Central bank digital currencies for emerging market economies

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The views expressed in this presentation are not necessarily those of the BIS
My talk today

- Motivations for issuing CBDCs based on a BIS survey
- Potential benefits of CBDCs for LAC economies vs costs and risks
- Main takeaways
**CBDCs in Latin America and the Caribbean: Central Banks’ views**

Central bank’s work on CBDC advances further

<table>
<thead>
<tr>
<th>Engagement in CBDC work</th>
<th>Focus of work¹</th>
<th>CBDC research and pilots in LAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Retail</td>
<td>Live retail CBDC</td>
</tr>
<tr>
<td>No</td>
<td>Both</td>
<td>Retail pilot ongoing</td>
</tr>
<tr>
<td></td>
<td>Wholesale</td>
<td>Retail and wholesale research</td>
</tr>
</tbody>
</table>

- 21 central Banks surveyed: 2020-2021
- Clear interest in CBDCs: 85% engaged in CBDC research.
- Higher interest in retail CBDC compared with the global average
- One of the most dynamic regions in the world

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¹ Share of respondents conducting work on CBDC.

CBDCs in Latin America and the Caribbean: Central Banks’ views

- Main motivations are to improve financial inclusion and the efficiency and safety of domestic payments.

- Related motivation: To anticipate entries by private cryptocurrencies or stablecoins into local economies.

- Reduce – not replace – cash use is also a motivation: Cost of production and distribution.

- Most central banks are not planning to issue a CBDC soon.
Promoting financial inclusion

- In our survey, most salient motivation for central bank interest in CBDCs.

- Especially relevant to LAC, given low share with transaction accounts.

- 69 percent have cellphones, only 49 percent have bank accounts.

- Reducing informality

- Getting funds to hard-to-reach people and places
Promoting more efficient and competitive payments systems

- LAC banking and payment systems: concentrated, uncompetitive, inefficient, and high prices
- Entry of big techs could exacerbate the problem

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Data for 2017. Middle East, Russia and South Africa. Data for 2018. The regional GDP equals the sum of individual countries’ GDP.

Sources: Beek et al (2000); McKinsey (2019b); World Bank Global Payment Systems Survey (GPSS).
Promoting more efficient and competitive payments systems

- Concentration not the only concern: another is fragmentation.

- Payments providers may offer systems that aren’t interoperable – ie, difficult to conduct payments across different services – and that could raise costs, too.

- LAC already lagging in operability for mobile money services.

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Degree of technical interoperability by region

Interoperability level:
- **Full**
- **Good**
- **Low**
- **Zero**

EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMEA = Europe, Middle East and Africa; HI OECD = High-income OECD; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SSA = Sub-Saharan Africa.

Promoting more efficient and competitive payments systems

- CBDCs may be able to address both concentration and fragmentation.
  - Can design common platform, open to private payments providers, and supervised to ensure fair competition.
  - Could ensure both free entry into market, and interoperability among payments systems.

- What about retail fast payments systems?
  - PIX in Brazil account for 70 percent of digital transactions.
  - Also CoDi in Mexico.

- CBDCs have some advantages:
  - No need for intermediary credit – can streamline payments, including cross-border
  - Could embed programmable contracts to automate financial transactions
  - Provide a safe alternative to private cryptoassets
Potential costs and risks of CBDCs

- Cyber attacks and criminal activity
- Disintermediation of banking sector
- Greater volatility of capital flows
- Overlap between monetary and fiscal policy
Conclusions

- Central banks in LAC are very interested in CBDCs.

- Benefits appear to outweigh the costs/risks.
  - Costs/risks can be addressed through careful design and implementation.

- But benefits likely to be incremental, not transformative.

- Issuing CBDCs not an immediate and pressing priority. But central banks need to be ready.
BIS Working Papers
No 989
Central bank digital currencies (CBDCs) in Latin America and the Caribbean
by Viviana Alfonsa, Steven Karmen and Fabrizio Zampoli
BIS Representative Office for the Americas
Monetary and Economic Department
January 2022

Keywords: Central bank digital currency, CBDC, payment systems, central banking, digital currency.

Retail payments in Latin America and the Caribbean: present and future

Despite the widespread adoption of mobile and internet technology, countries in Latin America and the Caribbean (LAC) have not seen at the treatment of payment innovation. Relative to other regions, retail payment services in LAC continue to involve high costs for end users and lack of usability, partly reflecting low competition among financial institutions and limited compatibility among different payment solutions. Along with low income levels, high informality and low financial literacy, high costs contribute to limiting the access to electronic and digital payments for large segments of the region’s population.

However, conditions in LAC are ripe for a change. Central banks and other public authorities have recently launched important initiatives to improve national payment systems, which complement developments in the private sector. In recent years, the region has seen a sharp rise in the number of fintech firms offering more convenient ways to pay, and big tech firms have begun to integrate payment services into their e-commerce or social media platforms. However, private sector incentives are not always aligned with social goals. Central banks are the ultimate source of trust in money and payments and therefore play a key role in maintaining the safety and integrity of payment systems as well as ensuring that private sector innovation is channelled towards improving competition, consumer protection and financial inclusion, and promoting financial stability (BIS, 2020).

These efforts to improve payment services have revealed further impacts from the Covid-19 outbreak. Both the volume and value of digital payments have been rising faster than before the pandemic. Many individuals had a strong incentive to use digital payments during lockdowns, and governments...
Thank you!
The likelihood of CBDC issuance

- Despite being one of the leading regions in the world, most central banks are not planning to issue a CBDC soon.

- Much less interest in issuing a wholesale CBDC.

Share of respondents

<table>
<thead>
<tr>
<th>Retail</th>
<th>Wholesale</th>
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Source: BIS central bank survey on CBDC.
Cash use not declining

- Confirmed by our survey: LAC central banks don’t see cash use declining now or in medium term.

- So declining cash use not a first-order rationale for CBDCs in LAC.

Source: BIS central bank survey on CBDC.

1 Global results correspond to the 65 countries answering the survey in 2020 for Boar, C and A Weherli (2021): “Ready, Steady, Go”, BIS Working papers, no 114.
Getting funds to hard-to-reach people and places

Share of respondents

Agreement to statements on cash use

- The use of central bank-issued cash for payments is declining
- The public's ability to access central bank-issued cash could decline in the medium term
- The amount of central bank-issued cash in circulation is declining
- The Covid-19 crisis has changed your central bank's priority/preference for issuing a CBDC

Reasons for altered stance on CBDC due to Covid-19

- Enable access to central bank money during times of emergency
- Complement to cash and in-person payment methods when social distancing is required
- Serve as a payment channel for public funding programmes
- Provide alternative to private payment systems in case of a credit crisis
- Other

Source: BIS central bank survey on CBDC.
Fending off private crypto assets and foreign CBDCs

<table>
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<tr>
<th>Private digital tokens</th>
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<tbody>
<tr>
<td>Share of respondents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use of cryptoassets for domestic payments</th>
<th>Use of cryptoassets for cross-border payments</th>
<th>Ongoing analysis of potential impact on monetary and financial stability of stablecoins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant use</td>
<td>Wider public use</td>
<td>Use by niche groups</td>
</tr>
<tr>
<td>LAC</td>
<td>Global</td>
<td>LAC</td>
</tr>
</tbody>
</table>

1 Global results correspond to the 65 countries answering the survey in 2020 for Roar, C and A Wehrli (2021): “Ready, Steady, Go”, BIS Working papers, no 114.

Source: BIS central bank survey on CBDC.
Design choices and challenges

- 5 LAC experiments, 3 ongoing
- All ongoing use hybrid model
- Both centralized and DLT
- Bahamas/ECCB: caps on holdings, no interest paid
- Central banks lack direct access to users’ personal data
- No cross-border use

<table>
<thead>
<tr>
<th>Architecture</th>
<th>Infrastructure</th>
<th>Cross-border use</th>
<th>Offline use</th>
<th>Users' personal data</th>
<th>Transaction registry</th>
<th>Current status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecuador</td>
<td>Direct</td>
<td>National use only</td>
<td>Available</td>
<td>Held on the central bank platform</td>
<td>Operated between 2014 and 2018</td>
<td>Pilot concluded in December 2021, Rollout planned for 2022</td>
</tr>
<tr>
<td>Uruguay</td>
<td>Hybrid</td>
<td>National use only</td>
<td>Available</td>
<td>Anonymous but traceable</td>
<td>Managed by a private company</td>
<td>Live CBDC</td>
</tr>
<tr>
<td>The Bahamas</td>
<td>Hybrid</td>
<td>National use only</td>
<td>Possible</td>
<td>Central bank keeps the ledger of all individual transactions and holdings</td>
<td>Held on the blockchain</td>
<td>Live CBDC</td>
</tr>
<tr>
<td>East Caribbean</td>
<td>Hybrid</td>
<td>Use by EC residents only</td>
<td>Possible</td>
<td>Can be accessed only by user's financial institution</td>
<td>Held on the blockchain</td>
<td>Pilot concluded in December 2021, Rollout planned for 2022</td>
</tr>
<tr>
<td>Jamaica</td>
<td>Hybrid</td>
<td>National use only</td>
<td>Possible</td>
<td>Can be accessed only by user's wallet provider</td>
<td>Central bank can access retail ledger but not the user’s identity</td>
<td>Live CBDC</td>
</tr>
</tbody>
</table>

1 Central bank handles the retail payments and digital wallets. 2 Central bank maintains the ledger of all individual holdings of the digital currency, private providers of digital wallets onboard clients and perform KYC procedures. 3 The CBDC is issued to financial institutions, and they distribute it to their customers on demand. 4 The Bank of Jamaica will issue to commercial banks as well as authorised deposit-taking institutions, building societies, merchant banks and payment service providers (PSPs). These entities will distribute CBDCs to the retail market. The central bank will only have the wholesale ledger of transactions. 5 Users can make pre-set payments when the network in the island is down and wallets update against the network once communications are re-established. 6 The party initiating the payment must have an internet connection. If the receiver is offline, the payment will be still processed and the balances would be updated as soon as they are back online.