

4.2 Currency Models

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Overview

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The Bank For International Settlements provides a good explanation of the problems confronting the U.S. Federal Reserve's CBDC effort.¹⁾

*CBDC is not a well-defined term. It is used to refer to a number of concepts. However, it is envisioned by most to be a new form of central bank money. That is, a central bank liability, denominated in an existing unit of account, which serves both as a medium of exchange and a store of value. This would be an innovation for general purpose users, but not for wholesale entities. Central banks already provide digital money in the form of reserves or settlement account balances held by commercial banks and certain other financial institutions at the central bank. This mix of new and already existing forms of central bank money makes it challenging to precisely define what a CBDC is. In fact, for purposes of analyzing what may change, it is easier to define a CBDC by highlighting what it is **NOT**:*

a CBDC is a digital form of central bank money that is different from balances in traditional reserve or settlement accounts.²⁾

*A key distinction between token **[Digital Cash]** and account-based **[Digital Account]** money is the form of verification needed when it is exchanged (Kahn and Roberds (2009)). Token-based money (or payment systems) relies critically on the ability of the payee to verify the validity of the payment object. With cash the worry is counterfeiting, while in the digital world the worry is whether the token or “coin” is genuine or not (electronic counterfeiting) and whether it has already been spent. By contrast, systems based on account money depend fundamentally on the ability to verify the identity of the account holder. A key concern is identity theft, which allows perpetrators to transfer or withdraw money from accounts without permission. Identification is needed to correctly link payers and payees and to ascertain their respective account histories.*

Taxonomy

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Figure 1: Venn Diagrams of Two Taxonomies of New Forms of Money⁴⁾



Figure 2: The Money Flower: A Taxonomy of Money.⁵⁾

For this discussion on CBDC, two different models are used:

- [4.2.1 Digital Cash Model](#) - Tokens
- [4.2.2 Digital Account Model](#) - Accounts

¹⁾

Bank For International Settlements, Committee on Payments and Market Infrastructures, Markets Committee, March 2028, Accessed: 3 April 2022, <https://www.bis.org/cpmi/publ/d174.pdf>

²⁾

Reserves and settlement accounts are available in most jurisdictions to “monetary policy counterparties”, i.e. financial institutions that are directly relevant for monetary policy implementation, such as deposit-taking entities, which are generally already granted access to the central bank deposit and lending facilities. In some jurisdictions, account holders may comprise a broader group and include non-monetary counterparties such as treasury, foreign central banks, or certain Financial Markets Infrastructures (FMIs). Some central banks are considering widening access. CBDC would further expand access to digital central bank money, but not to central bank lending facilities.

³⁾

Benoît Cœuré, Jacqueline Loh, Klaus Löber, Aerd Houben, Central Bank Digital Currencies, Bank of International Settlements, Committee on Payments and Market Infrastructures - Markets Committee, March 2018, Accessed: 16 May 2022, <https://www.bis.org/cpmi/publ/d174.pdf>

⁴⁾

Morten Linnemann Bech, Rodney Garratt, Central Bank Cryptocurrencies, BIS Quarterly Review, 17 September 2017, Accessed: 16 May 2022, https://www.bis.org/publ/qtrpdf/r_qt1709f.htm

⁵⁾

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