

CBDC: Will central banks succeed in the digital currencies market?

Peter Bofinger and Thomas Haas
Julius-Maximilians-Universität Würzburg

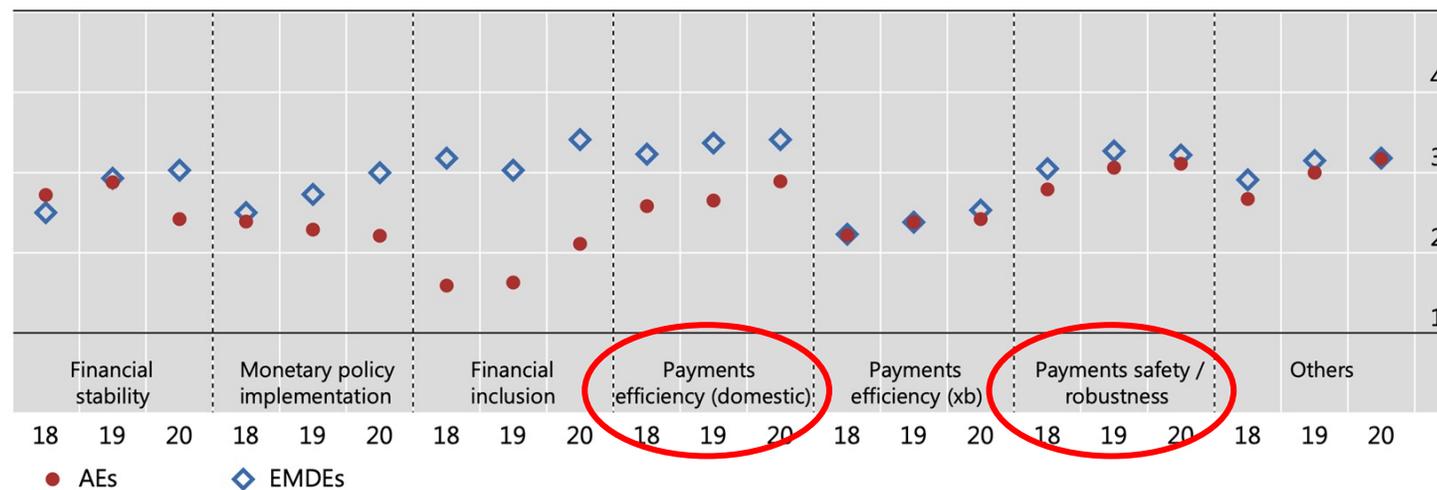
CBDC: Motivations for central banks

- ❖ Payments safety
- ❖ Payments efficiency
- ❖ Financial inclusion
- ❖ Monetary sovereignty

Motivations for issuing a retail CBDC

Average importance

Graph 3



(1) = "Not so important"; (2) = "Somewhat important"; (3) = "Important"; (4) = "Very important".

Source: BIS central bank survey on CBDCs.

Source: Boar and Wehrli 2021

A systemic microeconomic approach to CBDC

- ❖ A qualitative leap: CBDC implies direct competition of central banks with the private sector
 - ❖ Is there a **market failure** that justifies central bank activities in the sphere of private banks and private payment service providers?
 - ❖ Can CBDC solutions **compete successfully** with existing **payment assets** and **payment systems**?

Payment systems, instruments and assets

Payment system	Payment instrument	Payment asset
Cash payment system	Banknotes, coins	Banknotes, coins
Commercial bank payment systems	Bank transfers, debit cards cheques, mobile payment online-banking	Bank deposits
Credit card payment systems (VISA/Mastercard/ American Express)	Credit cards, debit cards mobile payment (Google Pay) online-banking	Bank deposits
Payment platforms (PayPal)	Mobile payment, online payment	Deposits on PayPal account or bank deposits

CBDC: Payment asset and/or payment system?

		CBDC retail payment system	
		No	Yes
CBDC payment assets	Yes	Hybrid CBDC/Indirect CBDC/Intermediate CBDC	Direct CBDC
	No	Status quo	(European PayPal)

Forms of CBDC competition

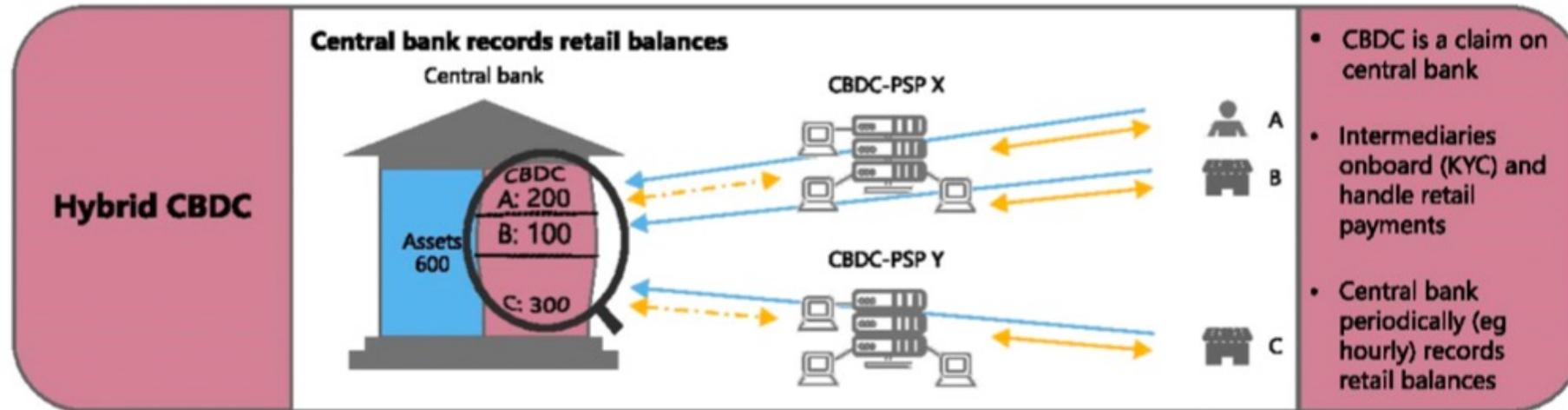
A. New payment asset only: Competition with private bank accounts

1. Hybrid CBDC (Payment CBDC)
2. Intermediated / Indirect CBDC (Store of Value CBDC)

B. New payment asset and new payment system: Competition with the cash payment system and private retail payment systems

3. Direct CBDC (Digital Cash)

1. Hybrid CBDC

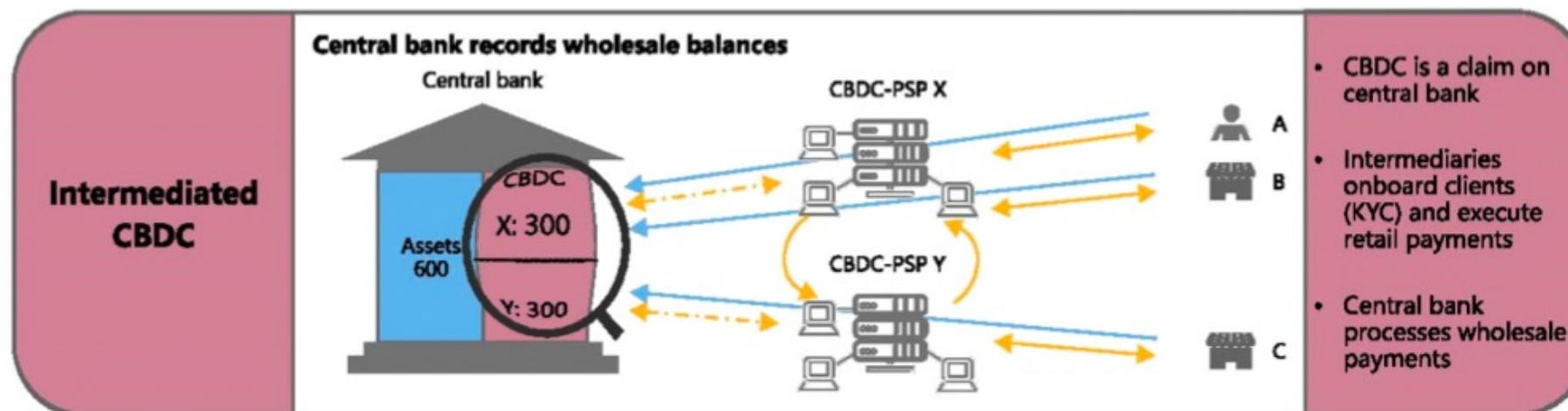


CBDC as payment asset handled by private PSP (with individual central bank accounts)

- ❖ Advantage: Safety of central bank deposit. But bank deposits below 100.000€ are protected by the **deposit insurance**.
- ❖ Due to lower and upper limits (e.g. 3,000€) of CBDC account, households must keep a parallel commercial bank account.
- ❖ As existing payment service providers (PayPal) would handle retail payments, **no improvements** of payment efficiency, payment safety and anonymity.

No market failure is addressed and **no benefits** for users

2a. Intermediated CBDC

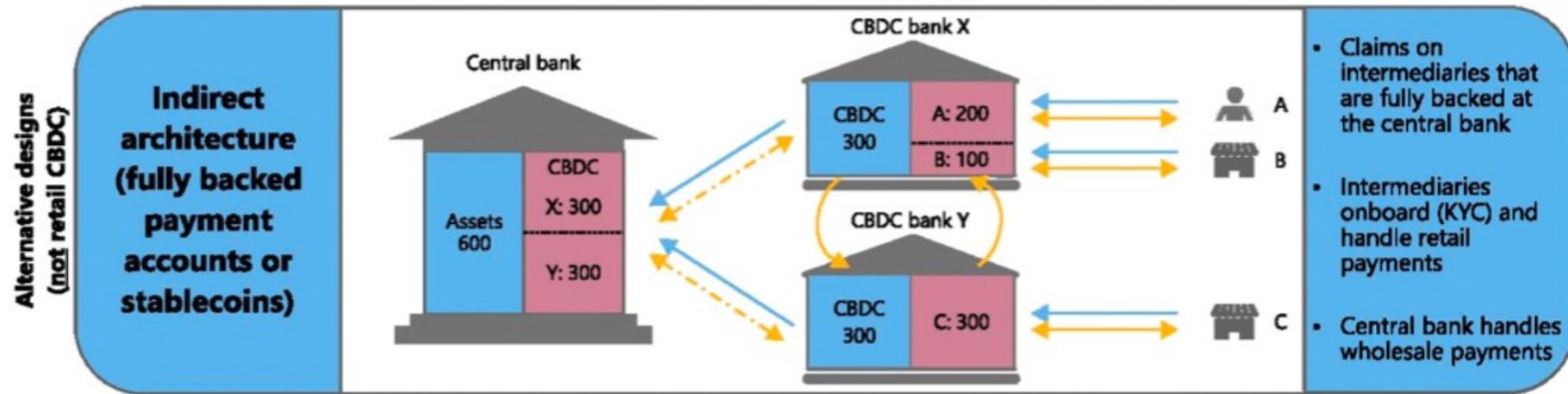


Similar to Hybrid CBDC, but no individual central bank accounts

- ❖ Users have no direct claim on central bank; central bank only keeps track of wholesale balances, private service providers handle retail payments
- ❖ Unclear, whether a legal claim on the central bank exists
- ❖ For users identical with hybrid CBDC, but no direct access to central bank which is key argument for CBDC

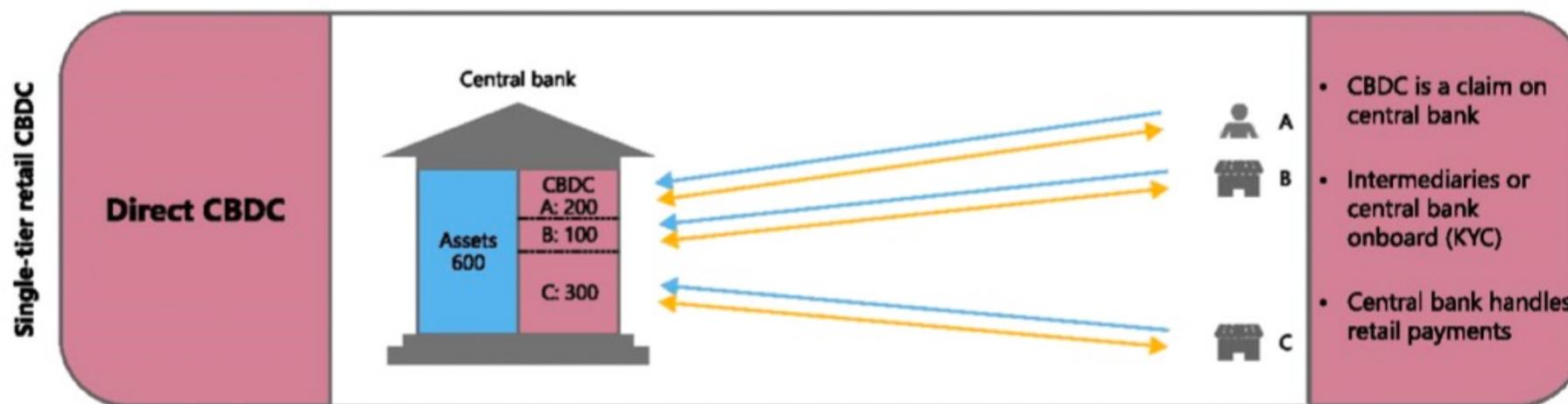
No market failure is addressed and **no clear benefits** for users

2b. Indirect CBDC (Stablecoins)



- ❖ Indirect CBDC could serve as **collateral for stablecoins** and thus as **regulatory response** to ensure full convertibility of deposits at any time (Alipay)
 - ❖ Libra/Diem Association (2020, p.11): *“Moreover, our hope is that as central banks develop central bank digital (CBDCs), these CBDCs could be directly integrated with the Libra network, removing the need for Libra Networks to manage the associated Reserves, thus reducing credit and custody risk.”*

3. Direct CBDC



CBDC as payment asset and payment system

- ❖ CBDC competes with
 - cash payment system ('digital cash'), and
 - existing payment platforms (e.g. PayPal)
- ❖ Advantages of **cash payment system** over CBDC payment system: absolute anonymity, broad acceptance, robustness in extreme events
- ❖ Advantages of **private payment service providers** (PayPal and credit cards) over CBDC payment system: no system specific payment assets are required, broad spectrum of services for retailers and customers, global and multicurrency usage

No market failure is addressed and **no clear benefits** for users

Can CBDC achieve the objectives of central banks?

❖ **Payments safety and payments efficiency:**

- ❖ If CBDC retail payments are handled by private service providers, no change compared with status quo
- ❖ If CBDC is designed as an independent payment system the unique selling proposition over private PSP is not clear

❖ **Financial inclusion**

- ❖ As CBDCs require a commercial bank account, no change compared with status quo. Better solution:
Mobile phone banking (M-Pesa)

❖ **Monetary sovereignty**

- ❖ If Europe wants to become independent from US payment platforms, it needs a private payment system that can successfully compete with PayPal. TWINT shows that this is possible.

Christopher Waller (Board of Governors of the FED)

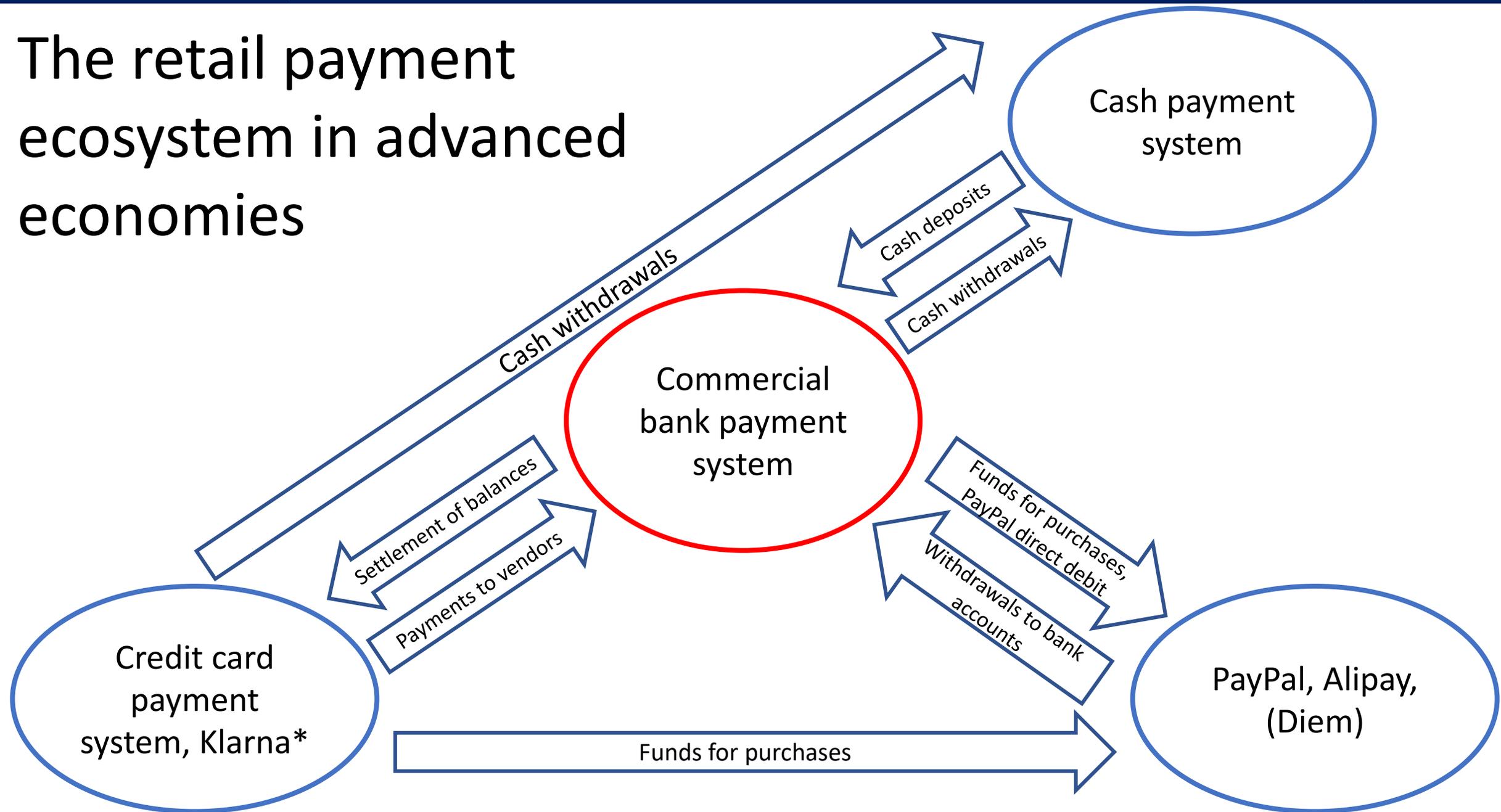
„I am not convinced as of yet that a CBDC would solve any existing problem that is not being addressed more promptly and efficiently by other initiatives.“



Source: AEI.org

Appendix

The retail payment ecosystem in advanced economies



*No cash withdrawal possible

The unique selling proposition of the subsystems

Cash

- ❖ Regular payments: elderly people prefer cash and some small stores do not accept cards
- ❖ Anonymity for payments in the informal sector
- ❖ Safe asset
- ❖ Offline use



Credit cards

- ❖ Global and multi-currency usage
- ❖ Short-term overdraft facility, consumer loans
- ❖ Bonus programs ("Miles and More")
- ❖ Insurance services
- ❖ Better global acceptance than maestro (bank card)

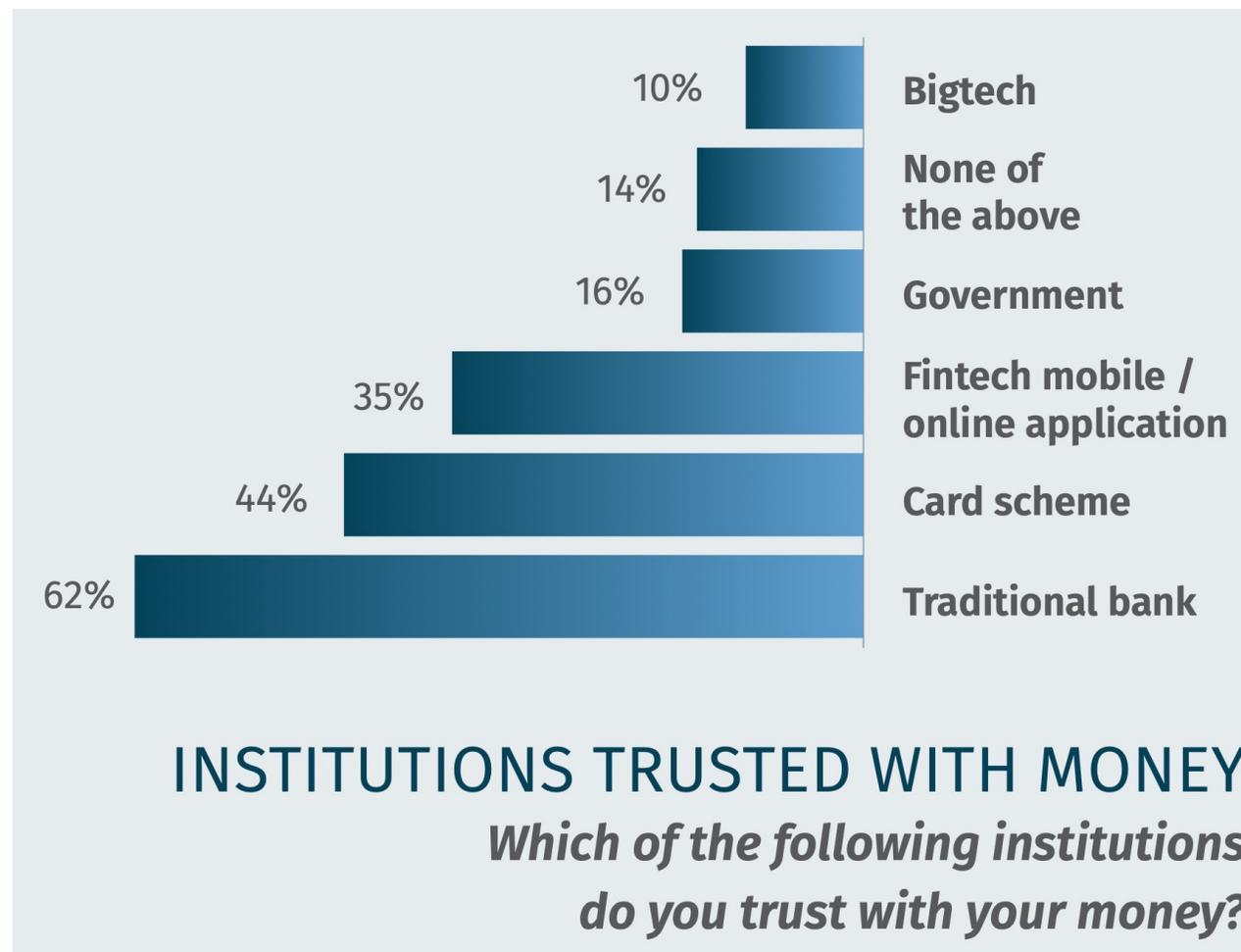


PayPal

- ❖ Global and multi-currency usage
- ❖ Easy to handle and fast transactions in P2P (no IBAN, no TAN)
- ❖ Insurance services for consumers and vendors in online-trade
- ❖ Loans to vendors and to consumers
- ❖ No system specific deposits required

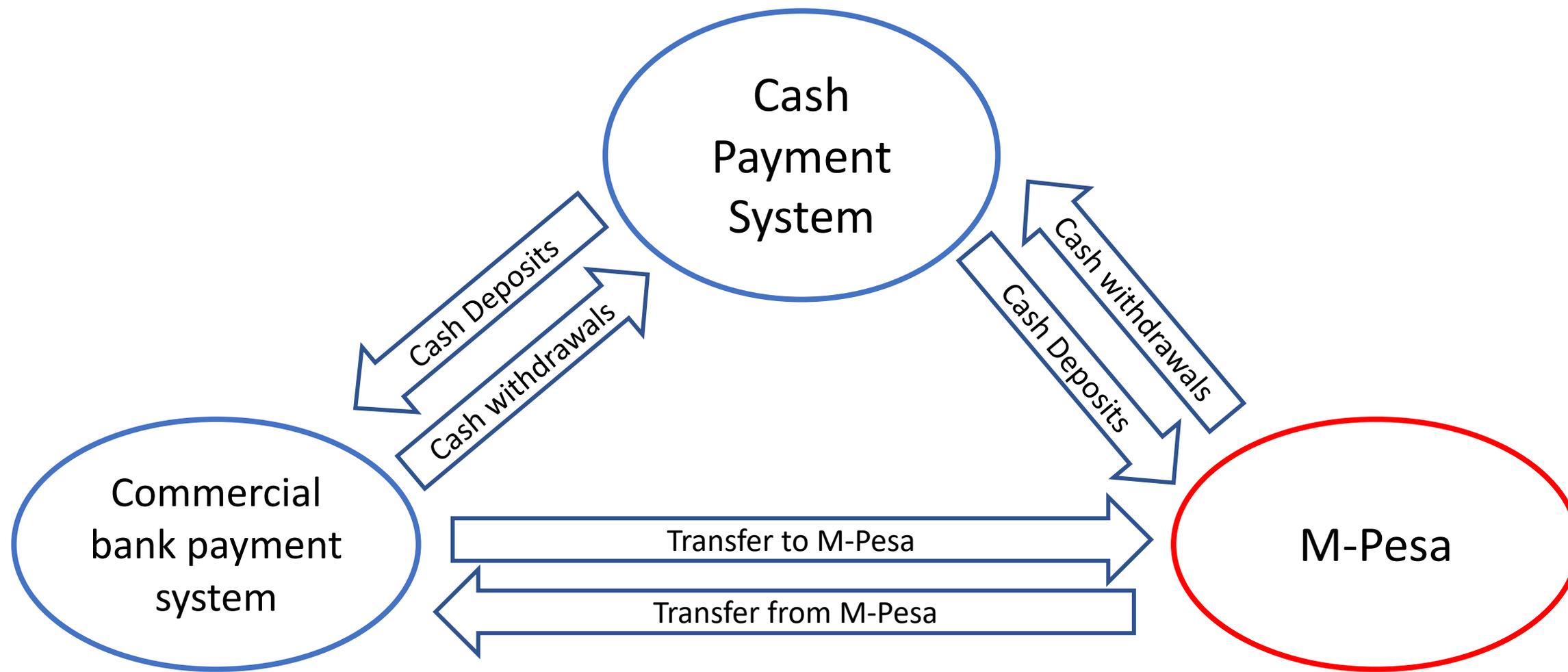


Trust in institutions



Source: Payments Europe 2019

The payment system provided by mobile network operators (M-Pesa)



CBDC versus mobile payment systems

- ❖ Attractiveness of GSM payment systems broad coverage of mobile phone networks
- ❖ Broad spectrum of services
- ❖ Payment CBDC can only be a payment asset within such a systems
- ❖ Wholesale store of value CBDC could be used as a collateral for deposits held with these systems

CBDC: An international perspective

- ❖ Christopher Waller (Board of Governors of the FED):
 - ❖ *„I am not convinced as of yet that a CBDC would solve any existing problem that is not being addressed more promptly and efficiently by other initiatives.“*
- ❖ Andrew Bailey (Governor, Bank of England):
 - ❖ *„We do not see this as the Bank of England moving into the retail bank account business through central bank digital currency.“*
- ❖ Timothy Lane (Deputy Governor of the Bank of Canada):
 - ❖ *„We have concluded that there is not a compelling case to issue a CBDC at this time.“*
- ❖ Shinichi Uchida (Executive Director of the Bank of Japan):
 - ❖ *„[The Bank of Japan] currently has no plan to issue CBDC.“*