The value added of Central Bank Digital Currencies

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Paper available at here
CBCDs are reality in 130 countries
Why did Central banks become interested in CBDCs?

- The emergence of cryptocurrencies
- Increasing trend in digital payments
- Improve the reach and efficiency of payment systems
- Strategic autonomy
Two types of usage

For retail use

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

For wholesale use

- For settling transactions in wholesale financial market
- End users: financial institutions
Cryptocurrencies are not taking over payments

- Value of all crypto assets < 1% of total global financial assets
- Payments using crypto: Only 0.19% of global e-commerce value
- Mostly used for investment purposes (77%) rather than payments (18%)

- BUT some countries see high adoption rate. E.g. In Nigeria 1 in 10 adults own cryptocurrencies

Fear of cryptocurrencies displacing sovereign money has not materialized, but this could change in the future and across geographies.
Payment preferences and anonymity

Payments at the Point of Sale in the Euro Area

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash</th>
<th>Card</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>59%</td>
<td>34%</td>
<td>17%</td>
</tr>
<tr>
<td>2019</td>
<td>72%</td>
<td>25%</td>
<td>13%</td>
</tr>
<tr>
<td>2016</td>
<td>79%</td>
<td>19%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Number of transactions

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash</th>
<th>Card</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>42%</td>
<td>46%</td>
<td>12%</td>
</tr>
<tr>
<td>2019</td>
<td>47%</td>
<td>43%</td>
<td>10%</td>
</tr>
<tr>
<td>2016</td>
<td>54%</td>
<td>39%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Value of transactions

Source: Bruegel based on the ECB’s SPACE 2022 report.
What does the evidence show so far?

### Uptake of CBDCs in selected countries

<table>
<thead>
<tr>
<th>December 2022 values</th>
<th>Nigerian e-Naira</th>
<th>Bahamian Sand Dollar</th>
<th>Chinese e-CNY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBDC in circulation</td>
<td>3 billion eNaira</td>
<td>303,785 Sand dollars</td>
<td>13.61 billion eCNY</td>
</tr>
<tr>
<td>% of total currency in circulation (M0)</td>
<td>0.01%</td>
<td>0.17%</td>
<td>0.13%</td>
</tr>
</tbody>
</table>

**Why small uptake?**

- The public confuses the CBDC with privately issued cryptocurrencies
- CBDC not readily accepted everywhere. Merchants need to have the right infrastructure
- Lack of trust in the underlying currency

A mixed case for establishing a retail CBDC

- **Digitalisation in payments not a clear case** for introducing CBDCs. Insufficient understanding among the public of the difference between CBDCs and cryptocurrencies.

- **Most compelling reason** remains **increasing financial inclusion**. But CBDCs not necessarily the solution by themselves, **infrastructure needs to be available** and success depends on network effects.

- **Welfare implications** remain very **understudied**: for competitiveness in payment systems and for retail banking business model (deposits guarantee).

- **Operational and governance risks**. E.g. limits, privacy and anonymity, cyber security. A digital representation of a currency cannot solve governance shortcomings.
What is novel about wholesale CBDCs?

- Domestically, advanced systems for euro-denominated transactions (T2, TIPS), soon for USD-denominated (FedNow to be launched in July 2023)

- BUT **global cross-border payment** system lags behind as the global economy integrates: it is slow, costly, limited in access and not transparent

<table>
<thead>
<tr>
<th></th>
<th>Current payment system</th>
<th>New technologies for payments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transaction time</strong></td>
<td>3 – 5 days</td>
<td>2 – 10 seconds</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td>&lt;2% – &gt;7%</td>
<td>As low as 1%</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td>Via corresponding banks</td>
<td>Peer-to-peer</td>
</tr>
</tbody>
</table>

- Many participants in less advanced economies left with no access to the global financial system → **G20 established as priority**: Need to improve cross-border payments

Source: Bruegel based on BIS Sep 2021 paper ‘Inthanon-LionRock to mBridge: Building a multi CBDC platform for international payments’.
A new order in international payments

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

Source: Bruegel adapted from BIS, Connecting economies through CBDC, October 2022.
Wholesale CBDC

A new order in international payments

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

Source: Authors based on BIS, Connecting economies through CBDC, October 2022.
CBDCs as a geopolitical tool

China and Russia to establish independent financial systems: Russian media

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

Photo: IC
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

• Wholesale CBDCs: potential efficiency gains
  - 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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