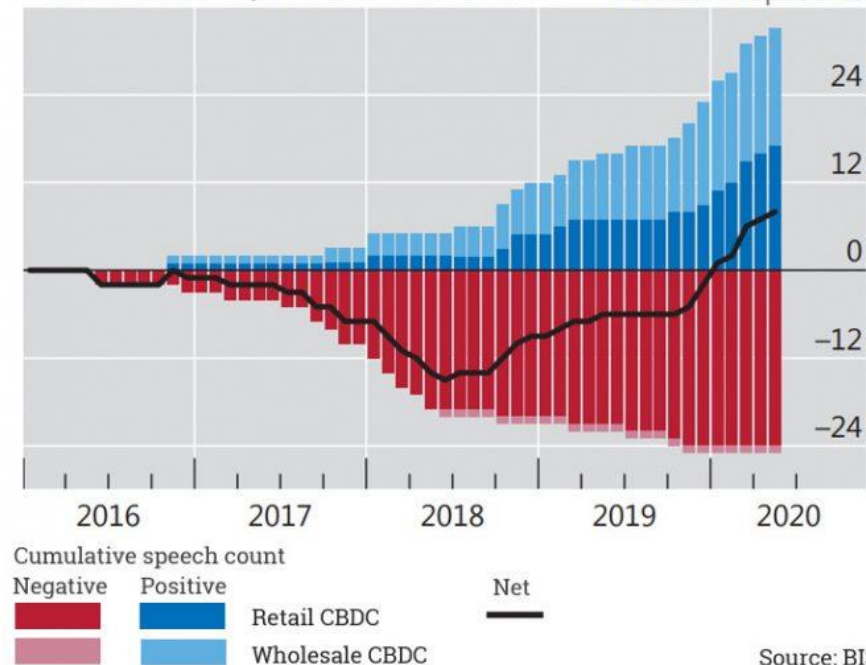




# Motivation slides

# Why does “Retail CBDC” receive a lot of negative view?

Central bank speeches on CBDC



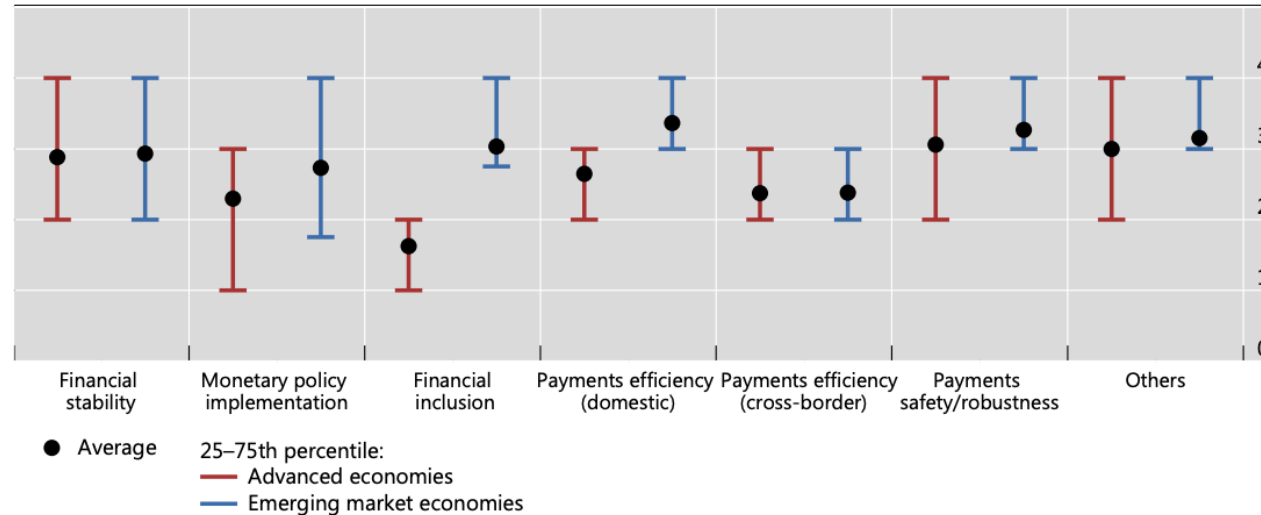
Source: BIS

# Motivations for CBDC

## Motivations for issuing a general purpose CBDC<sup>1</sup>

Distribution<sup>1</sup>

Graph 3



<sup>1</sup> Not so important" (1); "Somewhat important" (2); "Important" (3); and "Very important" (4).

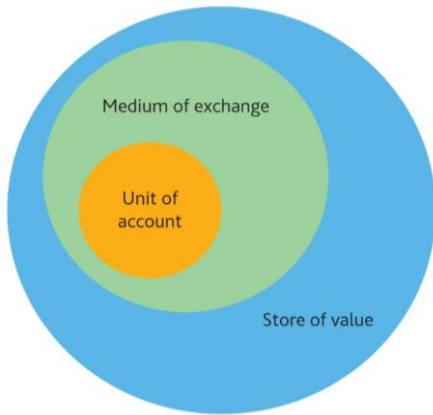
Source: Central bank survey on CBDCs.



# Mechanics of currency

# Characteristics of currency

## Functions of currency



## Types of currency

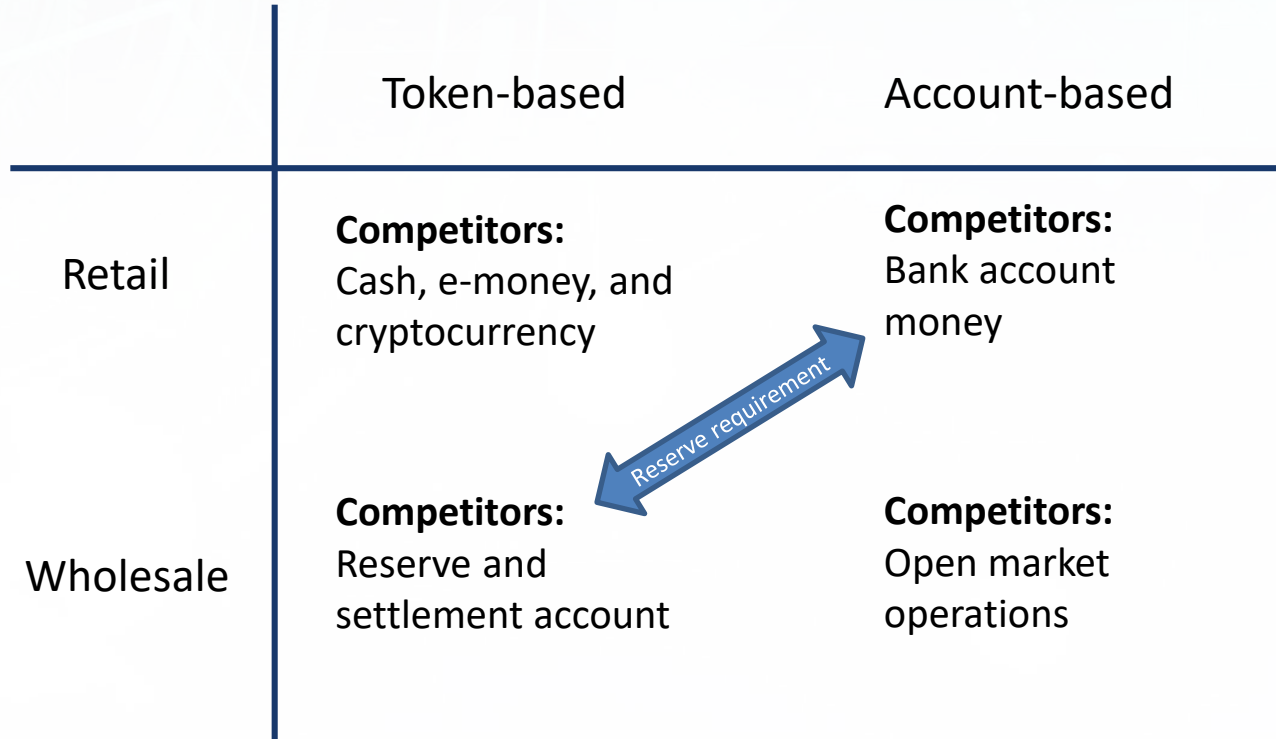
Token-based

Account-based\*

	Universally accessible	Issued by central bank	Issued by Private sector	Digital form
<b>Cash (notes and coins)</b>	✓	✓		
<b>Bank account money</b>	✓		✓	✓
<b>Reserve and settlement account</b>		✓		✓
<b>E-money</b>	✓		✓	✓
<b>Cryptocurrency</b>	✓		✓	✓

\*Account-based form is referred to an interest-earning account.

# What is CBDC?





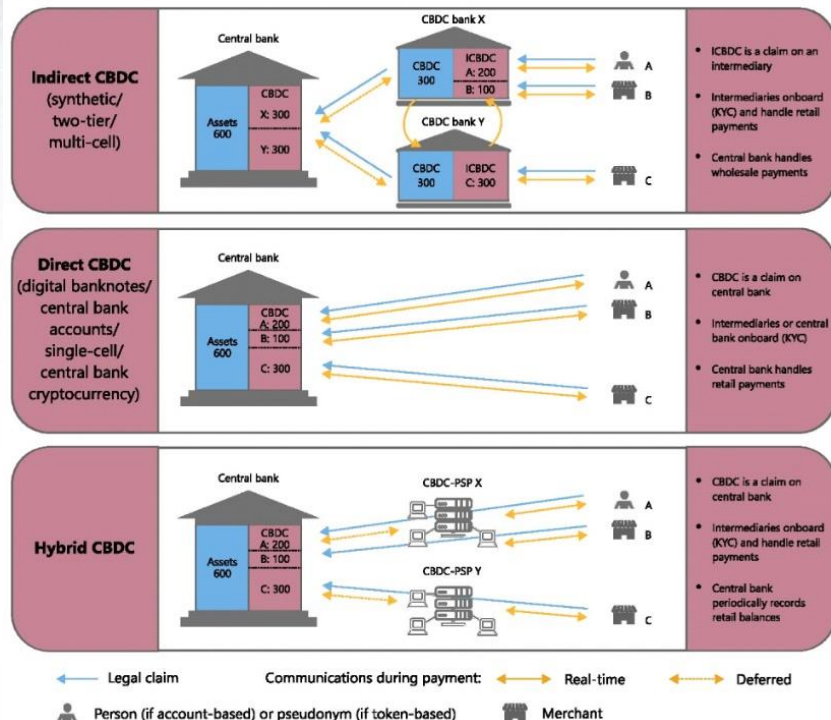
# Key considerations when introducing CBDC



# What would be the next roles of financial intermediaries?

An overview of potential retail CBDC architectures

Graph 2



## Possible outcomes of “Retail account-based CBDC”

The end of  
“Fractional reserve banking”!

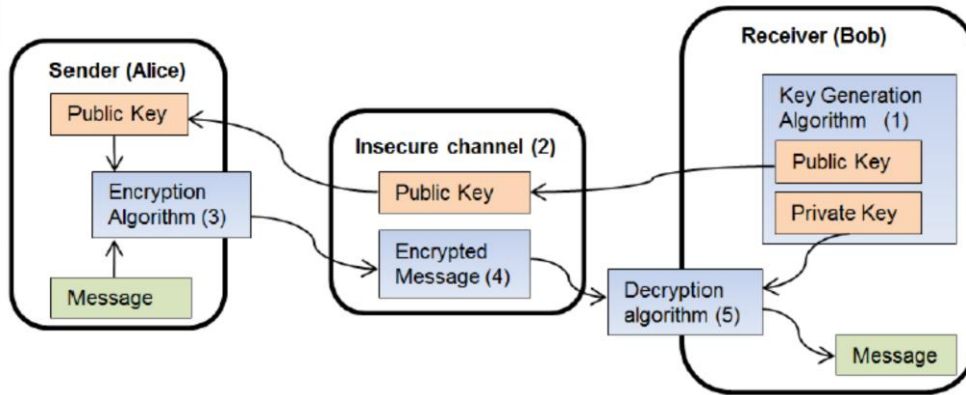
Central banks --> State banks

Flight to quality (bank runs)  
during the crisis?



# How to protect privacy of users?

## Possible outcomes of “Retail token-based CBDC”



Do we actually need cash?

Anonymous  
VS  
Pseudo-anonymous  
VS  
Transparent

Temporary key concept?

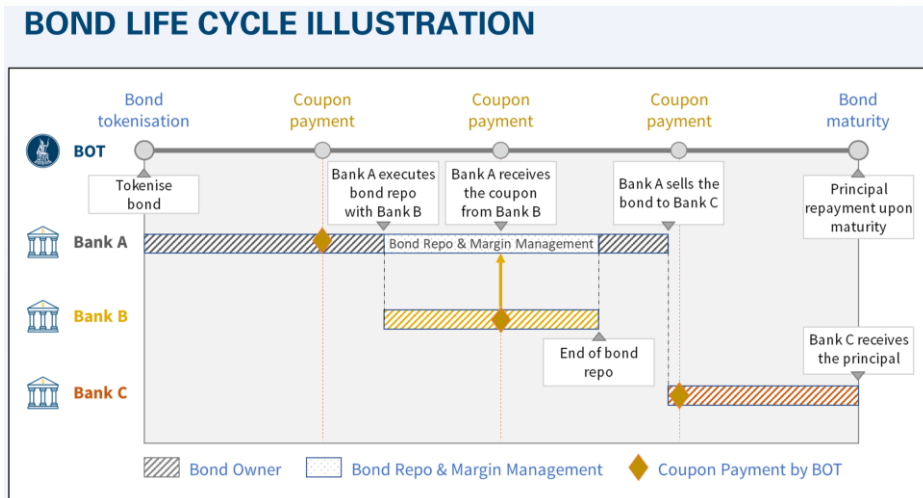
Source: Biella & Zinetti (2016)

# Should we allow smart contracts for individual transactions?

## Possible outcomes of “Wholesale account-based CBDC”

Smart contracts

Liquidity management



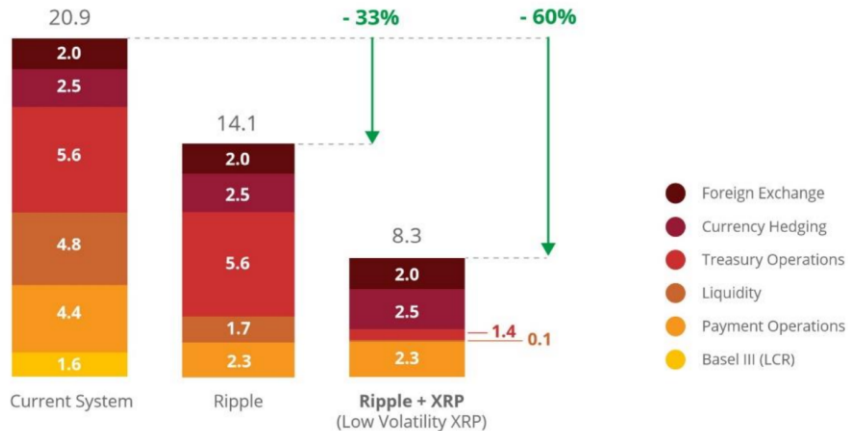
Source: BOT

# Should we allow smart contracts for individual transactions?

## Possible outcomes of “Wholesale token-based CBDC”

### International Payment Infrastructure Costs

Global Average Cost: 20.9 bps on payment volume, assuming low volatility of XRP



Cross border transaction

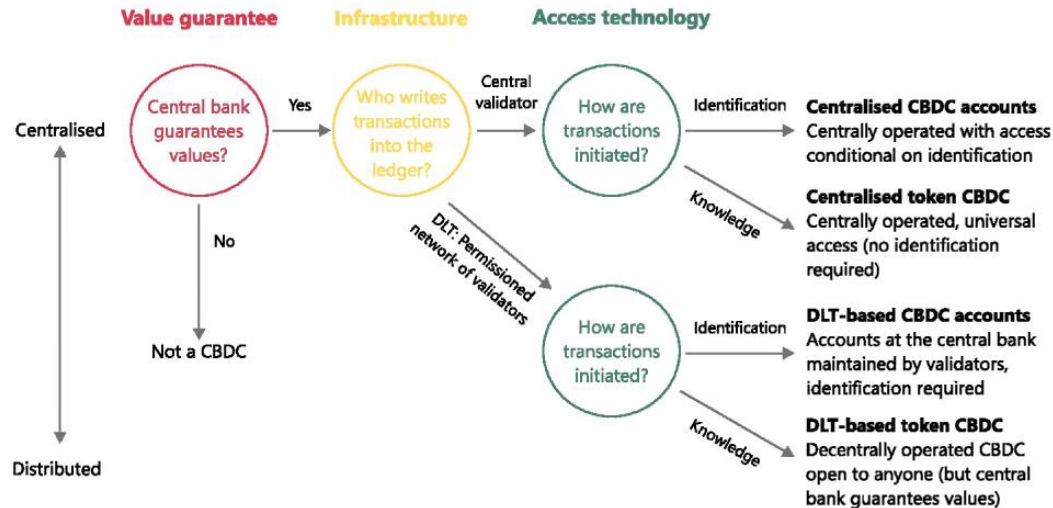
Liquidity management

Source: Ripple (2016)

# Do we actually need DLT?

Elements of decentralisation: DLT and token-based access

Graph 3



This graph maps out the four possible combinations of whether a CBDC infrastructure is distributed or centralised and whether access is based on identification (accounts) or cryptographic knowledge (digital tokens). All four combinations are possible for any CBDC architecture (indirect, direct or hybrid), but in the different architectures, the central bank and the private sector operate different parts of the respective infrastructure.

Source: Authors' elaboration.


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## Key concerns

Resilient

Security

Central point of attack



# New monetary (+fiscal) policy tools and banking landscape

# Summary of impacts

## **6 key outcomes after the introduction of CBDC**

1. New roles of central bank money
2. New financial institution landscape
3. New monetary policy tool(s):
4. Management of government balance sheet
5. Cyber attack prevention
6. Power of central banks