

Recent Developments: CBDC

The pilot in wholesale segment, known as the Digital Rupee -Wholesale (₹-W), was launched on November 1, 2022, with use case being limited to the settlement of secondary market transactions in government securities. Use of (₹-W), is expected to make the inter-bank market more efficient. Settlement in central bank money would reduce transaction costs by pre-empting the need for settlement guarantee infrastructure or for collateral to mitigate settlement risk. The pilot in retail segment, known as digital Rupee-Retail (₹-R), was launched on December 01, 2022, within a closed user group (CUG) comprising participating customers and merchants.

Central Bank Digital Currency (CBDC) is a digital form of currency notes issued by a central bank. While most central banks across the globe are exploring the issuance of CBDC, the key motivations for its issuance are specific to each country's unique requirements.

Reserve Bank broadly defines CBDC as the legal tender issued by a central bank in a digital form. It is akin to sovereign paper currency but takes a different form, exchangeable at par with the existing currency and shall be accepted as a medium of payment, legal tender and a safe store of value. CBDCs would appear as liability on a central bank's balance sheet.

Bank for International Settlement has laid down "foundational principles" and "core features" of a CBDC, to guide exploration and support public policy objectives, as per the need of existing mandate of Central Banks. The foundational principles emphasise that, authorities would first need to be confident that issuance would not compromise monetary or financial stability and that a CBDC could coexist with and complement existing forms of money, promoting innovation and efficiency.

Advantages

CBDC, being a sovereign currency, holds unique advantages of central bank money viz. trust, safety, liquidity, settlement finality and integrity.

The key motivations for exploring the issuance of CBDC in India among others include reduction in operational costs involved in physical cash management, fostering financial inclusion, bringing resilience, efficiency, and innovation in payments system, adding efficiency to the settlement system, boosting innovation in cross-border payments space and providing public with uses that any private virtual currencies can provide, without the associated risks.

The use of offline feature in CBDC would also be beneficial in remote locations and offer availability and resilience benefits when electrical power or mobile network is not available.

The key design choices to be considered for issuing CBDCs include (i) Type of CBDC to be issued (Wholesale CBDC and/or Retail CBDC), (ii) Models for issuance and management of CBDCs (Direct, Indirect or Hybrid model), (iii) Form of CBDC (Token-based or Account-based), (iv) Instrument Design (Remunerated or Non-remunerated) and (v) Degree of Anonymity.

Type of CBDC to be issued

CBDC can be classified into two broad types viz. general purpose or retail (CBDC-R) and wholesale (CBDC-W). Retail CBDC would be potentially available for use by all viz. private sector, non-financial consumers and businesses while wholesale CBDC is designed for restricted access to select financial institutions. While Wholesale CBDC is intended for the settlement of interbank transfers and related wholesale transactions, Retail CBDC is an electronic version of cash primarily meant for retail transactions.

It is believed that Retail CBDC can provide access to safe money for payment and settlement as it is a direct liability of the Central Bank. Wholesale CBDC has the potential to transform the settlement systems for financial transactions and make them more efficient and secure. Going by the potential offered by each of them, there may be merit in introducing both CBDC-W and CBDC-R.

Model for issuance and management of CBDC

There are two models for issuance and management of CBDCs viz. Direct model (Single Tier model) and Indirect model (Two-Tier model).

A Direct model would be the one where the central bank is responsible for managing all aspects of the CBDC system viz. issuance, account-keeping and transaction verification.

In an Indirect model, central bank and other intermediaries (banks and any other service providers), each play their respective role. In this model central bank issues CBDC to consumers indirectly through intermediaries and any claim by consumers is managed by the intermediary as the central bank only handles wholesale payments to intermediaries.

The Indirect model is akin to the current physical currency management system wherein banks manage activities like distribution of notes to public, account-keeping, adherence of requirement related to know-your-customer (KYC) and anti-money laundering and countering the terrorism of financing (AML/CFT) checks, transaction verification etc.

Forms of CBDC

CBDC can be structured as 'token-based' or 'account-based'.

A token-based CBDC is a bearer-instrument like banknotes, meaning whosoever holds the tokens at a given point in time would be presumed to own them. In contrast, an account-based system would require maintenance of record of balances and transactions of all holders of the CBDC and indicate the ownership of the monetary balances. Also, in a token-based CBDC, the person receiving a token will verify that his ownership of the token is genuine, whereas in an account-based CBDC, an intermediary verifies the identity of an account holder. Considering the features offered by both the forms of CBDCs, a token-based CBDC is viewed as a preferred mode for CBDC-R as it would be closer to physical cash, while account-based CBDC may be considered for CBDC-W.

Technology choice

CBDCs being digital in nature, technological consideration will always remain at its core. The infrastructure of CBDCs can be on a conventional centrally controlled database or on Distributed Ledger Technology. The two technologies differ in terms of efficiency and degree of protection from single point of failure. The technology considerations underlying the deployment of CBDC needs to be forward looking and must have strong cybersecurity, technical stability, resilience and sound technical governance standards. While crystallising the design choices in the initial stages, the technological considerations may be kept flexible and open-ended in order to incorporate the changing needs based on the evolution of the technological aspects of CBDCs.

MCQ for practice

Q1. Which of the following is not an advantage of CBDC?

- (a) Reduction in operational costs involved in physical cash management
- (b) The use of offline feature in CBDC would also be beneficial in remote location
- (c) Boosting innovation in cross-border payments space
- (d) Reducing dependency on private cryptocurrency
- (e) All of these

Ans(d)

Q2. Which mode is used in CBDC – retail?

- (a) Token based
- (b) Account based
- (c) Both a and b
- (d) Either a or b
- (e) None

Ans(a)

