CBDC IN THE RAPIDLY EVOLVING PAYMENT SYSTEM LANDSCAPE

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HARISH NATARAJAN
WORLD BANK
AGENDA

• Historical perspective on linkage between payment and account

• Enter CBDCs – why and how

• Perspective of CBs on CBDCs

• Risks

• Will CBDCs support financial inclusion?

• Conclusion
4th Wave of innovations in payment-account linkage

- Expansion of access
  - Digital Access to banks
  - Pre-paid & non-bank e-money accounts
- De-linking of payment initiation from safe-keeping
- De-linking of account from payment

CONTEXT
Why a Central Bank could be interested in CBDCs? How would it be done?

DLT can be used to enable Central Banks to issue digital variants of fiat currency enabling transactions on P2P basis - CBDC

Motivations & Opportunities

- Settlement Asset for decentralized financial infrastructures
- Universal payment mechanism in a cashless economy
- Internet of Things (IoT) payments (automated M2M payments)
- Cross-border payments
- Programmability of Money
- Additional monetary policy tools:
  - Makes negative interest rates possible
  - Direct monetary expansion directly to real sector without bank intermediation

Different Models of CBDCs

<table>
<thead>
<tr>
<th>Account-based</th>
<th>Value-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals directly open accounts at the Central Bank (Referred to as Deposited Currency Accounts by Tobin in 1987)</td>
<td>Central Bank issues CBDC through financial intermediaries</td>
</tr>
</tbody>
</table>

Wholesale

- Issued only to financial institutions

Retail

- Issued also to individuals and businesses
Money Flower

Source: Bech and Garratt, BIS
CBDC Pilots

Engagement in CBDC work

Focus of work

Type of work in addition to research\(^1\)

\(^1\) Share of respondents conducting work on CBDC.

Source: Central bank survey on CBDCs.
Motivations for General purpose CBDC

Financial stability
Monetary policy implementation
Financial inclusion
Payments efficiency (domestic)
Payments efficiency (cross-border)
Payments safety/robustness
Others

Average
25–75th percentile:
• Advanced economies
• Emerging market economies

1 Not so important” (1); “Somewhat important” (2); “Important” (3); and “Very important” (4).
Motivations for Wholesale CBDC

1 Not so important” (1); “Somewhat important” (2); “Important” (3); and “Very important” (4).
Future Plans for CBDC

Short term: 1–3 years and medium term: 1–6 years. “Likely” combines “very likely” and “somewhat likely”. “Unlikely” combines “very unlikely” and “somewhat unlikely”.

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BIS Papers 107, Jan 2020
Future plans for CBDC

<table>
<thead>
<tr>
<th>Region</th>
<th>Decision Status</th>
<th>Global</th>
<th>High income</th>
<th>Upper middle income</th>
<th>Lower middle income</th>
<th>Low income</th>
<th>Europe &amp; Central Asia</th>
<th>Latin America &amp; Caribbean</th>
<th>Sub-Saharan Africa</th>
<th>High income OECD</th>
<th>East Asia &amp; Pacific</th>
<th>Middle East &amp; North Africa</th>
<th>South Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>The issue is still under study, no decision has been made yet</td>
<td>54%</td>
<td>57%</td>
<td>47%</td>
<td>57%</td>
<td>50%</td>
<td>65%</td>
<td>45%</td>
<td>65%</td>
<td>48%</td>
<td>64%</td>
<td>50%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>No, the issue has never been studied</td>
<td>32%</td>
<td>23%</td>
<td>38%</td>
<td>32%</td>
<td>50%</td>
<td>29%</td>
<td>43%</td>
<td>29%</td>
<td>29%</td>
<td>27%</td>
<td>25%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>No, the issue has been studied and decision was not to issue Central Bank Cryptocurrency</td>
<td>15%</td>
<td>20%</td>
<td>15%</td>
<td>11%</td>
<td>0%</td>
<td>6%</td>
<td>14%</td>
<td>6%</td>
<td>23%</td>
<td>9%</td>
<td>25%</td>
<td>20%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Each box shows the percentage of answers among the jurisdictions in a group. The number of jurisdictions in a group may differ across options.
CBDCs could pose substantial risk

• Implications vary based on design and scope [whole-sale Vs retail]
  • Risks for whole-sale CBDC much lower

• Implications for role of commercial banks
  • Depository institutions?
  • Maturity transformation? Eliminate money creation role of banks?

• Implications for financial stability
  • CBDCs could accelerate bank runs
  • Increase in borrowing from central bank, as deposits become volatile
  • Implications on exchange controls and interest rate formation

• Implications for AML/KYC concerns
  • Pure value-based CBDCs present similar concerns to cash

• Implications for Global Monetary System

Speech by Mr Agustín Carstens, General Manager of the BIS, at the Central Bank of Ireland, 2019 Whitaker Lecture, Dublin, 22 March 2019.

The bitcoin hype is over but attempts to create new forms of money or to engineer new ways to pay still appear almost weekly. Central banks have entered the fray, with about 70 percent either exploring or experimenting with so-called central bank digital currencies (CBDCs). A CBDC would allow ordinary people and businesses to make payments electronically using money issued by the central bank. But what are the consequences of such a system? How would it differ from what we have now? As money and payments form the backbone of the financial system, central banks need to understand the full consequences of opening up the monetary system for major surgery. Hence, central banks are treading cautiously, and only a very few central banks think it is likely that they will issue a CBDC.
Central Bank attention to Global Stablecoin risks

Are you analysing the potential impact on monetary and financial stability of stablecoins?

- Yes: 39%
- No: 58%
- Do not know: 3%

Central banks that responded “no”

- Advanced economies: 4%
- Emerging market economies: 96%

Central banks that responded “no” (engagement in CBDC work)

- Engaged: 31%
- Engaged, and moved to development/pilot arrangement: 15%
- Not engaged: 54%
Which of these reasons for financial exclusion would CBDC address?

- insufficient funds
- financial services are too expensive
- someone in the family has an account
- lack of trust in financial institutions
- Financial institutions are too far away
- lack of necessary documentation
- religious reasons
- no need for financial services ONLY

Reasons for not having a bank account (% adults with no bank account), 2017

Source: Findex 2017, World Bank
Utility of CBDC in the context of rapid advances in payment systems needs to be assessed:

• Faster Payments
• SWIFT GPI
• Regional integration
• APIs

Changes in processing
- Faster Payments
- DLT
- Integration with ID
- QR codes

Changes in user engagement and business model
- Integration with day to day interactions
- Invisible payments
- Big Data and Analytics
Other Trends powering financial inclusion

Account ownership rises with income, but countries can leapfrog

![Graph showing account ownership rising with GDP per capita](image1)

Source: Bech, Shimizu and Wong (2012); FIS (2018); IMF, World Economic Outlook, October 2019; World Bank Findex data; Instapay; national data.

1 The dashed part of the lines corresponds to projected implementation.

Diffusion of fast payments

![Graph showing diffusion of fast payments](image2)
The cost of sending remittances through Banks modestly decreased in the last year; from 10.53% in Q4 2018 to 10.46% in Q4 2019, and remained the most expensive RSP type.

The cost of transferring through Post Offices increased over the past year; recorded at 7.04% in Q4 2018 to 7.63% in Q4 2019.

In the same period, the cost of sending through MTOs remained stable; 6.06% in Q4 2018 compared to 6.05% in Q4 2019.

The cheapest of RSP type in Q4 2019 were Mobile Operators (3.14%) but these still account for a very small share of the sample size.
IN CONCLUSION

- CBDCs should be seen in the context of ongoing innovations
- CBDCs per se will not address financial inclusion
- Further research on CBDCs is essential
- Cross-border payments needs particular attention
- Need to step-up international collaboration