



CBDC and Cross-border Settlement
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An introduction to CBDC

CBDC: a primer

Retail CBDC

- digital payment instrument, denominated in the national unit of account, which is a direct liability of the central bank, like cash;
- for general purpose use (households and businesses);

Examples:

- *Live CBDCs:* Sand Dollar issued by the Central Bank of the Bahamas; Dcash issued by the Eastern Caribbean Central Bank
- *Large scale pilot:* e-CNY by People's Bank of China
- *Extensive research:* Bank Of Canada, Bank of England, ECB, Sveriges Riksbank, etc.

Wholesale CBDC

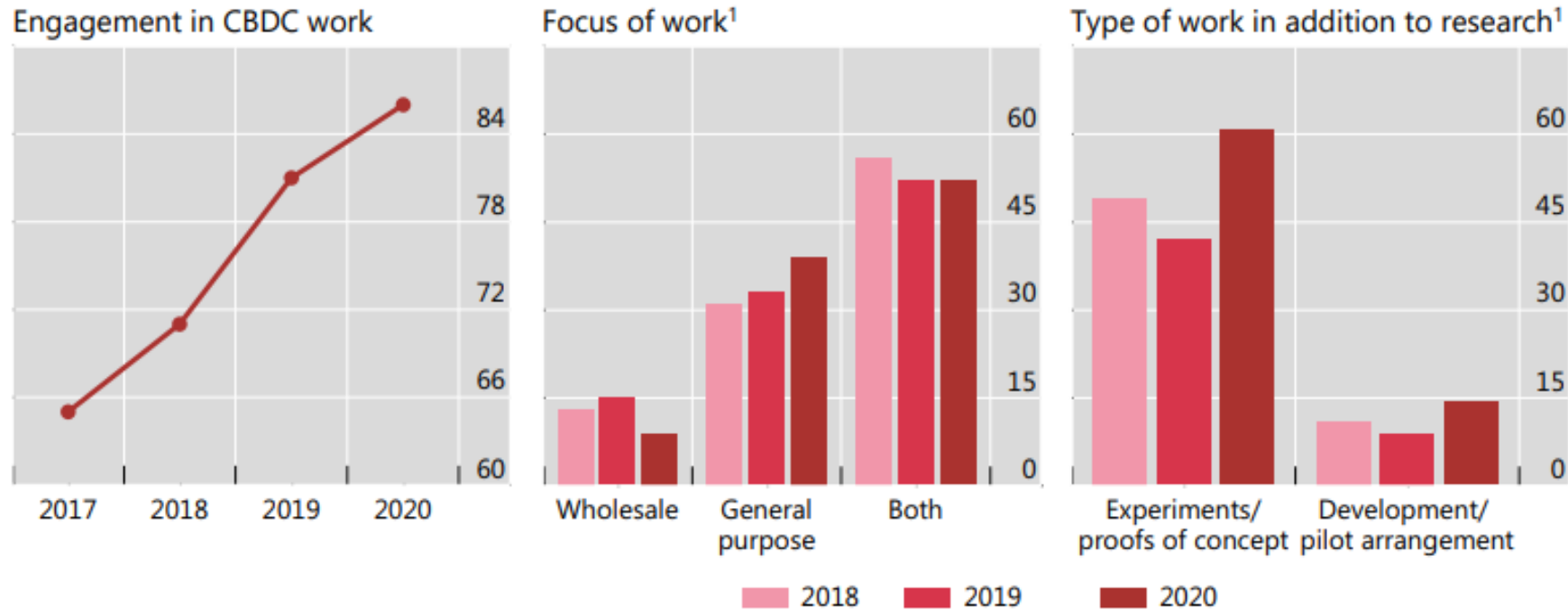
- restricted access by financial institutions and similar to today's central bank reserve and settlement accounts;
- for the settlement of large interbank payments or to provide central bank money to settle transactions of digital tokenised financial assets in new infrastructures;

Examples:

- *Extensive research:* Project Stella (ECB and BoJ); Project Jasper-Ubin (BoC and MAS); Inthanon-LionRock (HKMA and BoT) Project Aber (SAMA and UAE).

Work on CBDC around the globe

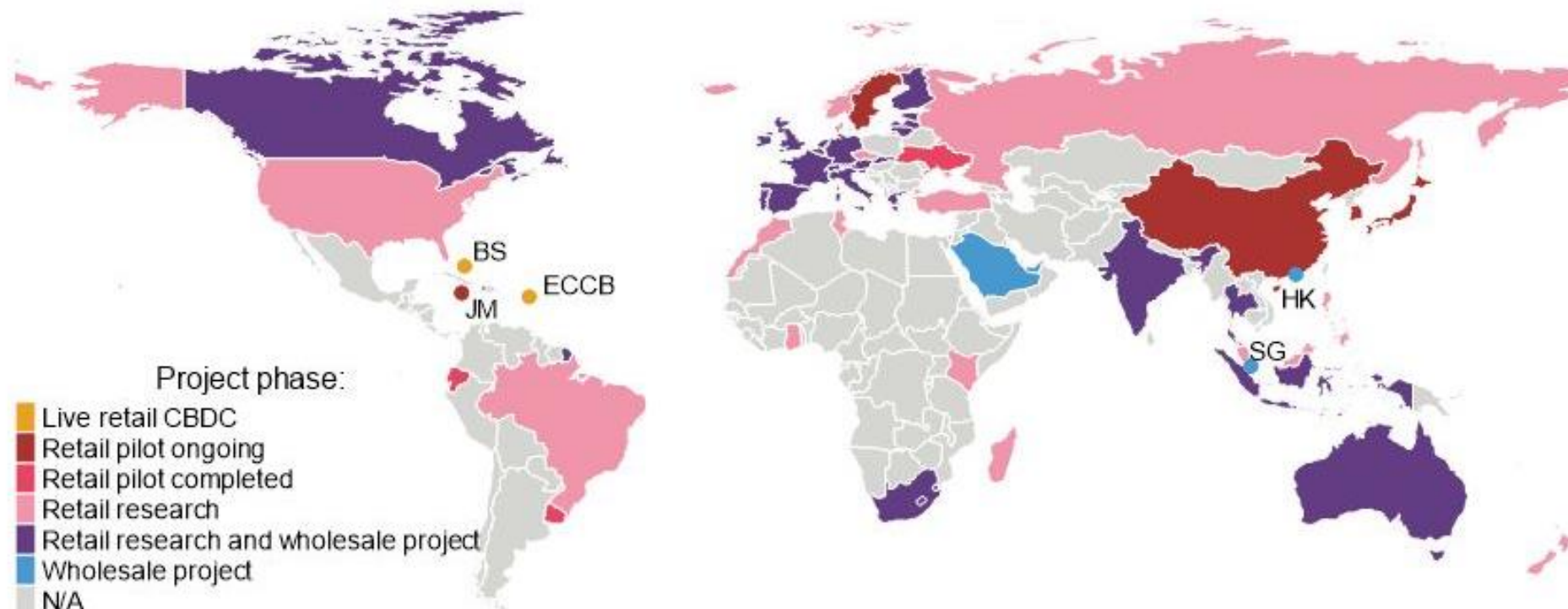
Share of respondent central banks



¹ Share of respondents conducting work on CBDC.

Source: BIS central bank survey on CBDCs.

Ongoing CBDC Research and Development – Asia at the forefront



BS = The Bahamas; ECCB = Eastern Caribbean Central Bank; HK = Hong Kong SAR; JM = Jamaica; SG = Singapore. The use of this map does not constitute, and should not be construed as constituting, an expression of a position by the BIS regarding the legal status of, or sovereignty of any territory or its authorities, to the delimitation of international frontiers and boundaries and/or to the name and designation of any territory, city or area.

Source: R Auer, G Cornelli and J Frost (2020), "Rise of the central bank digital currencies: drivers, approaches and technologies", *BIS working papers*, No 880, August.

Some motivations for CBDC – but not all are relevant for every central bank

- **Situation:**

- Reduced use of cash (accelerated by the Covid-19 pandemic)
- Growth of digital commerce
- Possible emergence of a tokenised financial ecosystem

- **Role of CBDC:**

- as risk-free means of payment (but deposit saving schemes...)
- as competition-neutral payments backbone
- as monetary anchor

- **Support specific use cases:**

- Safer and more efficient cross-border payments
- Increase financial inclusion
- Enhance competition and provide backup infrastructure for payments

Implications of CBDC

Potential implications of CBDC with a focus on the international dimension

- Bank disintermediation (in particular in times of crisis)
- Digital dollarisation
- Magnifying cross-border transmission of shocks and increasing FX volatility
- Increased demand for the currency/
appreciation
- International cooperation



Conclusion:

We do not know, no empirical evidence

CBDC implications will depend among others on:

- its design (eg, intraday vs. overnight),
- its use as store of value, and
- its use as a means of payment

Cross-border aspects of CBDC

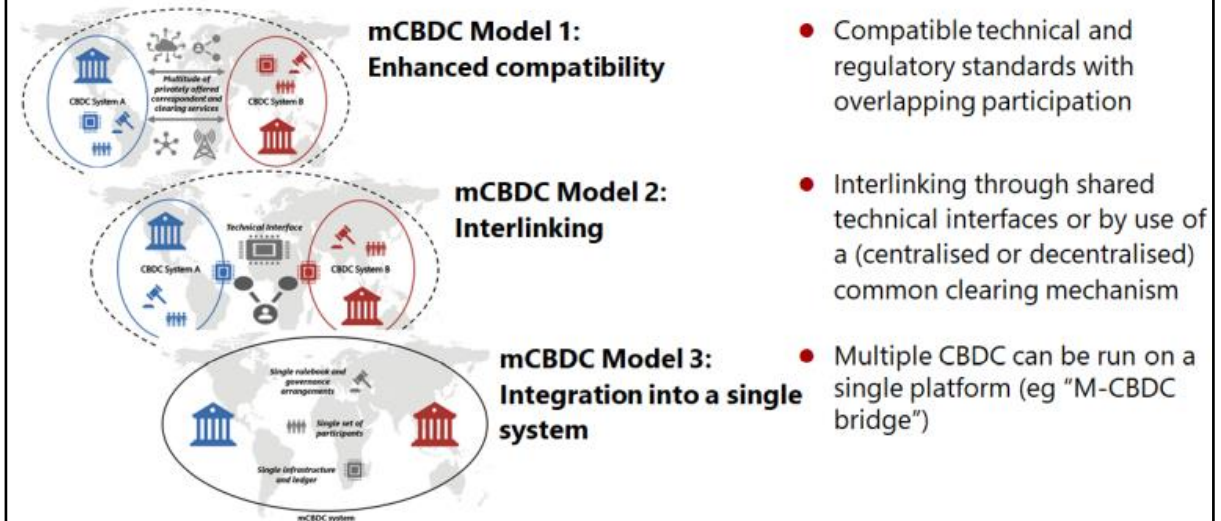
Two dimensions:

Cross-border access to and use of CBDCs

Access to CBDC \ Use of CBDC	Only domestic entities	Also to foreign entities
Domestic	Domestic CBDC	Access for tourists/visitors
International		International payments (remittances, commerce)

Questions: AML/KYC/Sanction screening? Technical Barriers? Card schemes?

Interoperability between multiple CBDCs



Source: R Auer, P Haene and H Holden, "Multi-CBDC arrangements and the future of cross-border payments", BIS Papers, no 115, 2021.

Project Jura: Cross-border wholesale CBDC

The BIS Innovation Hub's six strategic focus themes

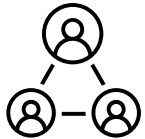


Suptech and regtech



Open finance

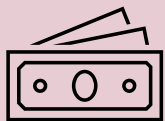
APIs in the open banking context and related data issues



Next-generation financial market infrastructures



Cyber security



Central bank digital currencies

Aurum (HK) Jura (CH)
 Helvetia (CH) mBridge (HK)
 Dunbar (SG)



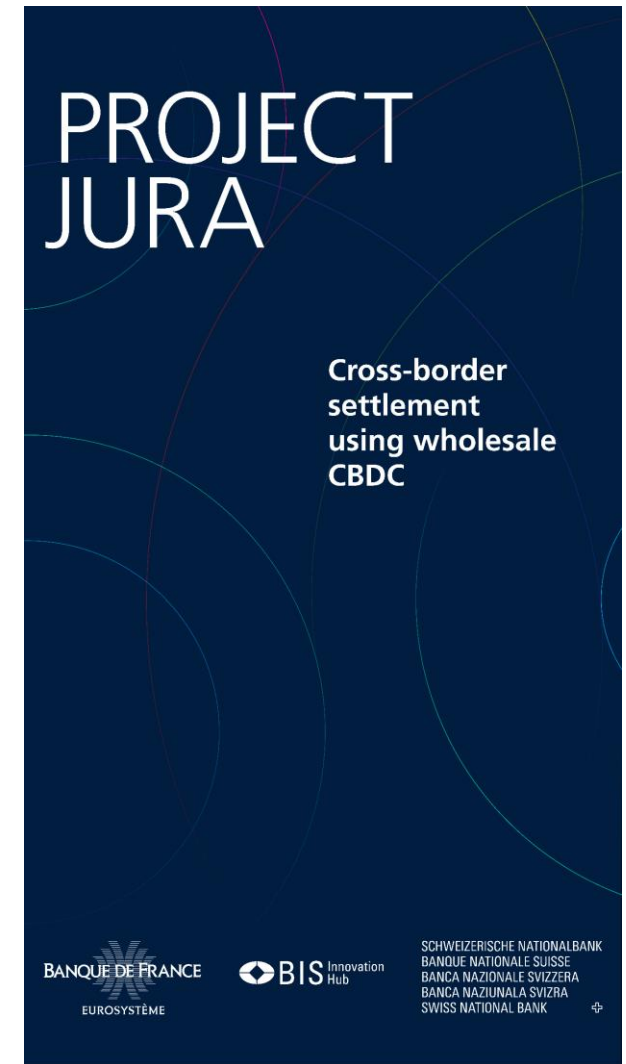
Green finance

The BIS Innovation Hub – a global force for innovation



Project Jura – what we did

- In a **cross-border** context with Swiss and French banks...
- ... test full life-cycle of a **tokenised commercial paper**...
- ... and **foreign exchange** transactions...
- ... with **three commercial banks** having direct access to...
- ... intraday **EUR and CHF wCBDC**...
- ... having all tokens circulating on a **single platform**...
- ... but enabling **control** for the central banks...
- ... in a **realistic setting**
 - real-value transfers between three banks
 - current legal and regulatory environment
 - using an existing platform



PROJECT JURA

Cross-border
settlement
using wholesale
CBDC



Jura findings

- New approach to cross-border settlement of tokenised assets and FX, interlinking asset and cash settlement
- Governance: Novel technology affords controls, facilitating wCBDC issuance on privately operated third-party platform in a different jurisdiction
 - Subnetworks with unique issuer and notary node
 - Deployed on local clouds
 - Dual-notary signing for PvP and DvP
- Realistic setting: additional insights but also challenges => production setting would be different
 - wCBDC without legal force; settlement finality only in underlying systems
 - Integration into banking systems

Discussion