The Business Model for CBDC Wallets

The Institute of International Finance (IIF) and Elevandi convened two Insights Forum Roundtables with senior leaders from the financial services industry and the public sector during the Singapore Fintech Festival. They were designed to explore critical issues we see in the development of Central Bank Digital Currencies (CBDC) and private digital assets. The roundtables were held under the Chatham House Rule and this note shares the issues and themes laid out for the session as well as key takeaways from the dialogue without attribution.

Participants in this session were selected to explore options for a workable economic and risk model for future CBDCs. Speakers were largely drawn from the c-suite and senior ranks of their institution but they brought diverse perspectives across the ecosystem for financial services ranging from global GSIB banks and payment networks to digital asset firms and central banks. Context and topic coverage for the session focused on the impact CBDC adoption would have on commercial banks.

Retail central bank money and disruption of deposit takers- If forthcoming Central Bank Digital Currency (CBDC) plans treat this instrument as part of the monetary base, then wallet custody service providers could be placed in a fundamentally different business than deposit-taking. This shift could reorganize the financial system. Some CBDC designs may envision private intermediaries hosting wallets, maintaining robust onboarding, AML/KYC/sanctions enforcement, cyber risk management, dispute resolution, customer service and continuing to perform other essential roles. What is less clear is where CBDC wallet custody generates the revenue stream to support these activities.

Initial agenda topics were designed to reveal expectations and critical assumptions. A successful CBDC deployment relies on the actions and contributions from a diverse group of participants. This is particularly true when considering a retail CBDC and end customer interactions. With that in mind, the following initial points were put forward to stimulate the discussion:

- **CBDC Moving from Theoretical Designs to Prototype-** In markets around the world, central banks are moving forward with CBDC development. The ECB has selected five companies to prototype user interfaces for the Digital Euro and several other have set designs and deployed prototypes. As these developments accelerate, the specifics of intermediation and roles are coming into focus. What models do we see emerging and what are the implications?
- **The Wallet in the Middle-** How will the economics of CBDC intermediation compare with today's fractional reserve lending model? If a retail CBDC is a direct liability on the central bank, can this custody still fund traditional commercial banking activities? What are the value added services wallet providers can deliver? How might we see roles and responsibilities in financial services change with the introduction of retail CBDC?
- **What's New-** In the emerging models for CBDC, what is changed for intermediaries? What legal frameworks might need to be modernized to enable the activities and roles envisioned? What opportunities for new value-added services and business lines are opened up for intermediaries by the launch of CBDCs? Would they support a new business model for financial services?

Banks and other financial institutions are still questioning the fundamental need for CBDCs. Several lead discussants and session participants questioned the underlying premise of retail CBDC moving forward rather than focusing on the details of a workable business model. There were strong questions about the policy objectives driving the development of CBDC and if the instruments would prove to be fit for purpose. That said, it was observed that significant progress has been made since the launch of the Sand Dollar of the Bahamas (one of the first CBDC). The eCNY is in broad circulation, a Digital Rupee has been announced, the ECB is in advanced stages of analysis, the Bank of England has confirmed the likelihood of a retail CBDC, the US Fed has begun testing, and project Ubin in Singapore has seen several rounds of tests. This wave of action occurs against a backdrop of dwindling use of cash and rising demand for digital payments. Despite these developments, more of the discussion

focused on questioning the need for CBDC and roles in the ecosystem rather than the economic and business model questions.

Policy objectives and principles for CBDC initiatives- Clearly identifying what governments and central banks sought to achieve through the development of CBDC was seen as an essential first step in determining if they are fit for purpose. Roundtable participants discussed a range of these objectives and related issues as they shared their views on:

- Efficiency- reduce the need for corresponding bank settlement.
- Automation- support private developments such as market makers for FX and cross-border payments.
- Compliance improvement- focus on designs that could drive beneficial change in KYC/AML.
- Innovation – support continued private innovation with sustainable business conditions.
- Financial Stability – CBDC should not facilitate flash bank runs during periods of stress.
- Privacy - this should be a key consideration for wallet design.

Anticipated impact areas and improvements include:

- Digital Identity – CBDC was seen as an opportunity to drive adjacent developments in digital identity and facilitate identification for rural and less served populations.
- Financial Innovation - CBDC provides an anchor for value in digital asset ecosystems and a platform for financial innovation and automation to be built on top of this base layer. Can facilitate stablecoin and tokenization.
- Financial Inclusion – frequently cited objective drew skeptical reactions from many of the private sector participants who questioned how this would be possible if requirements such as onboarding KYC, AML, and other account cost drivers remained consistent in a CBDC scenario.
- Taxation – support more automated and effective systems.

CBDC can serve as an anchor into the fiat economy for tokenized assets and make new instruments more accessible for a broader population. To achieve this, they must be broadly adopted and payments, in particular government payments, was seen as an important vector. In this scenario, leaving as much as possible to private market was seen as desirable. Participants were designing prototypes at both backend and frontend of these scenarios.

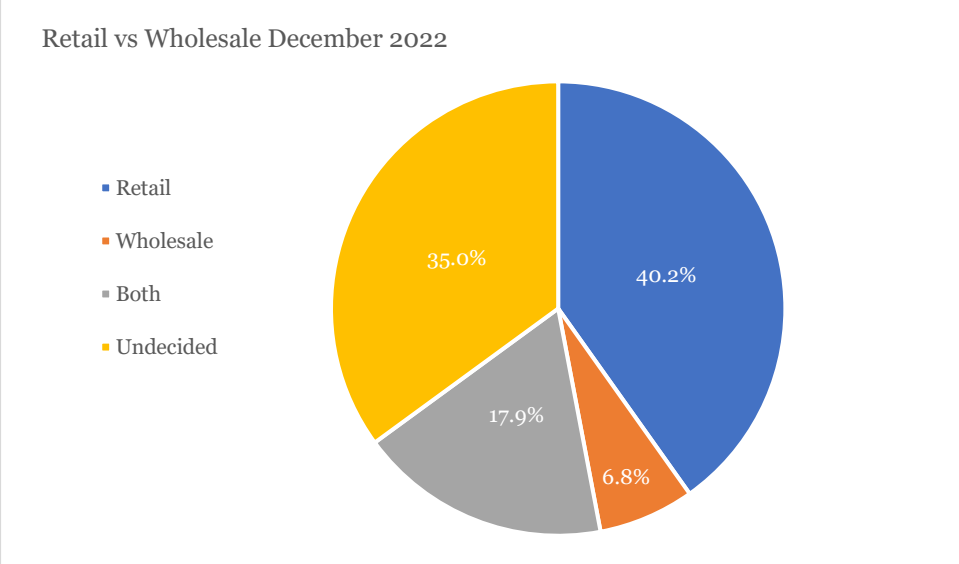
Design considerations for CBDC have different central banks taking diverse stances for varying objectives while the private sector is focused on a few key points. There was strong consensus, particularly among financial institution speakers, that two-tier distribution is the best model in most instances. Direct distribution to consumers by central banks was not seen as practical given the lack of capacity and experience in onboarding, KYC, AML, and customer service. Open designs for CBDC were seen as an opportunity for greater interoperability and private innovations, such as programmable functionality, to be built on top of CBDC. The private sector hopes that CBDC would be approached as an eco-system, not just the instrument, with a significant role for commercial banks in distribution.

Design questions outlined in the discussion included:

- Wholesale or retail CBDC?
- Should accounts remunerative or not?
- Should there be transaction limit or not?
- Issuance model - Who opens the account? The central bank or commercial bank?
- Can you dispense cash directly to CBDC wallet?
- Can you issue CBDC-backed stable coins?

Wallet design and value limits were a particular point of discussion within design considerations as the private sector participants emphasized the need to minimize conflicts and maximize synergy

between CBDC instruments and private services and products. Tiered wallet design and limits were explored as one way to reduce the chance of bank runs with a debate about different methodologies and questions regarding the options. Should they be tiered by value limits? And should there be easier onboarding requirement for small balance wallets? Should wallets be limited by "price" with different interest rates offered? Or should control mechanisms be by stock or by flow? In the end, participants coalesced that value limits seemed the more practical option for tiered options.



Use cases and adoption were explored. Looking beyond broad policy objectives, the gathering discussed more specific applications areas. Some speakers questioned if CBDC was trying to solve problems that do not exist or if CBDC was fit for the purpose. Web 3.0, the metaverse, government response to shock scenarios, green finance monitoring and reporting, and the broader trend of tokenization were all mentioned in the discussion as potential drivers for CBDC development. An analogy to the internet in 1998 was used to share that future use cases are hard to predict but "build it, they will come" was the sentiment of those gathered. Ultimately, it was agreed that use case is a sovereign decision for governments to make; however, adoption is the key. CBDC will need to deliver real benefits to users and adoption will be a problem if the CBDC is not trusted. For those reasons, concerns about becoming a tool of surveillance and state control were explored. There were also questions about the additionality of CBDC; what could it do that private tokens could not? The discussion settled on additional trust and security in crisis/distress scenarios. There were also notes of caution about designing pilots and tests of CBDC with "free money" leading to false conclusions. In the end, it is up to consumer; CBDC won't take off if consumers don't want it.

Wholesale vs retail CBDC discussions highlighted significant differences for intermediaries between these scenarios. Do banks want to be liquidity providers? If CBDC is used for wholesale, will it help reduce counterparty risk? If so, this is an exciting opportunity. Many share the view that central banks don't want to disrupt commercial banks' capacity for credit creation and private money creation will remain. While there is certainty that central banks don't want to deal with the minutiae of onboarding, fears of disruption still linger with commercial banks as they contemplate the possible outflow of money and unforeseen changes.

Business model for commercial banks in CBDC systems continues to be questioned. Consensus was that most banks have passed the disintermediation fear stage because most CBDC initiatives do not seem focused on replacing commercial banks in distribution, deposit taking, or lending. No one questioned the two-tier model. Public sector representatives offered that there is no reason to fear as long as CBDC only replaces physical cash. Meanwhile, commercial banks see potential opportunity if

they can layer programmability on money. As they contemplate the emergence of CBDC, commercial banks are also starting to explore new possibilities such as becoming trusted advisors and service providers to central banks on CBDC development. There are still questions for commercial banks about a stable business model, unforeseen changes from the evolution to digital instead of physical cash, and responsibilities for cyber risk and crypto graphic security management.

Public policy and infrastructure are seen to require collaboration between the public and private sectors, for instance, in minting and distribution. There was a sentiment that CBDC initiatives need to achieve more than just cash-replacement. Creating a platform for financial innovation and financial inclusion was seen as the guiding "north star". Creating a monetary anchor in new tokenized ecosystems was put forward as a worthy objective. While infrastructure and maintenance costs for digitized systems may be expensive, participants were reminded that physical cash is expensive too. Observers saw the need to make CBDC sustainable when scaled up.

Legal and regulatory frameworks encompassing all digital assets are urgently needed. Current regulation was viewed as insufficient and there are concerns that responses could fragment between different instrument types thereby blocking interoperability for various public and private instruments. Three dimensions were offered for focus:

- Fraud -fix the lack of consistent oversight and standards.
- Consumer protection – address a diverse set of issues ranging from wallet switching concerns (make easy), to loss of privacy, to confusion over multiplicity of models, to recourse over "fat finger" mistakes in immutable distributed systems (It was noted that consumers use digital wallets today because of benefits from digital technology).
- Finality and settlement- modernize these rules and processes with new technology and its capabilities in mind. Infrastructure should be legally binding and legally enforceable. Questions remain if digital currencies are legal tender? Is settlement finality reversible? Answers depend on how CBDCs are designed and how legal frameworks are updated.

Trust Problems are likely to be significant. Privacy is key to engender trusts but there will be tensions in CBDC designs between transparency, wallet control, and desire for anonymity. Consumer protections needs to be in place and digital wallet must have legal underpinning to engender trust. Requirements for traceability, irreversibility, irrevocability highlight tensions. One participant summarized that trust in infrastructure and the public sector are critical with societal cohesion only existing when there is trust.

In conclusion, CBDC is advancing with significant activity in major economies in Europe, China, India, the US, and UK as well as many smaller markets. **Greater communication and coordination are needed between sectors if these efforts are to succeed**.