



ASIA AND PACIFIC DEPARTMENT

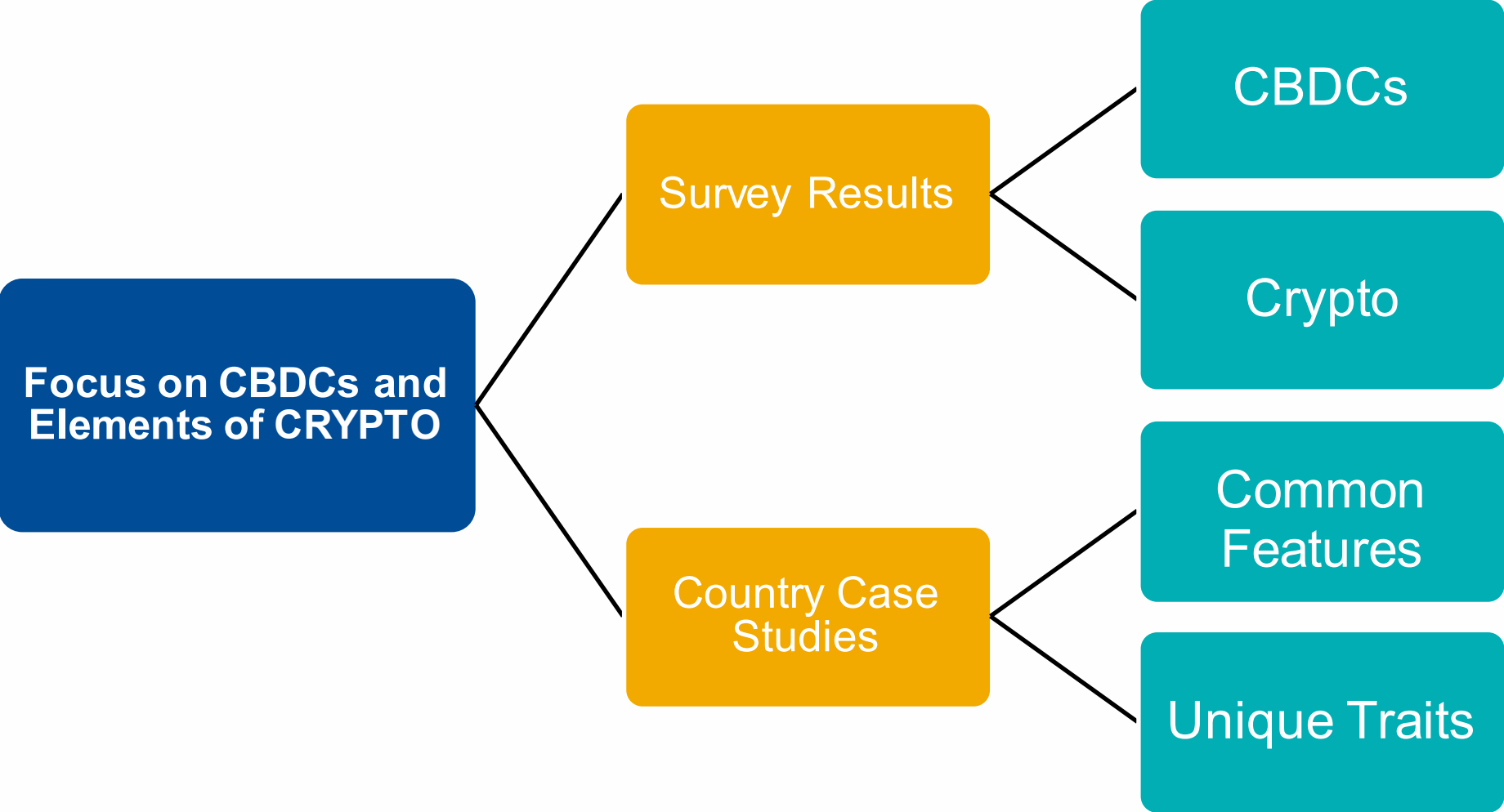
Towards Central Bank Digital Currencies in Asia and the Pacific: Results of a Regional Survey

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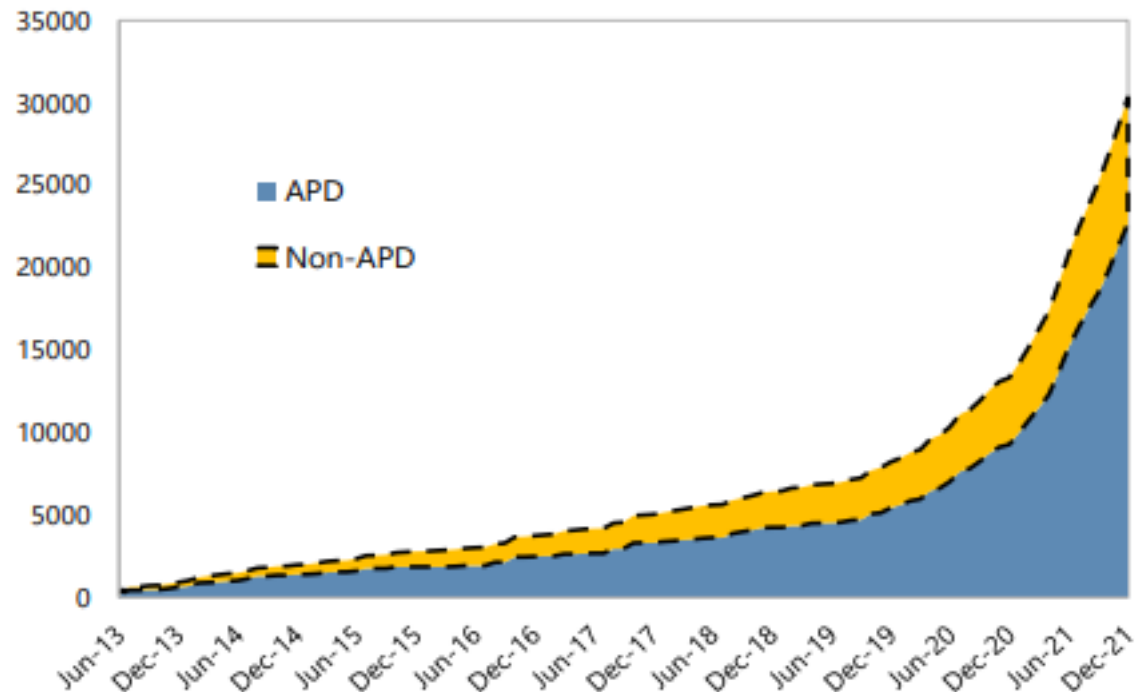
Outline



CBDCs and Crypto-Assets: Motivation

Keywords on CBDC in Speeches

(March 2013 = 100)



Sources: BIS (2020) and IMF staff calculations.

Note: APD countries include Australia, China, Indonesia, Japan, Lao PDR, Malaysia, New Zealand, Singapore, India, Republic of Korea, Philippines, Thailand and Vietnam.

Headlines in 2022

CBDC

Indian government directs RBI to issue CBDC

Central bank told to prepare to issue the digital currency in 2022 and 2023

CBDC

China expands e-yuan pilot

Beijing to trial use of central bank digital currency outside of Olympic Games centres

CBDC

BoJ's Uchida outlines phase two of CBDC experiments

Japanese people will ultimately decide whether they want a digital currency, executive director says

CBDC

Project Dunbar raises 'more questions than answers'

BIS's multi-CBDC project focused on qualitative benefits and trialled small-scale cross-border transfers

Synopsis of the Survey

Q1. Stage of adoption

Q2. Type of CBDC and why

Q3. Preparation work

Q4. Drivers

Q5. Issuance – how likely/ when/ changes in law

Q6. Challenges



CBDCs

Q7. Crypto – types/legal status/size of market etc.



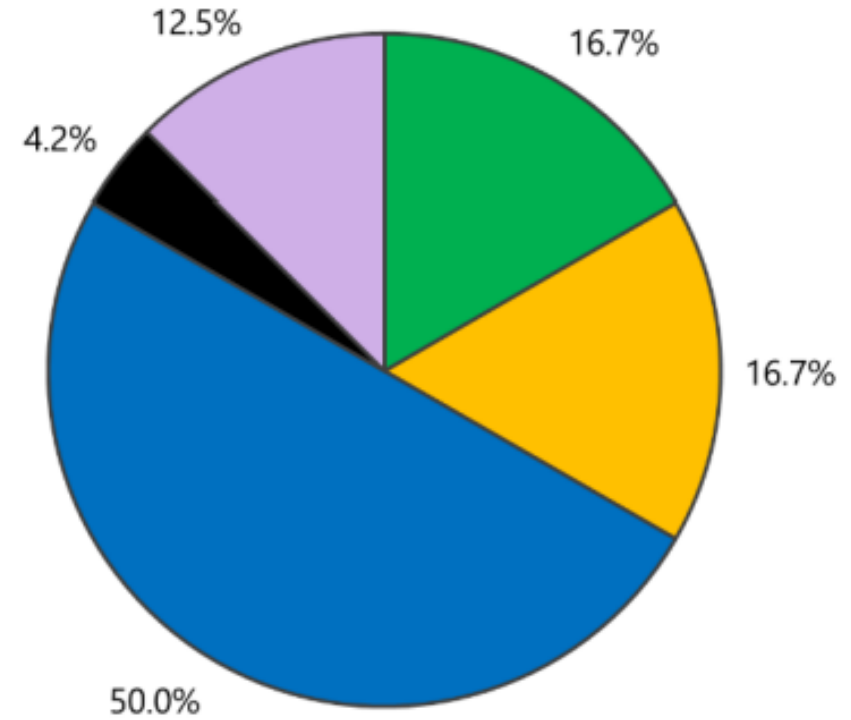
Crypto-assets

Q8. & Q9. Analytical work, Information sharing



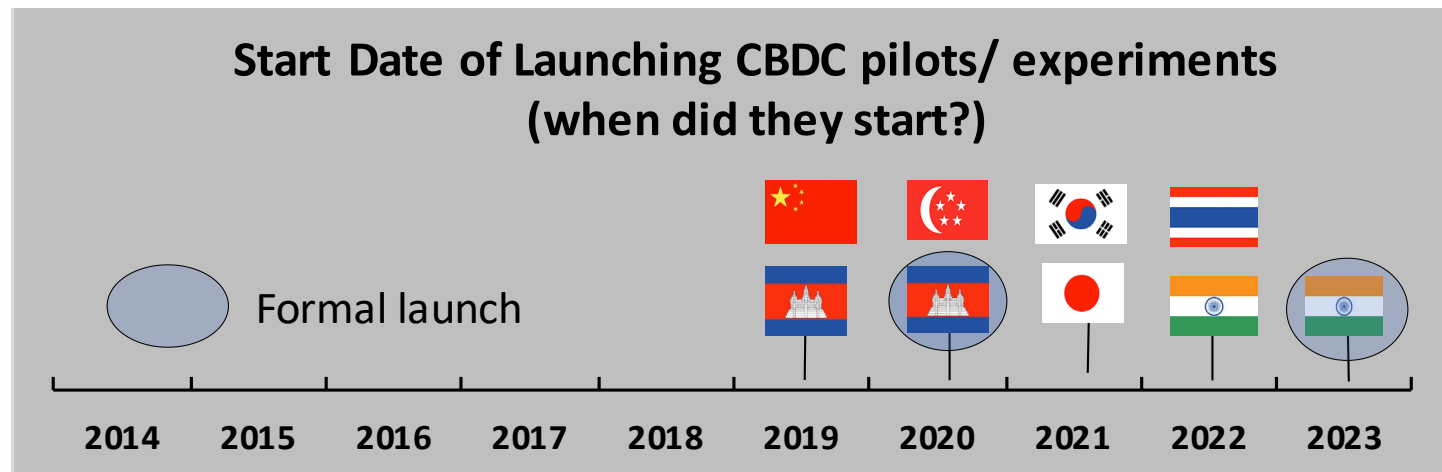
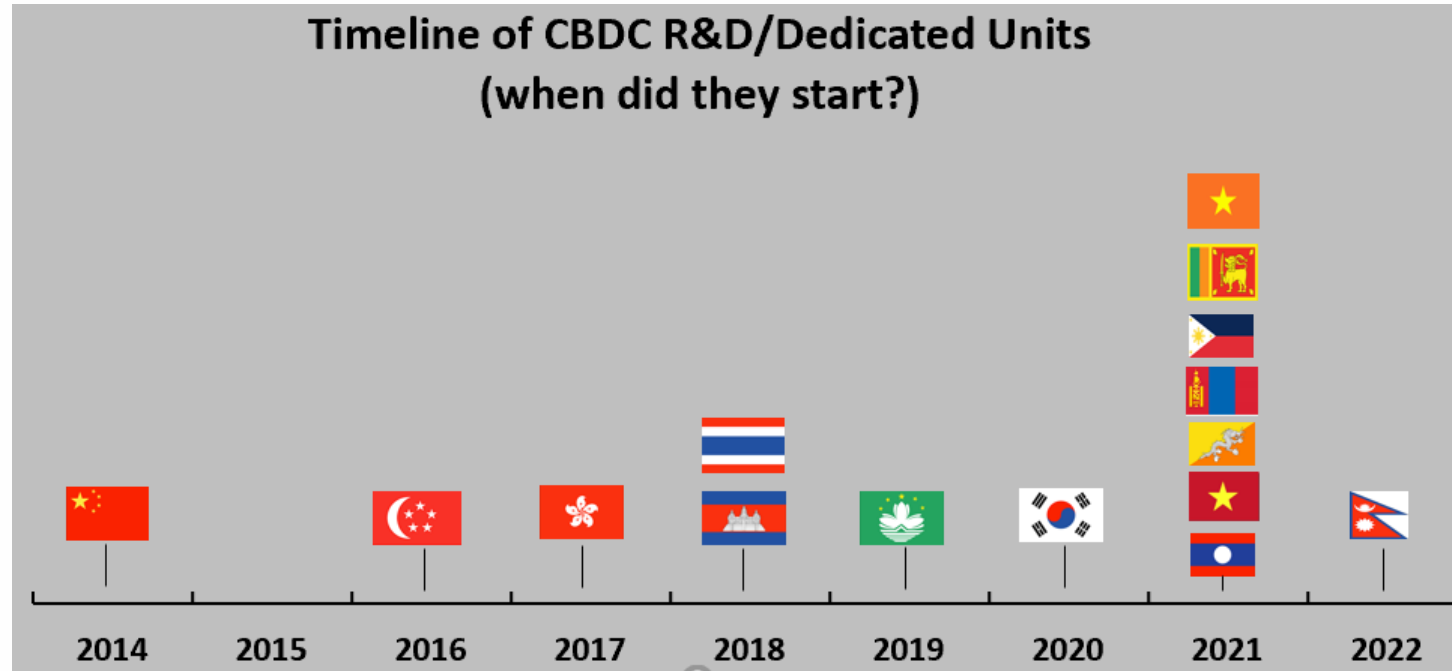
Other Aspects

Q1A: Stage of CBDC Adoption



Source: IMF Survey on CBDC and crypto assets.
Note: The pie-chart excludes Pacific Island Countries.

Q1B. Timeline of Measures Taken



Q2. Interest in Specific Types of CBDCs and Why

Interest in CBDCs

(Number of countries responded to the survey)

Australia China Hong Kong SAR India Indonesia Japan Macau SAR Nepal Thailand Both, 9	Bhutan Malaysia Mongolia Philippines Singapore Vietnam Wholesale, 6	Korea New Zealand Sri Lanka Retail, 3
		Bangladesh Cambodia Maldives No Response, 3
		Lao P.D.R. Uncertain, 1

WHY

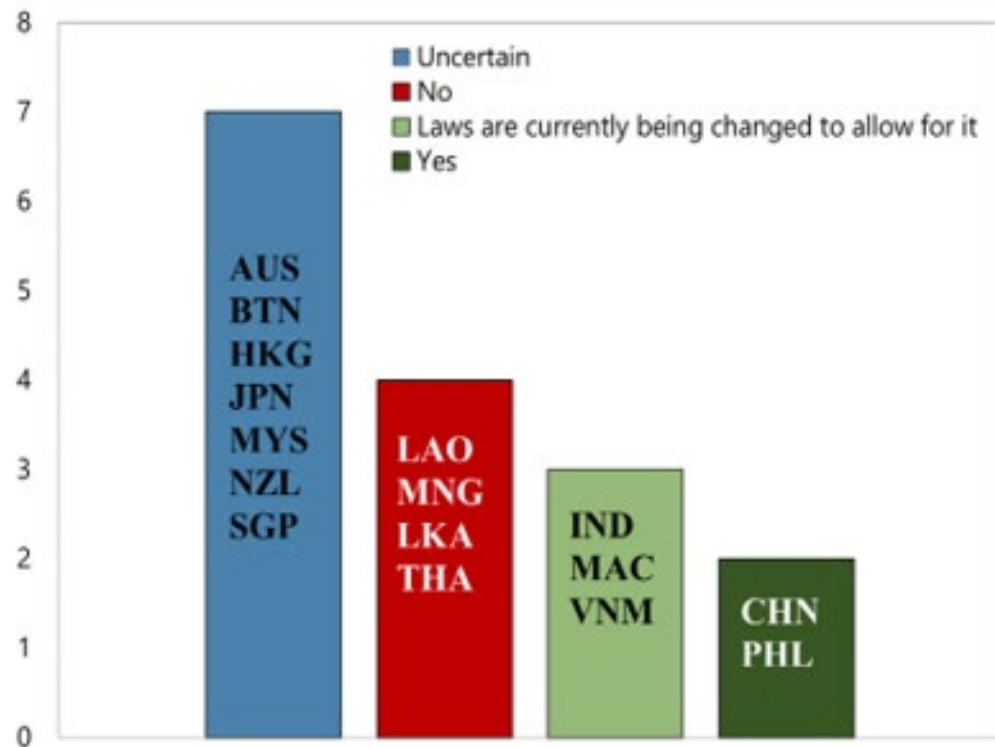
Wholesale – enhancing payment system efficiency and security; cost efficiency

Retail – To fulfill demand for digital cash/digital payments; provide an alternative to private crypto-asset

Q3A. Preparation Work: Legal Reform

Legal Authority to issue CBDC

(Number of countries responded to the survey)



Source: IMF survey on CBDC and crypto assets.

Law Reform Under Preparation

India

Macao SAR

Vietnam

Law Reform Enacted

China

Philippines
(only Wholesale)

Q3B. Preparation Work: Designated Special Teams

Special Unit

- ☐ Australia
- ☐ China
- ☐ Hong Kong SAR
- ☐ India
- ☐ Singapore
- ☐ Thailand



CB, multiple departments

- ☐ Indonesia
- ☐ Mongolia
- ☐ Philippines



CB, payment systems department

- ☐ Bhutan
- ☐ Japan
- ☐ Lao P.D.R.
- ☐ Malaysia
- ☐ Sri Lanka
- ☐ Vietnam



CB, currency management department

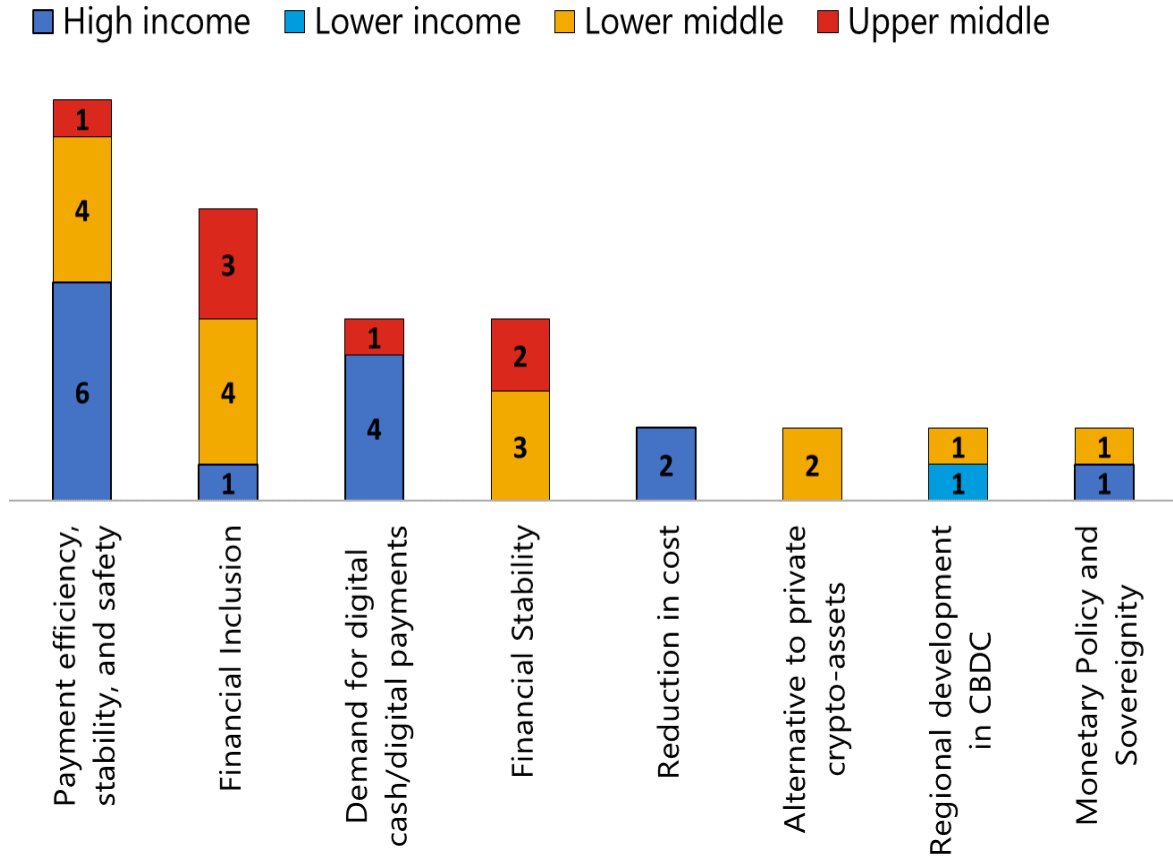
- ☐ Nepal
- ☐ New Zealand



Q4: Drivers of CBDC Adoption

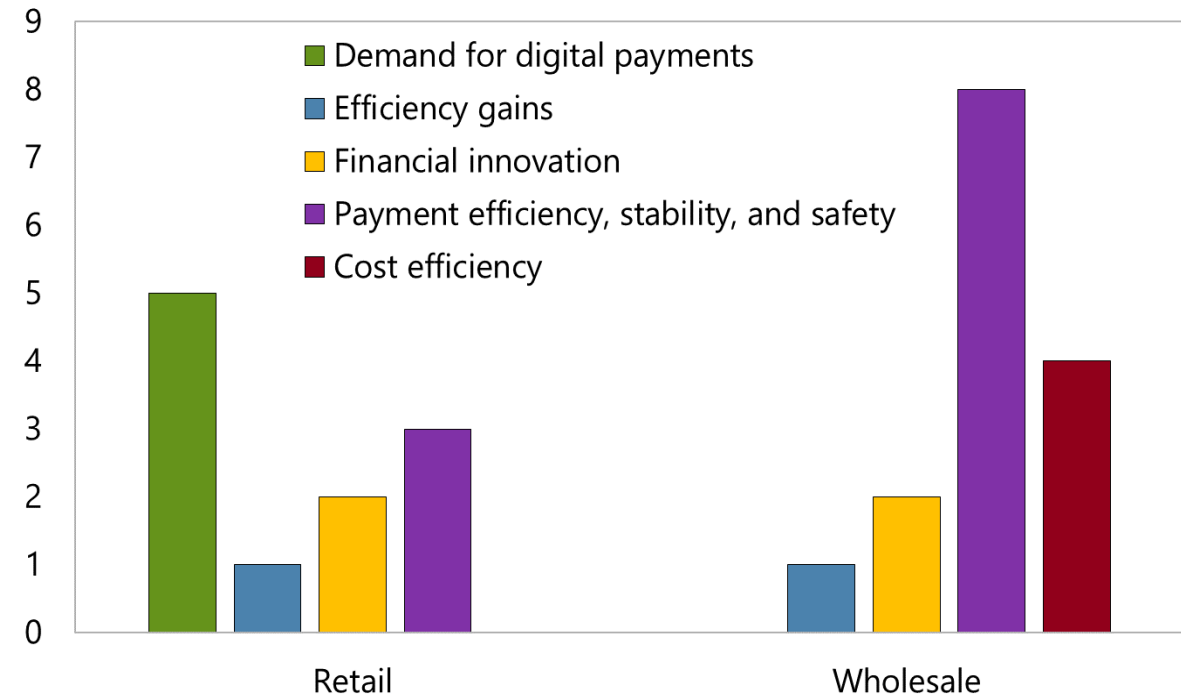
Drivers of Interest in CBDC by Income Group

(Number of countries responded to the survey)



Drivers of Interest in CBDC by Type

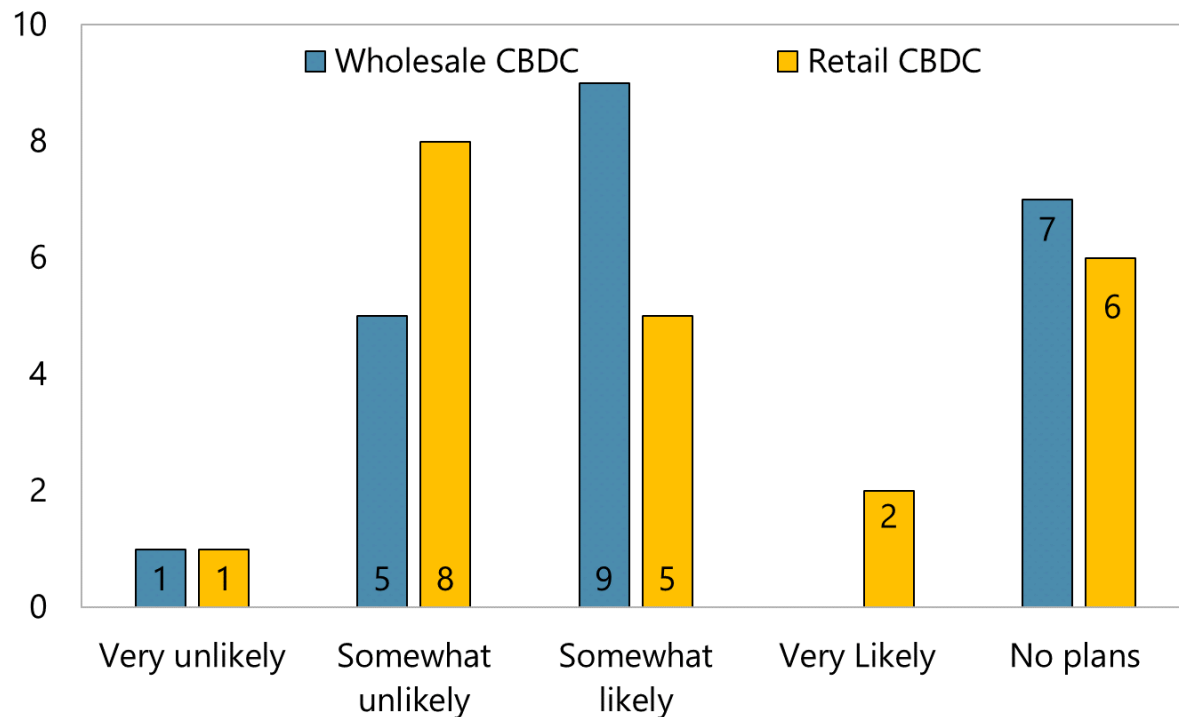
(Number of countries responded to the survey)



Q5A. Likelihood of CBDC Issuance

Likelihood of CBDC issuance: By Type

(Number of countries responded to the survey)



Very Likely

e.g. CHN, IND

Retail:
Somewhat
Likely

e.g. THA

Wholesale:
Somewhat
Likely

e.g. PHL, VNM

Q5B. Use of Technology

Technology Choices Based on Advanced CBDC Movers (China and Thailand)

Operation model	2- tier; Central bank issues CBDC & delegate private sector to interact with end users
Interest bearing	No
Limit on individual holding	Yes
Ledger Design	Combination (Centralized and decentralized)
Interoperability with existing payment networks	Yes
Payment authentication design	Multifactor
Authorized operators in second tier	Commercial banks (for China, banks may collaborate with non-bank payment service providers and telecom operators)

Q6. Challenges of Adopting CBDCs

Problems

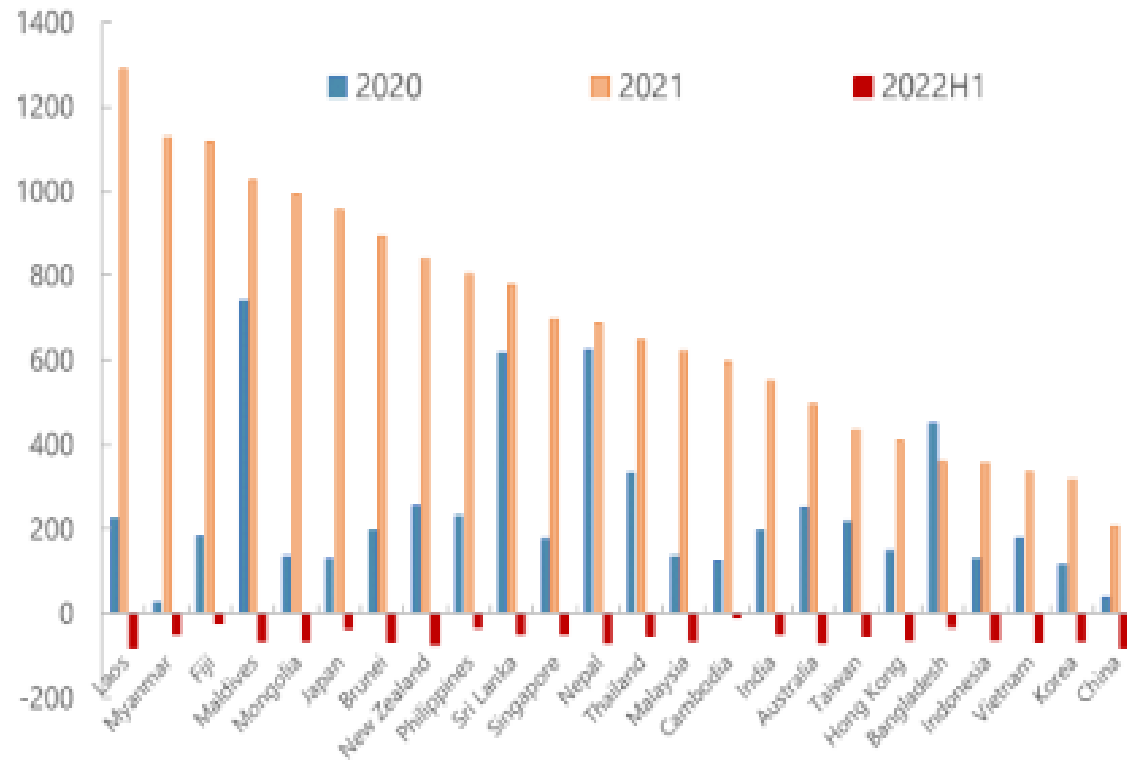
- Policy and legal issues
- Limited capacity at central bank
- Privacy
- Interoperability
- Performance and scalability
- Cybersecurity
- Technology-enabled functional capabilities

Steps Taken

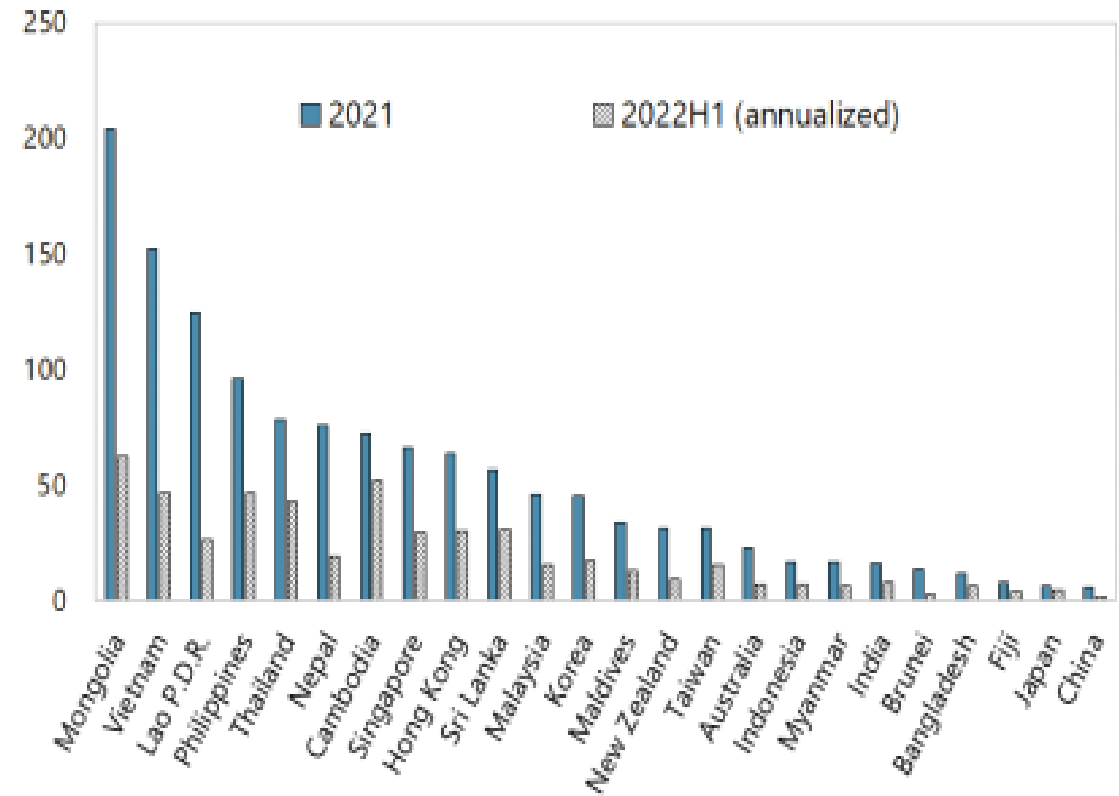
- Research & Pilots on feasibility
- Improve the security management (CHN)
- Establish separate regulatory measures (CHN)
- Test technology feasibility in experiments (JPN)
- Discuss institutional arrangements with stakeholders (JPN)
- Public consultations to gauge need for and design features (NZL)
- Create public awareness through CB's social media channels (THA)

Q7: Private Crypto-Assets

Volume growth by country (year-on-year, percent)

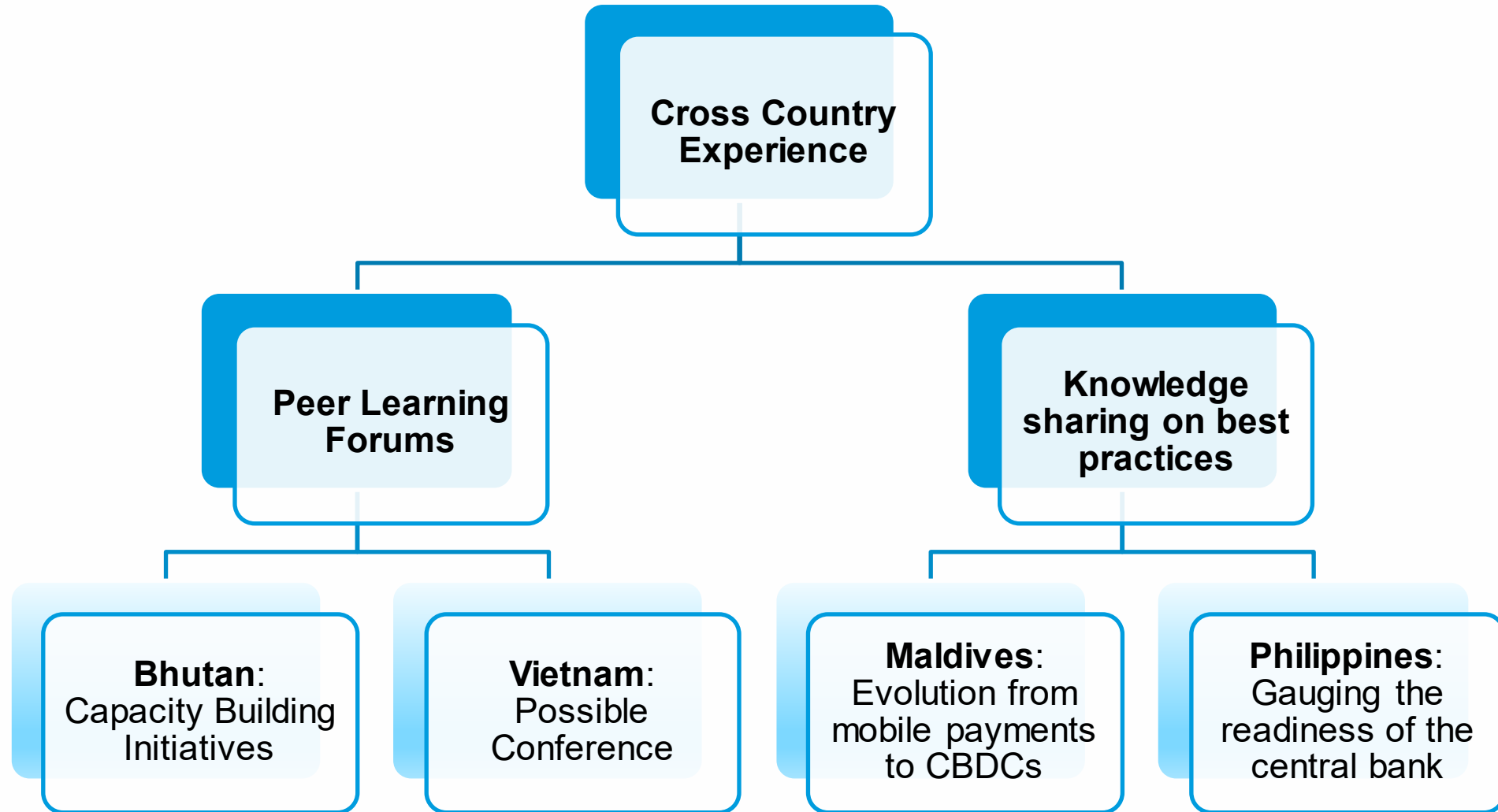


Volume in share of GDP (percent)



Source: Chainalysis and IMF staff calculations.

Q8&9: Knowledge Sharing



Countries in the Spotlight

- China and Hong Kong – The First Movers
- India and Thailand – Preparing Pilots
- Australia, Japan, Korea, and Singapore – Strong R&D
- ASEAN – Keeping up with Crypto Assets
- Cambodia – Leveraging Technology used for CBDCs
- Regional Integration (Project mBridge & Project Dunbar) – Strength in Numbers
- Pacific Island Countries – Testing the Waters

China and Hong Kong SAR: The First Movers

China



- Study dates back to 2014 and pilot started in 2019
- Mainly focus on retail use and domestic payments at current stage; testing cross-border use in HK
- Two-tiered system with both centralized and distributed architectures, supported by in-house technologies

Hong Kong SAR



- Project *LionRock/mBridge* (pilot) started in 2017, focusing on wholesale use - important implications for HK as an IFC
- Project *e-HKD* (research) started in June 2021, focusing on retail use, involving technology experimentation and a study of legal and policy considerations
- Project *Sela* (June 2022), focusing on cybersecurity

Commonalities:

- motivated by fast growing digital economy and desire to further improve payment efficiency
- interoperability with existing electronic payment systems incl. bank accounts and other digital wallets

Lessons Learned:

- important to develop sound security and risk management mechanism while protecting data privacy
- important to establish clear regulatory framework and clarify CB's authority to issue digital currency
- important to comply with local regulations in cross-border uses (e.g. e-CNY's technical test in HK)

India and Thailand : Preparing Pilots

Thailand



India



Common features

- CBDC is seen as an alternative to private crypto for payments
- High level of crypto adoption raised concern about stability, risks to financial sector, monetary policy
- Plans underway to provide central banks legal authority to issue CBDCs

THA

- Retail CBDC pilot launch by 2022 Q4
- Hybrid architecture; Combination (centralized and distributed ledger) design
- Collaborating with BIS and other central banks on *mBridge* project
- Digital assets banned for payments from April 1, 2022

IND

- Intentions to launch retail CBDC in FY23
- Pilots expected to launch in next 5-6 months
- Digital rupee will use blockchain
- 30 percent tax on profits from crypto trading from April 1, 2022
- The RBI will be able to trace all transactions for AML/CFT issues

Strong R&D: Australia, Japan, Korea, and Singapore

Country	Australia	Japan	Korea	Singapore
Status	Proof of Concept	Proof of Concept	Experiment	Pilot
Type of CBDC	Retail and wholesale	Retail and wholesale	Retail	Wholesale
CBDC/ Project name	eAUD, Project Atom	Digital Currency JPY (DCJPY)	Undecided	Project Ubin

Common features

- Relatively rapid growth in crypto adoption;
- CBDC to support digital economy and complement the private crypto-assets
- A main goal is to improve payment and settlement efficiency
- Hybrid (two-tier system) technology to allow appropriate division of roles with central bank and the private sector
- Uncertain on central banks legal authority to issue CBDCs

- No plans to launch yet.
- Various phases in the proof of concept completed (Japan, Korea, and Singapore)
- Australia announced pilots recently.

ASEAN: Keeping up with Crypto Assets

Philippines

Whole
sale

Vietnam

Not
Decided

Indonesia

Both

Common Features

- Strong prevalence of mobile money
- Remittance payments and speculative purposes play a role in the widespread use of private crypto
- Statista Survey- VTM (21%) and PHL (20%) second and third position in owning or using crypto

PHL

- Crypto exchanges are approved for remittances
- Blockchain app for govt bonds
- R&D is underway
- Planning on a pilot but not before 2023

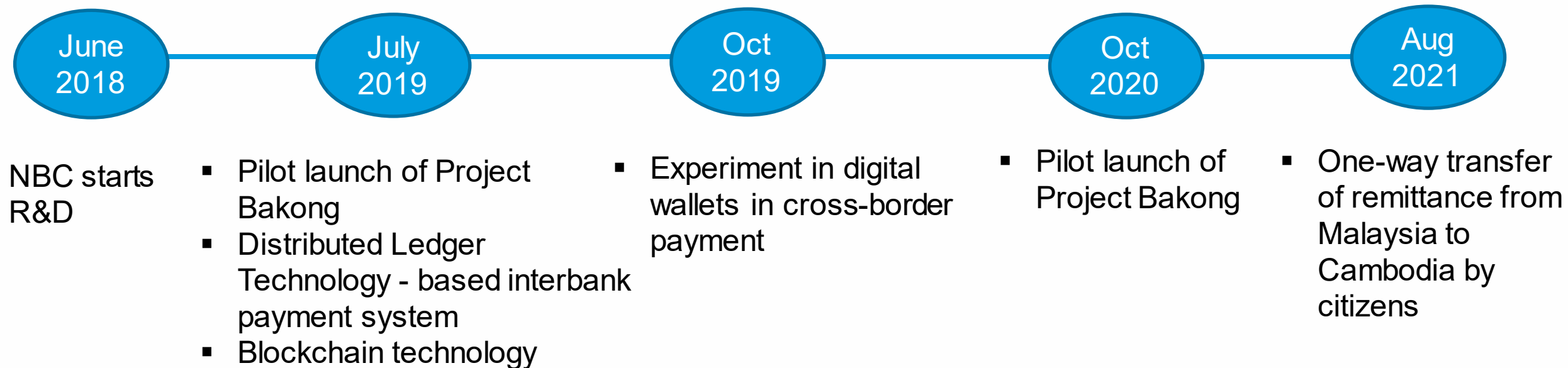
VTM

- crypto is NOT approved for payments
- govt blockchain platform for digital ID
- SBV started R&D in July 2021
- Three years to pilot
- Legal issues are being revised

IDN

- crypto is NOT approved for payments
- BI is improving digital payment system to support eventual adoption
- No timeframe on pilot

Cambodia: Leveraging Technology used for CBDCs



Goals: Financial inclusion; Secure and low-cost transaction; Help de-dollarize

Outcome: About 300,000 users ; transactions by end-user is free

Quasi CBDC:

- Blockchain powered digital payment system
- It is account based not token based,
- Platform for commercial banks, microfinance institutions (MFIs) and payment service providers (PSPs) to deliver e-wallet and money transfer services to consumers

Regional Integration

Project mBridge

Project Dunbar

Participants

Hong Kong, Thailand, China, UAE; BIS innovation hub

Australia, Malaysia, Singapore, South Africa; BIS

Wholesale use

Digital currencies and DLT for real-time, cheaper and safer cross-border payments and settlements

Common Platform

Transactions across multiple CBDC networks, which can be deployed for cross-border fund transfers, international trade settlement, and capital market transactions

Early results

Improving cross-border transfer from 3-5 days to 2-10 seconds; and reducing correspondent banking costs by up to 50%

Next Stage

Achieve an open-sourced production-ready network for broader CB community. Solve further challenges of policies, business, and technology.

The Rise of Digital Money : Implications for PICs

Landscape

Drivers: Financial inclusions; payment efficiency (CBRs)

Challenges: No central banks; no own currencies; capacity, resources, and operational constraints

Current Status:

- *Crypto:*
 - *RMI:* a law of adopting a crypto-asset as the second legal tender passed in early 2018
 - *Fiji: fastest adoption of crypto-assets*
 - *Palau:* block-chain based e-residency program
- *CBDC:*
 - *Fiji, Solomon Islands, Tonga and Vanuatu:* general CBDC feasibility study
 - *RMI:* feasibility study on a USD stable coin backed by government reserves

Capacity Development Needs

- *Exploration*
 - Define current problems and how digital solutions might be applied
 - Cross-country experience, peer learning
- *Design*
 - Technical aspects of launching a CBDC, its regulation, and its impact on the payments and monetary policy
 - Proper framework for digital assets and crypto-assets.
 - Set up CB and CBDC functions
- *Policy*
 - Review pilot CBDC study

Key Lessons

(AUS, CHN, HKG, IDN, IND, JPN, KOR, PHL, SGP, THA, VTM)

Lessons from all Countries

- The emergence of private crypto-assets (whether approved or not) has created an impetus to consider CBDCs.
- The use of blockchain in other government services has provided a favorable experience in the use of technology for launching CBDCs.
- R&D for the launch of CBDCs are done in tandem with regulatory and legal reforms, including in the central bank law.

Lessons from More Advanced Countries

- **Key policy priority:** Interoperability, both with existing domestic payment systems and internationally with other CBDCs/digital currencies.
- **Data privacy:** Not storing personal identifiable information while still allowing the central bank to view transactions, for example AML issues.
- **Two-tier system:** Central bank as an issuer and private sector as distributor.

Key Lessons

Unique Cases

Cambodia

- Leverage high degree of mobile usage;
- Leverage technology used for CBDCs

Regional CBDC

- Regional prototypes can help solve interoperability with other CBDCs/digital currencies to allow smooth international settlements.
- Regional prototypes do not preclude individual CBDCs, ex. Singapore
- Greater focus on cross-border regulations.

PICs

- The development a CBDC requires considerable expertise and a deep understanding of the design issues
- Sufficient preparatory research and pilot programs is necessary prior to launch

THANK YOU