



Central Bank Digital Currency (CBDC): A Global Perspective

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The views expressed in this presentation are mine and do not necessarily reflect those of the IMF.

Amara's Law

“We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run.”

Roy Amara, American Futurist

Rapid progress in digital technology is creating new forms of money, instruments, service providers, and networks



- 1) What's special about CBDC?
- 2) Emerging lessons from global developments and open questions
- 3) IMF approach to CBDC capacity development

What's special about CBDC?

Currency, Money, Payment Instruments and Systems

Economic perspective

Money can be anything that can serve as a **medium of exchange, unit of account, and store of value.**

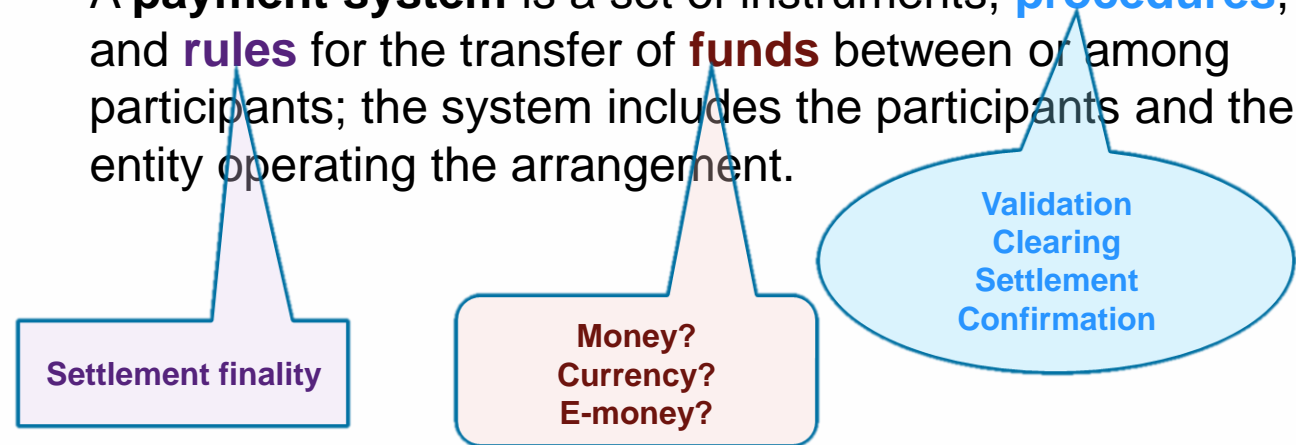
Legal and regulatory perspectives

Currency, mostly banknotes and coins, is the official means of payment of a State recognized as such by monetary law. It is always denominated in the official monetary unit. *Legal tender* is a key attribute: it entitles a debtor to discharge monetary obligations.

Money is broader and includes certain types of assets or instruments that are readily convertible or redeemable into currency, such as book money (credit balances on accounts) and electronic money.

Payment instruments are not necessarily *currency* or *money* but are used to effect payments that are ultimately settled in currency or money.

A **payment system** is a set of instruments, **procedures**, and **rules** for the transfer of **funds** between or among participants; the system includes the participants and the entity operating the arrangement.



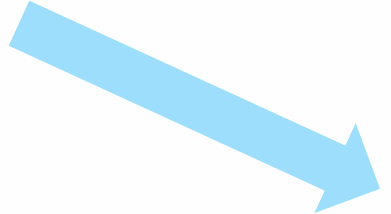
How do digital money and payments fit into the taxonomy?

	E-money	Unbacked crypto-assets	Stablecoins	CBDC
Money	V	X*	?	V
Currency	X	X**	X	V
Other	Payment instrument	Payment instrument, Investment asset	Payment instrument and payment system	Payment instrument and payment system

* In some jurisdictions classified as money for VAT purpose (but not financial law)

** Except in El Salvador and Central African Republic

The Duality Nature of CBDC



CBDC as an Instrument

A spectrum of “cash-like” and “deposit-like” features

24 x 7 hours direct access; offline capacity

Safety and integrity

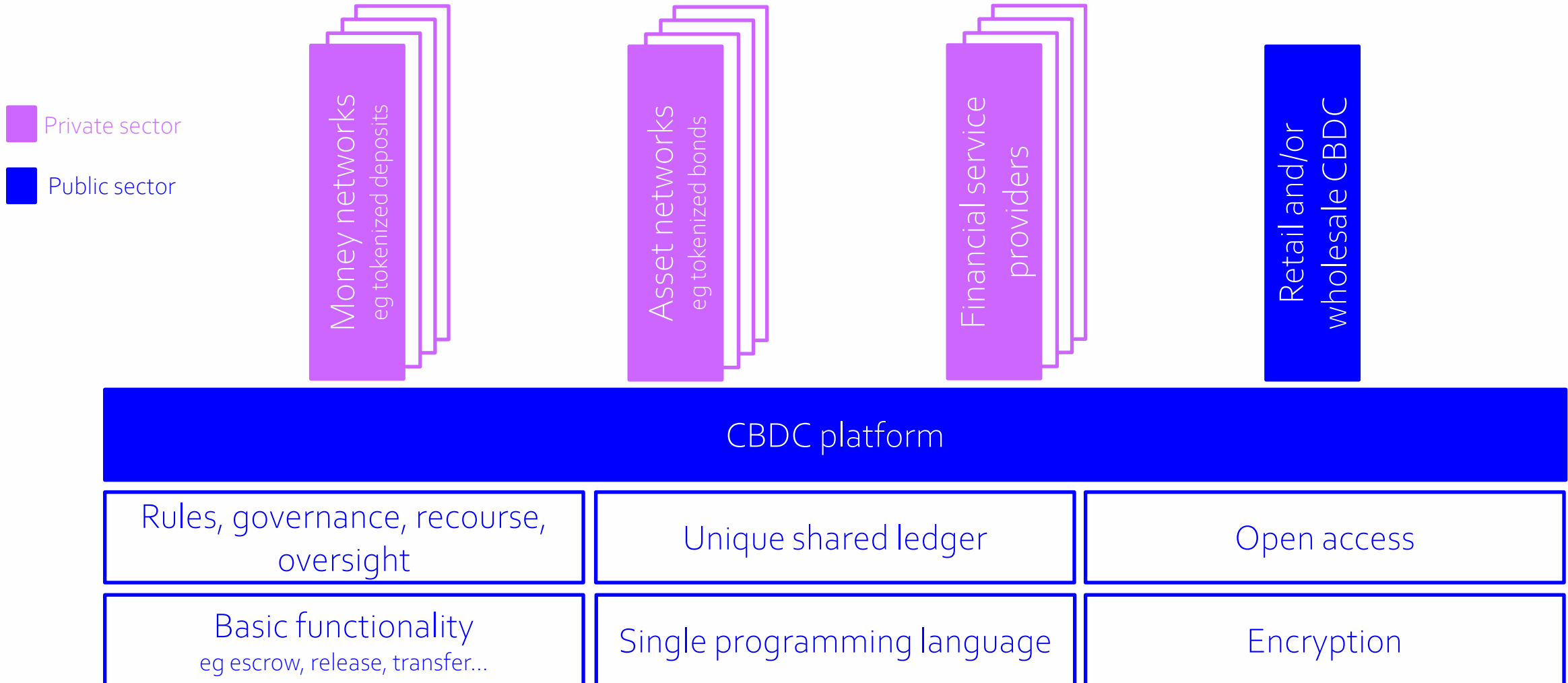
Integration with markets for tokenized assets

Programmability: an efficient fiscal tool, and for “Internet of Things”

Not just another form of e-money or payment instrument
but a monetary foundation of the digital economy

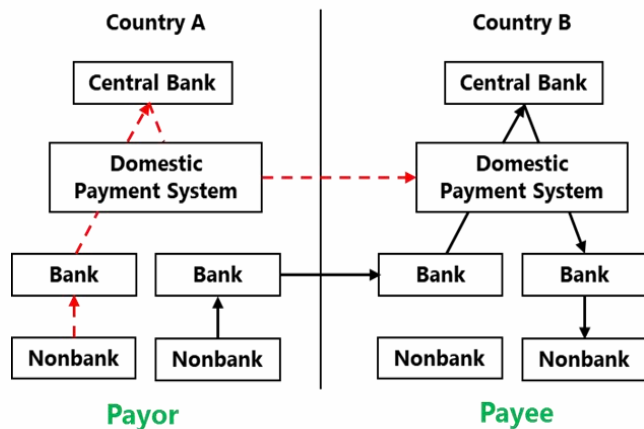
CBDC as a platform

To ensure safety, efficiency, interoperability when paying, exchanging, and programming across private networks



The evolution of cross-border payment networks

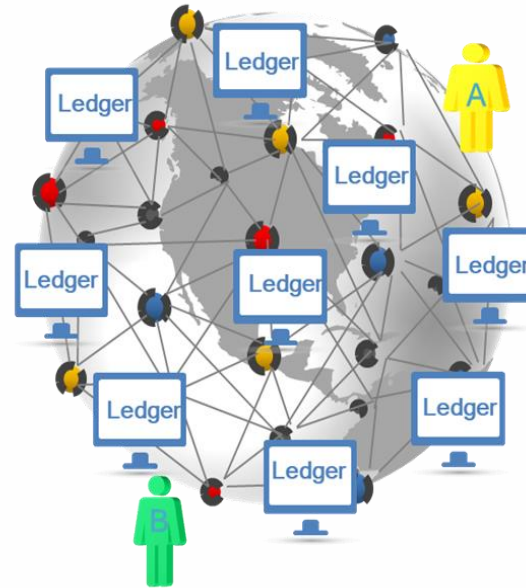
Current
Deposit-based



→ Route 1: Correspondent Banking
- - - Route 2: Payment System Link

Future?

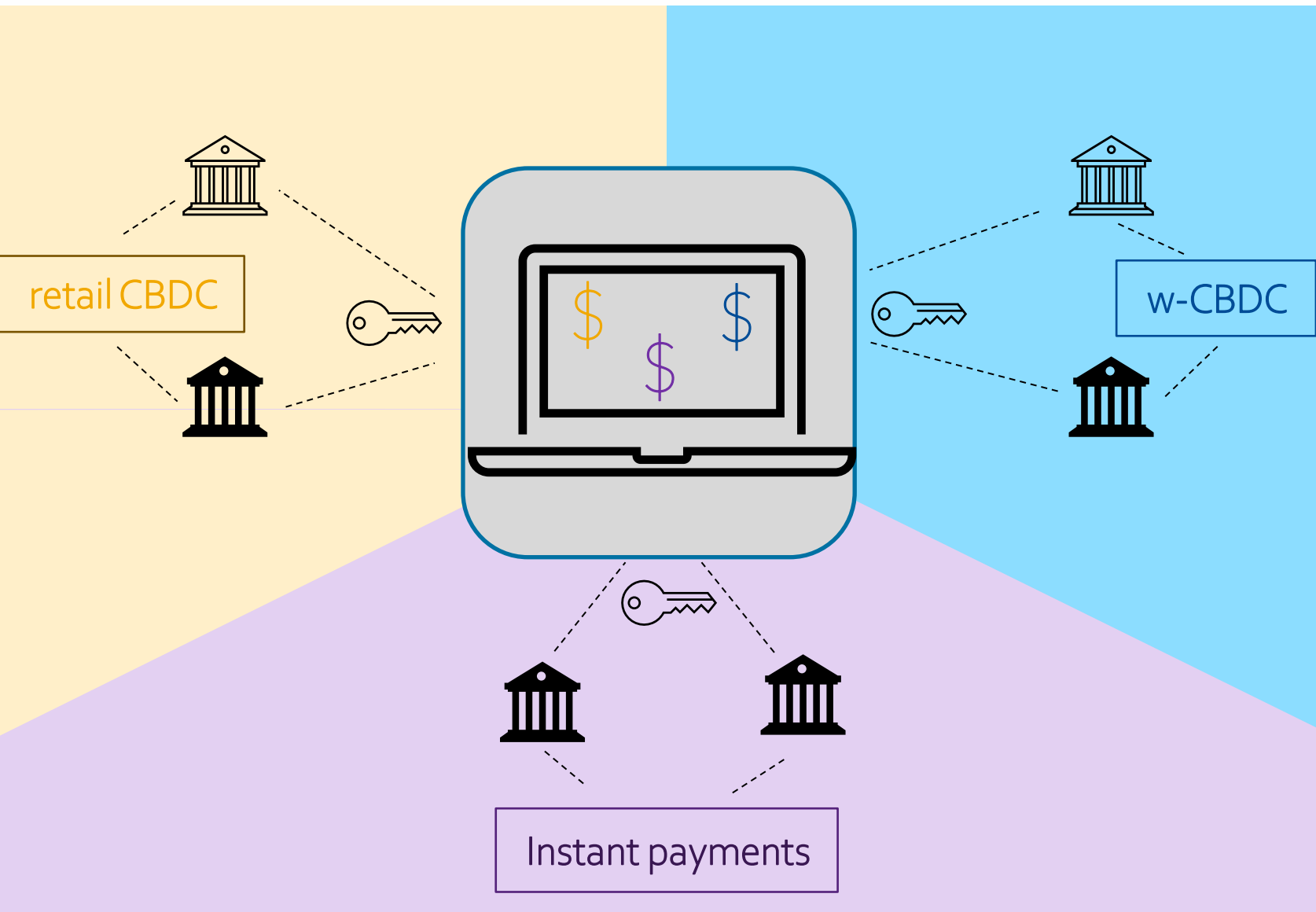
New networks and means of payments



- ✓ *Choice of deposit-based and token-based systems*
- ✓ *Less reliance on correspondent banks*

- **New digital cross-border payments networks have the potential to increase efficiency by:**
 - Reducing cost of verification and cost of networking (Catalini and Gans, 2020)
 - Shifting trust from identity to object (Kahn and Roberds, 2009), underpinned by technology
 - Shifting trust from bilateral relationships to multilateral networks governed by common rules (Adrian, Garratt, He, Mancini-Griffoli, 2023)

The clean slate of new technologies



x-CBDCs: On-platform settlement

- No counterparty risk
- For cross-border payments only
- Co-exist with other systems

New technologies

- Programmability/smart contracts
- Encryption

Value added

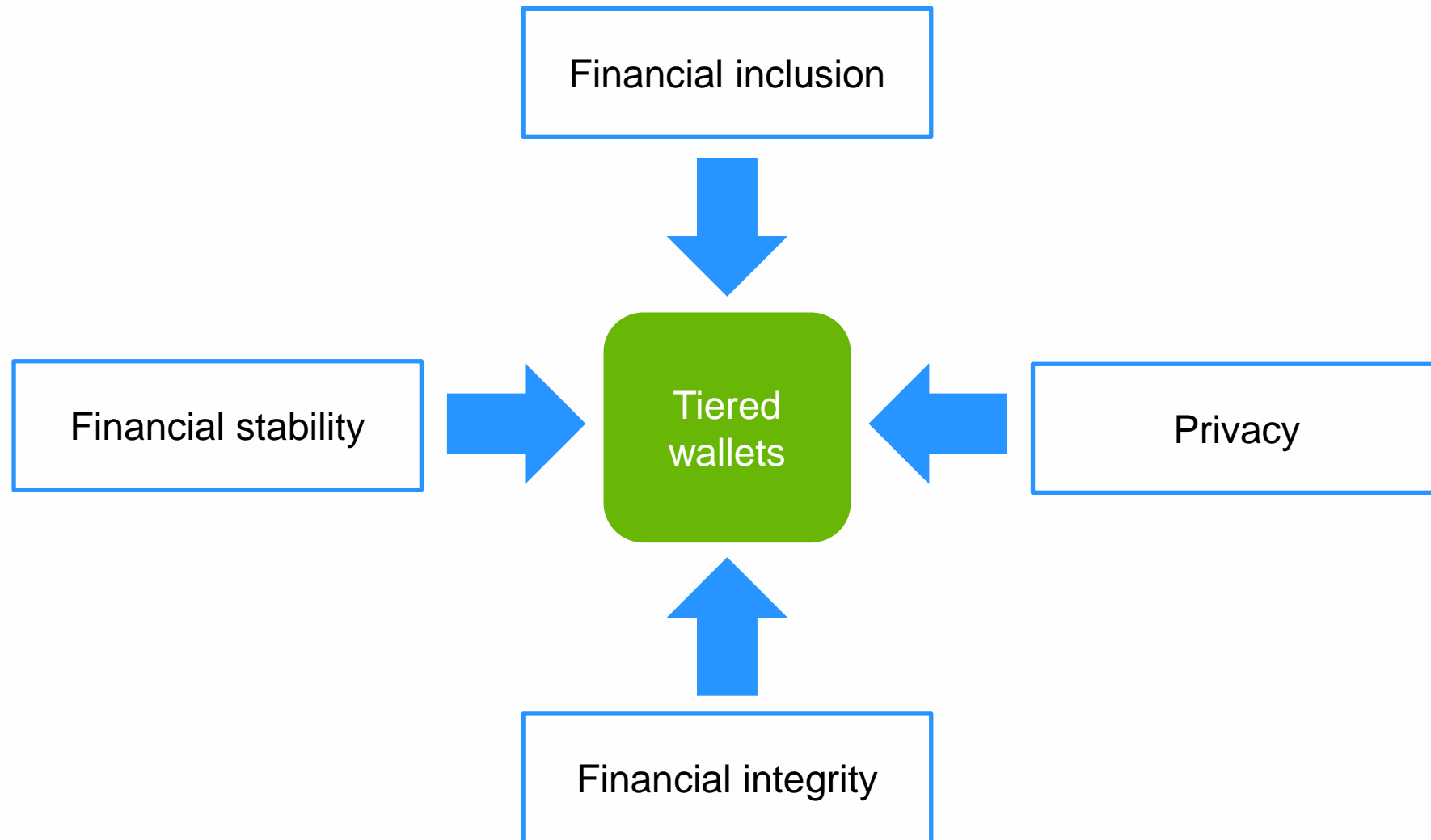
- Integrate functions
- Ease frictions

Emerging Lessons from Global Developments and Open Questions

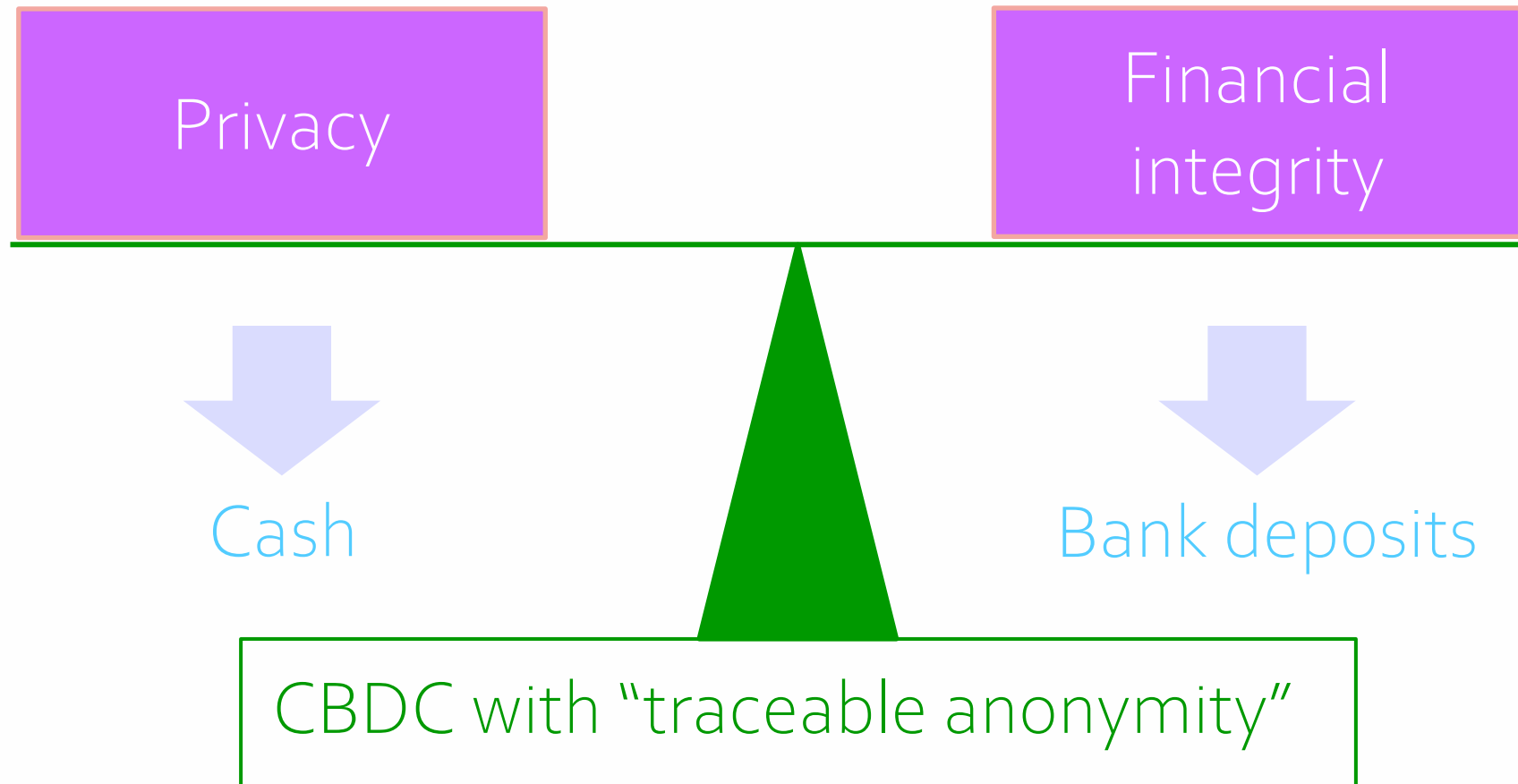
Front runners

- **The Bahamas, ECCB, Jamaica, Nigeria**
- **Brazil, China, India**
- **Bank of England, ECB, Riksbank,...**
 - “The Bank of England and HM Treasury judge it likely that a digital pound will be needed in the future. “
- **BIS Innovation Hub projects (e.g., Jura, mBridge...)**

Emerging consensus on managing policy tradeoffs and synergies



CBDC could help privacy vs integrity tradeoff



Smart Money vs Smart Payments

- The dual function of CBDC
 - The ultimate, most widely accepted, and safest “settlement asset”
 - An efficient and convenient “payment instrument”
- Programmability may enhance efficiency, increase convenience, and reduce cost of fulfilling contractual obligations...
- ...but could affect the universality of money?

Open questions

- What is the optimal degree of adoption? How do we define success?
- What are the sustainable business models to ensure low cost for both CBDC users and merchants?
- How can data associated with CBDC use be efficiently and safely shared to facilitate financial inclusion?
- How to achieve interoperability among CBDCs across the world?
- How to incorporate financial and regulatory policies such as capital flow management measures (CFMs) in cross-border use of CBDCs?

IMF approach to CBDC capacity development

Rising Demand for IMF Assistance on CBDC (as of February 2023)

Countries exploring CBDC

100 +

Bilateral CD requests YTD

48

Ongoing bilateral CD

24

Geographical distribution

5 regions

Regional workshops

5 regions, 500+ cumulative attendance

Departments involved

MCM, ITD, LEG, RES, SPR and Area Departments

Challenges faced by many IMF members

Lack of clarity in motivations

High expectations but limited capacity and resources

Unanswered analytical questions

Dispersed data, knowledge, experiences

Need for a
handbook

CBDC Handbook

- **Basis for CBDC CD engagement:**
 - Frequently asked questions
 - Emerging lessons, views, messages from analytical work – mostly descriptive
- **Consistency:** ensure CD is consistent across jurisdictions
- **“Living” document:** new chapters at regular intervals and updates
- **Multiyear project:** about 20 chapters over 4-5 years, starting Fall 2023
- **Collaborative effort:** Multiple IMF departments, input from member countries (including G7) & international organizations (such as BIS), vetting by IMF Board

Chapters Grouped in Five Thematic Areas

Objectives and framework	Foundational requirements and readiness	Design process, considerations, and choices	Project approaches and technology	Potential macro-financial impacts
<ul style="list-style-type: none"> • Digital Money: Positioning CBDC • Identifying pain points and objectives • Elements of thinking through CBDC 	<ul style="list-style-type: none"> • Legal Considerations • Operational and cyber resilience • Required Capacity within Central Banks • Regulation and supervision 	<ul style="list-style-type: none"> • Design choices • Business models and adoption • Financial integrity considerations • Data Use and Privacy Protection • Capital Flow Management Measures 	<ul style="list-style-type: none"> • Project management (5 Ps) • Technology landscape and innovation 	<ul style="list-style-type: none"> • Impact on monetary policy transmission • Impact on bank disintermediation and financial stability • Cross-border payments • Financial-sector market structure and contestability • Promoting Financial Inclusion

Takeaways

- CBDC has the potential to allow central banks to better meet their policy objectives in the digital age
 - Design choices are crucial to realizing the potential of CBDC
 - Possibilities are many and bound only by our imaginations
- Effective public-private partnerships need to be developed to
 - Design and operate the CBDC infrastructure
 - Ensure sustainable business models and optimal adoption
- International cooperation is key to interoperable CBDCs
 - The configuration of networks will be in a state of flux
 - The international community should work together to prevent digital divide and fragmentation