

Design of Wholesale CBDCs

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The rationale for the issuance of CBDC differs depending on the target users and applications – our interest lies primarily in the wholesale payments space.



Retail CBDC



- Promotion of financial inclusion
- Mitigating tax avoidance
- Reducing printing and handling costs
- Facilitating a move to a cashless society
- Rapid dispersal of 'helicopter funds' in a crisis scenario

Wholesale CBDC



- Reducing settlement times, and associated CCR
- Making settlement cheaper and more available
- Increasing system resilience
- Reducing reliance on intermediary correspondent banks
- Permitting the linkage of digital securities/FX/etc platforms to digital cash, reducing settlement risk in those markets

The need for innovation by which wholesale financial market participants might be empowered to transact in a quicker, safer, and more transparent manner is clear.

Depending on who is permitted to hold such an asset, a digital representation of central bank money in wide cross-border use, exchangeable peer-to-peer on a same day basis without settlement or credit risk, could dramatically reduce – if not eliminate – reliance on traditional, self-evidently riskier methods.

Given the rationale for CBDCs, there are several essential characteristics for success



In financial markets, CBDCs aim to remove barriers to the free flow of money by making markets **faster**, **cheaper**, and **safer**. There are a number of fundamental pre-requisites for the achievement of these goals.

Available in Multiple Currencies



To be useful in the context of cross border PvP and DvP, a harmonised rollout of CBDC denominated in several currencies is essential, enabling instant cross-border payments, facilitating greater access to secured funding, and reducing settlement and counterparty credit risk.

Exchangeable on a Peer-to-Peer Basis



In both the FX and international securities markets, existing arrangements mean that trading parties cannot exchange claims directly. P2P functionality will allow CBDC to securely expand access while preserving regulatory and prudential boundaries.

Interoperable with Other Systems



To improve the efficiency of payments, and enable multi-currency PvP and DvP transactions, CBDCs must be designed with interoperability in mind - not just with one another, but also with other applications - capital markets, securities services, and more.

Several high profile projects have explored and proven the potential benefits of CBDC, but no wholesale-focused CBDC project has yet gone live



A Bank of Canada-led project focused on Development of a multi-currency payments wholesale payments clearing and settlement network prototype using blockchain technology, for domestic high-value interbank payments. addressing immediate business needs for cross Later expanded beyond wholesale payments currency exchange and foreign currency to include securities settlement, giving transactions. The Project has claimed that the participants the ability to settle their net model can be implemented as an international securities position using a single atomic settlement network. transaction. Jasper Ubin Project Stella studies the possible use Test A significant minority of central banks – of DLT for FMIs, including large-value CBDC representing one-fifth of the world's Retail projects Stella central bank real-time gross settlement Architectures population – now consider themselves (RTGS) systems, implementing the likely to issue a general purpose CBDC in processing logic of standard liquiditythe next three years. saving mechanisms in a DLT environment. BoE Helvetia In phase 2, the project team proved **ECB** that cross-ledger DvP could function **PBOC** even without any connection between **HKMA** individual ledgers. This BIS, SNB and SIX initiative E-Krona demonstrated the feasibility and Sand Dollar robustness of issuing a wholesale CBDC onto a distributed digital asset platform and linking the digital asset platform to the existing wholesale payment system.

The importance of standards



The motivations for research into CBDCs are diverse, but there are core commonalities in the public policy objectives of central banks. From these, a group of 7 central banks and the BIS recently derived a set of three-foundational-principles.

Coexistence

Do no harm

Innovation and efficiency



- New forms of money supplied by the central bank should continue supporting the fulfilment of public policy objectives and should not interfere with or impede a central bank's ability to carry out its mandate for monetary and financial stability.
- Different types of central bank money new (CBDC) and existing (cash, reserve or settlement accounts) should complement one another and coexist with robust private money (e.g. commercial bank accounts) to support public policy objectives.
- The payments ecosystem is comprised of public authorities and private agents (e.g. commercial banks and payment service providers). There is a role for the public and private sectors in the supply of payment services to create a safe, efficient and accessible system.

The difficulty of standards



The aforementioned diversity in motivation for issuance of a CBDC - as well as divergent design decisions evidenced in test implementations – may make the achievement of several standards and fundamental prerequisites for success difficult.

Cross border harmonisation

Interoperability with other systems

These are areas of natural advantage for private sector actors

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The absence of any wholesale CBDC solution yet live indicates that public sector institutions may instead wish to avail themselves of certain features of private sector innovations that such solutions would not possess if based on traditional design choices.

Technical coordination/integrity of protocol

Risks associated with widening access

The role of the central bank remains vital and indispensable.







What is a Fnality Payment System?



A payment system, underpinned by DLT, enabling near-instant peer-to-peer settlement in a digital cash asset backed by local currency held in a central bank account.

What is Fnality Global Payments?



A network of Fnality
Payment Systems,
interoperable with one
another on a 24/7/365
basis, enabling near-instant
PvP settlement crossborder.

How do Other Settlement Systems interact with Fnality Payment Systems?



All Fnality Payment Systems are also interoperable with any legacy or DLT-based business application, enabling near-instant atomic settlement of DvP transactions.

Fnality's history and methodology uniquely positions us to offer novel solutions to the same problems that wholesale CBDC arrangements seek to solve, in line with the core functionalities and standards previously outlined













First Mover Advantage with Central Banks

- Established relationships with 5 target central banks
- CPMI sub-group of central bank overseers formed to discuss Fnality
- In regular advanced conversations with target central banks since mid 2019
- Draft PFMI, rulebooks & cross border governance approach submitted for review
- Key policy statement from BoE made, formal application submitted.
- Access policy published by ECB.
- Account opening application at Federal Reserve underway.





Partnership with Strategic Shareholders

- Consortium of financial institutions explore DLT for payment leg
- Feasibility of USC phase completed and Fnality International established
- Strong governance influencing direction of system development
- Core use case roadmap determined

 First use cases in active development by shareholder banks





Technology Innovation in Wholesale Payments

- Initial exploration of technical feasibility completed
- Best in class delivery partners onboarded in 2019
- Shareholder banks successfully transferring value between themselves using test system.
- Ease of integration model delivered with simple installation

 Functionally complete version of the system released to shareholders



Thank you