MONETARY AND FINANCIAL PERSPECTIVES ON RETAIL CBDC IN THE THAI CONTEXT

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PIER RESEARCH EXCHANGE
9 MARCH 2021

Outline

- Role of public money in the digital age
- Retail CBDC in Thai context
- Retail CBDC adoption

Public money and retail CBDC in a changing financial landscape

- Monetary policy transmission
- Central bank's balance sheet and monetary operations
- Seigniorage revenue

Implications on monetary policy and central bank's balance sheet

- Risks of retail CBDCs on the banking system

Implications on financial stability

I. PUBLIC MONEY AND RETAIL CBDC IN A CHANGING FINANCIAL LANDSCAPE

The role of public money in the digital age

Fintech revolution changes money into a more efficient form

Physical money

Banknotes and coins

Digital money

Central bank reserves
Bank deposits
E-money

Digital currencies

Cryptocurrencies
Stablecoins
Central Bank Digital Currency (CBDC)

Public and private monies coincide in the dual monetary system
In the digital age, bank-centric model moves toward more platform-centric

2-tier system, bank-centric

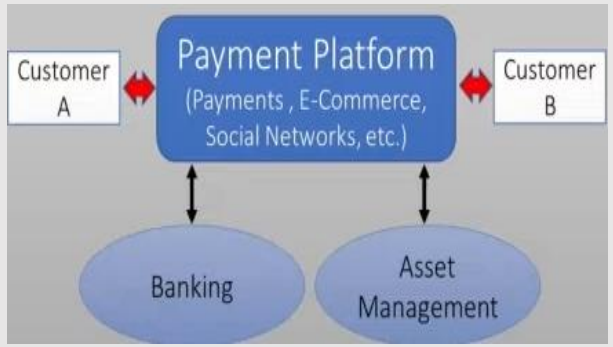
Public money

Cash
Central bank reserves

convert into public money (interoperable)

Bank deposits
E-money

Private money



Source: Brunnermeier et al (2019, 2020)

- **Product differentiation** with DCs
- **Currency competition** platform-based DCs
- **Triangle arrangement** Govt-Banks-BigTechs

Concerns for central bank?

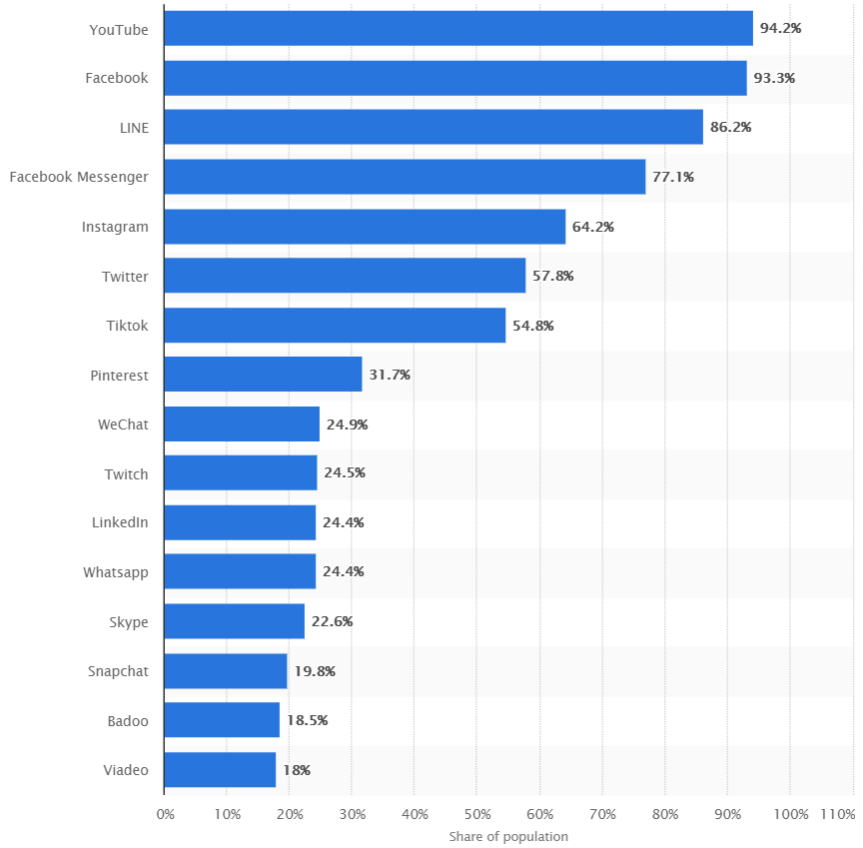
- **Digital dollarization**
  - Small-open economy, large informal sector
  - Inefficient e-payment system
  - Lack of own network platform (network effect)
- **Loss of unit of account**
  - **Disappearance of central bank's liabilities as a unit of account** via medium of exchange (invoicing) / store of value (reserves)
  - **Inability to reallocate risks among borrowers & lenders** weakened links between interest rate setting that allows MP effects on credit & economy
- **Monetary sovereignty**
  Seigniorage revenue / MP control / Lender of last resort

New form of public money

Remain a relevant unit of account & protect monetary sovereignty

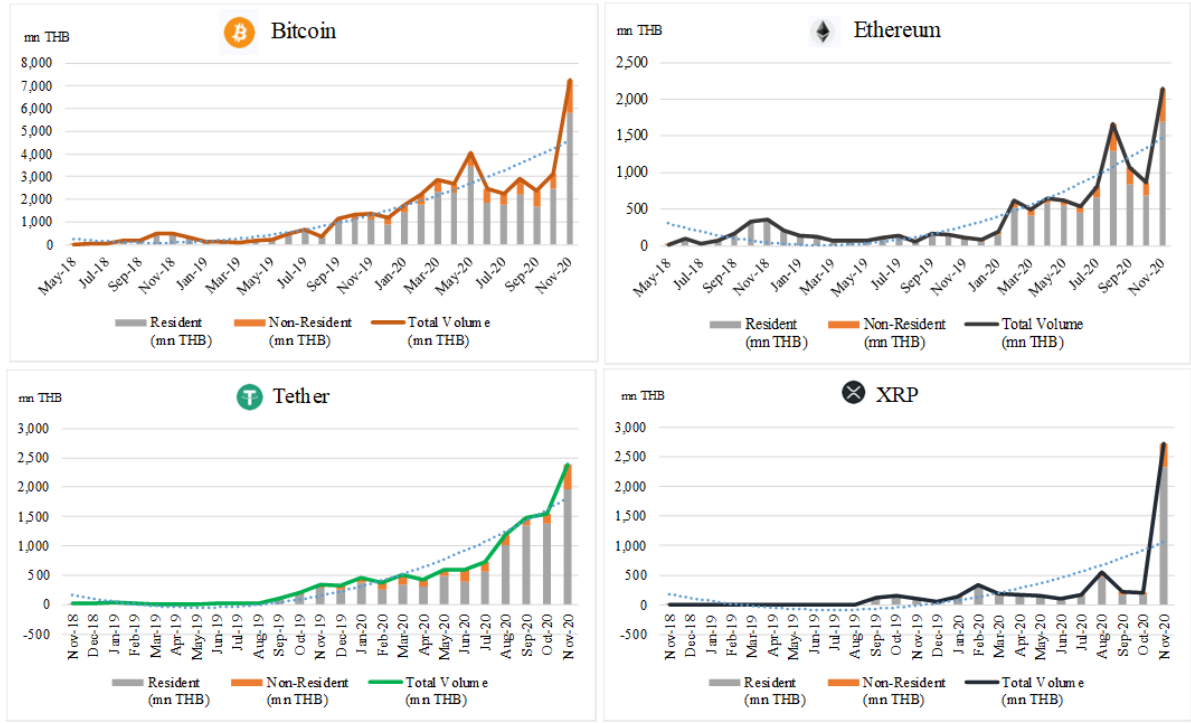
In Thailand, current digital landscape highly favors BigTech's entry into financial services while private money is growing in significance under the current financial landscape

Penetration of leading social networks in Thailand as of Jan 2021



Source: Statista 2021

Trading volume of the Top 4 cryptocurrencies /stablecoins at the largest Thai Crypto Exchange



*Note: data coverage since the inception of Bitkub or first day of each crypto trade
Source: Bitkub; calculated by authors

Monetary Sovereignty in the Thai context

- **Given the current context, Thailand has quite a perfect ingredient to be the place where private money is expected to continually grow**
- **Unlike some other emerging market and developing economies, Thailand's central bank independence and credibility, however, remain high**
  - So long as the public still have trust on using the central bank's unit of account, the traditional channel of monetary policy would remain effective (Brunnermeier et al, 2019)
  - There's no immediate need for the central bank to issue a retail CBDC under the current condition
- **Nonetheless, it is critical for the central bank to take necessary preparations and stand ready for issuing retail CBDC when the need arises**
  - Interoperable platform is essential to curb the network effect of private-issued digital currencies or foreign digital currencies

Main trigger point of issuing retail CBDC = private issued digital currencies or foreign digital currencies are growing widely adopted as a "medium of exchange"

Other related potential benefits of a retail CBDC in Thailand

➢ Reducing gray/black market economy*

- Central banks could use CBDC to mitigate a large gray and black economy as they can create a data trail for transactions (Auer et al, 2020)
- Pornprapa (2009) estimated that both gray and black market economy accounts for more than 60 -70% of Thai GDP during the year 1999 – 2004, **13% are black market economy (Havoscope, 2012)**

➢ Reducing costs associated with cash usage

- The cost of developing and operating retail CBDC will depend on the CBDC design, **but the retail CBDC might be another good alternative of digital money to reduce cost of cash** (though not necessarily reduce payment cost of the whole system)

*This paper defines "gray market economy" based on the International Labour Organization (ILO) as a section of economy of which labor is not protected under labor protection law, whereas "black market economy" is defined as a section of economy that is illegal, based on the definition by the World Bank and the Organisation for Economic Co-operation and Development (OECD).

➢ Improving financial inclusion

- In context of Thailand, overall Thai households had better access to financial services with the access level increased to 98.7% in 2018, compared to 97.3% in 2016 (BOT, 2018) -> only marginally enhance
- But in the aspect of more inclusion of players utilizing underlying technology, **the retail CBDC can lay an important ground for technology that is interoperable for private service providers to further develop financial services upon it**

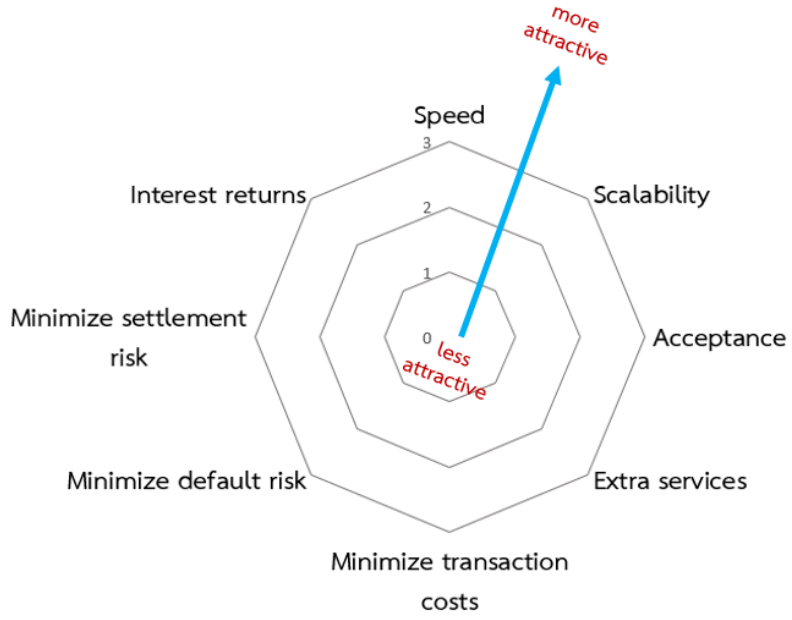
➢ Providing infrastructure for targeted government transfer program

- CBDC can be used as a payment rail for stimulus and other government-to-peer (G2P) direct payments to households (Kiff et al, 2020)
- **In Thai case: Retail CBDC can be a more efficient payment rail for government transfer program** as it can make payments by direct deposit to retail CBDC individual accounts, relative to current tool e.g. "Pao Tung"

Retail CBDC adoption in Thailand

Through the users' eyes, the demand for CBDC will mainly depend on the attractiveness of CBDC compared to alternative forms of money

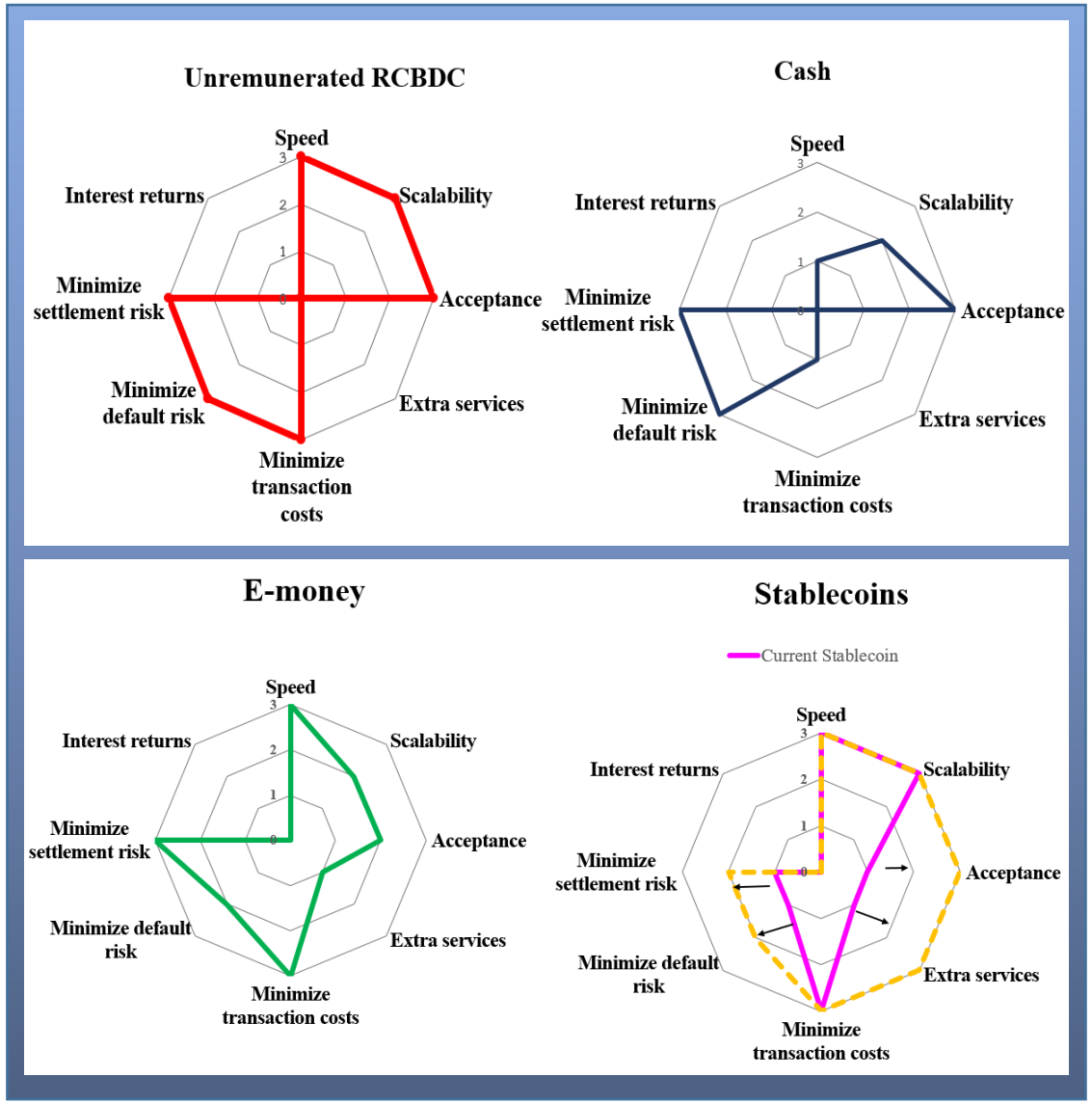
IMF conceptual framework (Mancini-Griggoli et al, 2018)



Higher score means higher performance or satisfaction of the user's objectives, reflected by larger surface covering the chart

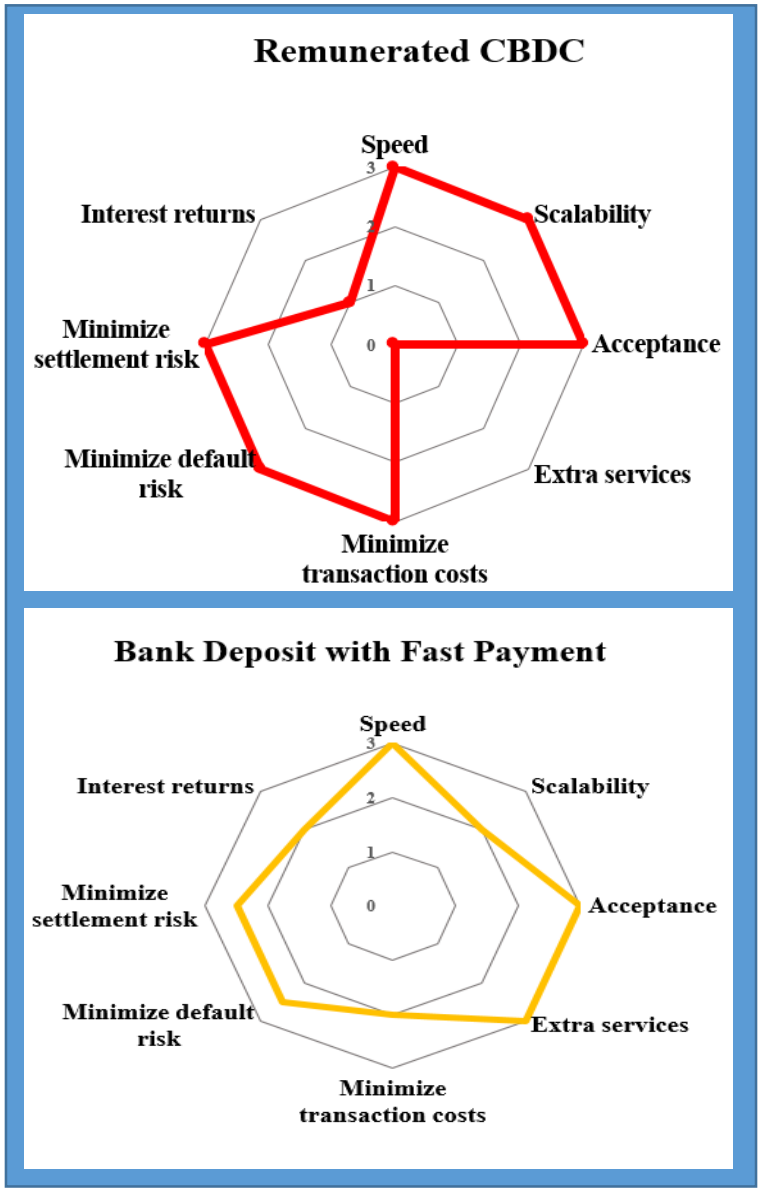
	Criteria
Maximize benefits	**Speed**: time required to complete transaction **Scalability**: payment of any size (no limits) **Extra services**: access to financial services (e.g. loans, financial advice), sale promotion **Acceptance**: person to person, person to business, business to business to and from any device; no network limitation **Interest Returns**: nominal interest payments
Minimize costs	**Transaction cost**: lower transaction cost
Minimize risks	**Settlement risk** : lag between agreeing to a transaction and actual receipt of funds **Default risk**

Retail CBDC as a means of payment



Source: scored by authors

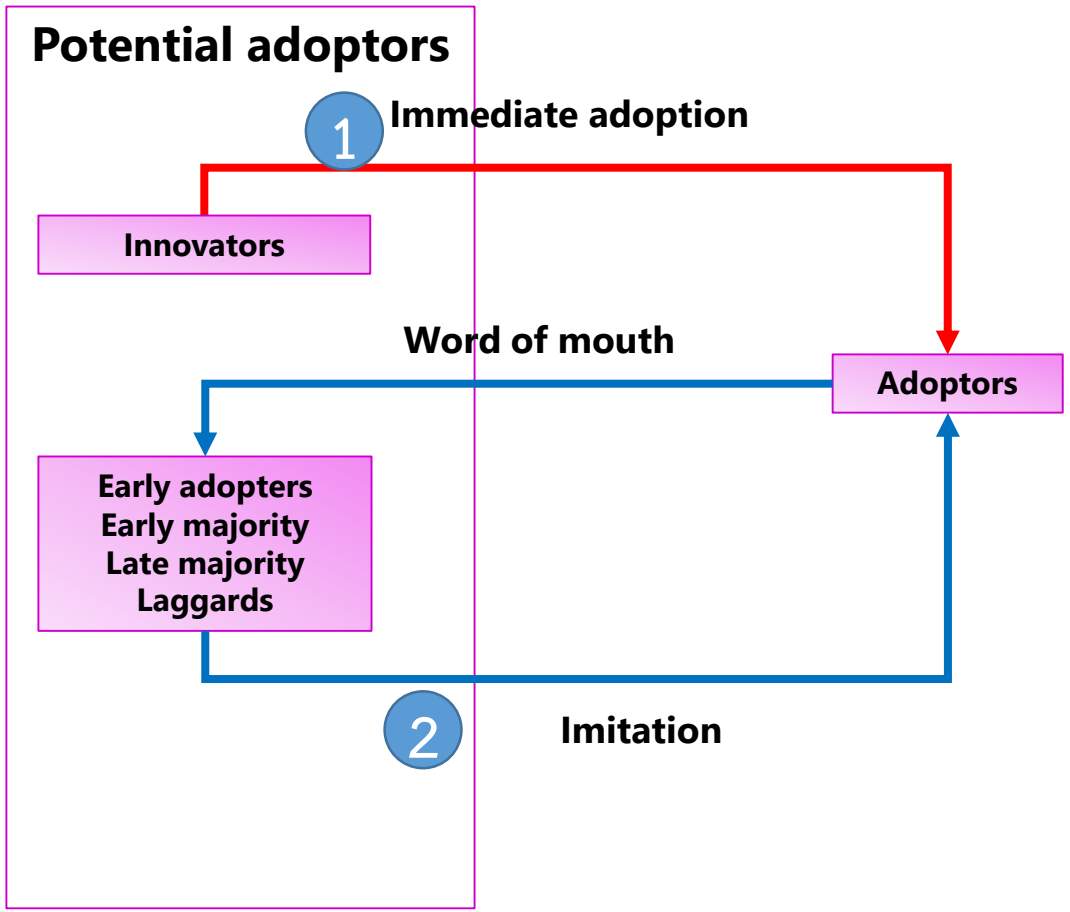
Retail CBDC as a saving instrument

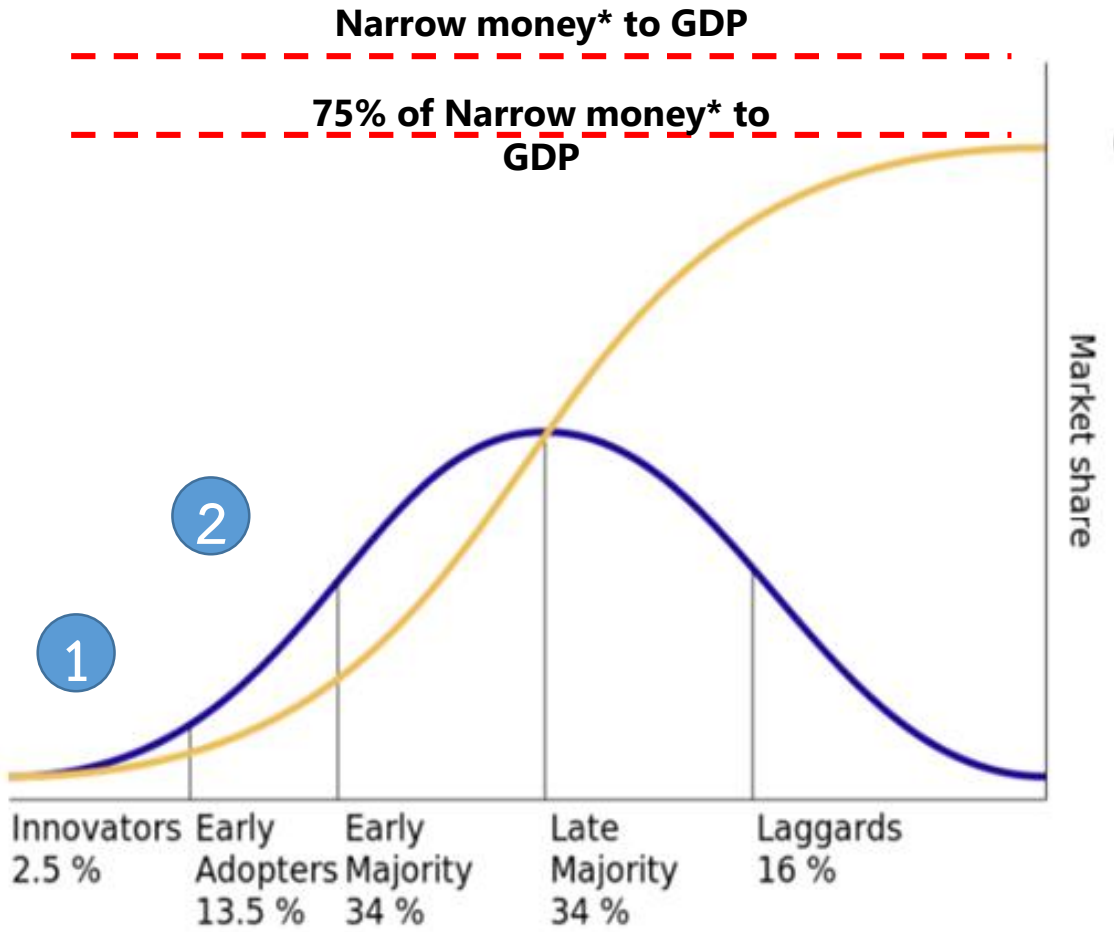


Estimation of retail CBDC adoption in Thailand

Bass Diffusion Model

A simple representation of the flow of adopters

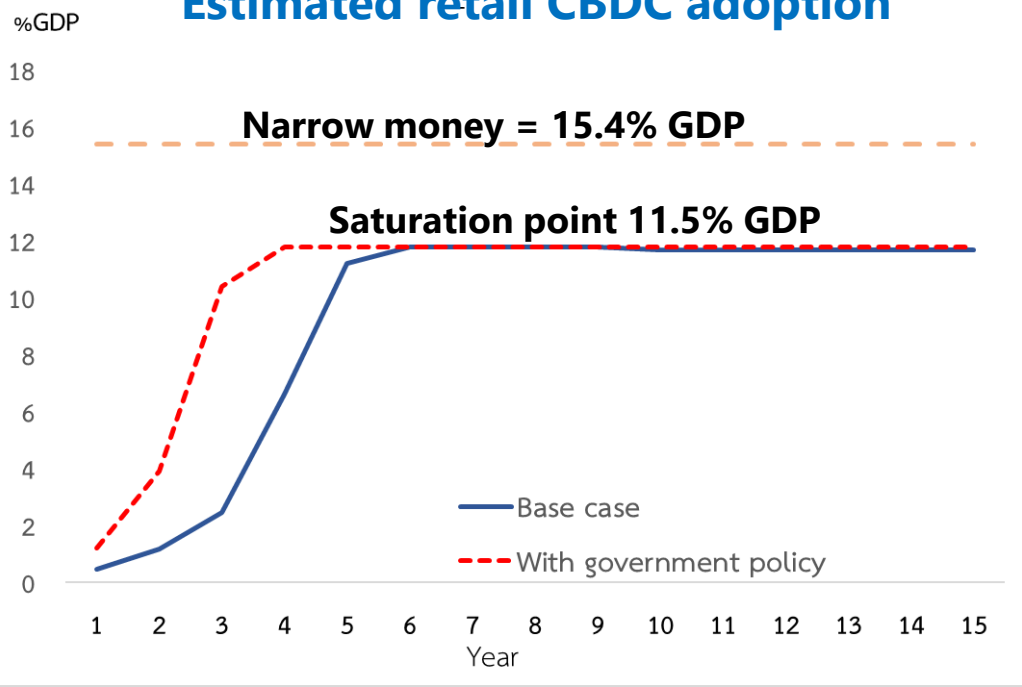




* Narrow money = Currency outside depository corporations & central government + transferable deposits at depository corporations

Results

Estimated retail CBDC adoption



1. **The saturation point is lower than the amount of cash used in the economy reflecting the co-existing of cash and CBDC**
2. **Base case (with no government policy support)**
   - **The adoption rate will reach the saturation point at 6th year**
3. **Case with government stimulus package through e-wallet**
   - **The adoption rate will be faster than the base case.**
   - **the saturation point will be reached in the 3rd year.**

Limitations of the estimation

(1) The speed of adoption could possibly be underestimated as

- **the data on e-money may not perfectly reflect current behavior of Thai users**

(2) For more realistic results, the further study should

- **include the impact of cryptocurrency adoption**
- **allow saturation point to vary in response to change in interest rate**

Part I: Key Takeaways

- **Public money could adapt to the digital economy and currency competition by issuing retail CBDC, which would help to retain monetary sovereignty and monetary policy effectiveness**

- **Although currency substitution is not currently a key concern in Thailand, the BOT needs to stand ready to issue retail CBDC if it is necessary**

- **Unrenumerated CBDC is attractive as a substitute for cash with high potential adoption rate**

II. IMPLICATIONS ON MONETARY POLICY AND CENTRAL BANK'S BALANCE SHEET

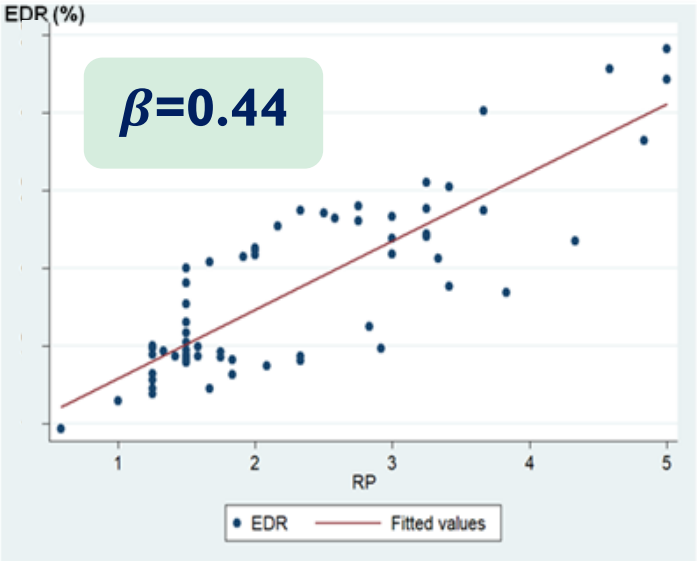
Retail CBDC and monetary policy

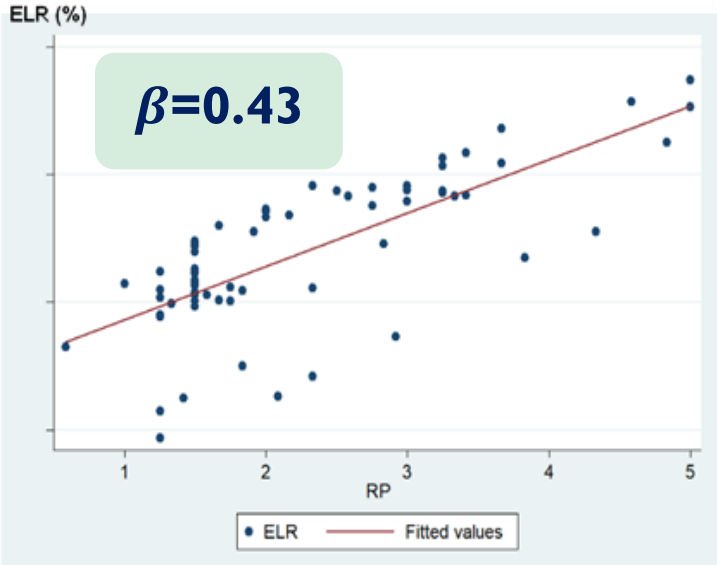
MP benefits of retail CBDC

Improve transmission → **Banking channel**
- **Remunerated CBDC: Improve**
- **Unremunerated CBDC: Not improve**

Provide new tools →
- **Negative rate**
- **Direct liquidity injection**

Current deposit and lending rate pass-through





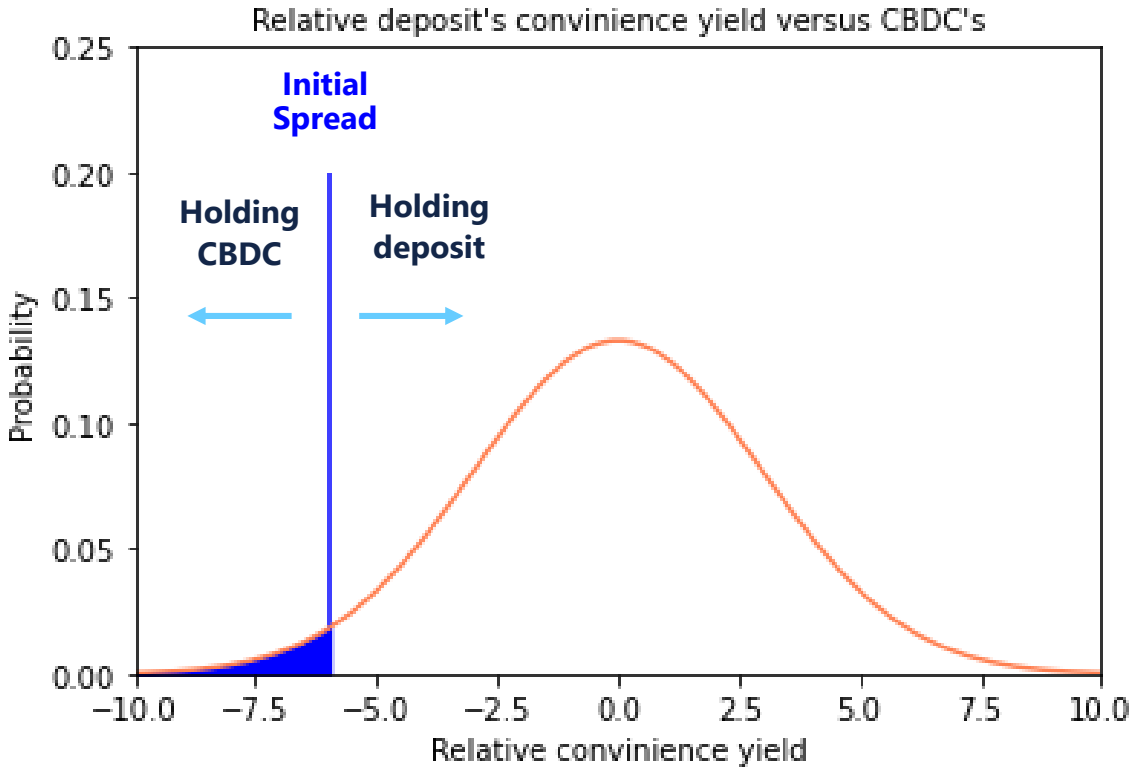
Note: 1)Both coefficients are significant at 0.01 significance level
2)Data from Q1-2004 to Q2-2020

VARIABLES	Saving Rate	NLR
Policy Rate	0.281***	0.69***
Observations	238	45,491
R-squared	0.414	0.792

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Note: 1) Saving rate data from January 2001 to October 2020
2) NLR coefficient refers to Amatyakul, Taerat, Visudtiko, and Wongwachara (2019)

- **The deposit and lending rate pass-through is significantly less than one-to-one**
  - Effective Deposit Rate (EDR) pass-through = 0.44
  - Effective Lending Rate (ELR) pass-through = 0.43
- **The floating rate pass-through is significantly less than one-to-one**
  - Saving deposit rate pass-through = 0.28
  - New loan rate (NLR) pass-through = 0.69
- **There is ample room for transmission improvement**

Impact of Remunerated CBDC on deposit rate pass-through



(Hypothetical distribution)

Key assumption: heterogeneity of convenience yields

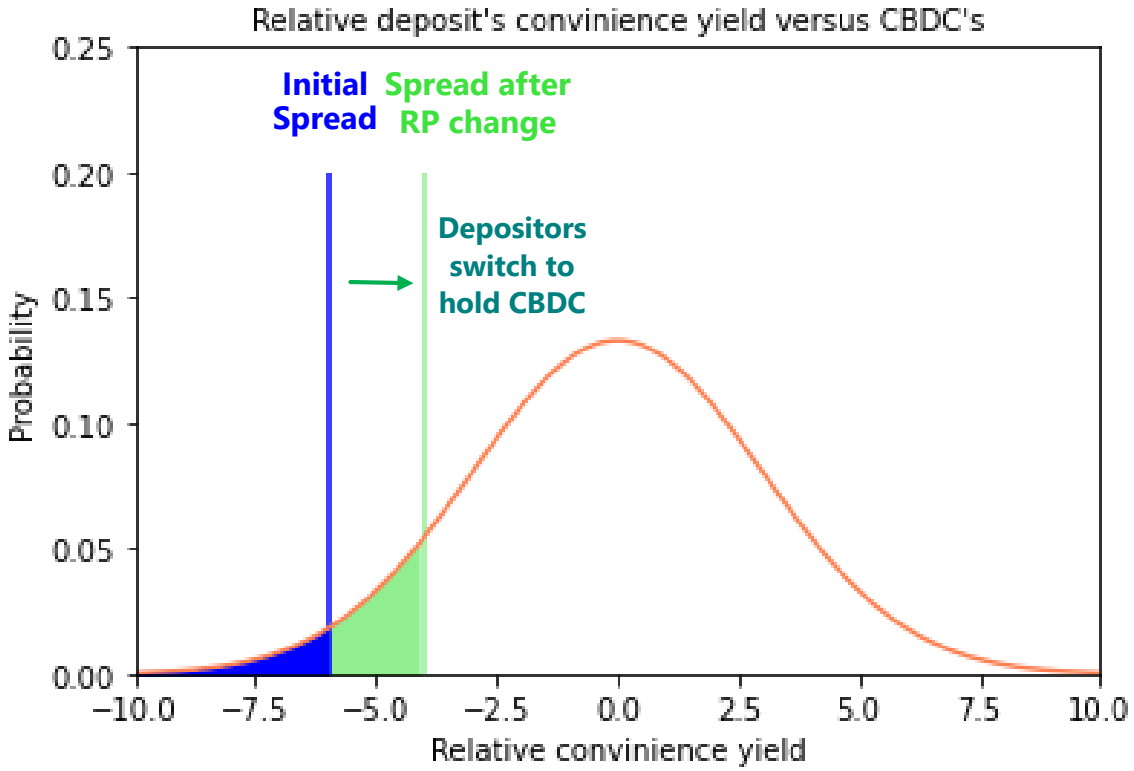
After an Introduction of Remunerated CBDC

- Relative convenience yield of deposit versus that of CBDC ($\emptyset_{i,t}^{d}$) vary across individuals
- Therefore, people make different decisions based on whether their relative convenience yields are higher or lower than the spread between CBDC and deposit rate ($i_t^{CBDC} - i_t^{d}$)

- If
  - $i_t^{CBDC} - i_t^{d} = \emptyset_{i,t}^{d}$, an individual is indifferent
  - $i_t^{CBDC} - i_t^{d} > \emptyset_{i,t}^{d}$, an individual prefer holding CBDC
  - $i_t^{CBDC} - i_t^{d} < \emptyset_{t}^{d}$, an individual prefer holding deposit

- The spread is set by banks
- The higher the spread, the larger the number of CBDC holders

Impact of Remunerated CBDC on deposit rate pass-through



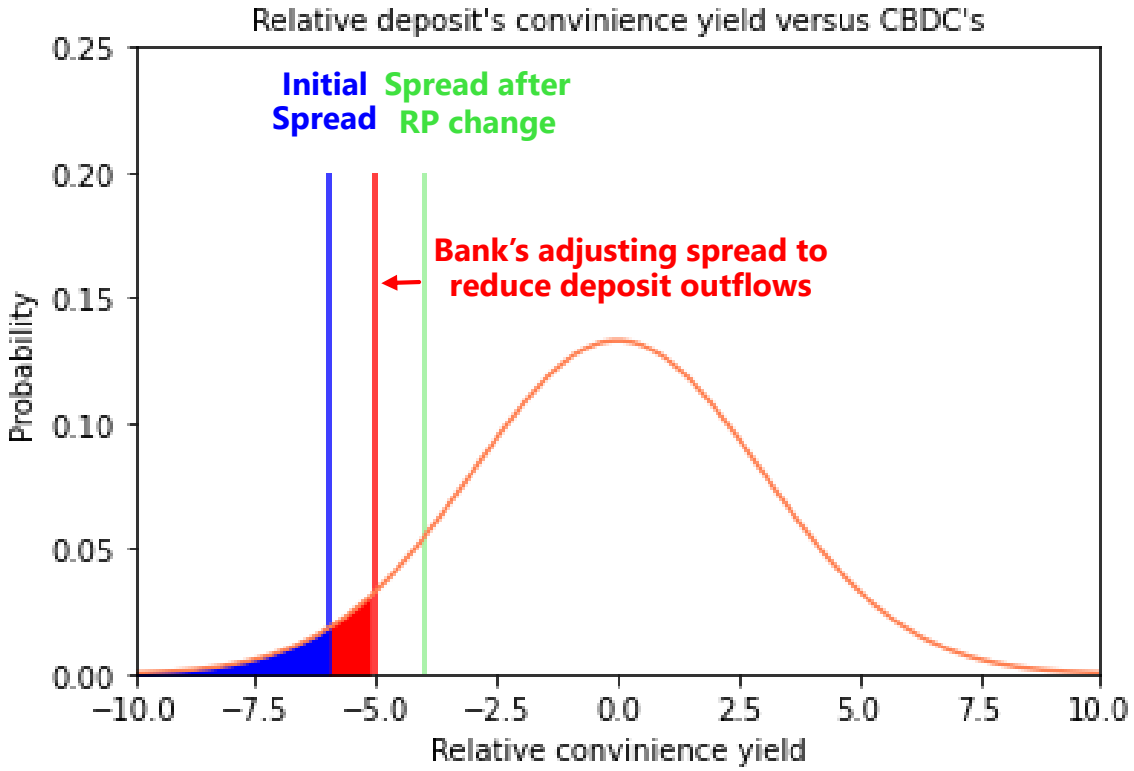
(Hypothetical distribution)

Policy rates increase but deposit pass-through remain the same

- CBDC rate increase by the same amount (ΔRP), given that the spread between it and policy rate is fixed ($i_t^f > i_t^{CBDC}$)
- With past pass-through rate, deposit rate increase by only $0.44\Delta RP$
- Therefore, banks will lose some of its deposit (green area)

Given imperfect pass-through, an increase in policy rate causes the spread to increase and thus deposit outflows.

Impact of Remunerated CBDC on deposit rate pass-through



(Hypothetical distribution)

Policy rate increases and banks adjust their deposit rate, accordingly

- In response to potential deposit outflows, banks may increase deposit rate by more than 0.44xΔRP in order to reduce deposit outflows
- The magnitude of the response depends on size of potential outflows and banks' tolerance of the outflows
- The larger the potential outflows, the greater the improvement in deposit rate pass-through
- The lower banks' tolerance of deposit outlows, the greater the improvement

The introduction of remunerated CBDCs may help improve the monetary policy transmission to deposit rates, but the extent of such improvement will largely depend on (1) potential deposit movement resulting from the policy rate change, and (2) banks' target level of deposits

Impact of Remunerated CBDC on lending rate pass-through

VARIABLES	ELR
Policy Rate	0.430***
	(0.0333)
Exogenous Deposit Rate	0.901***
	(0.115)
ThaiLeadingYoY	2.419
	(1.534)
Constant	4.366***
	(0.0955)
Observations	66
R-squared	0.792

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Exogenous Deposit Rate is a residual of $i_t^d = \beta_t^{(0)} + \beta_t^{(1)} RP_t + u_t$

Lending Rate Pass-through after Introduction of Renumerated CBDC

- $i_t^L = \beta_t^{(0)} + \beta_t^{(1)} RP_t + \beta_t^{(2)} i_t^d + \beta_t^{(3)} x_t^{control} + u_t$
- According to the table, exogeneous change in deposit rate can influence lending rate (either by joint variable concept or NIM-maintaining concept)
- A change in deposit rate adjustment in response to deposit movement is exogeneous to change in policy rate and thus increase lending rate pass-through

Given the assumption that deposit and lending rates are not set separately but with some degree of relationship between the two rates, introduction of remunerated CBDCs should thus improve pass-through to lending rates via the improvement in deposit rate pass-through

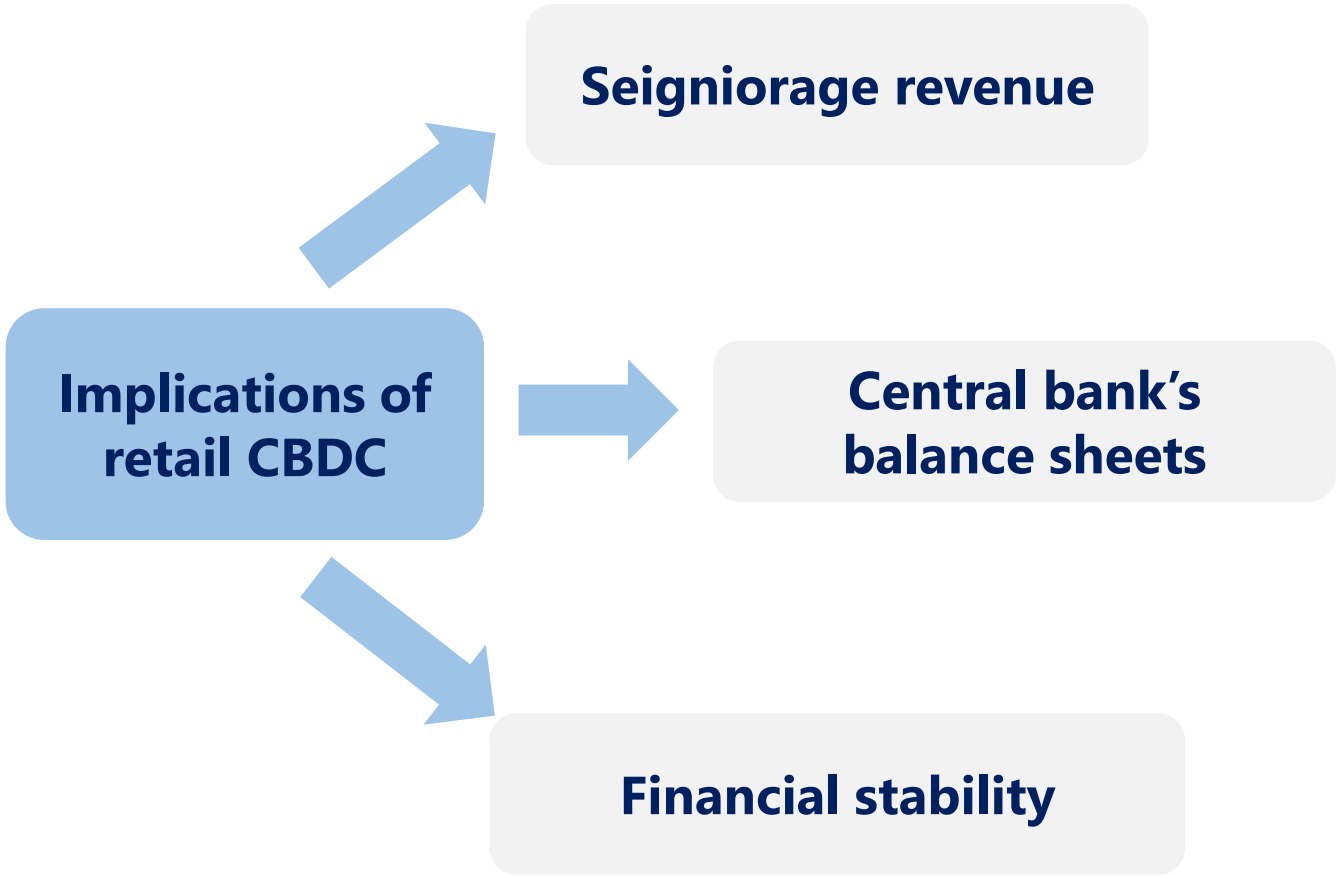
Retail CBDCs as a new monetary policy tool

Programmable function has offered new opportunities to…
…create new monetary policy tools

Introducing retail CBDCs enables the implementation of negative policy rate by eliminating the zero lower bound, but there needs to be high degree of cash substitution

Introducing retail CBDCs offers a mean to directly distribute liquidity including direct asset purchase from the private sector and targeted liquidity transfer, but this could blur the line between fiscal and monetary policies

Retail CBDC and its implications



Impact of issuing retail CBDCs on seigniorage revenue

Impact on seigniorage revenue depends on CBDC design and degree of substitution

- Calculation takes into account (1) costs of production and (2) net interest

(1) Costs of production

Impacts depend on relative costs of producing CBDC versus cost of producing the equivalent amount of cash

Cash: cost related to production and distribution
CBDC: cost related to new infrastructure and maintenance

→ Seigniorage rises in line with degree of cash substitution

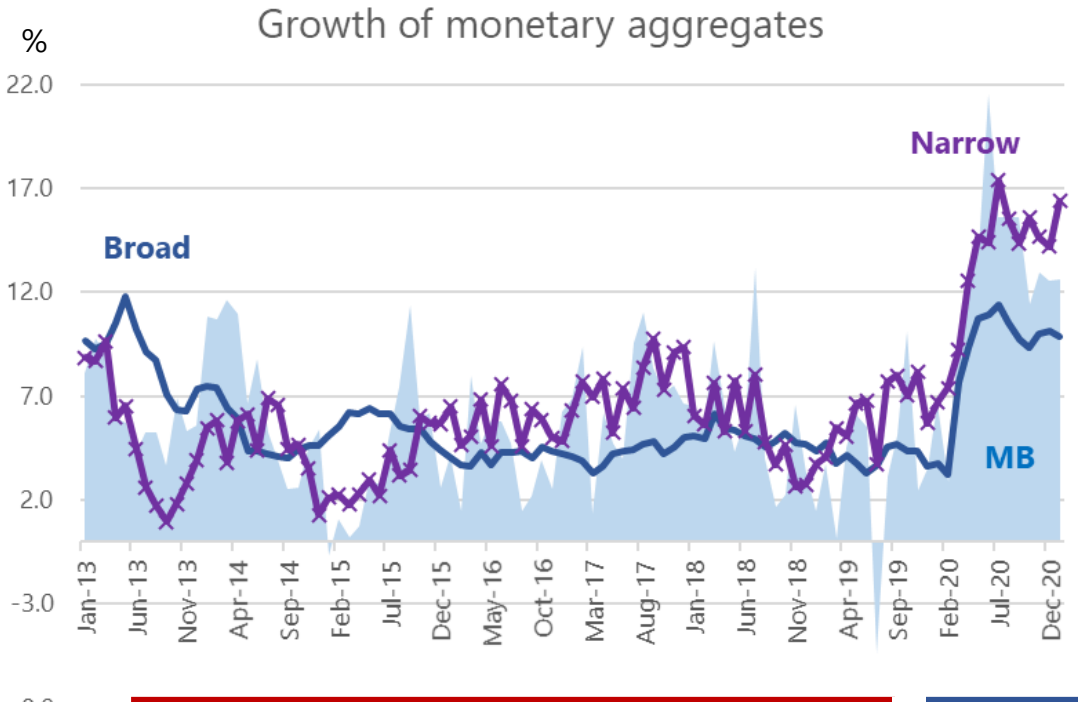
(2) Net interest

Impacts depend on relative costs of liquidity absorption versus costs of CBDC interests where $i_t^f > i_t^{CBDC}$

Net saving cost = i_t^f*excess liquidity - i_t^{CBDC}*CBDC holdings

→ Improve if CBDC replaces deposits

Impact of issuing retail CBDCs on balance sheets



The implications depend on CBDC design…
(1) Non-remunerated CBDCs
(2) Remunerated CBDCs

…which could change the type of money and implicate monetary operations

Balance sheets of economic agents

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
Other assets	
CIC	Equity

Assumption:

- Liquidity demand of each sector remains unchanged

  $\Delta CBDC = \Delta cash$ or $\Delta deposits$ (same magnitude)

- Non-remunerated CBDC can only be exchanged with cash, remunerated CBDC can only be exchanged with deposits.

Impact of issuing retail CBDCs on balance sheets

1 Non-remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

1 Non-remunerated CBDC

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Households and firms

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Deposits	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

1 Non-remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

1 Non-remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
Other assets	
CBDC	Equity

Households and firms: CICs are replaced by CBDCs

Commercial bank: Not affected as CICs are exchanged through wallet

Central bank: No impact on M0, change in composition with CBDCs in place of CICs

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank	
Asset	Liabilities
Foreign reserves	Bank reserves
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank	
Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms	
Asset	Liabilities
Deposits	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Stage 1: exchange part of deposits

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits ↓	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves ↓	Deposits ↓
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits ↓	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves ↓
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves ↓	Deposits ↓
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits ↓	Loans
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves ↓
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves ↓	Deposits ↓
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits ↓	Loans
Other assets	
CIC	Equity

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
CBDC	
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Stage 2: exchange more deposits

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
CBDC	
Other assets	
CIC	Equity

Note: Assuming no change in deposit rates

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits ↓	Loans
CBDC	
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserv ↓	Deposits ↓
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits ↓	Loans
CBDC	
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserv	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
CBDC	
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
	CIC
Domestic assets	Other items incl. OMOs

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Bank reserv	Deposits
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Households and firms

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CBDC	
Other assets	
CIC	Equity

Central bank

Asset	Liabilities
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Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
CBDC	
Other assets	
CIC	Equity

Impact of issuing retail CBDCs on balance sheets

2 Remunerated CBDC

Central bank

Asset	Liabilities
Foreign reserves	Bank reserves
	CBDC
	CIC
Domestic assets	Other items incl. OMOs

Commercial bank

Asset	Liabilities
Bank reserves	Deposits
CIC	
Loans	Other liabilities
Other assets	Equity

Households and firms

Asset	Liabilities
Deposits	Loans
CBDC	
Other assets	
CIC	Equity

Households and firms: Deposits are replaced by CBDCs
Commercial bank: Balance sheet shrinks as both reserves and deposits fall
Central bank: A shift from broad money to monetary base

Part II: Key Takeaways

- **Remunerated CBDC may help improve MP transmission to bank rates**
- **CBDC offers new opportunities to create new monetary policy tools from programmable functions**
- **Issuing retail CBDCs could have impacts on central bank's balance sheets and monetary operations. Degree depends on CBDC design**

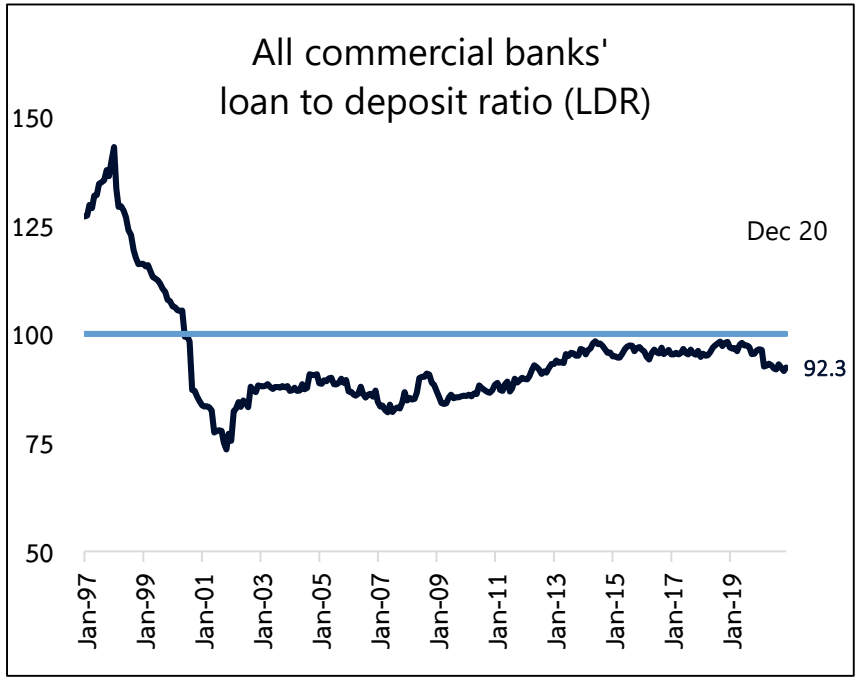
III. IMPLICATIONS ON FINANCIAL STABILITY

Potential risks of retail CBDC to the Thai banking system are "low"

Unmitigated risks	Scenario	Potential impact	Counter-measures	Final risks
1. Disintermediation risk	Structural	**Very low** impact due to expected small net deposit outflows		**Very low**
2. Liquidity risk	**Normal periods** *(Higher likelihood)*	**Medium impact** due to the need to quickly meet CBDC withdrawal requests	*Reduce the impact* - BOT asks banks to prepare liquidity for meeting outflows	**Very low**
	Distressed periods e.g. systemic banking risks *(Lower likelihood)*	**High impact** owing to faster and/or larger deposit runs, leading to large scale asset liquidation and higher financial market volatilities	*Reduce the scenario likelihood* • CBDC design features and timing of issuance should discourage runs from the beginning *Reduce the impact* • BOT stands ready to offer needed liquidity in case of shortfalls	**Low**

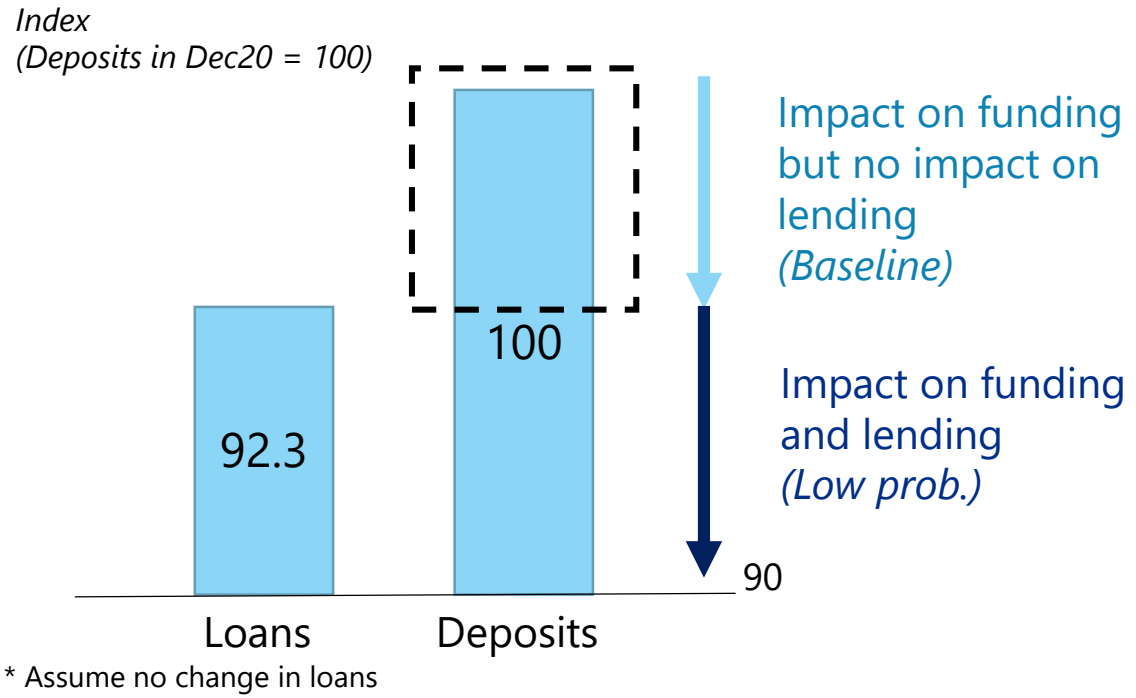
Disintermediation risk is low due to (1) ample liquidity in the present system in which deposits surpass loans

LDR remained low at 92.3% in Dec 20



Source: BOT FI_CB_010_S3
Note: Coverage is the whole banking system in Thailand including offices abroad, but excludes interbank deposits and loans

Just to be equal to loans, deposits needed to fall permanently by 1.18 trillion baht (7.7%)



* Assume no change in loans

Example events that make up 1.18 trillion baht

	606 bn	All current deposits of ONFC, HH & NPISH permanently displaced
+	574 bn	6.7% of ONFC, HH & NPISH saving deposits permanently displaced

Disintermediation risk is low due to (2) bi-directional flows between retail CBDC and deposits

For disintermediation analysis, it is the net flows not gross flows that matter
Low net outflows = low risk to banks

Motives to switch from deposits to retail CBDC

- Better solution for payment or fundraising
- Risk diversification
- If CBDC pays positive interest, customer have the incentive to substitute deposits with CBDC

Motives to maintain deposits or to convert retail CBDC to deposits

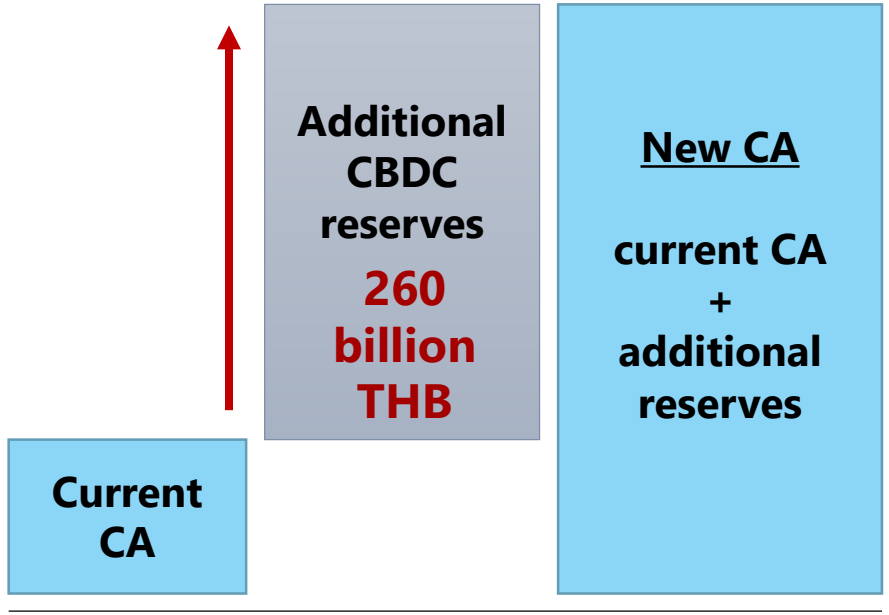
- Bank will have the incentive to keep offering competitive rates if they require deposits
- Deposits are prerequisites for other services e.g. loans
- If customer uses e-money, this still has to be deposited

! Digital outflows could be faster than the conventional outflows due to the use of mobile banking , but users can make deposits in CBDC fast, too

Liquidity risk is low under the normal situation if appropriate, forward-looking liquidity management were put in place

Banks need to prepare additional reserves to serve gross outflows.

Example: 260bn sourced from HQLA
5% of banks' HQLA or 1% of total assets



- BOT supervisory activities to encourage the orderly build-up of reserves
- As cash withdrawals slowly decline in line with cash usage,
  cash in vault could be substituted with retail CBDC reserves directly

By contrast, liquidity risk could be high under the distressed situation Prevention and mitigation would be warranted

1. Reduce the likelihood of bank runs through appropriate design and timing of issuance

Limit *net* outstanding amount per account	Pay variable interest based on deposit tiers	Limit *gross* outflows per account per period	Access to retail CBDC is prioritized for selected groups	Issue retail CBDC when banking risks are well-contained
limit amount at the end of each period like NRBA regulation	Lower tier earns higher return compared to higher tier	e.g. no more than *x* million baht per day	Those with relatively small accounts e.g. HH, NPISH & ONFC	

2. Reduce the impact of bank runs should they occur

- Central bank stands ready to inject needed temporary liquidity, making up for deposit shortfalls

Part III: Key Takeaways

- **Disintermediation risk from retail CBDC is expected to be low due to ample liquidity in the system and small net outflows**
- **Banks should build up reserves for retail CBDC to ensure adequate liquidity under the normal situation**
- **Nevertheless, bank runs under distressed situation could have high impact, which necessitate preventive or mitigative features to contain risk**

Monetary and Financial Perspectives on Retail CBDC in the Thai context

The role of public money calls for proactive action to gain efficiency **and defensive action** to prevent digital dollarization and monetary sovereignty. Though this is not yet an issue in TH, preparation is needed. Non-linear adoption plausibly happens for more attractive form of money in the digital age

Opportunities for new MP tools occur by programmable functions of retail CBDC, such as negative interest rate policy (only a case of high cash substitution) and direct liquidity distribution
MP effectiveness via bank-rates passthrough could be enhanced by renumerated retail CBDC

Impacts on central bank's balance sheet and monetary operations depend on the design, especially renumerated retail CBDC

Potential risks of retail CBDC to the Thai banking system are low in terms of disintermediation and liquidity risks. In the distress situation, liquidity risk could be high that requires counter-measures