption of CBDC

Challenges from domestic use of own CBDC

- CBDC challenges the definition of money and the role of central banks in formulating and implementations of monetary policy
- Lack of regulatory framework to govern the CBDC operations (Recognition, compliance with AML/CFT)
- Rapid adoption of CBDC by other Central Banks and trading partners creates pressure.

CHALLENGES	RECOMMENDED MEASURES
Balance Privacy and Integrity	• Protect privacy without impairing integrity by limit size of anonymous transaction. • Appropriate customer due diligence. • Transaction recorded but identity revealed only when there is suspected illicit transaction
Balance Integrity and Inclusion	• CB need to facilitate FI without affecting Integrity through the use of digital IDs • Providing access to CBDC without full documentation while Setting limits in conducting transactions
Disintermediation	• Set limit of holding CBDC incase of direct CBDC • Design two tier CBDC which accommodates intermediation
Cyber risk and Resilience	• Choose appropriate technology, design taking to account resilience and security

Use of foreign CBDC

Challenges:

- Currency substitution
- Loss of monetary independence
- Faster transmission of global financial conditions
- Shift of reserve configurations

Recommended measures:

- Limit foreign CBDC in circulation.
- Impose restrictions on the use of foreign CBDC.
- Strong Local currency and robust monetary policy.

Take Away

1. CBs including Tanzania are Increasing exploring to understanding the problem to be solved and the expected solution (Construct economy wide use cases).
2. Understanding and clarifying objectives, pros, cons, and risks of issuance and guiding design options (Business Case)
3. Foundational capacity assessment (legal, regulatory in place, risk management, technology, governance etc). Engage stakeholders early and broadly
4. Address the foundational requirements for CBDC through appropriate design (operating model, degree of privacy, platform to be used, policy and technical principles), regulation and policies could mitigate some challenges
5. Recognize and replicate cash model issuance and distribution.
6. Must be interoperable Domestic and Cross border
7. Cooperation among central banks is paramount

Apart from CBDC what else can be done to achieve similar objectives

Transaction accounts	Access points	Domestic infrastructure	Cross-border payments
• National inclusion strategies • Awareness and financial literacy • E-KYC • Digital ID • Recurrent payment streams	• Entry of non-banks • Agent-based models for "last mile" delivery • Fintech (e.g., QR codes)	• Support "open banking" and "open data" initiatives and APIs • Fast payments	• Coordinate on regulatory, supervisory and oversight frameworks • Strengthen existing infrastructures • Increase data quality

ASANTE SANA