
Money, capital markets, and the digital age

Dr. Romain Baeriswyl

EFFAS Capital Markets Forum
Zurich, 3 April 2025

SCHWEIZERISCHE NATIONALBANK
BANQUE NATIONALE SUISSE
BANCA NAZIONALE SVIZZERA
BANCA NAZIUNALA SVIZRA
SWISS NATIONAL BANK



Disclaimer:

The views and opinions expressed in this presentation are solely those of the author and do not necessarily reflect the views of the Swiss National Bank.

Technology shapes money



Payment system vs monetary system

Payment system

Set of instruments, banking procedures and rules for the interbank transfer of funds designed to ensure the **circulation** of money.

Payment instruments

- Bank cheque
- Debit and credit card
- Online banking (e-banking)
- Mobile payment applications (Twint, Wero)

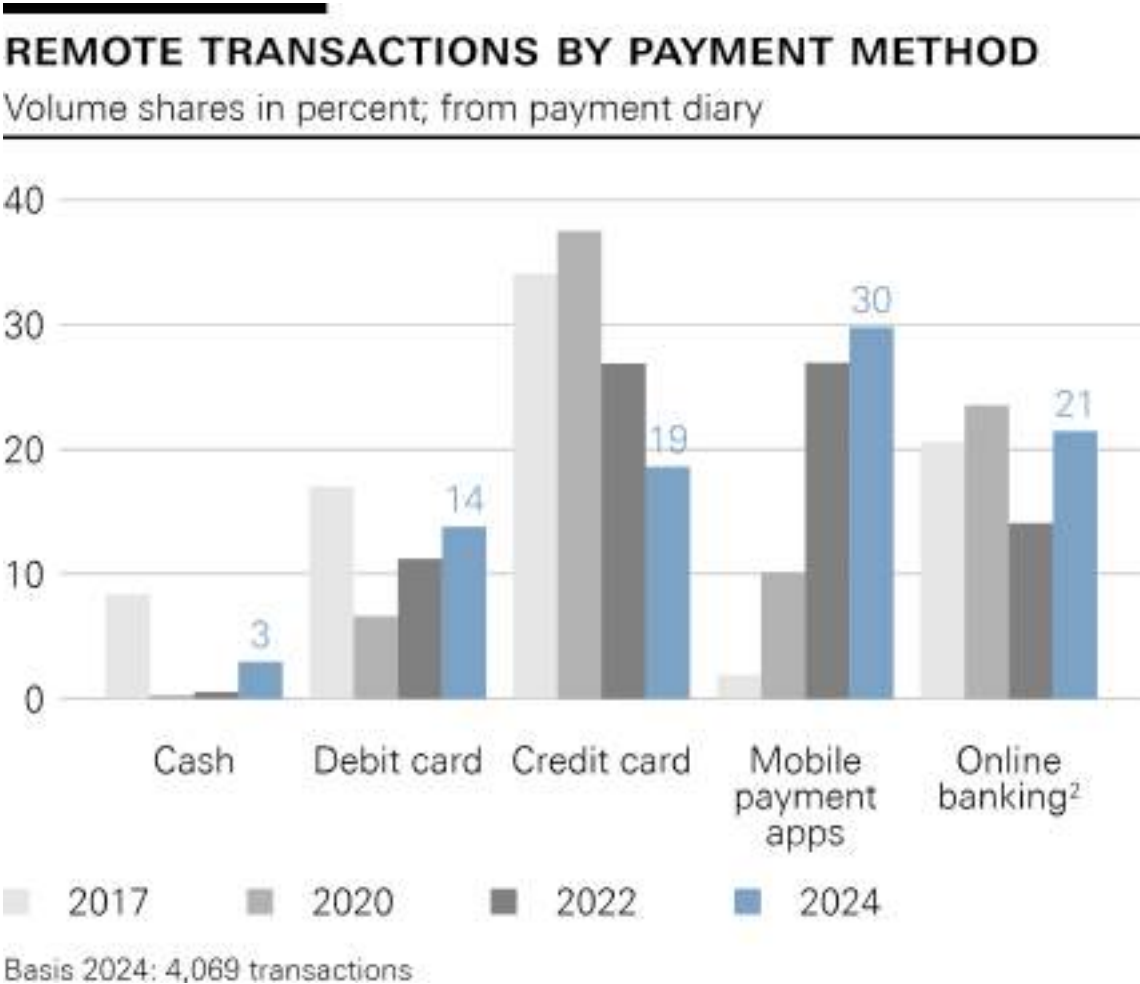
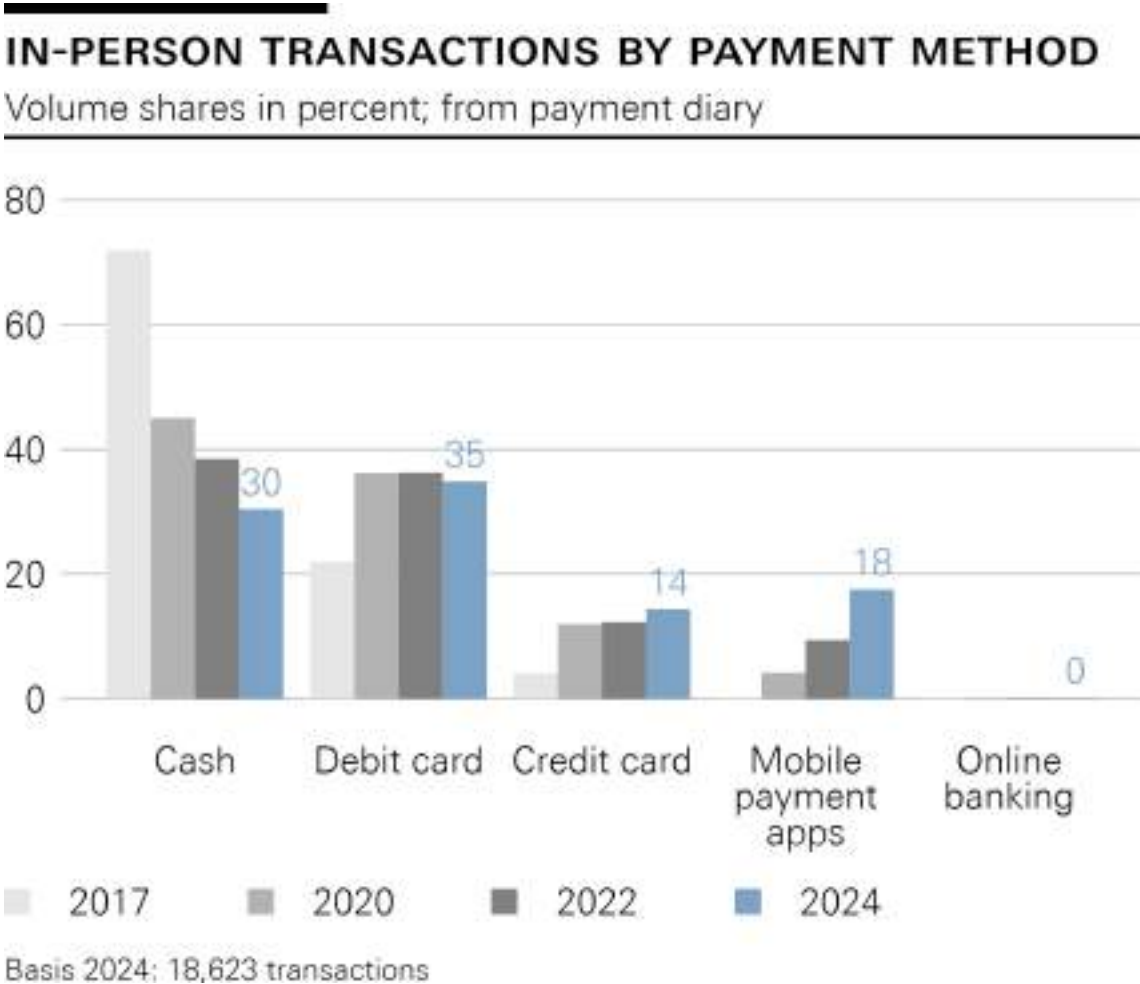
Monetary system

Set of rules and institutions designed to organise the **issuance** of money.

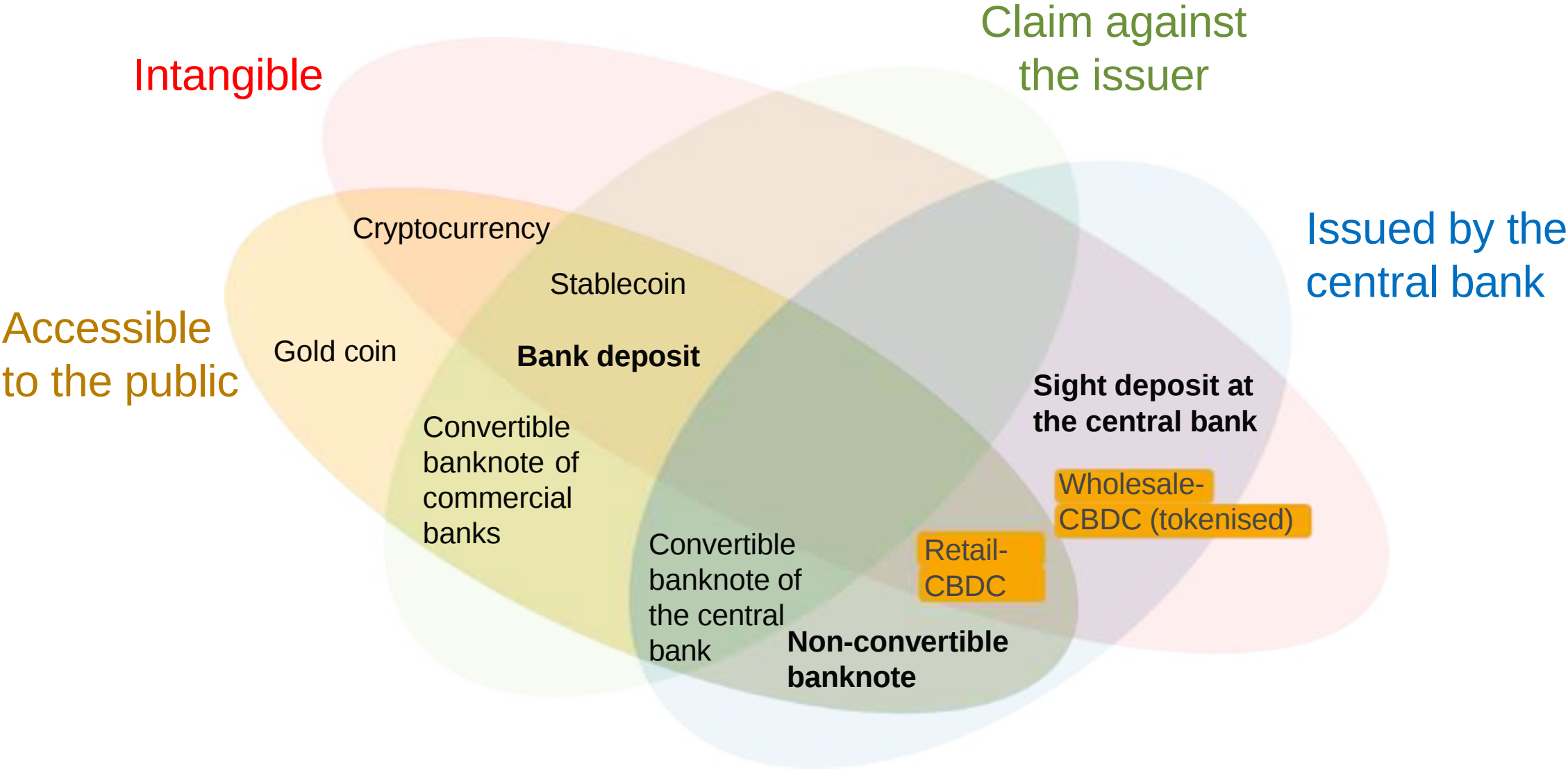
Types of money

- Gold/silver coin
- Banknote
- Bank deposit
- Stablecoin
- Cryptocurrency
- Central bank digital currency (CBDC)

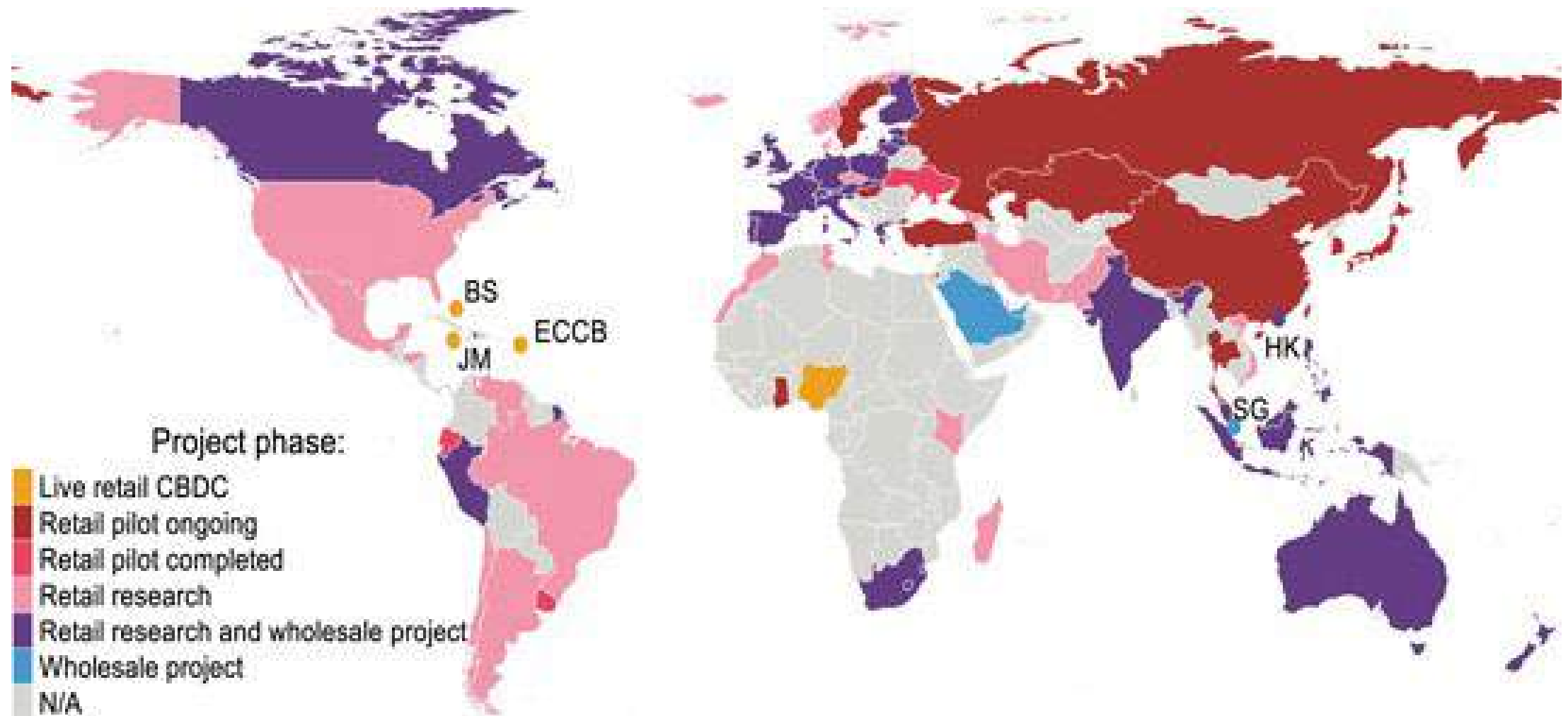
Payment habits in Switzerland



The money flower: taxonomy of «monies»



CBDC study projects around the world (IMF WP 2023)



Wholesale Central Bank Digital Currency

Wholesale CBDC (1/2)

Two forms of wCBDC

- Sight deposits of commercial banks at the central bank: wCBDC in the legacy IT system (existing for several decades).
- wCBDC tokenised on a blockchain (issued since 2023 on an intraday basis in the Helvetia Pilot).

Objectives of tokenised wCBDC

- Integration of money and securities on the same DLT platform: simultaneity of trade, delivery and settlement.
- Settlement in wCBDC rather than stablecoin to increase the integrity of the system.
- Facilitation of international payments.

Wholesale CBDC (2/2)

Economic effects of tokenised wCBDC

- Limited impact on the banking system, as banks already hold sight deposits.
- Efficiency gains compared to the Swiss Value Chain (trading – clearing – settlement – payment between SIC and SECOM) have yet to be demonstrated.
- Uncertain impact on high-frequency trading due to simultaneity of trade, delivery and settlement (no naked short selling).

Feasibility analyses by the SNB and the BIS Innovation Hub

- Pilot Helvetia, projects Jura, Rio, Mariana (<https://www.bis.org/about/bisih/about.htm>)

Retail Central Bank Digital Currency

Objectives of retail CBDC

- **Bringing banknotes into the digital age**

Everything is digital, so why not banknotes?

- **Providing the public with central bank money**

Central bank money is necessary for the bank to meet its obligations to the depositor. Without access to central bank money, the depositor is captive to the banking system.

- **Improving the resilience of the payment system**

A payment system based on rCBDC as a back-up system in case of failure of the current electronic system.

- **Promoting diversity and sovereignty of payment systems**

A payment system based on rCBDC as a sovereign electronic payment system, independent of foreign service providers.

A wide range of configuration options for the rCBDC

Possible features of rCBDC

- Access: individuals, firms, non-residents
- Form: account vs token-based
- Distribution: direct vs indirect (one-tier vs two-tier distribution)
- Anonymity (KYC, AML)
- Execution: instant vs delayed
- Payment: irrevocable vs revocable
- Operational availability: opening hours vs 24/7, online vs offline
- Interest rates
- Holding limits

Essential feature of rCBDC

- No credit risk (unlike bank deposits)

Challenges related to the issuance of rCBDC in the fractional reserve banking system

Is it possible to maintain the *ordnungspolitische* coherence of the current banking system while issuing rCBDC?

1. Raison d'être of commercial banks
2. Transfer of credit risk from commercial banks to the central bank
3. Limiting the supply of and demand for rCBDC
4. Impact of supply and demand constraints on the achievement of rCBDC objectives

Challenge 1: raison d'être of commercial banks

- The public deposits its money (gold coins, banknotes) in the bank because the deposit is more convenient for the settlement of payment and is not subject to the risk of theft or loss.
- By accumulating depositors' money, banks have gradually expanded their credit operations by issuing new deposits, giving rise to the current banking system, known as the fractional reserve system.
- If central bank money were to take the same form (digital, electronic) as bank deposits, the raison d'être of banks would be called into question.
- The relative inconvenience of banknotes is not a flaw, but a feature of the system.
- Since rCBDC combines the advantages of bank deposits without the drawbacks (credit risk), the demand for rCBDC could be very high.

Challenge 2: transfer of credit risk from commercial banks to the central bank

- In the current monetary system, commercial banks issue deposits when they make loans. The deposit therefore carries the credit risk of the bank.
- When depositors convert their risky bank deposits into rCBDC (without credit risk), the credit risk is assumed by the central bank. Why?
 1. The central bank conducts its monetary policy by keeping money market interest rates close to its policy rate.
 2. Demand for rCBDC from depositors leads to an outflow of liquidity from banks and can put upward pressure on money market rates.
 3. To prevent money market rates from rising and its monetary policy stance from tightening, the central bank meets this demand by refinancing banks and offering them more sight deposits, thereby increasing its balance sheet and its credit risk.

Challenge 3: limiting the supply of and demand for rCBDC

- Although there is no technical limit to the transfer of credit risk from commercial banks to the central bank, this raises issues of governance, *ordnungspolitische* coherence of the banking system, and division of tasks between the central bank and commercial banks.
- To contain the transfer of risk to the central bank, the demand for and supply of CBDC must be limited.
 1. Unattractive interest rate on rCBDC
 2. Limited access to rCBDC
 3. Limit on the holding of rCBDC

Challenge 4: impact of supply and demand constraints on the achievement of rCBDC objectives

Objective / limitation	Unattractive interest rate	Holding limit
Providing the public with central bank money		?
Improving the resilience of the payment system	?	
Promoting diversity and sovereignty of payment systems	?	?

Conclusion

Wholesale CBDC: limited challenges for the banking system

- Limited economic effects because commercial banks already hold sight deposits at the central bank.
- The efficiency gains compared to the current system remain to be proven.

Retail CBDC: significant challenges for the banking system

- Potentially significant economic effects as rCBDC could lead to a transfer of credit risk from commercial banks to the central bank.
- Limiting supply and demand could make the objectives of rCBDC difficult to achieve.

Thank you for your attention

SCHWEIZERISCHE NATIONALBANK
BANQUE NATIONALE SUISSE
BANCA NAZIONALE SVIZZERA
BANCA NAZIUNALA SVIZRA
SWISS NATIONAL BANK

