EUROPEAN CENTRAL BANK

EUROSYSTEM

CBDC and payments innovation *

Klaus Löber
Head of Oversight

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* The views expressed are those of the author and do not necessarily reflect those of the ECB

Demand for improvements in payments

- **Faster execution of transfers and enhanced convenience:** user expecations push towards 24/7 solutions, immediate execution, mobile or internet integration

- **Broader access**: as non-banks are becoming more important actors in the payment space, they are seeking access to central bank money and settlement accounts

- **Adapt to tokenisation** : if securities become tokenised, then money settlement might need to follow the movement and bring "cash on ledger"

- **Enhancing efficiency in cross-border transactions**: lowering of costs, reduction of settlement times, extension of operating hours, adherence to international messaging standards and improvement of international interoperability

Focus on "stablecoins" and CBDC

- The value of **crypto-assets** is inherently unstable due to lack of accountable party

- Demand for a stable asset recorded on distributed ledgers sparked discussion around **central bank digital currencies (CBDC)**

- Private sector launched **stablecoins** as a potential new type of asset that aspires to bringing stability in volatile crypto-assets market and in payment platforms often based on new technologies (such as DLT)

CBDC - Key elements and design features

CBDC key elements:

- **Liability of a central bank**

- **Digital** form

- Denominated in **sovereign currency**

Optional design features:

- **Holders** - general public or restrictions (eg wholesale only)

- **Records** of transfers and holdings - on or off the central bank ledger

- **Transfer mechanism** - peer to peer or intermediated

- **Transparency** – full, limited or anonymity of holders

- **Availability -** 24/7 or limited

- **Convertibility-** into cash and/or central bank deposits / limits or caps

- **Interest** bearing – dependent on central bank policy

Key implications of CBDC (CPMI-MC 2018)

- **Legal considerations from a central bank perspective** - e.g., legal basis to issue, legal qualification, legal tender status, finality

- **Anonymity and privacy** - trade-offs between legitimate interest in privacy and money laundering and financing of terrorism concerns

- **Efficiency** – e.g. possible cost reductions and/or indirect efficiency gains vs. disrupting existing channels, financial inclusion potential

- **Operational aspects** – e.g. technical maturity, governance, cyber security, interoperability

- **Financial stability risks** - systemic bank runs, disintermediation

- **Monetary policy implications** - interest-bearing CBDC as monetary policy tool, narrow banking

- **Cross-border effects** – e.g., increased risk of currency substitution and/or faster shifts in holdings between different currencies

Private Digital Money - Key elements

- Issued by a **private entity** (bank, e-money institution, payment service provider, FMI or non-regulated entity/person(s))
- **Digital** form
- Used for **payment settlement** purposes

Optional design features:

- *Liability* – of a *private* **entity** (bank, e-money institution, payment service provider, FMI or non-regulated entity) <u>and/or</u>
  – against *underlying* **assets or funds** – **«Stablecoins»** or
  – against **nothing** «**Crypto-assets**»
- *Supply* – determined by *issuer*, or
  – limited by *underlying* **assets or funds,** or
  – determined by *algorithm* «**Algorithmic Stablecoins**»
- *Holders* - *general or wholesale*
- *Transfer mechanism* - *peer to peer or intermediated*

Stablecoin arrangements

- Could qualify from a **regulatory perspective** as commercial bank money, e-money or crypto-assets, depending on the **form of issuance** and the **currency denomination**
  - Denomination: in fiat currency or in its own denomination
  - Backing: in deposits or other types of reserves and claims, or in central bank money
  - Authorised holders: from any person to supervised financial institutions only
  - Transfer system: from unrestricted blockchain to traditional payment system

Example	Denomination	Backing	Type of right	Authorised holders	Transfer system
Fnality (project)	Several currencies	1:1 CeBM held in RTGS account	Claim on funds held with central bank	Participating institutions	Fnality payment system
TetherEUR (live)	Own but pegged 1:1 to EUR	(Allegedly) fully backed by reserves (composition unclear)	Claim on the issuer	Public	Ethereum unrestricted blockchain
JPMorgan Coin (pilot)	USD	1:1 CoBM held at JPMorgan	Claim on the issuer	JPMorgan corporate clients	Restricted blockchain operated by JPM
Libra (project)	Own and several currencies (tbd)	Backed by a reserve held at custodian institutions	Indirect via service provider	Public	Level 1: Libra restricted blockchain Level 2: Books of the service providers

Considerations around stablecoins

- **Stablecoin ecosystems,** in particular if **global, may be complex** – **payment system at core**, but additional elements

- **Potential benefits** – e.g. cost reduction, speed, financial inclusion, less volatility if sound stabilisation mechanisms

- **Need for legal certainty and clarity** – e.g. about the rights of holders and obligations of issuers and other relevant parties

- Issues around **governance and risk management**

- Challenges for **public policy, oversight and regulation**
    - **Regulatory perimeter** and compliance - *AML/CFT, consumer and data protection, tax compliance, …*

- **Central bank implications**
    - Role of the central bank and impact on central bank services and functions, on wider payment ecosystem and market structure
    - Ability to oversee new arrangements
    - Case for **close global cooperation** of authorities

Digital tokens *vs* incremental change – Trade offs

Demand for improvement	*Case for digital tokens*	*Incremental change to traditional rails*
Broadening access	Wider adoption, potentially to large corporates	Widening direct access to RTGS
Efficiency in cross border payments	24/7 usability	Longer operating hours and adoption of ISO20022
Adapt to tokenisation	Token design could fit in future tokenised platforms	Payment system upgrades

New forms of cross-border and cross-currency settlement

- **Entry of new players and reaction of incumbents**

    - **Fintech payment service providers** reinventing remittance

    - **Alternative connectivity services**

    - **Use of crypto-assets as a bridge currency**

    - **Settlement assets as proxy for CBDC - digital token** denominated in major sovereign currencies to improve wholesale (DvP and PvP) settlement in major currencies, fully backed by **funds held at the *central banks of issue***

- Could also be **combined with wholesale CBDC** (tiered CBDC)