Central Bank Digital Currencies

Different motives for different countries

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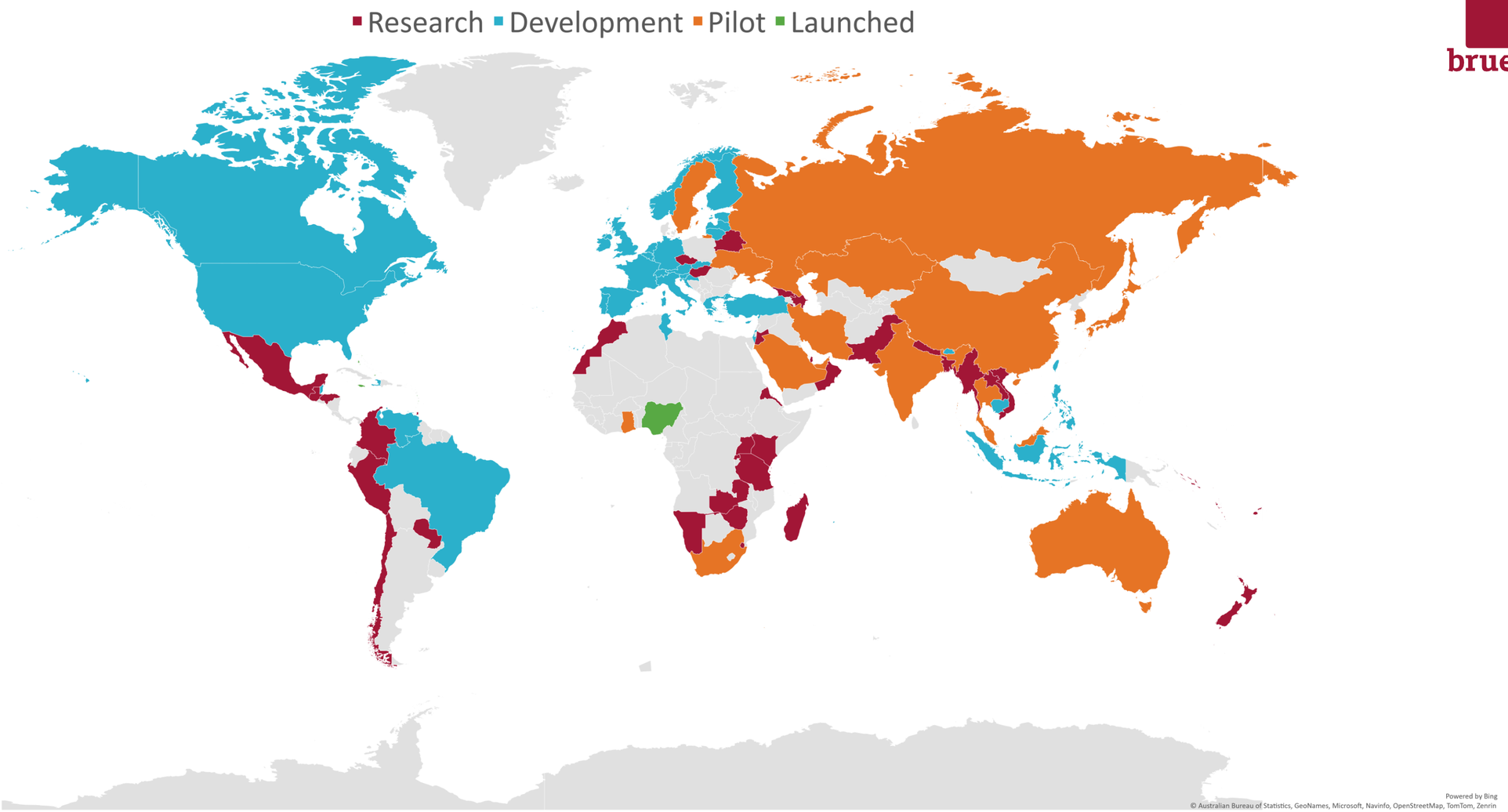
20 March 2023

CBDCs are a reality (in some form) for 114 countries



Source: Bruegel based on Atlantic Council's CBDC tracker.

What are CBDCs?

- Legal tender
- Convertible one-for-one into other forms of central bank money (reserve balances or cash)
- Closest substitute to cash and will settle transactions nearly instantly
- Two types for purposes and end users:

Retail CBDC

- For payments and small transactions
- End users: consumers and merchants

Wholesale CBDC

- For settling transactions in wholesale financial markets
- End users: financial institutions

- Holding a digital euro would mean holding a direct liability of a central bank

CBDC strategic goals: different motives for different Central Banks

CBDCs aim to preserve the role of public money

How the euro area thinks about this:

- **Preserve the role of public money as the anchor of the payments system**
  - protect the singleness of money, monetary sovereignty and the integrity of the financial system
- **Contribute to strategic autonomy and economic efficiency**

Panetta (June 2022)

- **Used as finance tool for geopolitical reasons**
  - revolutionise the way that settlements are made and enable bilateral settlements between any two countries

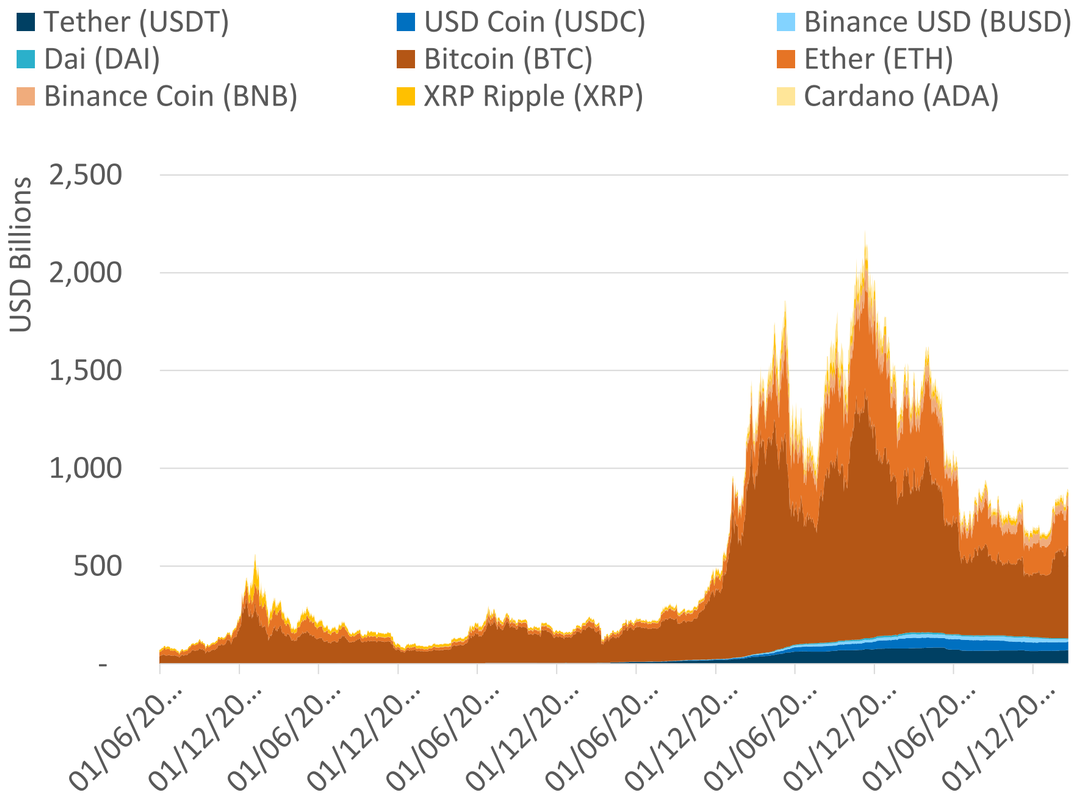
Digital payments? Crypto not a real challenger to existing digital money

Bitcoin and non-cash payments

		Total value (bln EUR)	Nr transactions (bln)	Average transaction value (EUR)
2021	Non-cash payments (Euro Area)	196,951	114	1,725
	Bitcoin (globally)	41,433	0.10	415,505
	Bitcoin (globally) - in bitcoins	1.0	0.10	10
2017	Non-cash payments (Euro Area)	148,175	84	1,771
	Bitcoin (globally)	3,582	0.10	34,228
	Bitcoin (globally) - in bitcoins	0.9	0.10	9

Source: Bruegel based on ECB Payment Statistics and tradeblock.com.

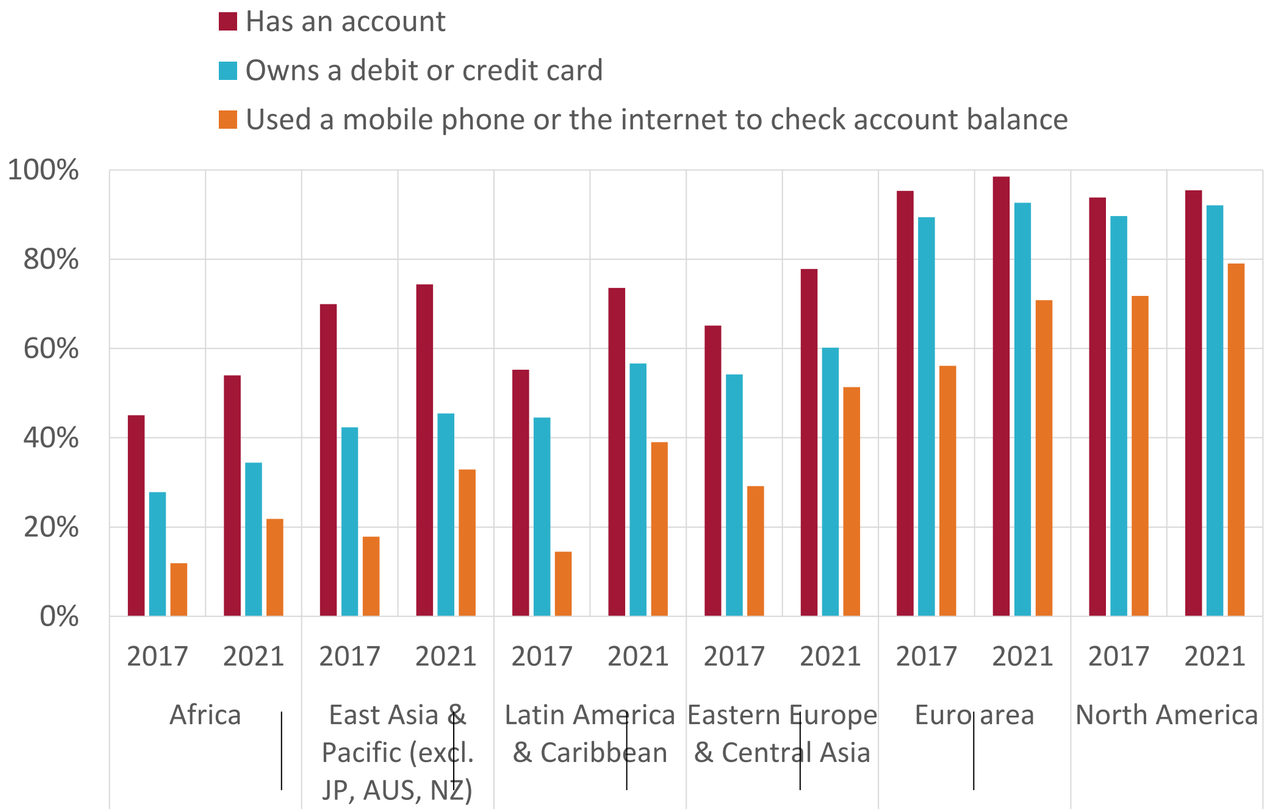
Top 4 cryptocurrencies and stablecoins



Source: Bruegel based on CoinGecko. Note: Data from 1 June 2016 to 20 February 2023.

Retail CBDC – Financial inclusion

Financial inclusion metrics: A global perspective



Source: Bruegel based on the Global Findex Database 2021. Notes: Left chart JP = Japan, AUS = Australia, NZ = New Zealand, Right chart FI = Financial institutions.

Uptake of CBDCs in countries where it is used

December 2022 values	Nigerian e-Naira	Bahamian Sand Dollar	Chinese e-CNY
CBDC in circulation	3 billion eNaira	303,785 Sand dollars	13.61 billion eCNY
% of total currency in circulation (M0)	0.01%	0.17%	0.13%

Is there value added in introducing a CBDC if...

- **There is no financial exclusion issue**
  - Or it is isolated and specific
  - CBDC do not address financial exclusion (evidence so far)
- **There are many private solutions to payment methods**
  - Why should the tax payer pay for yet an other payment solution (what is the externality that it solves?)
  - What would a public solution do to current market participants?
- **There are instant payment methods (within borders)**
  - In the EU: TIPS (Instantaneous payments)
  - In the US: FedNow service (currently being developed)

Wholesale CBDCs as the future of cross-border payments

Global cross-border payment system lags behind the volumes as the global economy integrates

1. Speed is slow

- Current settlement time 3-5 days
- IL2 CBDC project (HKMA and the Bank of Thailand) speed down to seconds

2. Cost is high

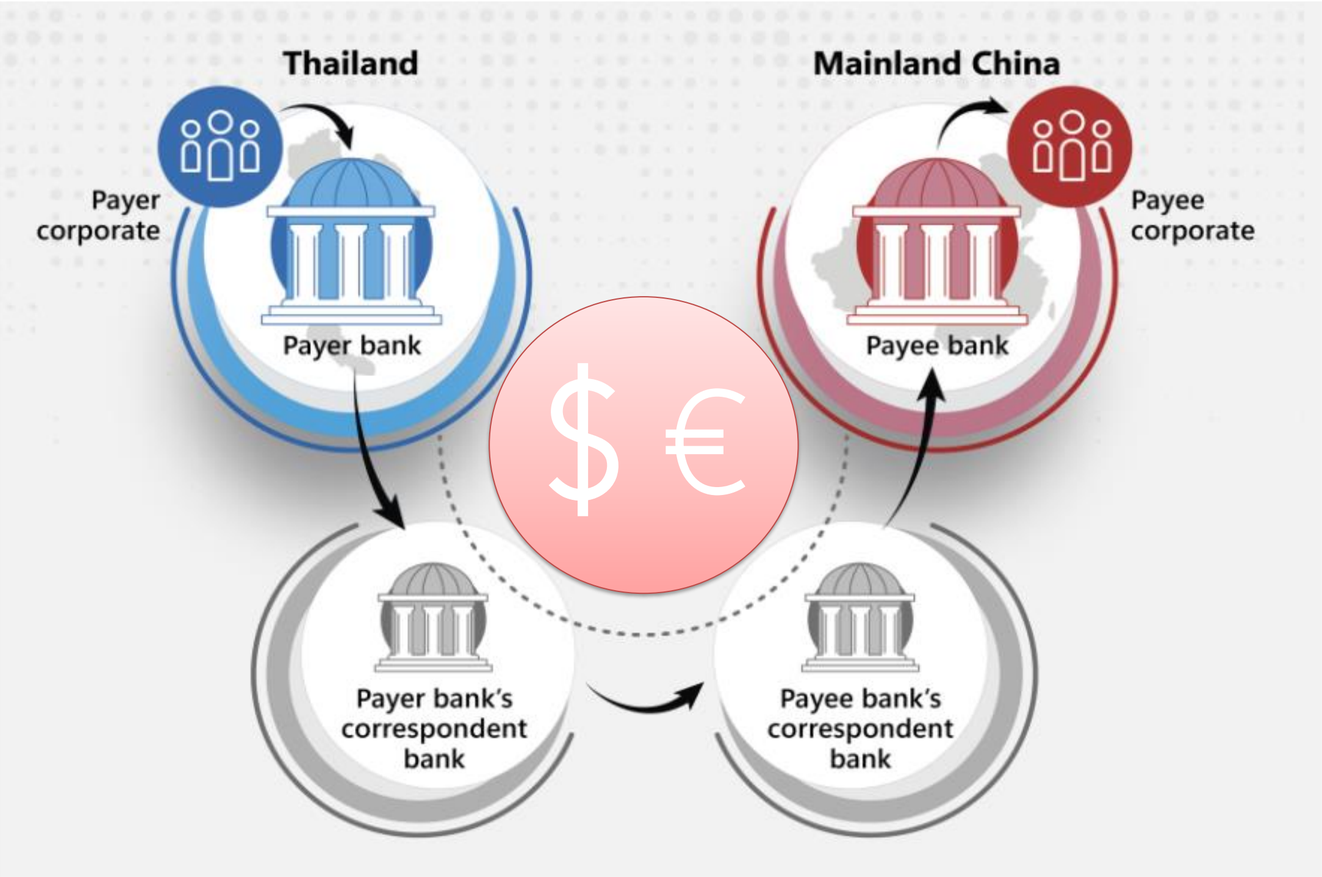
- For retail payments between 2% in Europe to over 7% in Latin America
- For sending remittances 6.4% of amount sent
- IL2 CBDC project as low as 1%

3. Limited access

- "Banks are also paring back their correspondent networks and services, leaving many participants (notably emerging market and developing economies) without sufficient or affordable access to the global financial system" BIS 2022.

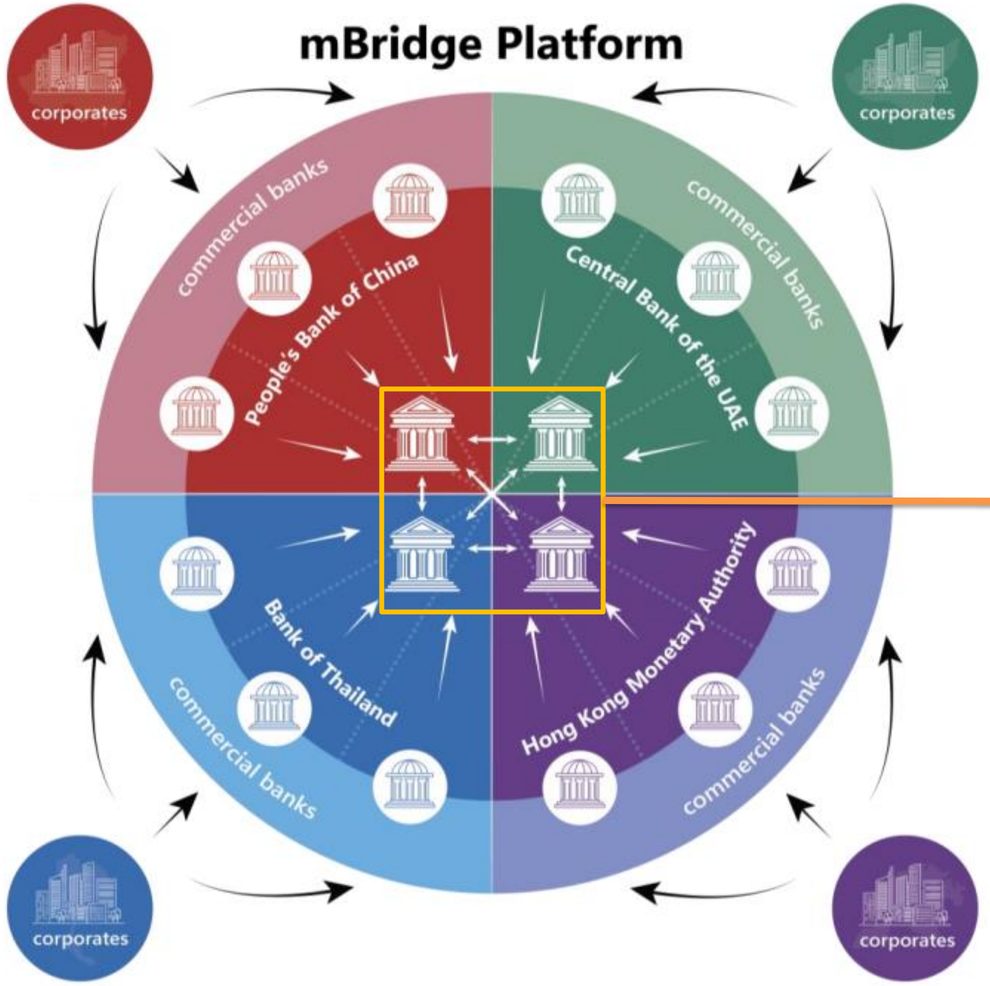
4. Lack of transparency, operational complexities

Moving from a dollar-euro-based international financial system...



Source: Adapted from BIS, Connecting economies through CBDC, October 2022.

...to bilateral and multilateral financial settlements...



Dedicated corridors m-Bridges

Source: Adapted from BIS, Connecting economies through CBDC, October 2022.

CBDCs as a geopolitical tool

Global Times

SOURCE / ECONOMY

China and Russia to establish independent financial systems: Russian media

By Global Times
Published: Dec 17, 2021 12:47 AM

Photo: IC

Dedicated corridors m-Bridges

Summing up

- **Retail CBDCs: not of immediate use**
  - CBDCs can help address financial exclusion but require infrastructure (who pays for it?)
  - Can distort existing payment systems. Is this justified?

  BUT
  - Future-ready technology
  - Euro area is well placed
  - Reforming the banking system, guaranteeing all deposits

- **Wholesale CBDCs**
  - An improvement in cross-border payments
  - Provides for bilateral settlement solutions (BUT bypasses financial sanctions)
  - Many questions to be solved (technical, legal, economic and governance)
  - Euro area is well placed to help set global standards

Thank you!

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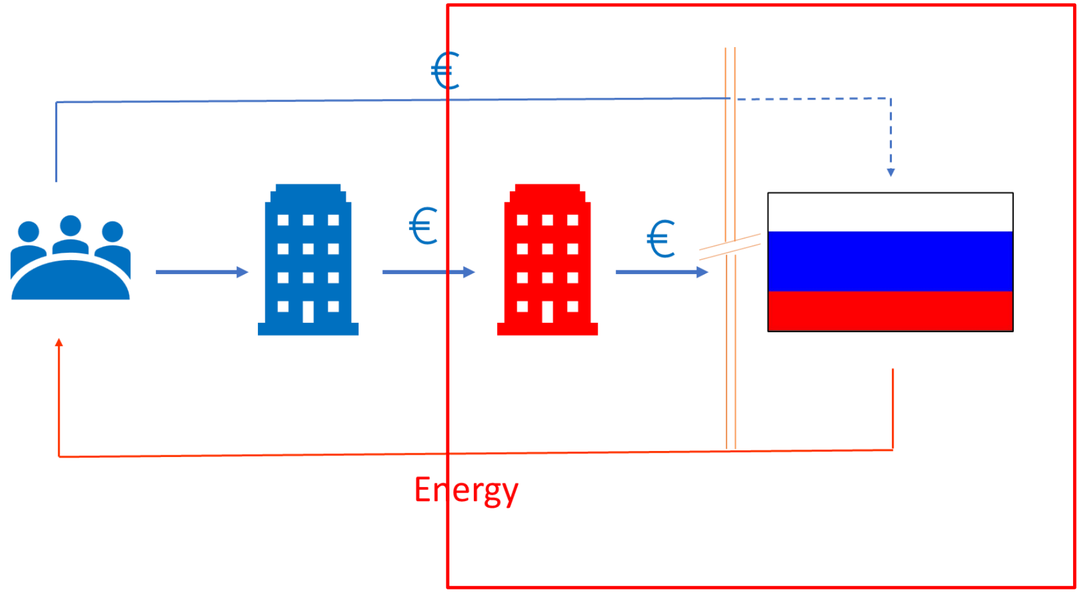
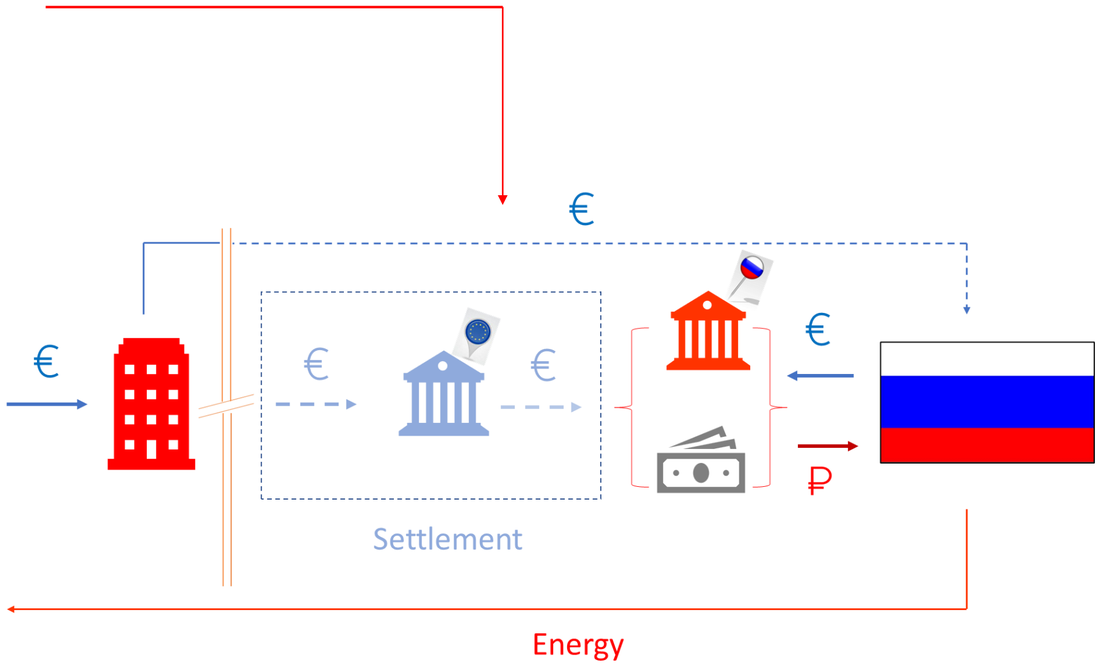
Retail CBDC design choices – the case of the digital euro

- **Issue and settlement:** Eurosystem (ECB + EA NCBs)
- **Distribution and direct interaction with end users:** supervised financial intermediaries (which will deal with the consumer and develop consumer-oriented services, and perform the regular anti-money laundering checks)
- **Target users:** Euro area residents (individuals, merchants and businesses)
- **Intended as:** a means of payment and not a form of investment (avoid excessive migration of bank deposits to the central bank)
- **Limits:** EUR 1 – 1.5 trillion total, meaning around 3,000 to 4,000 digital euro per capita (Amount comparable with current banknotes in circulation)
- **Privacy:** Eurosystem not able to infer amount individual users holds nor end users' payment patterns
- **Availability:** online and offline solutions
- **Other factors being studied on implementation choices**: minimise the time to market, costs, risks and ecological footprint

The centrality of the dollar and the euro in the global financial system

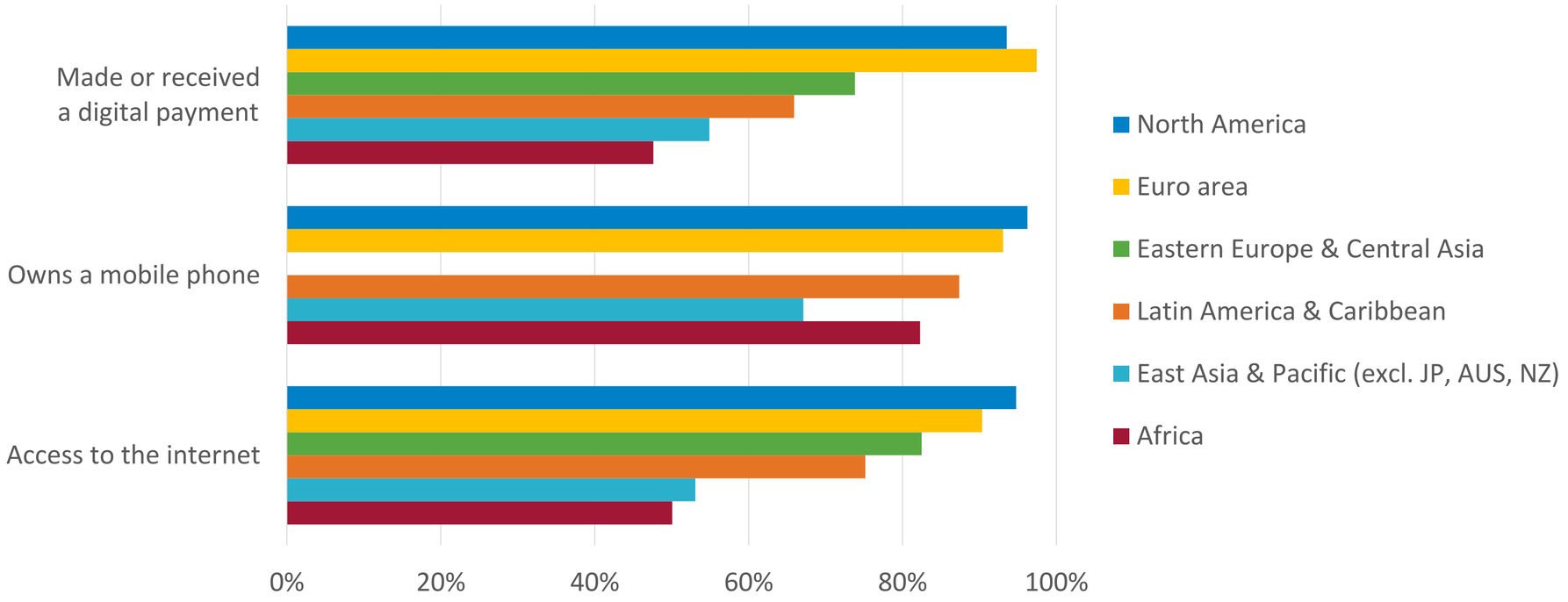




Retail CBDC – Financial inclusion

A global perspective

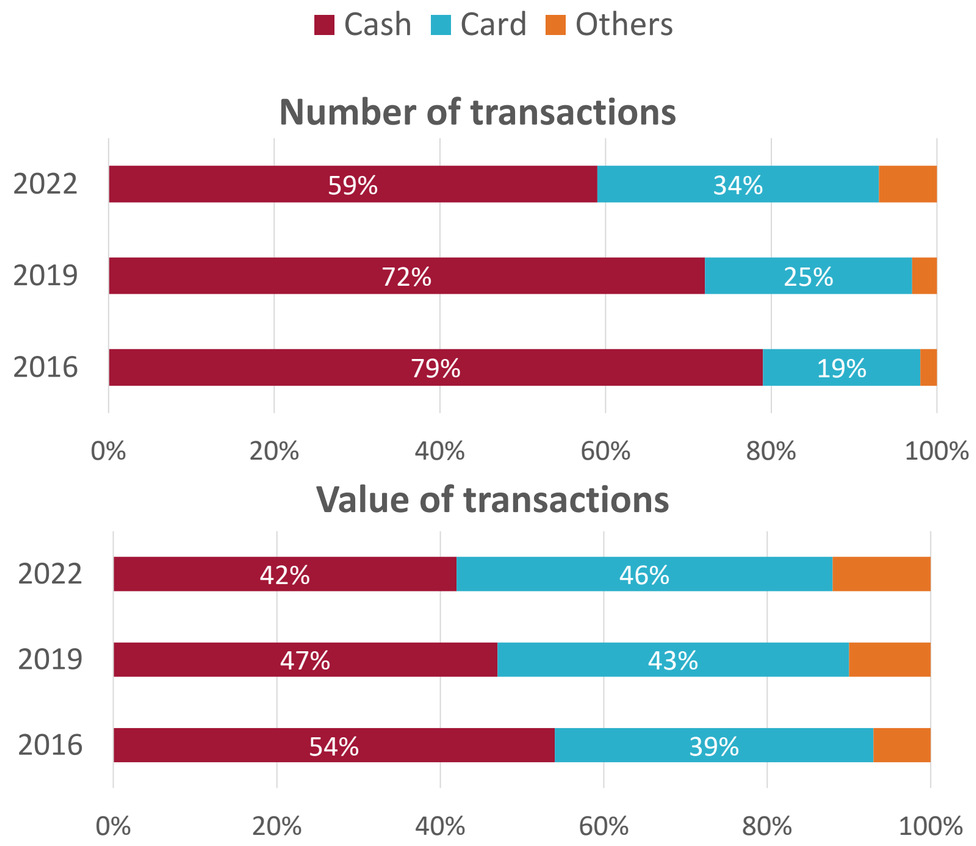
- Adoption of a retail CBDC will require people to have access to internet connection and own a mobile phone
- And on the merchants side, infrastructure to allow for payment with CBDCs



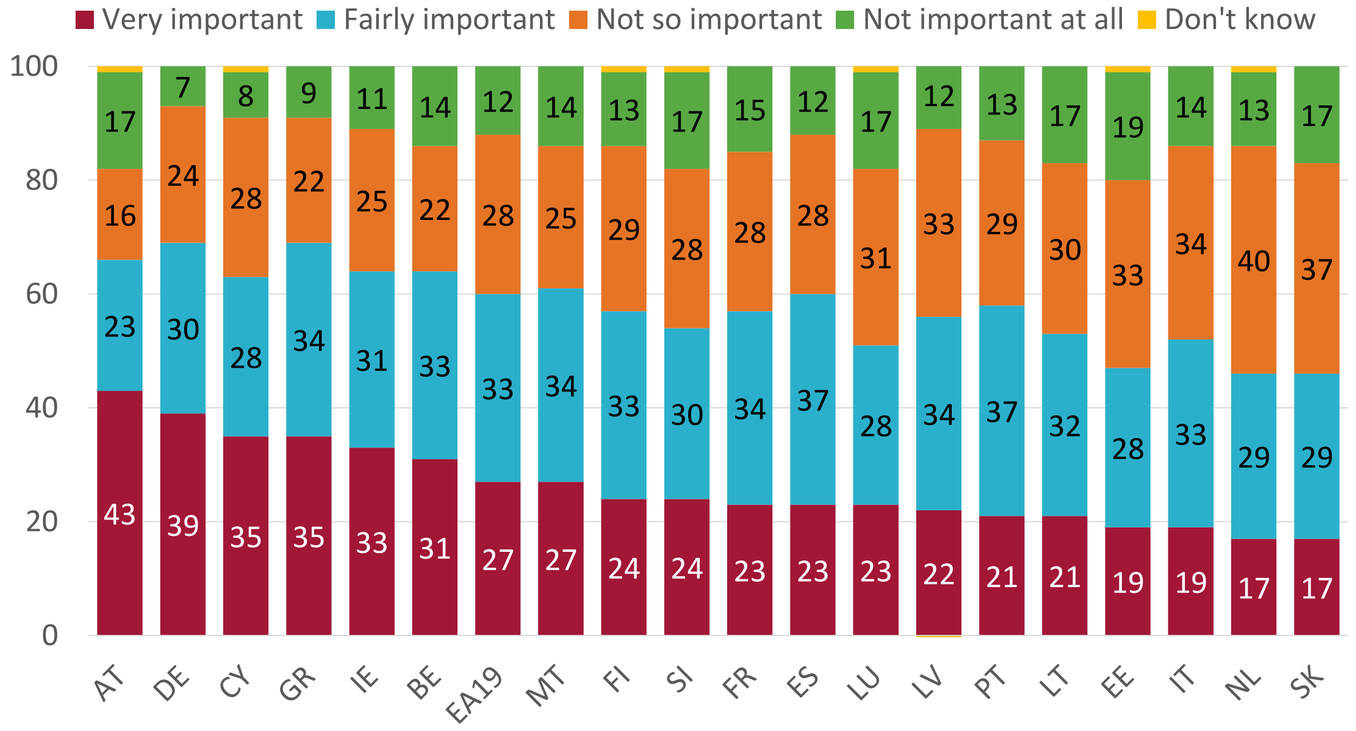
Source: Bruegel based on the Global Findex Database 2021.

Retail CBDC – Payment preferences and anonymity

Payments at the Point of Sale in the Euro Area



Importance of having the option to pay with cash (%)



Source: Bruegel based on the ECB's SPACE 2022 report.

Digital payments and the need for cash?

"A key question often voiced is whether the decline in cash use will eventually lead to a lack of trust in money, and if so, whether a retail CBDC could take the role of cash in ensuring this trust. As already noted, based on what we know today, ***it is not clear to me that cash in the hands of private citizens is the anchor of trust in our monetary system****, certainly not in Denmark. But this is an open question, and I look forward to discussing today."*

Governor Signe Krogstrup's, 9 March 2023

Retail CBDC – Financial inclusion

In developing countries, a central argument to launch CBDCs is to promote financial inclusion

The case of Nigeria and the e-Naira

- Launched in October 2021
- Motivations: increase financial inclusion from 64% to 95%
- eNaira could add USD 29 billion to the GDP (over 10 years)

The case of the Bahamas and the Sand Dollar

- Launched in October 2020 (first CBDC to be launched)
- Motivations:
  - Improving financial inclusion and cost-effectiveness
  - Strengthening security against money laundering or illicit economic activities
  - Increase the efficiency of the Bahamian payments systems through more secure transactions and faster settlement speed

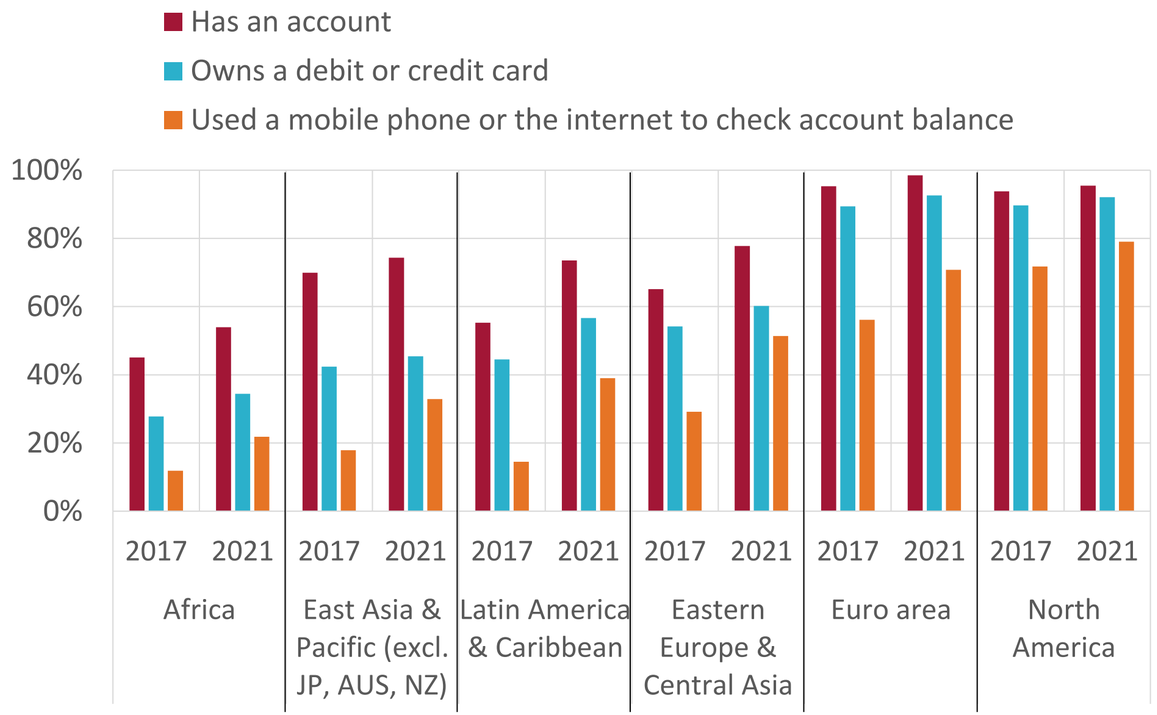
The case of China and the e-CNY

- Pilot program for retail CBDC launched in 2019, now in advanced stage
- Motivations: improve efficiency of payments while providing a back-up for retail payments, greater financial inclusion

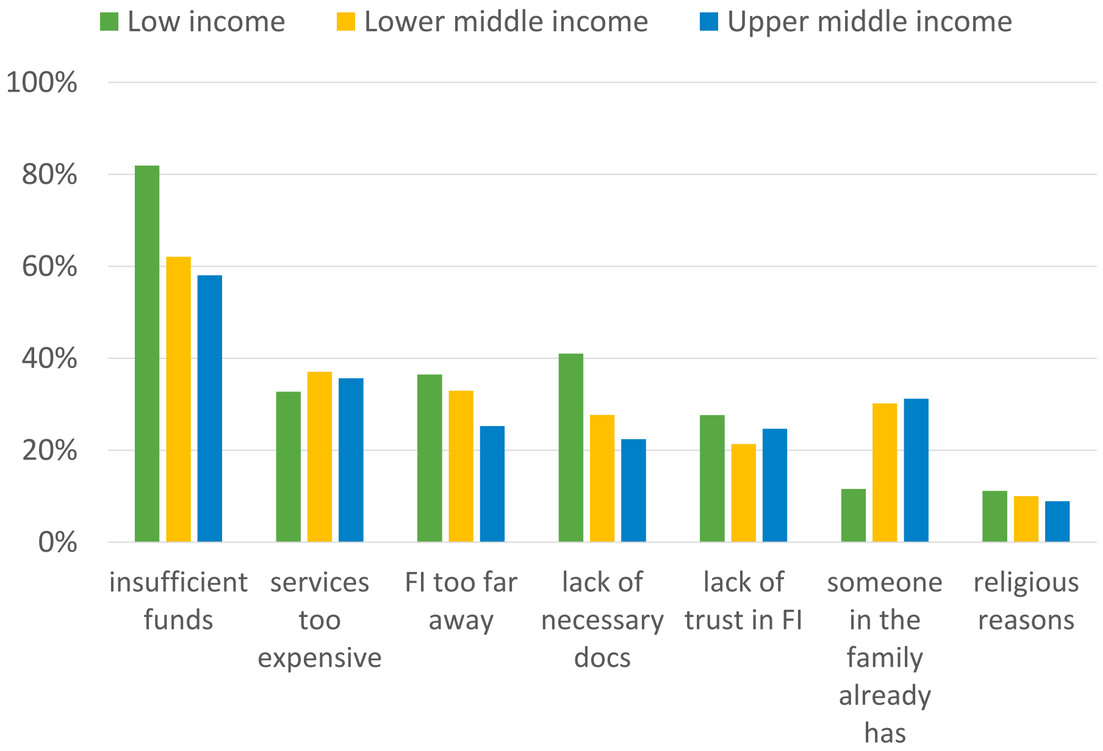
Retail CBDC – Financial inclusion

A global perspective

Financial inclusion metrics



Why no account



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