



DIGITAL CURRENCIES: TRENDS AND CHALLENGES

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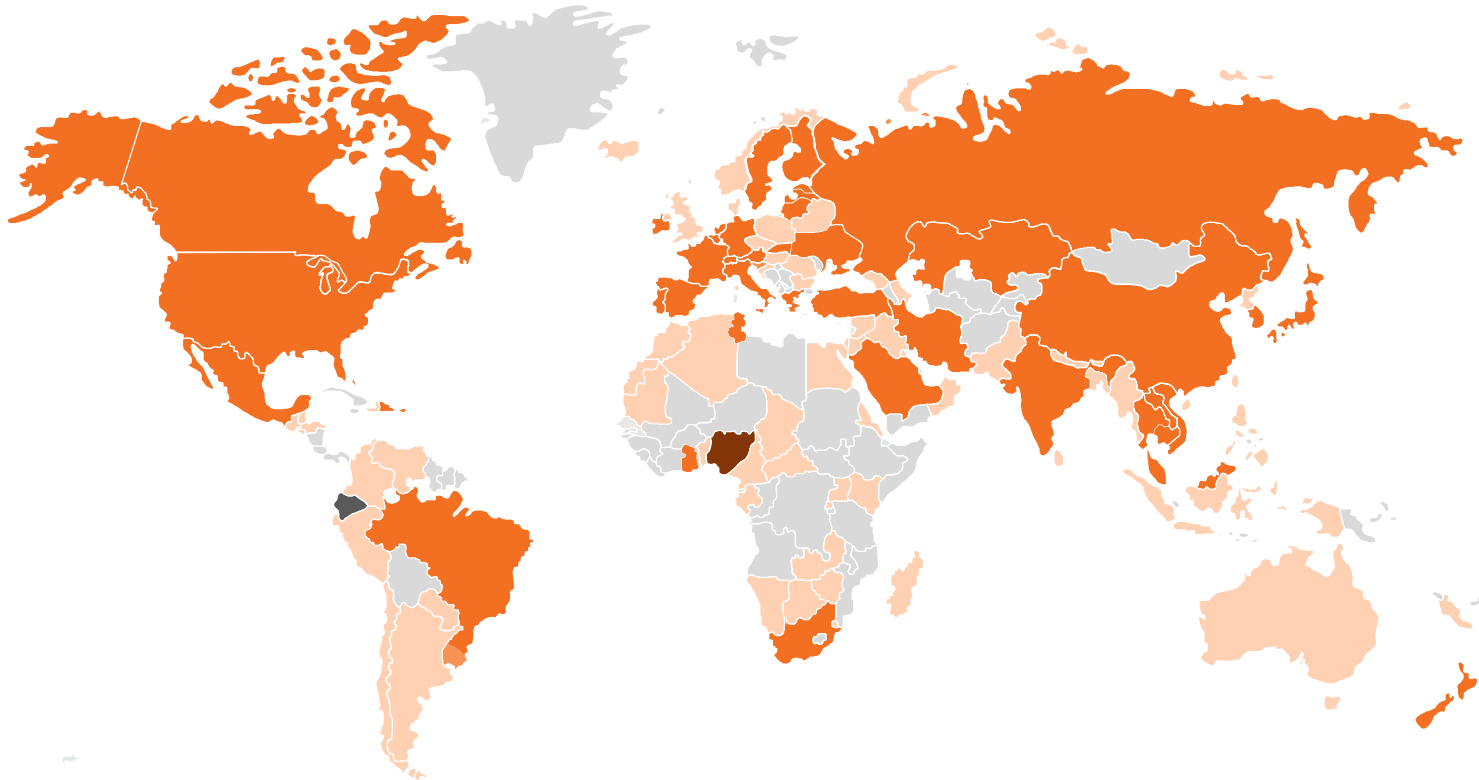
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Growing global focus on CBDC

Central banks are actively experimenting with CBDC

Over 65% of countries are already exploring CBDC...
...Just a few progressed to implementation



Main implementation goals:

- 1 Improve security, convenience and speed of transfers and payments
- 2 Improve efficiency of cross-border payments
- 3 Prepare for the emergence of business models and innovations based on new financial technologies
- 4 Improve citizens' access to financial instruments

Examples of CBDC projects



Digital yuan

PBOC has been leading in the development of domestic and cross-border payment networks via digital currencies. China began the pilot of its e-CNY program in 2019. The pilot has about 260 million wallet users.



Digital tenge

NBK conducted its first CBDC pilot program in 2021. Preproduction mode with real integrations with banks, NBK and payment systems began in 2023. In 2025 it is planned to shift to full production mode.



Digital euro

Pilot launched, the EBF represents 33 national banking associations and 3,500 individual banks.



Digital ruble

August 2023 – start of piloting of transactions with real digital rubles involving a narrow range of clients of 13 banks.



Digital rupee

RBI has released a concept note outlining the features and objective of the Digital Rupee and launched a wholesale CBDC pilot program in partnership with nine national banks.

Many Central Banks achieved such level of maturity in CBDC experiments that face challenges associated with CBDC adoption



CBDC challenges

While Central Banks are enthusiastically exploring the potential of CBDC, there are some challenges to be considered

VALUE OF IMPLEMENTATION



INTEROPERABILITY WITH NATIONAL PAYMENT RAILS



CONCEPTUAL DESIGN ISSUES



COMMERCIAL BANKS' INVOLVEMENT



LEGAL AND REGULATORY CONSTRAINTS





CBDC challenges

1. Value of implementation



- ❑ A successful CBDC launch requires **clear understanding of the CBDC value proposition**

that shows completely new value-added features in comparison with existing financial instruments

- ❑ It is necessary to find a set of digital opportunities and **advantages for key stakeholder groups**

CBDC OPPORTUNITIES FOR DIFFERENT STAKEHOLDERS



CITIZENS

Convenience of the 'digital cash' guaranteed by the Central Bank	Expanding the availability of payments
Lower fees for payments	Improved security and privacy



BUSINESS

Lower cash handling costs and transaction fees	Increased speed and efficiency
Risks mitigation	New possibilities for settlements



COMMERCIAL BANKS

New services	Lower cost of cash collection
Mitigation of the counterparty risks	Optimization of a settlement cycle
Lower costs of cross-border payments	Integration with other emerging technologies



STATE

Potential to stimulate economic growth	Transparency of government payments
Development of competition	Improvement of financial inclusion
Development of innovativeness	Better control of monetary policy



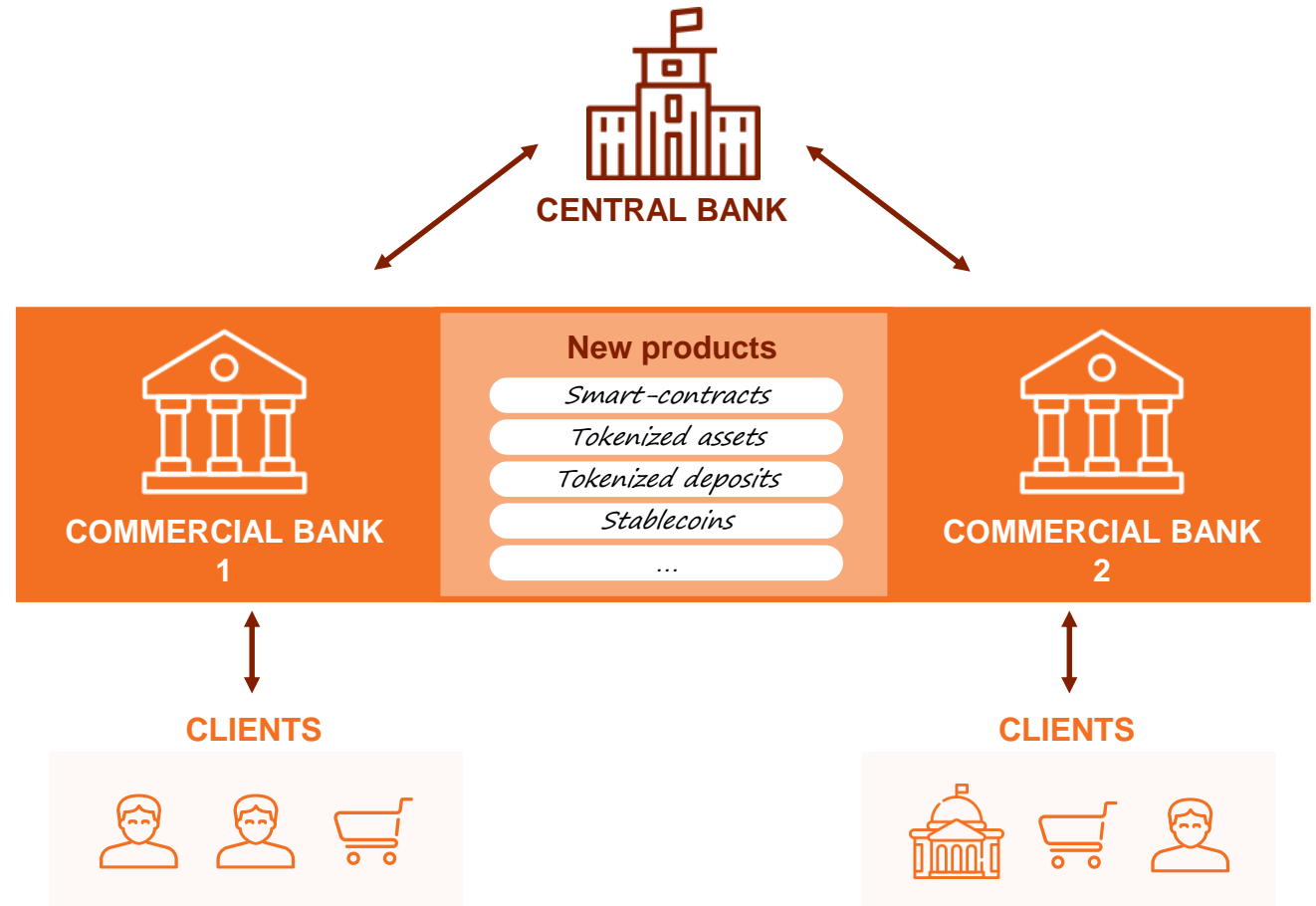
CBDC challenges

2. Commercial banks' involvement



- ❑ Banks are supposed to be the **key intermediaries** in the CBDC distribution process
- ❑ Yet Banks **behave over-cautious about CBDC** bawaring it encroach on their traditional business
- ❑ At the current stage Banks still **seeking the value of CBDC for their business**
- ❑ Banks' aim is to **gain** by offering **new innovative services using CBDC**

PLACE OF THE COMMERCIAL BANKS IN THE TWO-TIER MODEL





CBDC challenges

3. Interoperability with national payment rails



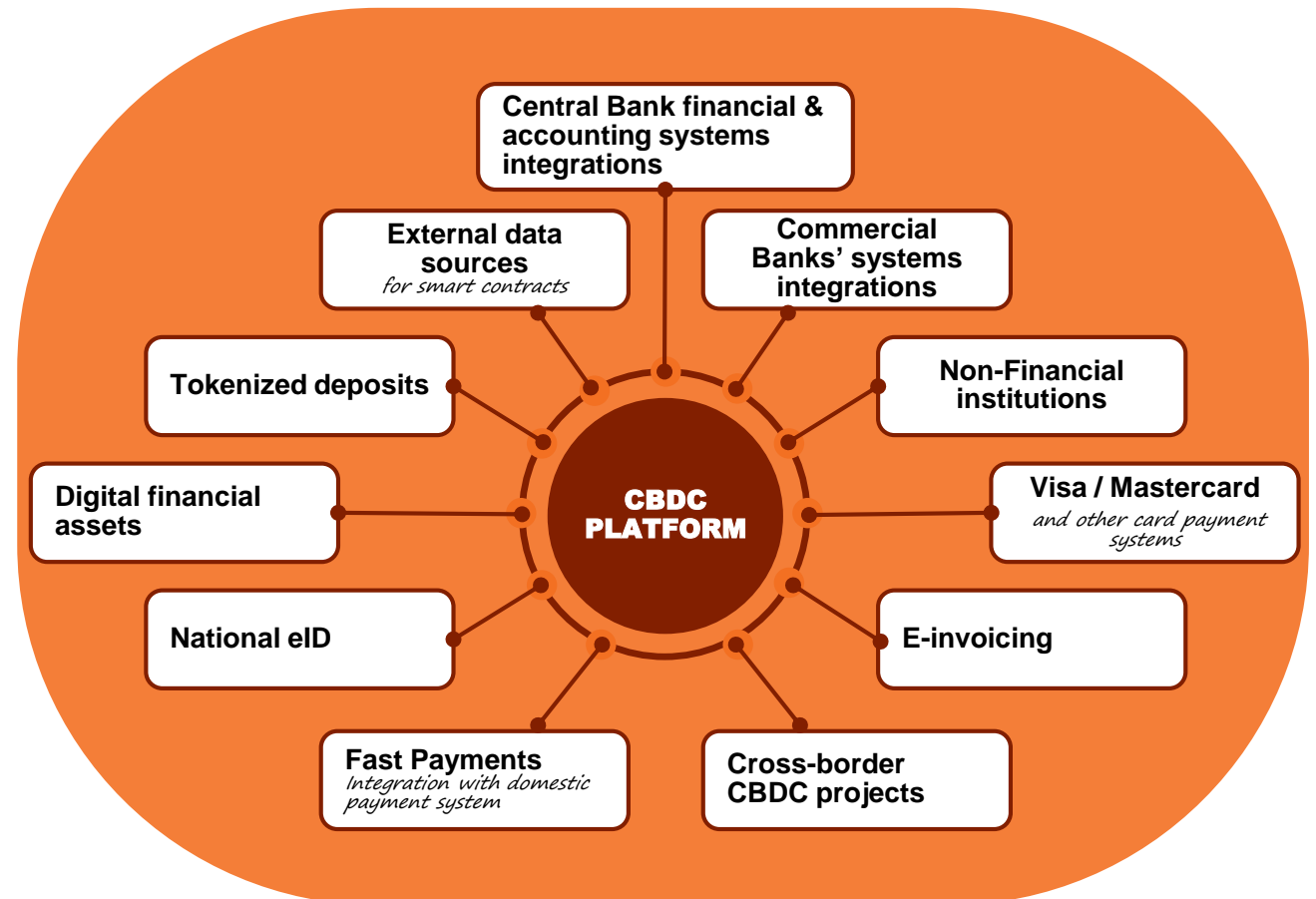
- ❑ *CBDC ecosystem must **be integrated into the financial system landscape***

This is costly, time-consuming and requires the participation of many counterparties.

- ❑ *CBDC should coexist with current payment systems provided that **identity of the CBDC system is preserved***

- ❑ *A decision on the **target infrastructure** must be made including which system remain and which do not*

LIST OF POSSIBLE INTEGRATIONS FOR CBDC LAUNCH *(not exhaustive)*





CBDC challenges

4. Legal and regulatory constraints



- ❑ *Current legislation in some jurisdictions may **prevent the issuance of CBDC***
- ❑ *Some central banks have the legal foundation to issue a CBDC, but the **law still needs to be adjusted***
- ❑ *In case of cross-border transactions possible **new prudential boundaries may arise***

TOPICS TO BE INCLUDED IN CBDC REGULATORY FRAMEWORK

- 1 CBDC LEGAL STATUS
- 2 AML & CFT
- 3 REGULATORY REPORTING
- 4 RISK OF LOSS (mistaken transfer, fraud risk, credit risk)
- 5 COUNTERFEITING
- 6 PRIVACY
- 7 FINANCIAL STABILITY CONSIDERATIONS
- 8 CONSUMER PROTECTION
- ...



CBDC challenges

5. Conceptual design issues

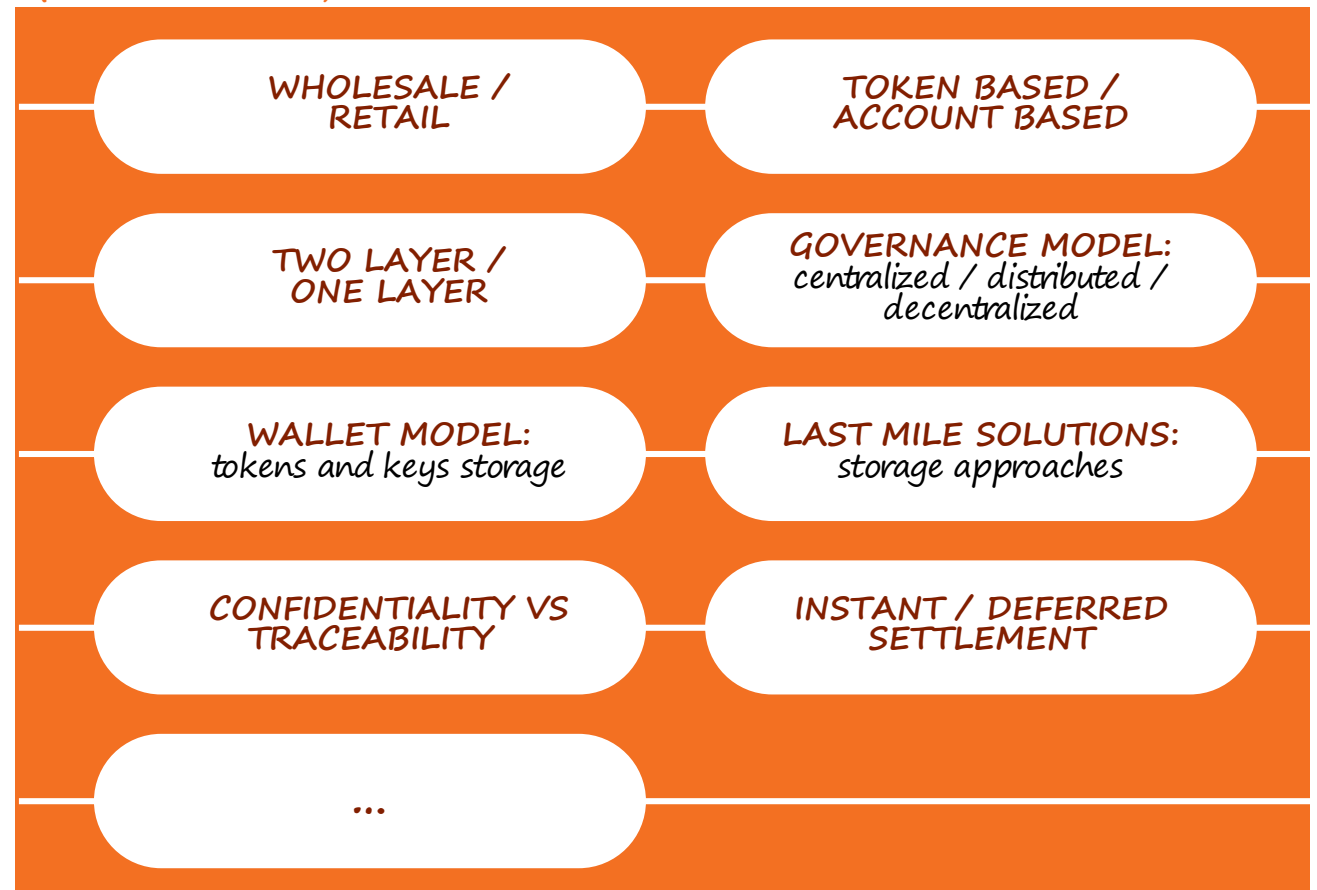


- Having reached a certain level of system maturity some Central Banks realized that a **revision of the original CBDC design is needed**

to achieve optimal platform parameters in terms of speed, security, anonymity, etc.

- Redesign
 - **requires additional time and expertise**
 - **increases initial costs**

CONCEPTUAL DESIGN ISSUES FOR CBDC *(not exhaustive)*










Potential further development of CBDC

As countries progress in CBDC development, the existing challenges will be overcome

As the development of CBDC projects continues...

- the necessary **business cases will be found**
- **design parameters will be selected**
- **infrastructure and ecosystem** (from technology, legal and business perspective) **will be created**

It should take time to develop CBDC projects to the required **level of maturity and gain synergistic effect**

CBDC challenge	Potential scenario
 Value of implementation	Value will be appreciable when a large number of CBDC stakeholders is reached
 Commercial banks' inclusion	Banks will be able to provide innovative services when the basic CBDC infrastructure and core CBDC functionality are created
 Interoperability with national payment rails	It takes time to fully integrate the new CBDC system with the existing payment systems
 Legal and regulatory constraints	Regulation and legal status of CBDC will be worked out both at the local level and at the level of international regulation
 Conceptual design issues	Iteratively, Central Banks will find the most suitable design parameters for each CBDC system