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公共政策研究院
PUBLIC POLICY INSTITUTE

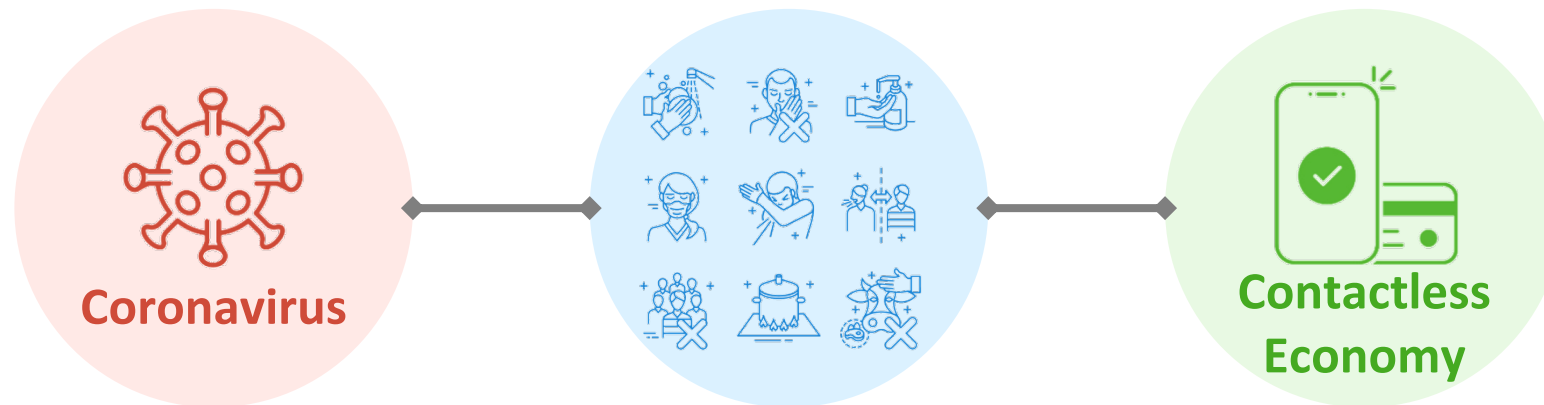
Central Bank Digital Currency: The Cornerstone of Digital Financial Infrastructure

September 2021

Research • Advocate • Engage
研究 • 倡議 • 推動



Central Bank Digital Currency



Central Bank Digital Currency (CBDC · 央行數碼貨幣) is a form of money, issued digitally by the central bank and intended to serve as legal tender.

Wholesale CBDC	Designed for institutions, corporates, etc.	B2B
Retail CBDC	Designed for general public	P2P, P2B, B2B

Description: “B” stands for “Business”, “P” stands for “Peer”, “2” stands for “to”

Source: *International Monetary Fund, Bank for International Settlements*

CBDC vs E-money



For Example



What are the differences between CBDC and **e-money**?



CBDC has no credit risk and allows for offline payments

1

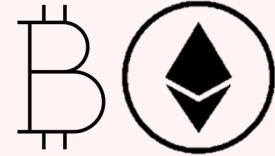
2

CBDC vs Cryptocurrency



What is the difference between CBDC and **cryptocurrencies**?

For Example



CBDC is backed by the central bank and
is not for speculative purposes

1

2

A

Comparison between CBDC and other types of currencies

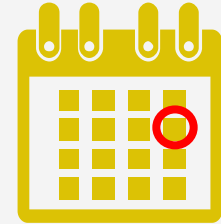
	Example	Anonymity	Traceability	No credit risk	Offline payment
Cash	Note, coins	✓	✗	✓	✓
Bank money	Debit card	✗	✓	✗	✗
E-money	Alipay, WeChat Pay	✗	✓	✗	✗
Digital currency by private companies	Bitcoin, Diem	✓	✓	✗	✗
CBDC	e-CNY, e-krona	✓	✓	✓	✓

Source: International Monetary Fund, Bank for International Settlements

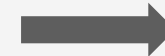
CBDC is programmable

Programmability

**Limit scope
of use**

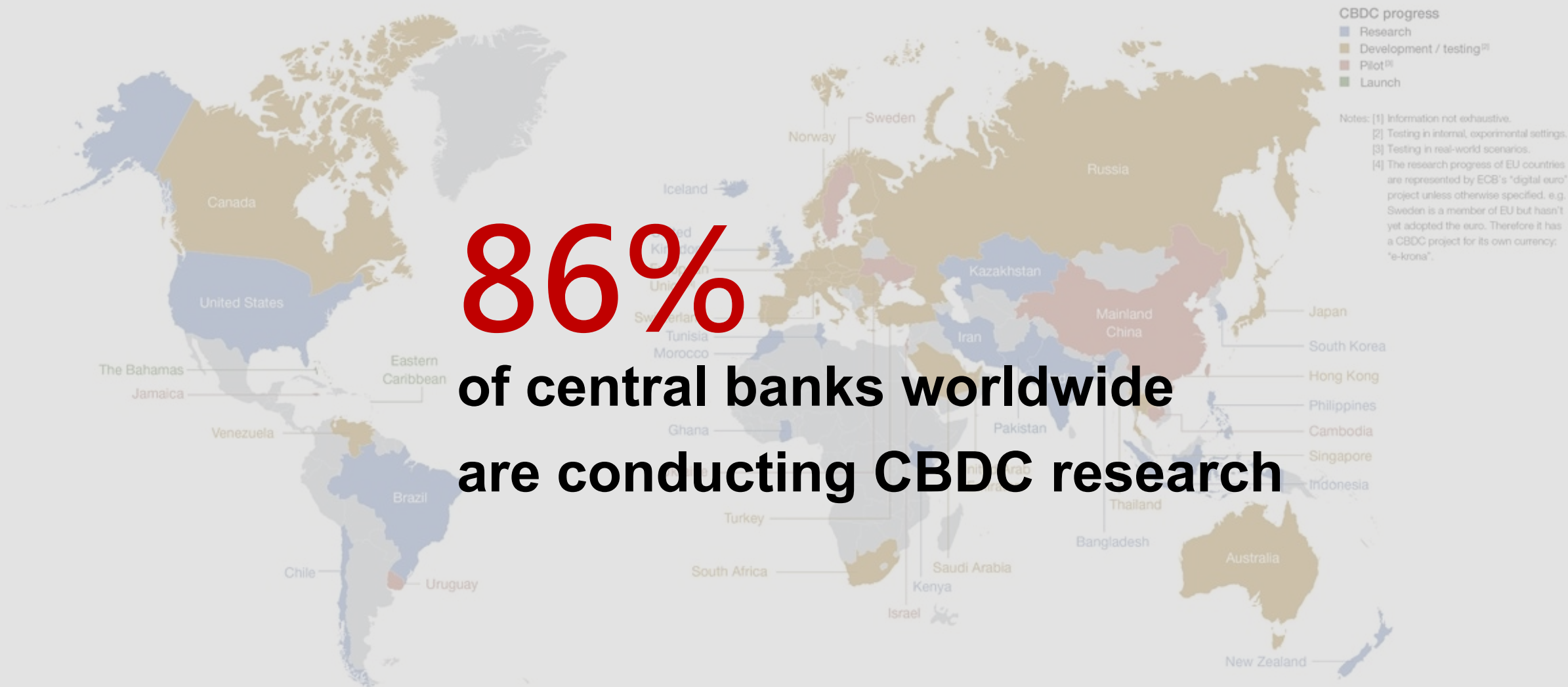


**+ Smart
contracts**



Global CBDC development progress

86%
of central banks worldwide
are conducting CBDC research



Source: International Monetary Fund, websites of central banks of different countries, and media reports

Motivations for CBDC research



≈diem



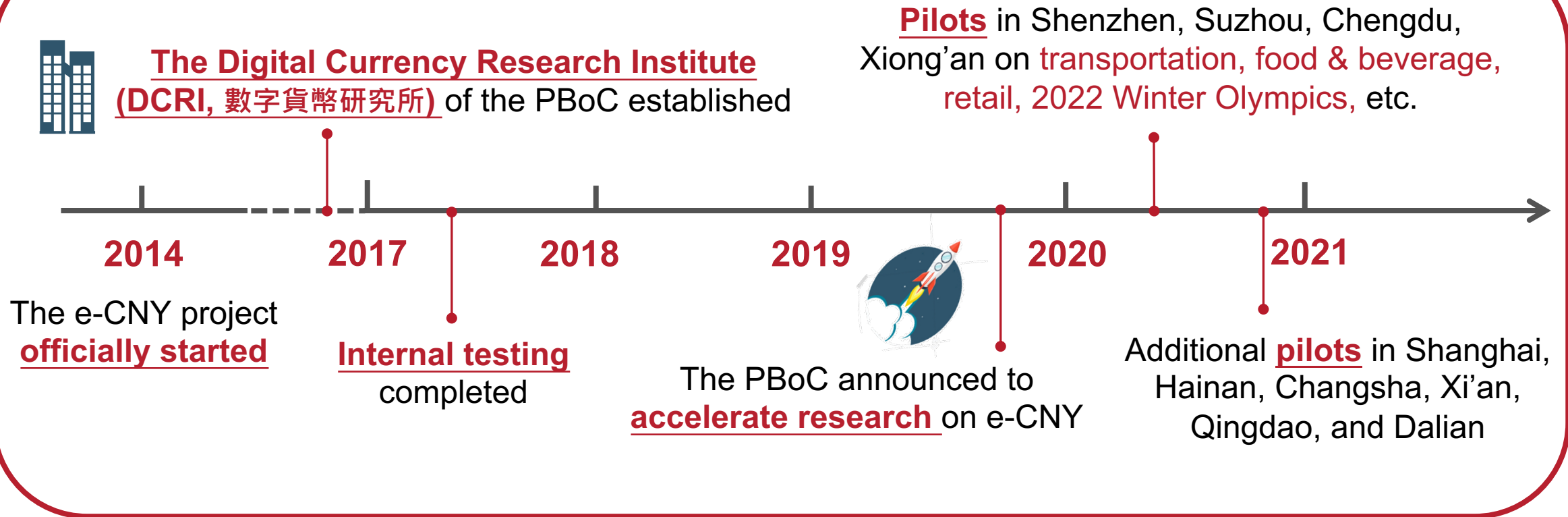
**1/3 of adults worldwide
No bank account**



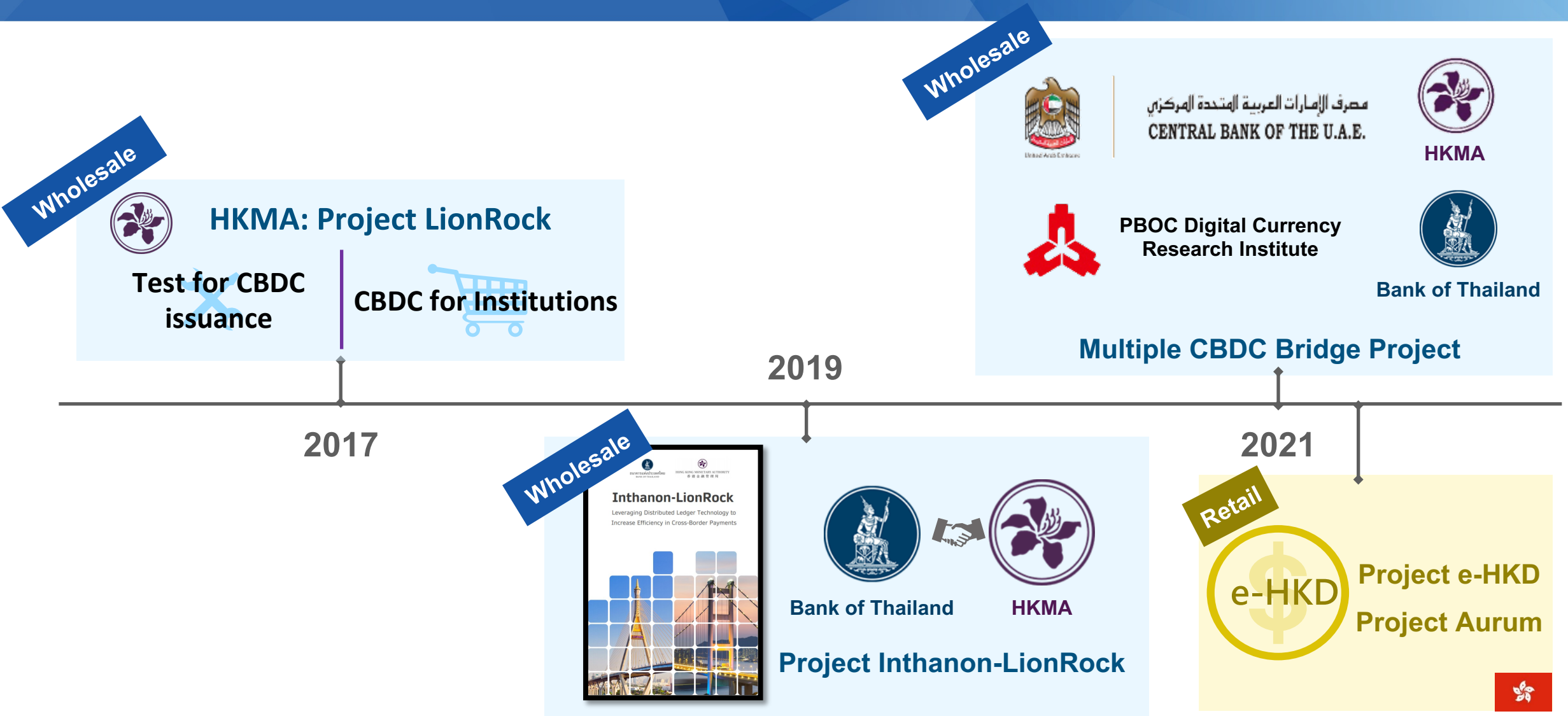
**Payment channel for
Public subsidy programmes**

China: CBDC research timeline

e-CNY, 數字人民幣



Hong Kong: CBDC research timeline



Source: Hong Kong Monetary Authority, Bank of Thailand

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Report Structure: Seven recommendations

	Local	Cross-border
Retail CBDC	Rec. 1: Formulate a retail payment strategy	Rec. 3: Dual-currency digital wallets
	Rec. 2: Explore implementation strategies and use cases for e-HKD	
Wholesale CBDC	Rec. 4: Explore use cases for wholesale CBDC in the financial industry	Rec. 5: Develop Hong Kong into a wholesale CBDC hub
Governance	Rec. 6: Formulate digital finance strategies	
	Rec. 7: Establish a joint steering group for CBDC	

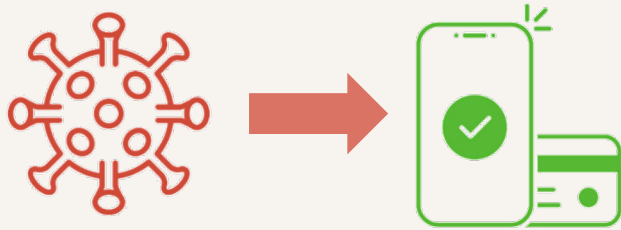
Potential effects of the seven recommendations



	Local	Cross-border
Retail CBDC	(1) Provide citizens with a more convenient and robust payment system	(3) Facilitate cross-border payments; Enhance the existing mutual market access mechanisms to pool capital and consolidate Hong Kong's position as a wealth management centre
	(2) Optimise digital payment experience for citizens; Provide a level playing field for the FinTech ecosystem and promote financial innovation	
Wholesale CBDC	(4) Prepare for the development of digital asset trading in Hong Kong; Provide investors with new investment options; Increase international application scenarios for HKD	(5) Promote the internationalisation of RMB
Governance	(6) Promote coordination in the digital financial ecosystem	
	(7) Promote the application of CBDC in the economic and financial system	

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Retail transactions in Hong Kong are increasingly digitalised



Since COVID-19...

Digital Transactions



+60% (volume)

+30% (users)

+10%

(e-commerce transactions)

VISA

Hong Kong's retail digital payment methods

Private Sector

Incurs transaction fees



Public Sector

No transaction fees



EU & Thailand: retail payments strategy



EU: Retail Payments Strategy (2020)



Increasingly **digital and instant** payment solutions with a pan-European reach



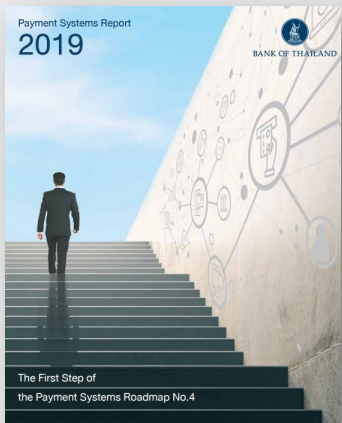
Innovative and competitive retail payments markets



Efficient and interoperable retail payment systems and other support infrastructures



Efficient **international** payments, including remittances



Bank of Thailand: Payments Roadmap No. 4 (2019-2021)



Interoperable Infrastructure
ISO 20022



Innovation
Tech to enhance payment services



Information
Leverage data for benefits



Inclusion
Expand access



Immunity
Oversight and risk management

Sources: European Central Bank, Bank of Thailand

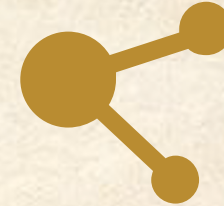
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Recommendation 1: Formulate a comprehensive and overarching retail payment strategy

5 Key Focus Areas



Public engagements



Interoperable infrastructures



Technology innovation



Risk management



International compatibility



Provide citizens with a more convenient and robust payment system

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Recommendation 2: Explore implementation strategies and possible use cases for e-HKD

Explore implementation strategies such as public-private partnership

For Example :

Octopus Cards



Popular in Hong Kong

98% penetration rate

Public Sector Collaborations

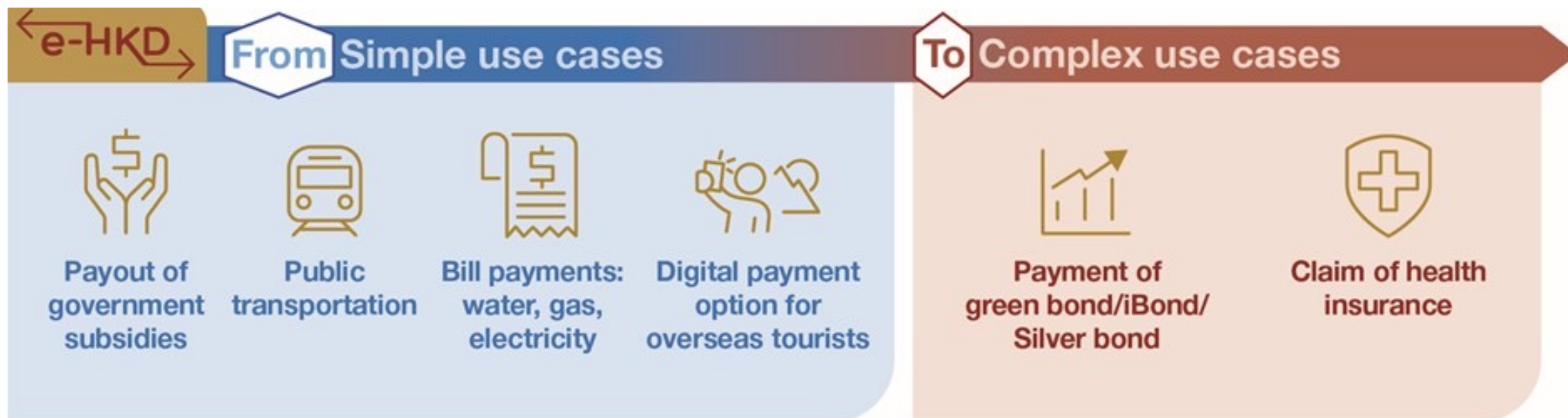
e.g., Consumption Voucher Scheme



Promote e-HKD through popular payment methods, and improve the payment system most widely used by the public

Recommendation 2: Explore implementation strategies and possible use cases for e-HKD (cont.)

Explore possible use cases for e-HKD



Help the public better understand the conveniences of using e-HKD through use cases; Provide a level playing field for the FinTech ecosystem and promote financial innovation

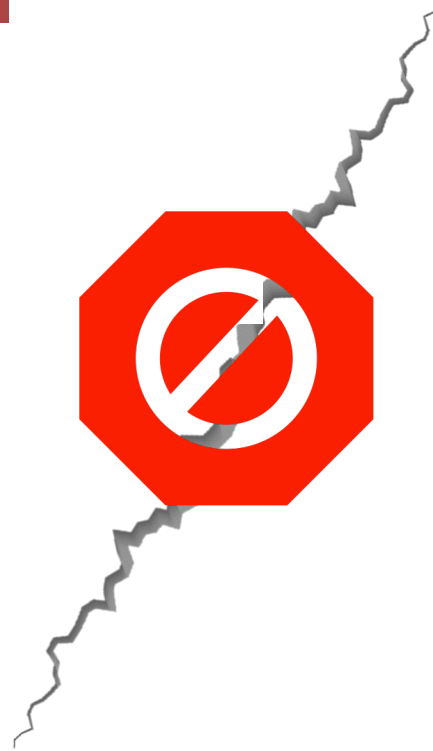
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Challenges: Cross-border retail payment methods

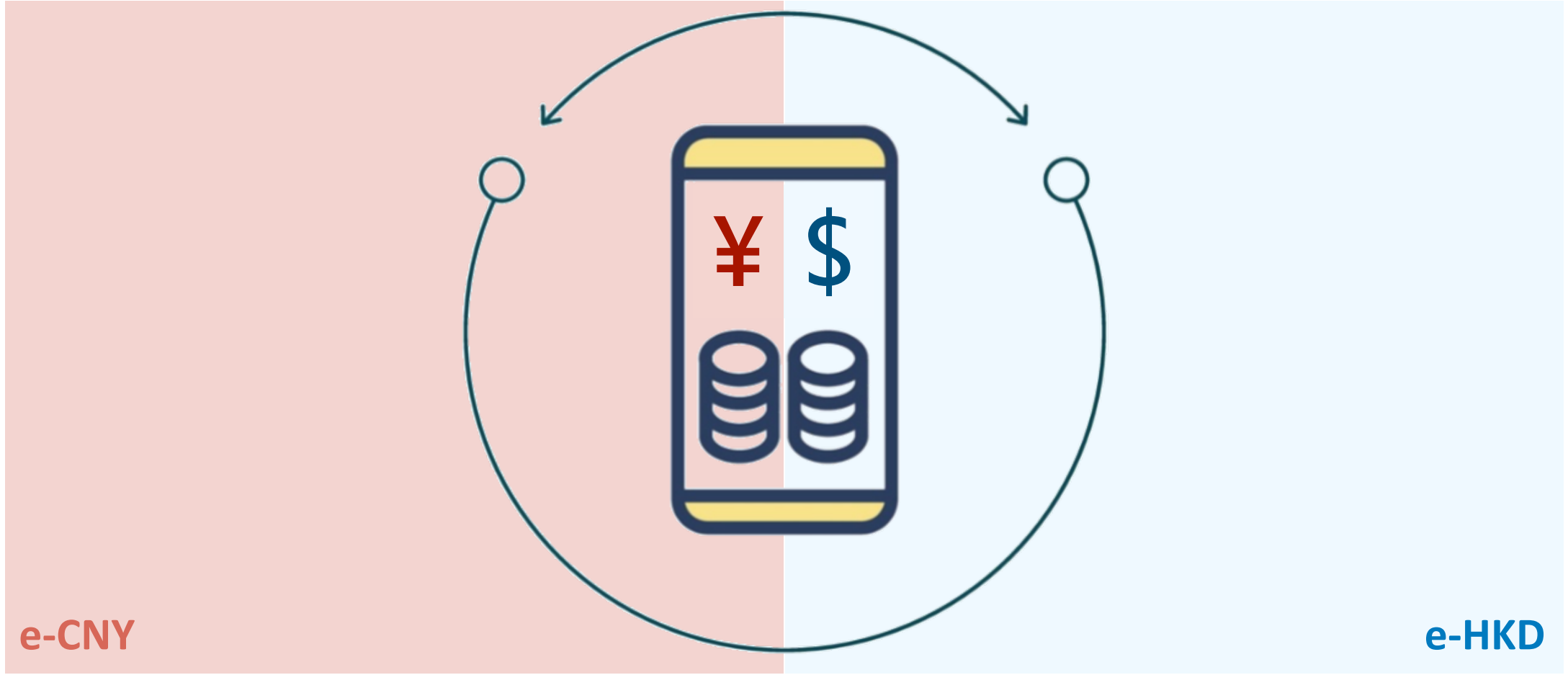
Mainland China



Hong Kong



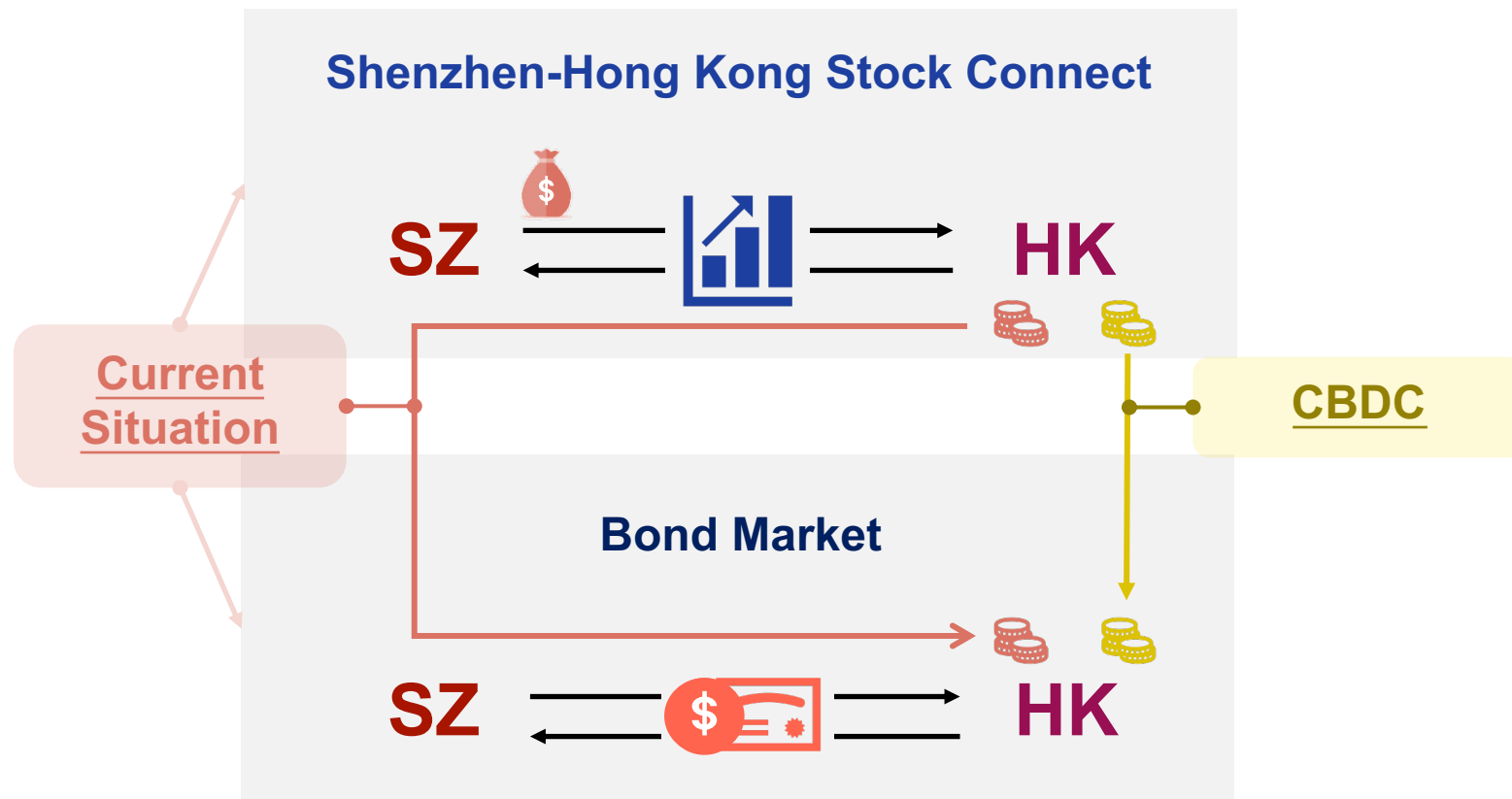
Recommendation 3: Dual-currency digital wallets



Recommendation 3: Dual-currency digital wallets (cont.)



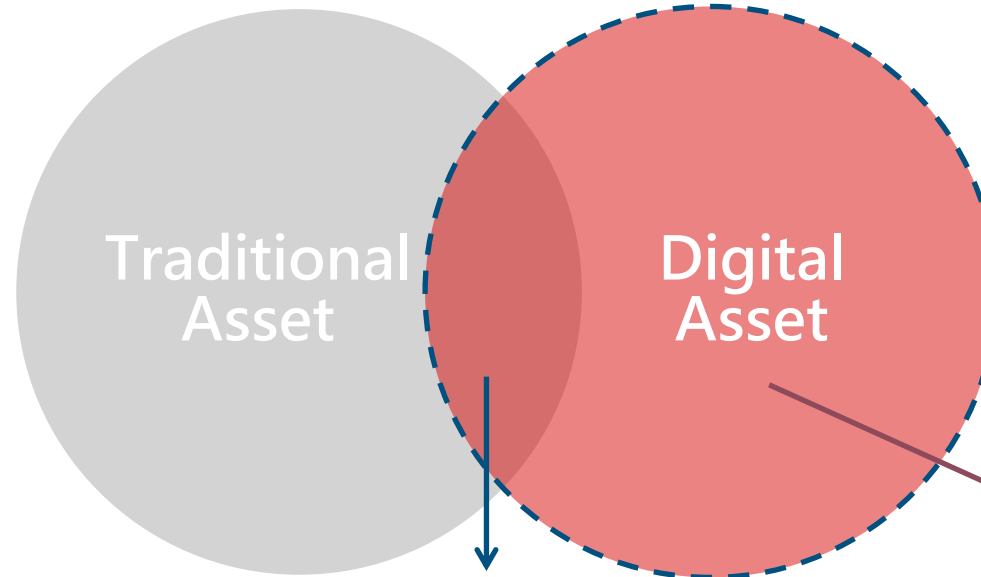
Provide greater flexibility for investments in the GBA; Enhance existing Stock Connect, Bond Connect, Wealth Management Connect, etc. to pool capital and consolidate Hong Kong's position as a wealth management centre



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Recommendation 4: Explore use case scenarios for wholesale CBDC in the financial industry

Digital Asset
Digital representation
of value



Traditional Asset: Equity, Bond, Fund, etc.

Emerging Asset: Artwork, Real Estate, etc.

Improve transaction process + Enhance market liquidity

Create new market value and investment options

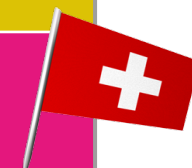


Ride on the global trend of digital finance and prepare for the development of digital asset trading in Hong Kong; Provide investors with new investment options

Recommendation 4: Explore use case scenarios for wholesale CBDC in the financial industry (cont.)

Ensure interoperability between CBDC system and exchanges to facilitate the application of CBDC to trading and settlement of securities

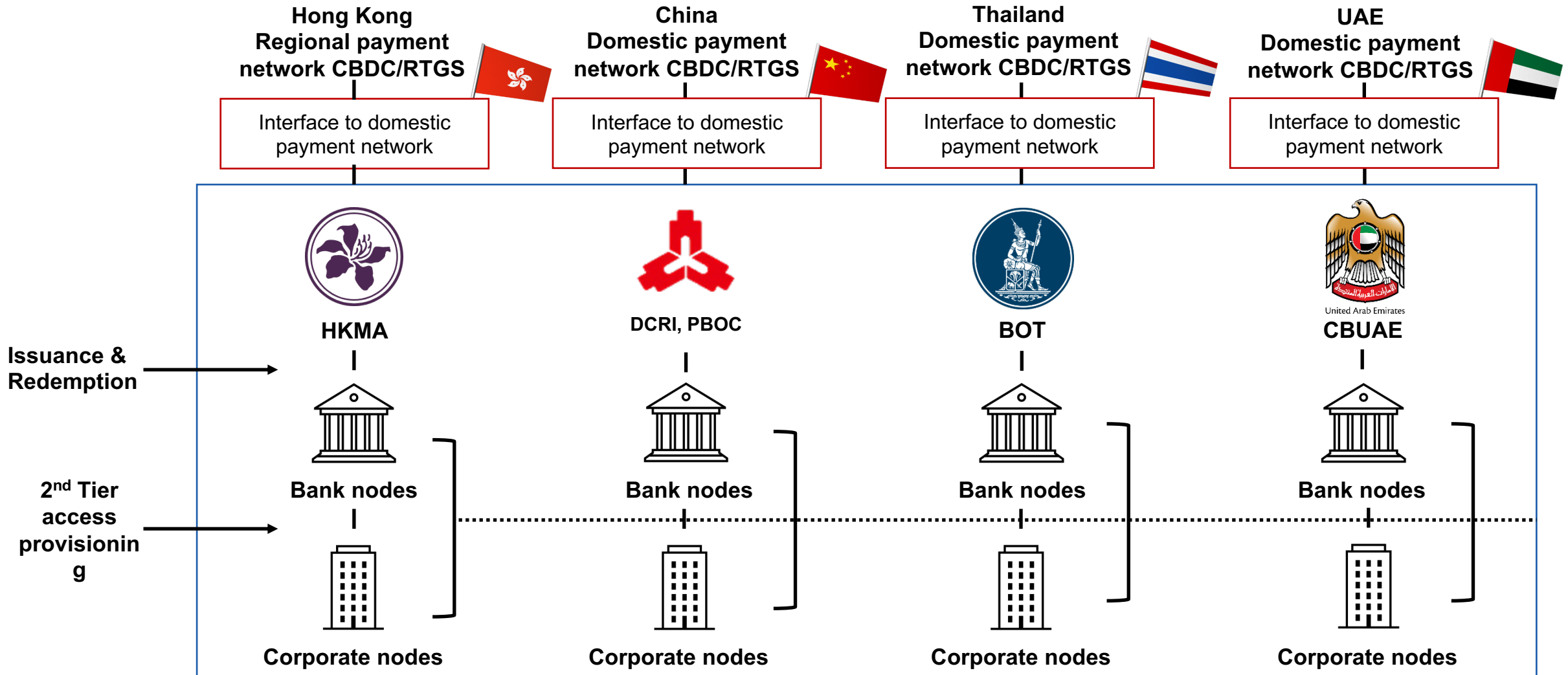
		Payment Leg	
		Account- based RTGS system	Token- based Wholesale CBDC system
Exchanges	Delivery Leg	<u>Current system of HKEX</u> CCASS + HKICL	<u>Improve the system of HKEX</u> CCASS + Wholesale CBDC system
			<u>Digital asset exchanges (established by disruptive innovators or HKEX)</u> Digital asset system + Wholesale CBDC system



Increase international application scenarios for HKD

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m-CBDC Bridge Corridor Network

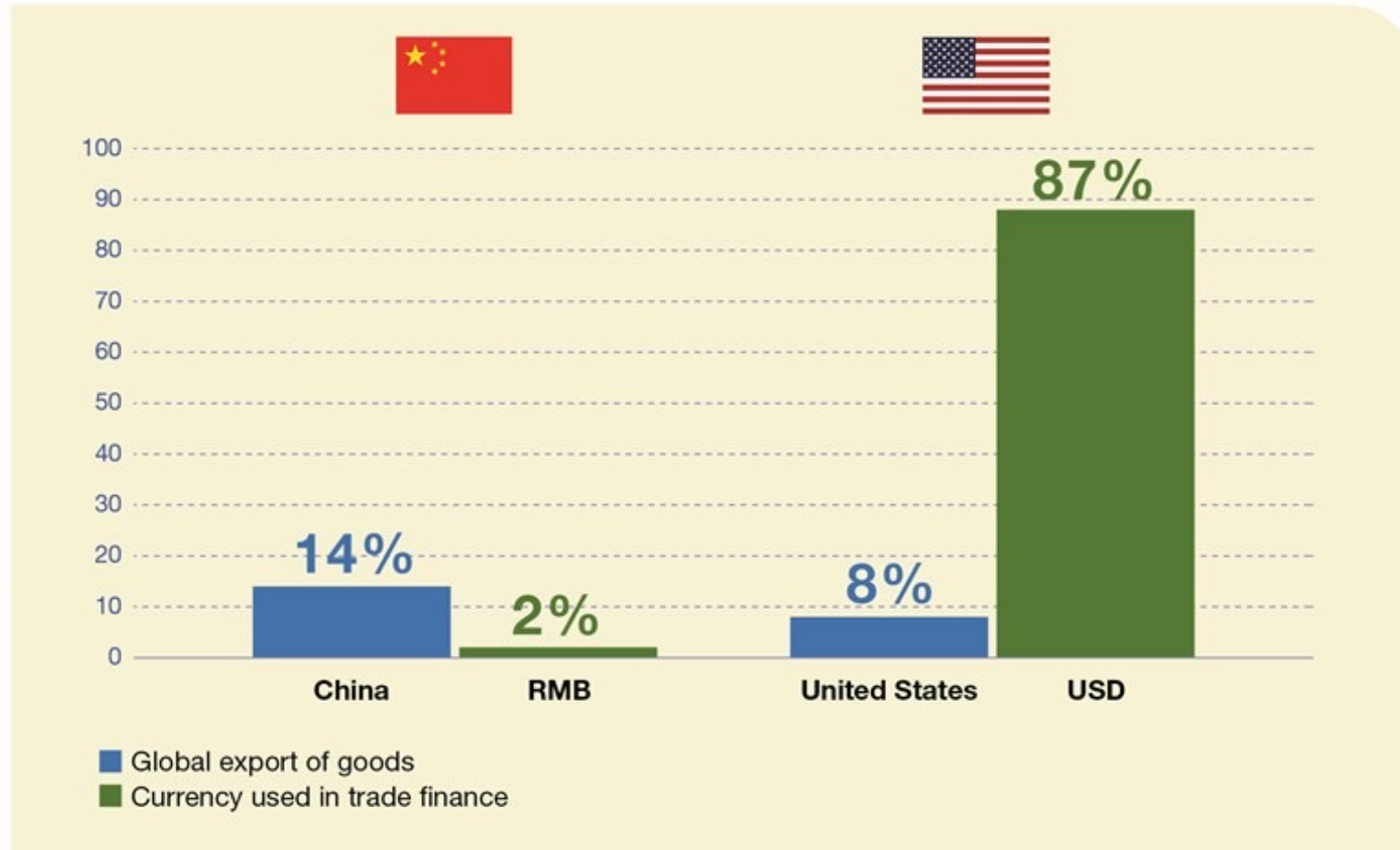


Source: Bank for International Settlements

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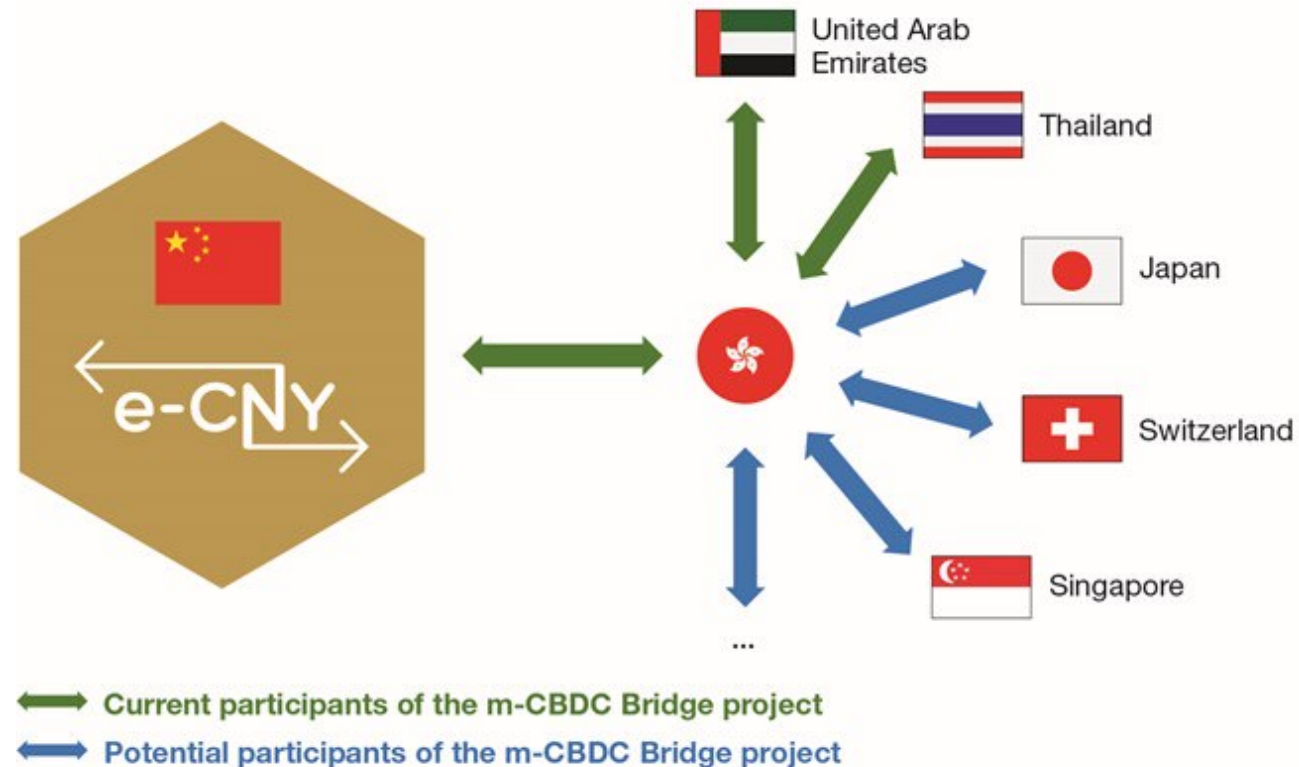
Internationalisation of RMB

Comparison between China and the United States (2019)



Source: Society for Worldwide Interbank Financial Telecommunications, World Bank Group

Recommendation 5: Develop Hong Kong into a wholesale CBDC hub



Leverage Hong Kong's advantages as a major global intermediary to promote the internationalisation of RMB

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Recommendation 6: Formulate digital finance strategies



↔
**Finance
market**



CBDC



“Fintech 2025” Strategy



Digital finance infrastructure

CBDC, open finance, 5G, data exchange, etc.



Regulatory framework

CBDC, DLT, digital assets, etc.



Risk mitigation

Requirements for operational resilience



Promote coordination in the digital financial ecosystem

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Bank of England: CBDC Taskforce, unit, and engagement forums



HM Treasury



BANK OF ENGLAND

Co-chairs:

Director General of Financial Services,
HM Treasury

Deputy Governor for Financial Stability,
Bank of England

Central Bank Digital Currency (CBDC) Taskforce

- Coordinate exploration
- Guide evaluation
- Support assessment
- Monitor international development

Chair:

Deputy Governor for
Financial Stability,
Bank of England

CBDC Unit

- Lead BOE's internal
research & development

CBDC Engagement Forum

- Engage non-technology stakeholders

CBDC Technology Forum

- Gather technology-related input

Bank of Japan: Specialised governing committee



BANK OF JAPAN

October 2020

Strategy report: “The Bank of Japan’s **Approach** to Central Bank Digital Currency”

March 2021

Establishment of “**Liaison and Coordination Committee** on Central Bank Digital Currency”

**Bank of
Japan**

**Ministry of
Finance**

**Financial
Services Agency**

**Private
Sector**

April 2021

Commencement of Central Bank Digital Currency Experiments for Proof-of-Concept Phase 1

Recommendation 7: Establish a joint steering group for CBDC



HONG KONG MONETARY AUTHORITY
香港金融管理局



Financial Services and the Treasury Bureau
The Government of the Hong Kong Special Administrative Region

Joint steering group for CBDC



Strategy



Engagement



Coordination



Monitoring



**Promote the implementation and application of CBDC
in the economic and financial system**

Potential effects of the seven recommendations



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Thank you
