

Central Bank Digital Currency (CBDC)

A first look at design choices

Peter Wierdsma*, 3rd Annual Delft Blockchain Symposium, 30-01-'20

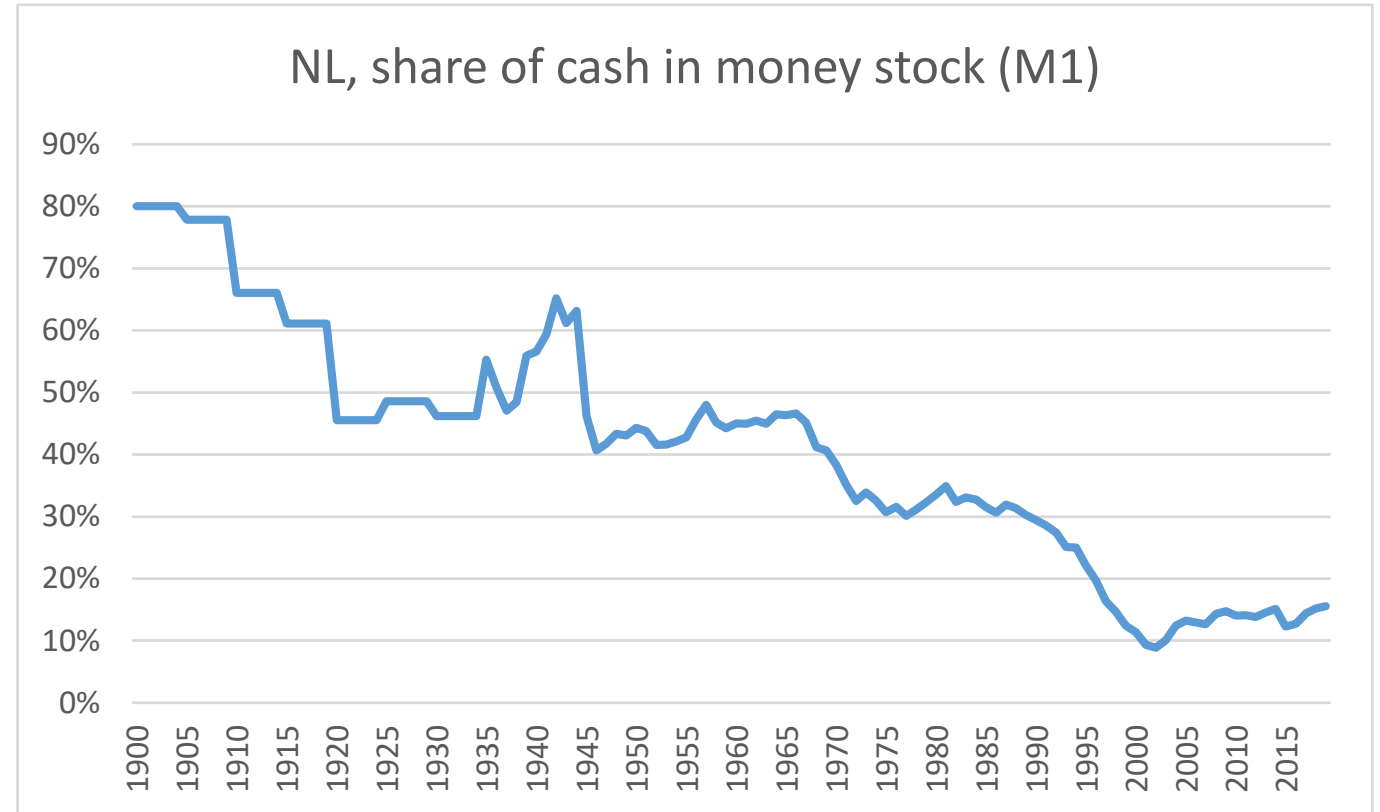
DeNederlandscheBank

EUROSYSTEM

* The views expressed are those of the presenter and do not necessarily reflect the official policy or position of DNB

Context

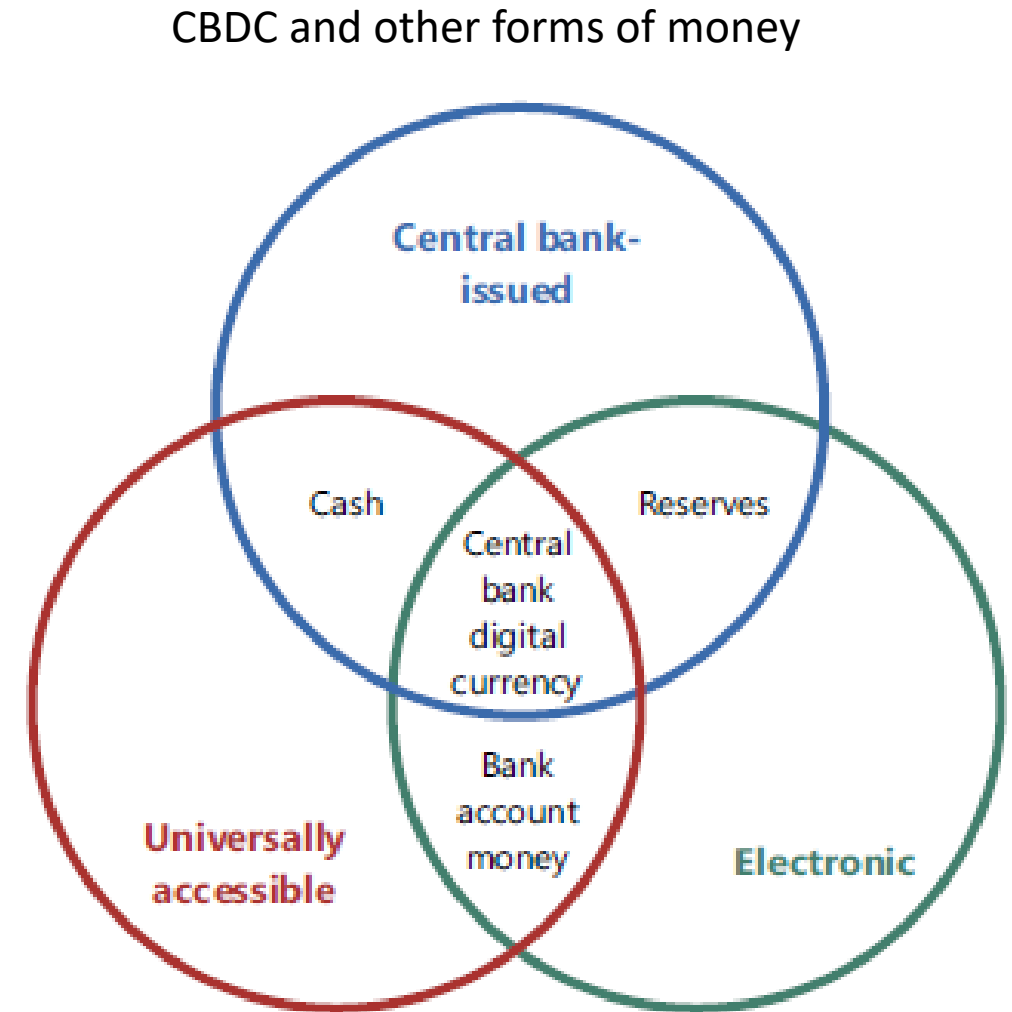
- International discussion
 - **Mandate for CBDC at ECB**
 - NL: frontrunner **digital payments**
- Discussion in **Dutch society**
 - WRR (2019): consider CBDC
- **DNB study**, planned for first half of 2020
 - Objectives, risks, design options
 - Including technology (e.g. programmable money? DLT?)



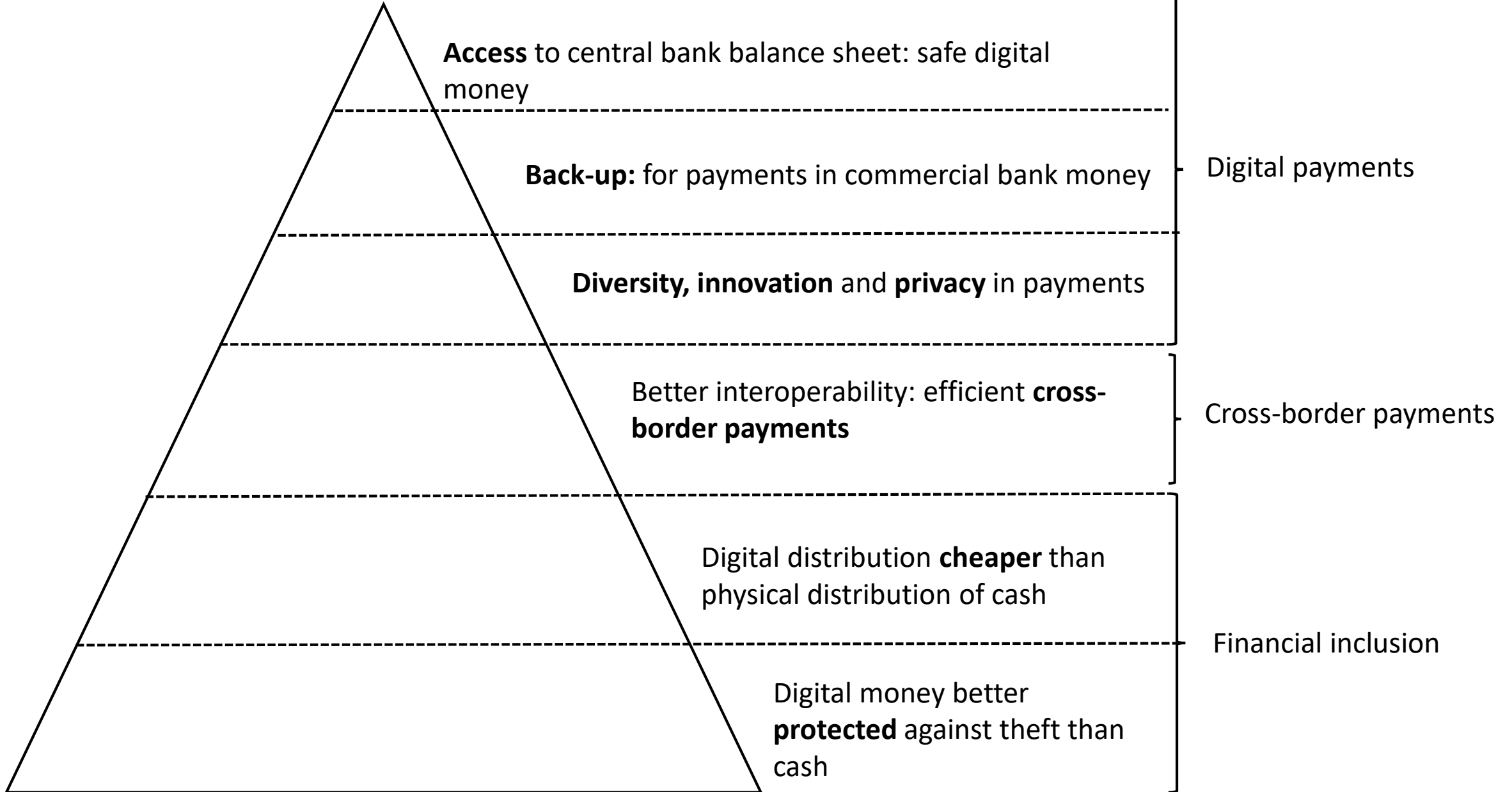
Sources: CBS and DNB

What is CBDC?

- **Central bank money**
 - Issued by central bank
- Currently in two forms
 - **Cash:** for general public
 - **Reserve accounts:** restricted access (*wholesale CBDC*), electronic
- **General purpose CBDC would be**
 - Issued by the central bank
 - Digital
 - For general public



Why CBDC? Possible objectives. Which one(s) to choose?



Key trade-off

- **CBDC objectives:** require improved **access** to the central bank balance sheet
- This increases the **size** of the central bank balance sheet
 - **Substitution** for bank deposits; larger role in credit intermediation (private function)
 - **Financial stability** risks; especially outside Deposit Guarantee Scheme
- Leads to discussion on design options to create **supply frictions** (e.g. Bindseil, ECB, 2020)
 - How much CBDC would be needed to achieve its objective?
 - Less beneficial conditions for holding larger amounts of CBDC?

For discussion – CBDC objective determines design

- Which **technology**?
 - Simple payment functions vs **programmable money** and smart contracts?
 - **Distributed Ledger Technology**?
- Which **access** point for customer? Private sector entities and/or central bank app?
- Which level of **anonymity**?
 - Combine demand for **privacy** with need for **transaction monitoring**? (Anti-Money Laundering and Combating the Financing of Terrorism)
- **Supply constraints** to limit role of central bank in financial system?
 - Who exactly has access to CBDC?
 - Which supply rule?