

Digital Assets

an evolution with challenges and risks

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Agenda

Digital Assets – an evolution with challenges and risks

1. Blockchain

introducing the technology

2. Cryptocurrency

the first use case

3. Stablecoins

addressing volatility

4. Central Bank Digital Currencies

the solution to its all?

5. Metaverse

an outlook into the future

1. Blockchain

Blockchain

What is Blockchain about?

Summary: Definition, Inventors and first use case

Blockchain

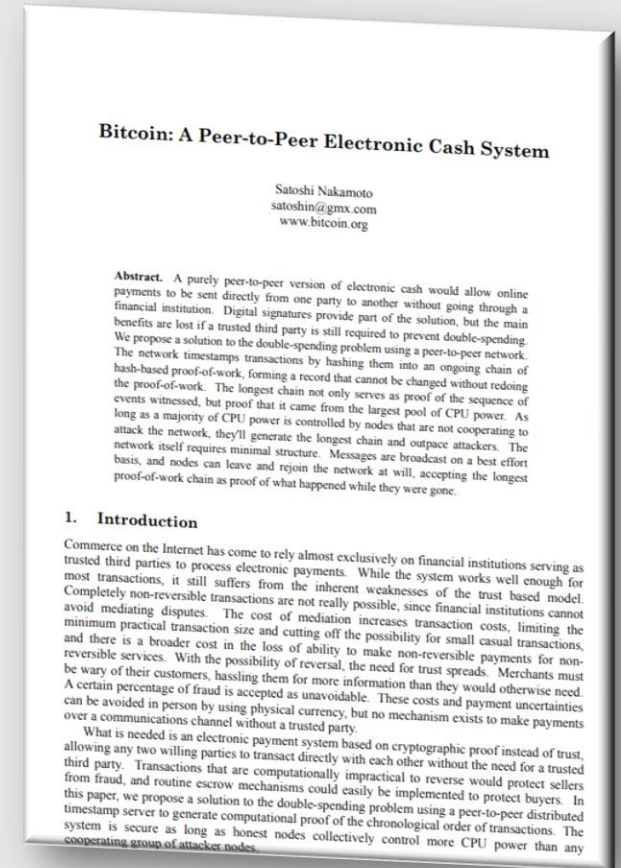
a digital, immutable, distributed, ledger

Satoshi Nakamoto

an anonymous group of software developer or single person invented it

Bitcoin

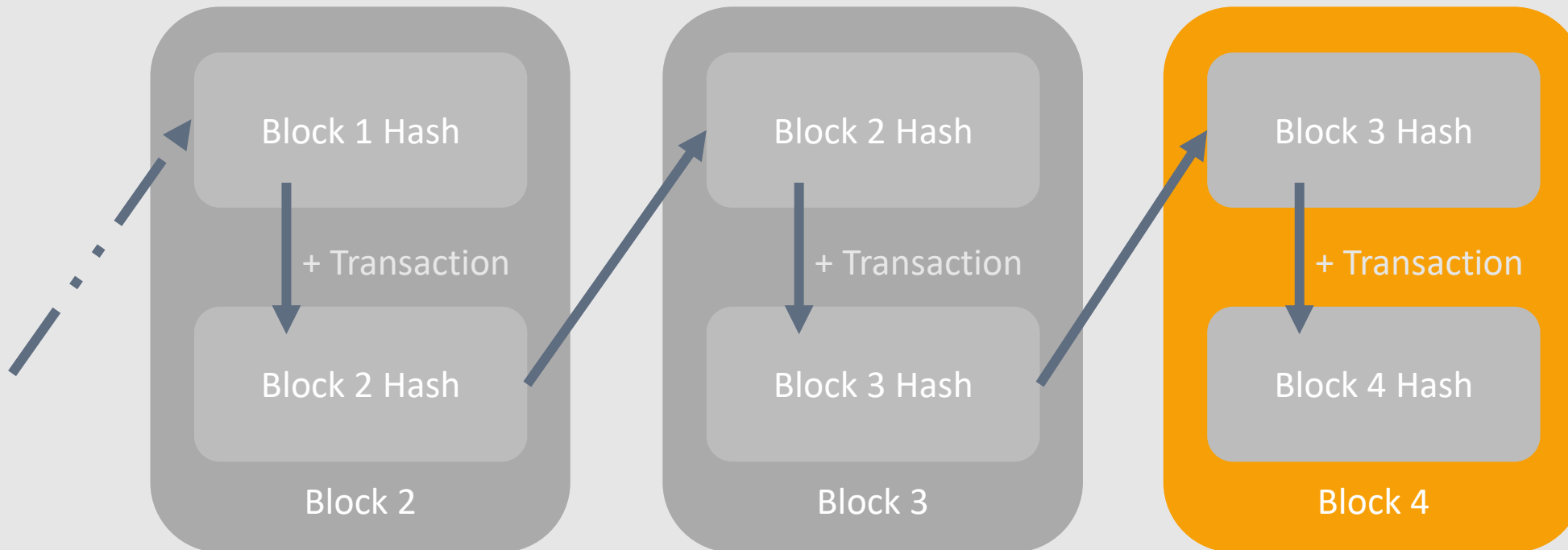
as the beginning



Blockchain

How does it works?

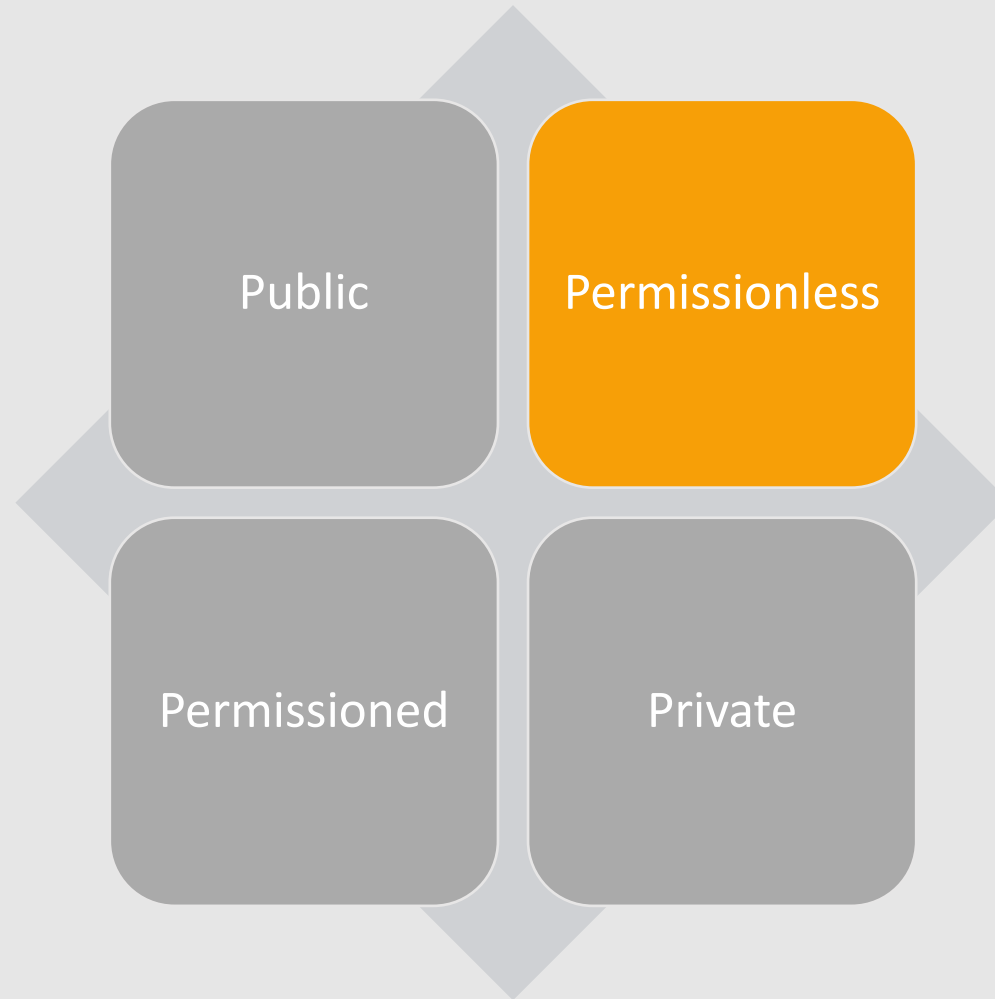
Chain of blocks (simplified)



Blockchain

What kind of blockchains exist?

Categories of blockchain

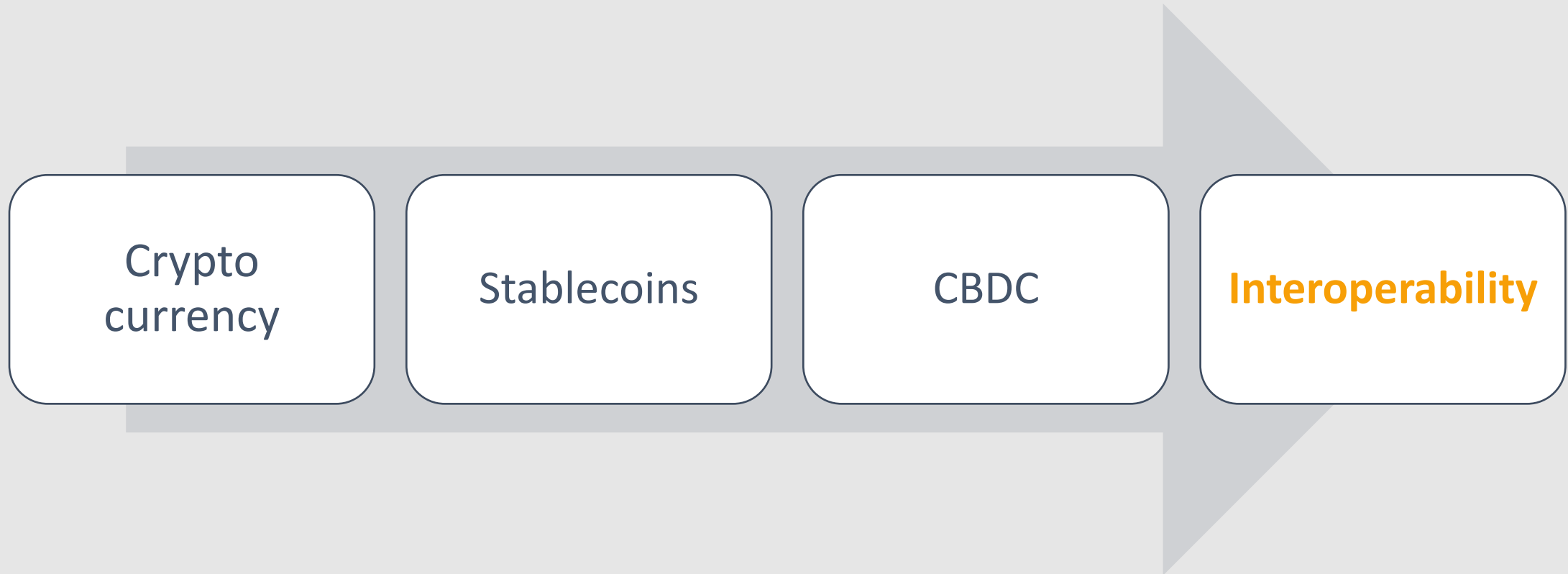


2. Cryptocurrency

Digital Assets

Evolution

From privately issued Cryptocurrencies to Central Bank Digital Currency



Digital Assets

Comparison crypto currency to fiat

Definition



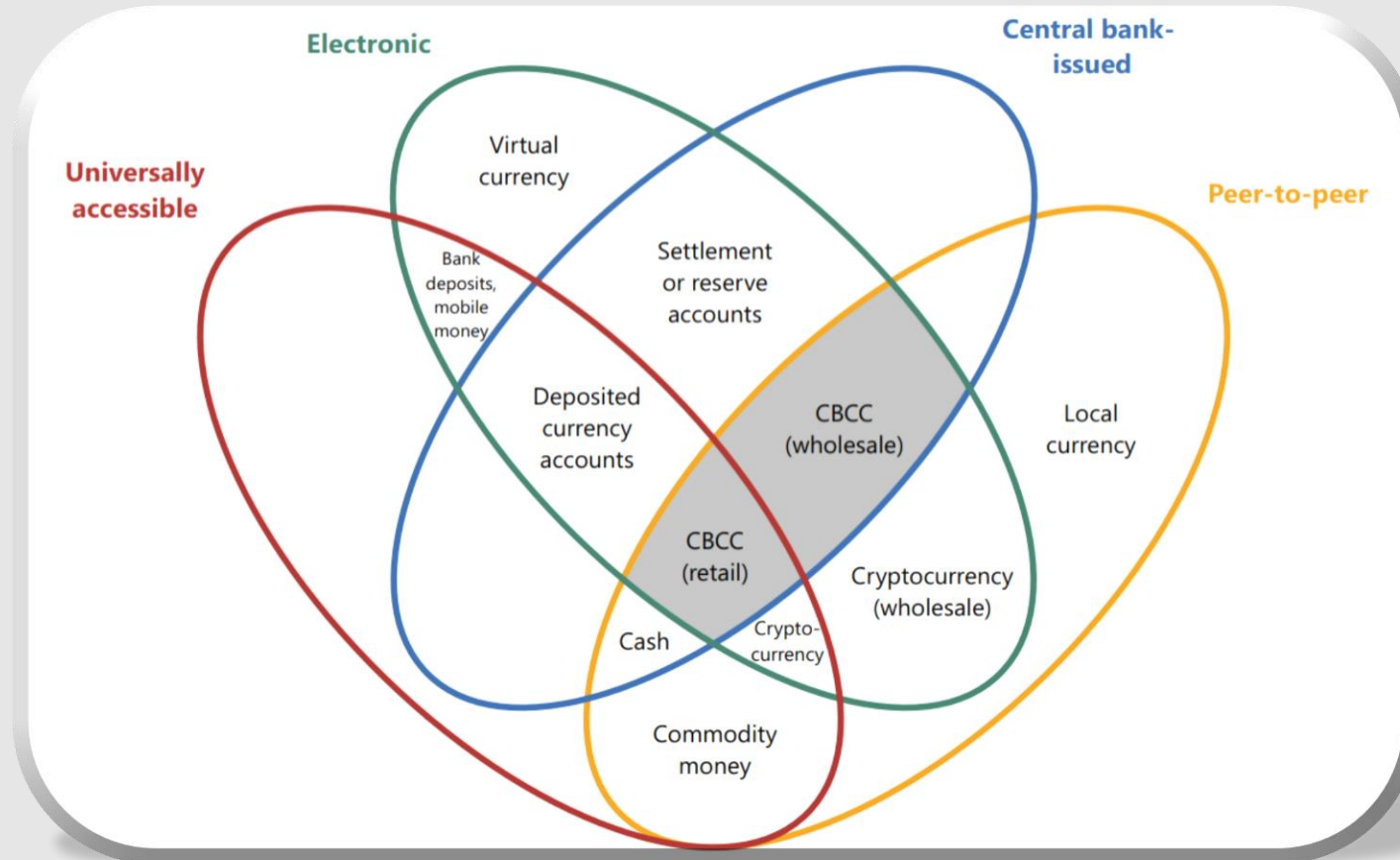
Digital assets are one of the most significant developments impacting the financial services industry over the past few years, and will have a prominent role in the digital transformation of the industry in the years to come.

Source: OECD (2022), Institutionalisation of crypto-assets and DeFi–TradFi interconnectedness

Digital Assets

Comparison crypto currency to fiat

Money flower



Source: bis.org

Digital Assets

Comparison crypto currency to fiat

Major functions of money

Digital
currency

Stablecoins

CBDC

Interoperability

	Cryptocurrencies	fiat
Medium of exchange	✓	✓
Scale of reference	✓	✓
Storage of value	✓	✓
Value / acceptance	not official tender (with exceptions)	official tender
Cross border transaction price	lower	higher

Digital Assets

Comparison crypto currency to fiat

Volatility (Dodge Coin)

Digital
currency

Stablecoins

CBDC

Interoperability



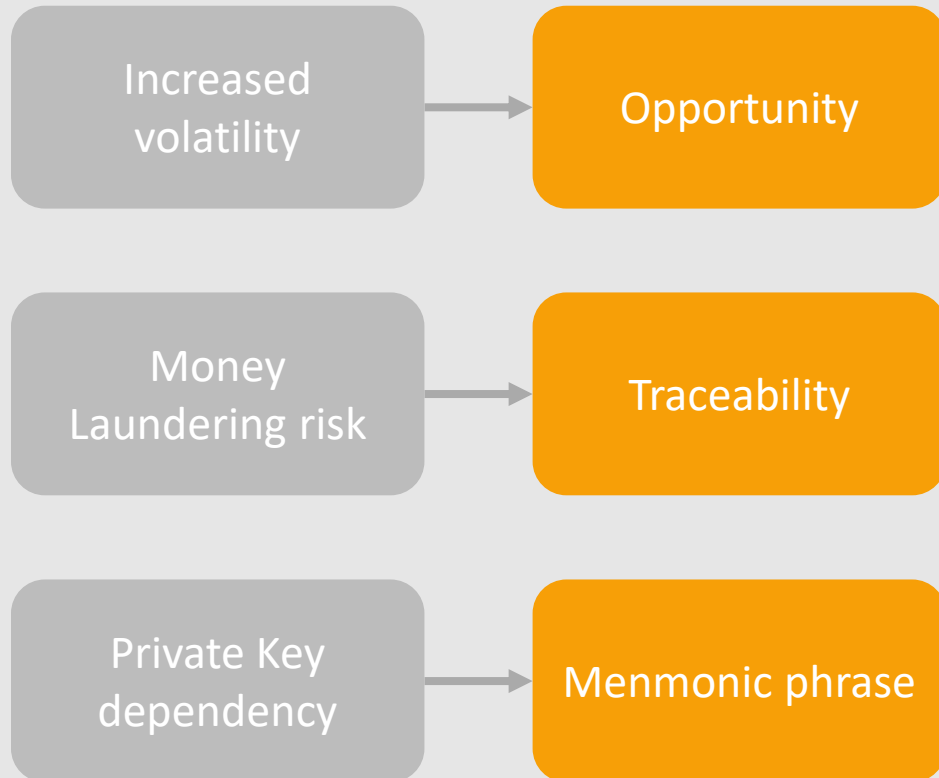
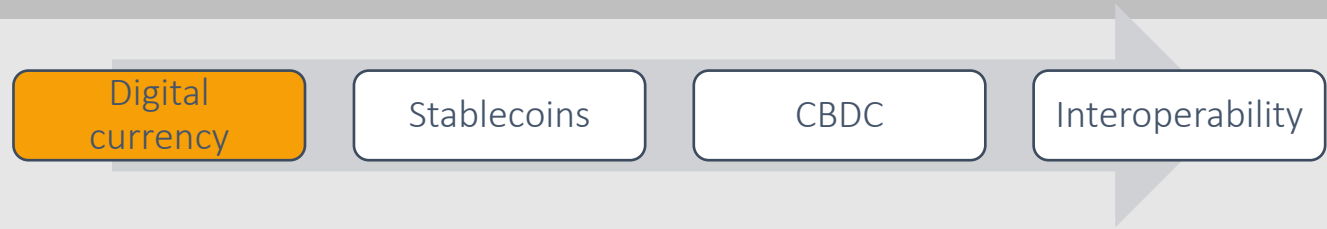
- 0.0638 10.04.2021
- 0.6848 07.05.2021
- ~10x in less than 1 month
- ~-74% in the next month

Source: coinmarketcap.com

Digital Assets

Crypto Currencies

Major concerns



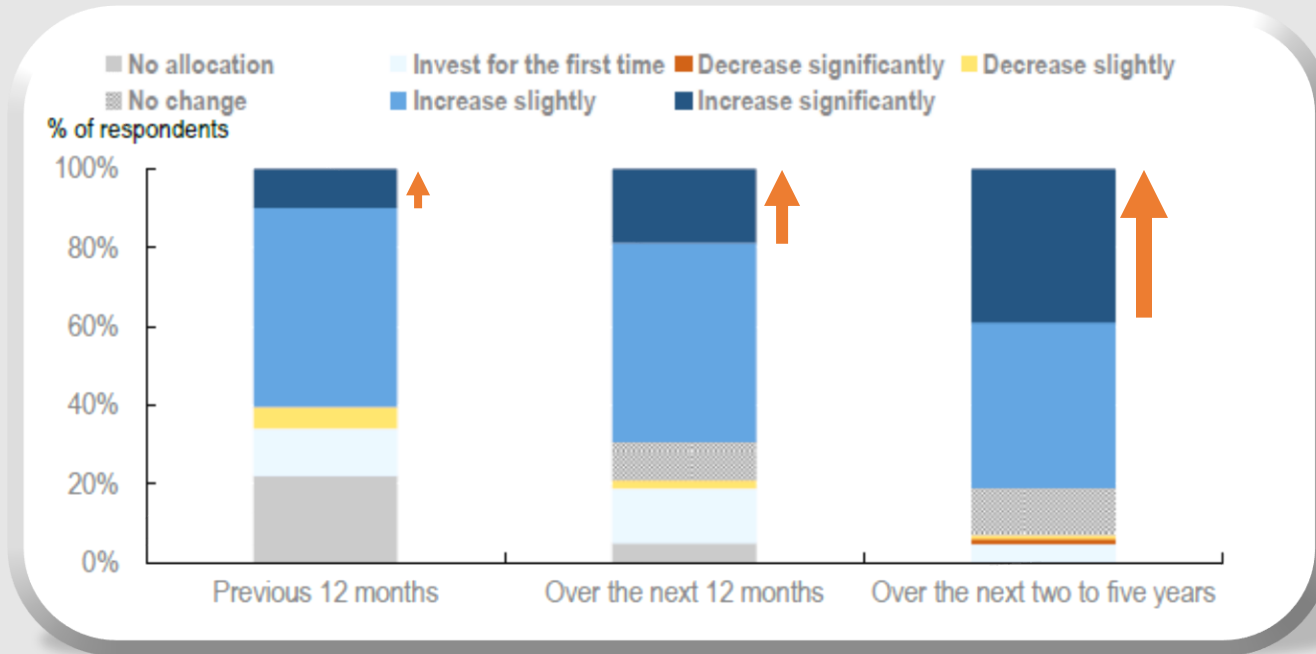
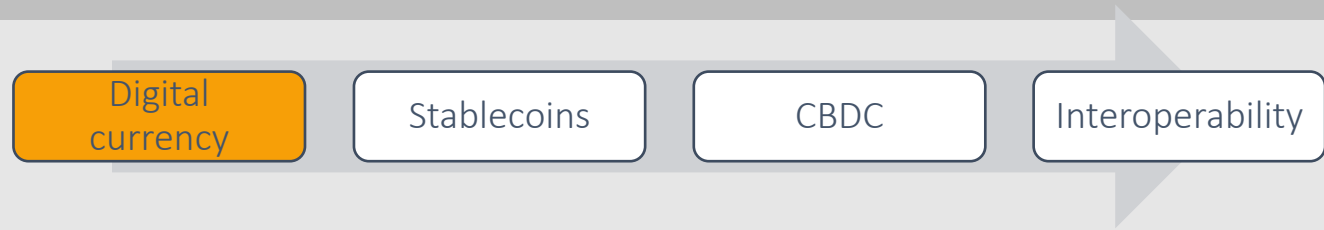
Major concerns

- may be mitigated
- can be major opportunities

Digital Assets

Crypto Currencies

Adoption by Institutionals



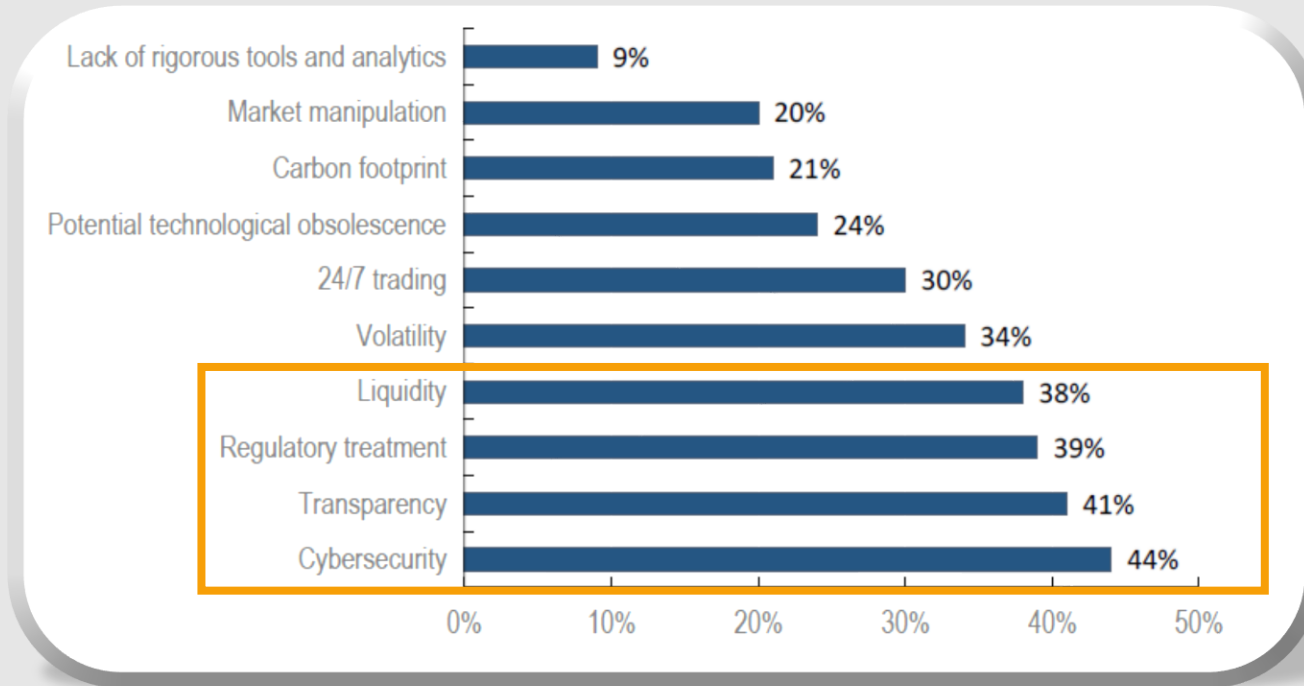
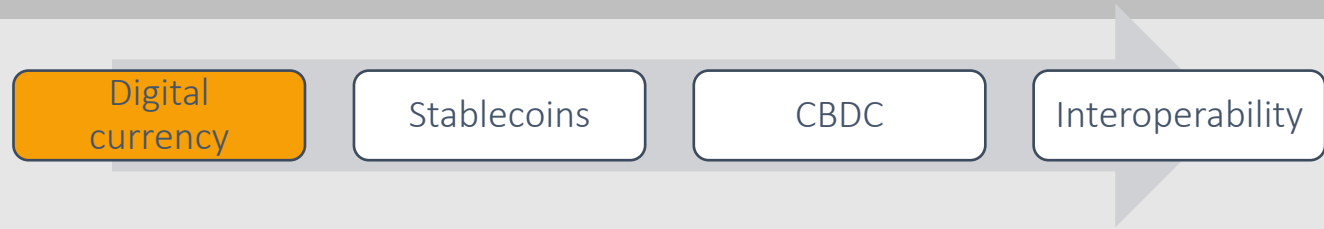
- ~40% strong increase in Crypto Asset holding over next 2-5 years
- Additional ~40% slight increase in Crypto Asset holding over next 2-5 years
- First time investment is decreasing from ~20% in next 12 months to almost none in next 2-5 years

Source: State Street. 2021

Digital Assets

Crypto Currencies

Concerns by Institutionals



Operational

- 44% Cybersecurity
- 41% Transparency
- 34% Volatility
- 30% 24/7 Trading
- 21% Carbon Footprint

Ecosystem

- 39% Regulatory treatment
- 38% Liquidity

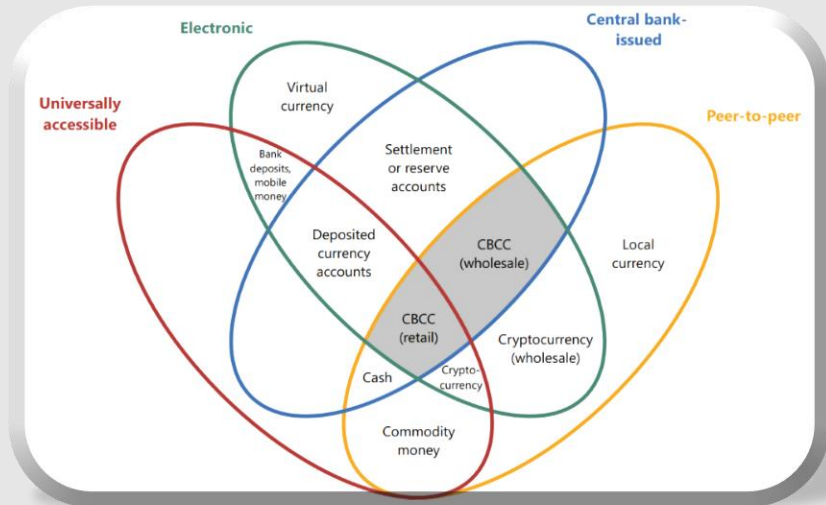
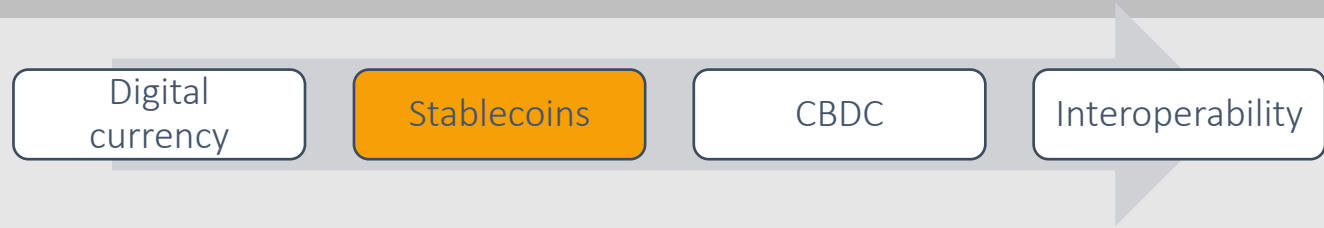
Source: State Street. 2021

3. Stablecoins

Digital Assets

Stablecoins

Solution to all crypto?



Source: bis.org

- Cryptocurrencies often show increased volatility
- Are Stablecoins a solution for stability?
- What functions do Stablecoins are used for?

Digital Assets

Stablecoins

Solution to all crypto?



Source: coinmarketcap.com

- USDT
- Displays relatively low volatility (~10%)
- Repeatedly questioned backing / reserve

Digital Assets

Stablecoins

Solution to all crypto?



- Terra Classic (LUNAC)
- Crashed within days

Source: coinmarketcap.com

Digital Assets

Stablecoins

Market capitalisation & share

Digital
currency

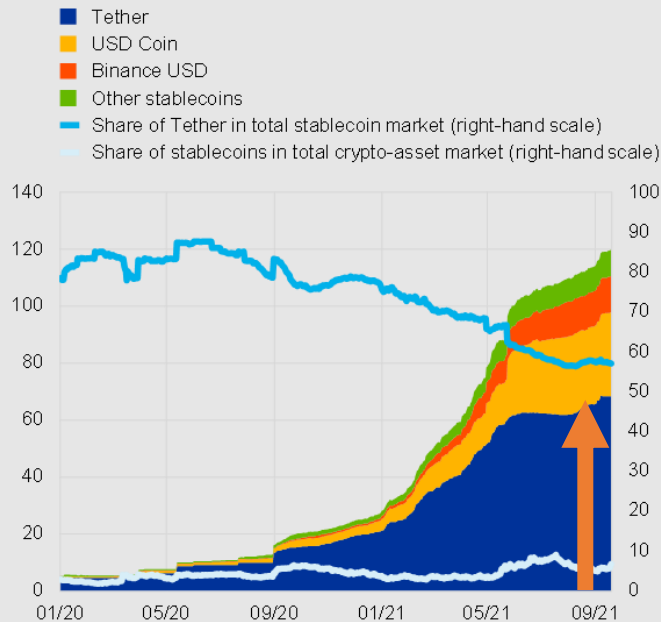
Stablecoins

CBDC

Interoperability

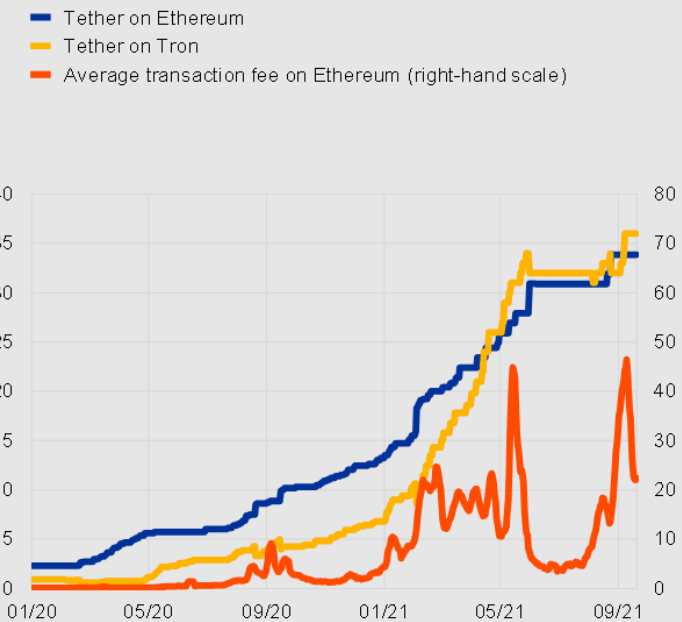
a) Market capitalisation of largest stablecoins

(1 Jan. 2020-19 Sep. 2021, left-hand scale: USD billions;
right-hand scale: percentages)



b) Tether market capitalisation by blockchain and average transaction fees on Ethereum

(1 Jan. 2020-19 Sep. 2021, left-hand scale: USD billions;
right-hand scale: USD)

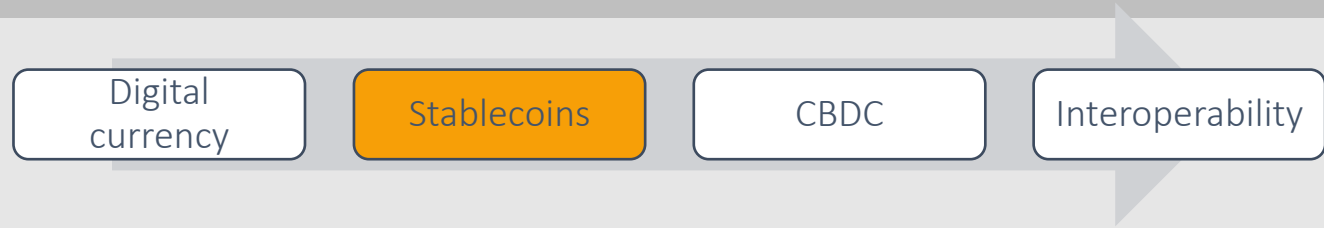


- The market capitalisation of stablecoins has risen from USD 5 billion to USD 120 billion since 2020
- Stablecoins only account for around 6% of the estimated USD 2 trillion total market capitalisation of crypto-assets

Digital Assets

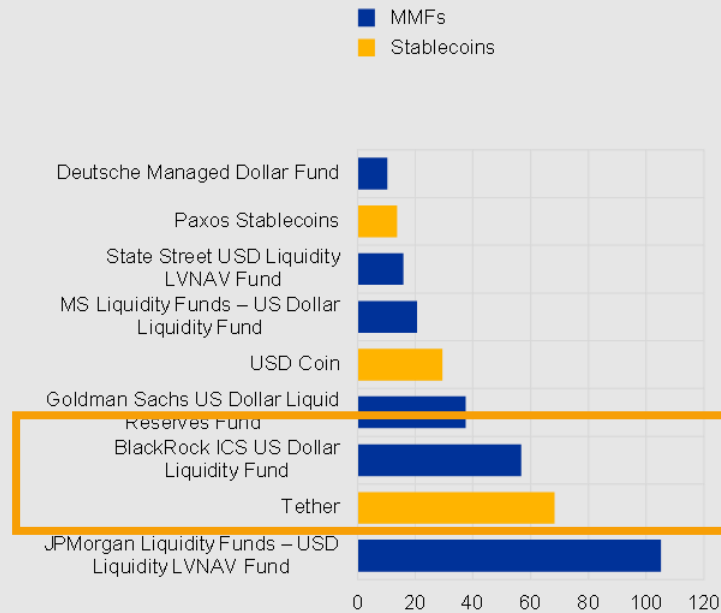
Stablecoins

(In)transparent reserves



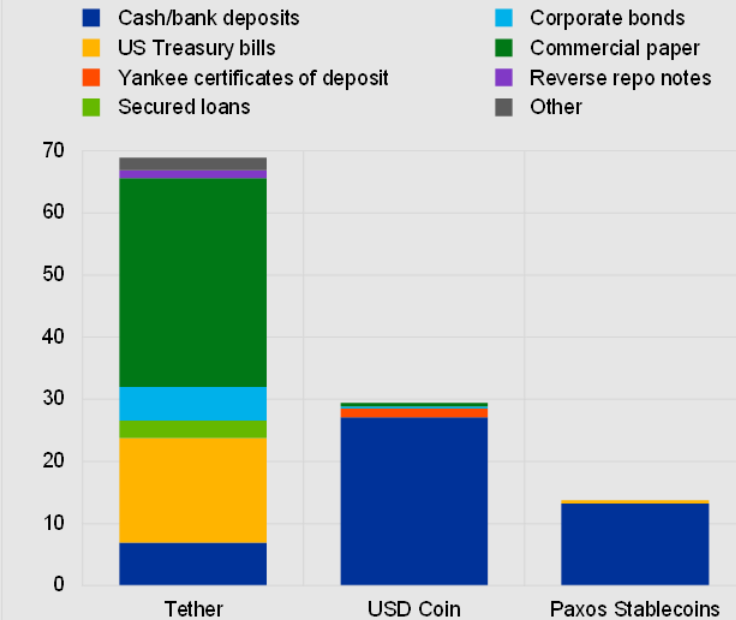
a) Size of selected stablecoins compared with Europe-domiciled prime MMFs

(June 2021, USD billions)



b) Reserve asset composition of the largest stablecoins

(June, Aug. 2021, USD billions)

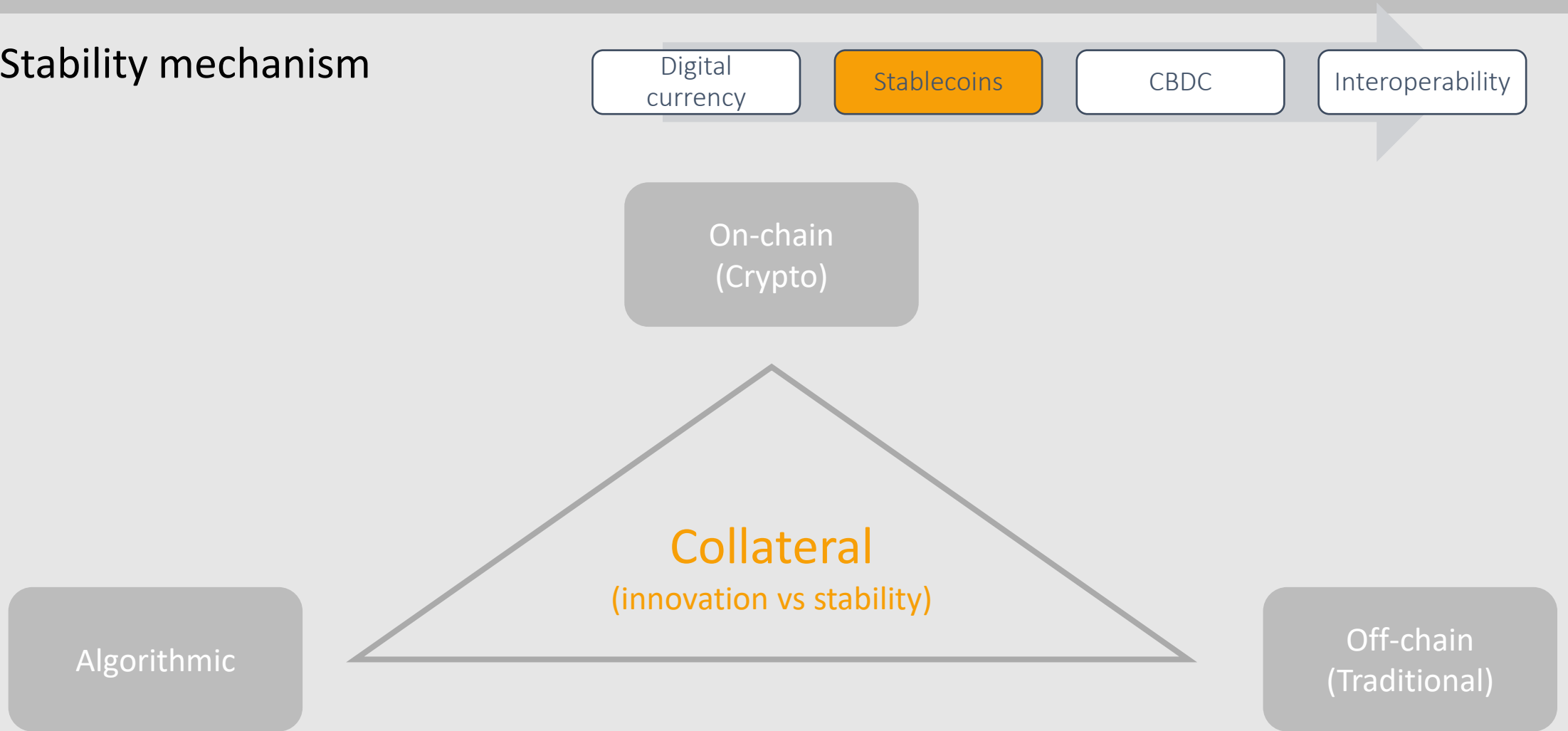


- Stablecoins often lack of transparency regarding their reserve assets, compared to money market funds (MMFs) although exposed to similar vulnerabilities
- Losses on reserves, may trigger loss of user confidence and prompt large-scale redemption requests, with contagion effects on the financial system.

Digital Assets

Stablecoins

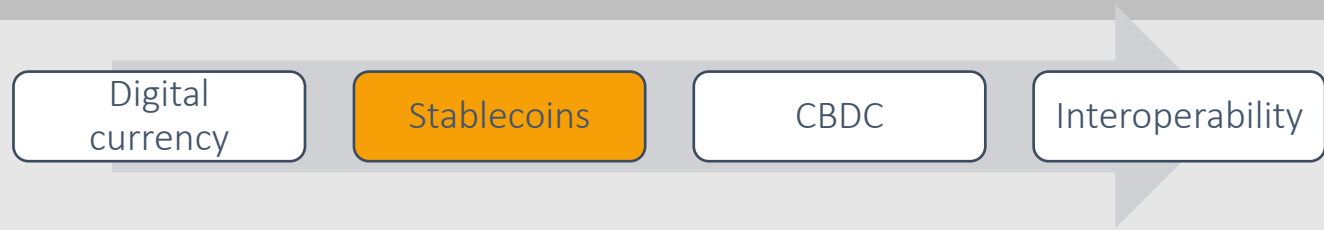
Stability mechanism



Digital Assets

Stablecoins

Use cases



Parking

- Temporary asset between trades
- Storage of value to avoid fx expenses

Bridge

- Bridging traditional and digital world
- Connecting fiat and crypto asset

Trading pair

- Crypto <-> Stablecoin
- 75% of trades were against a Stablecoin in September 2021

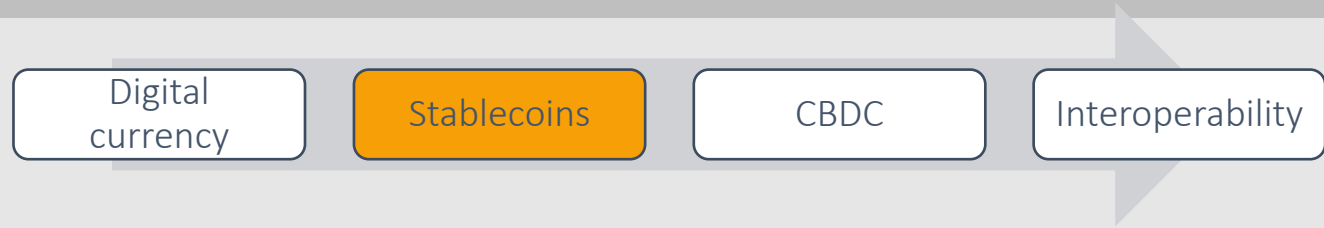
Collateral

- For crypto-asset derivative transactions
- DeFi. Liquidity provision/staking

Digital Assets

Stablecoins

Risks



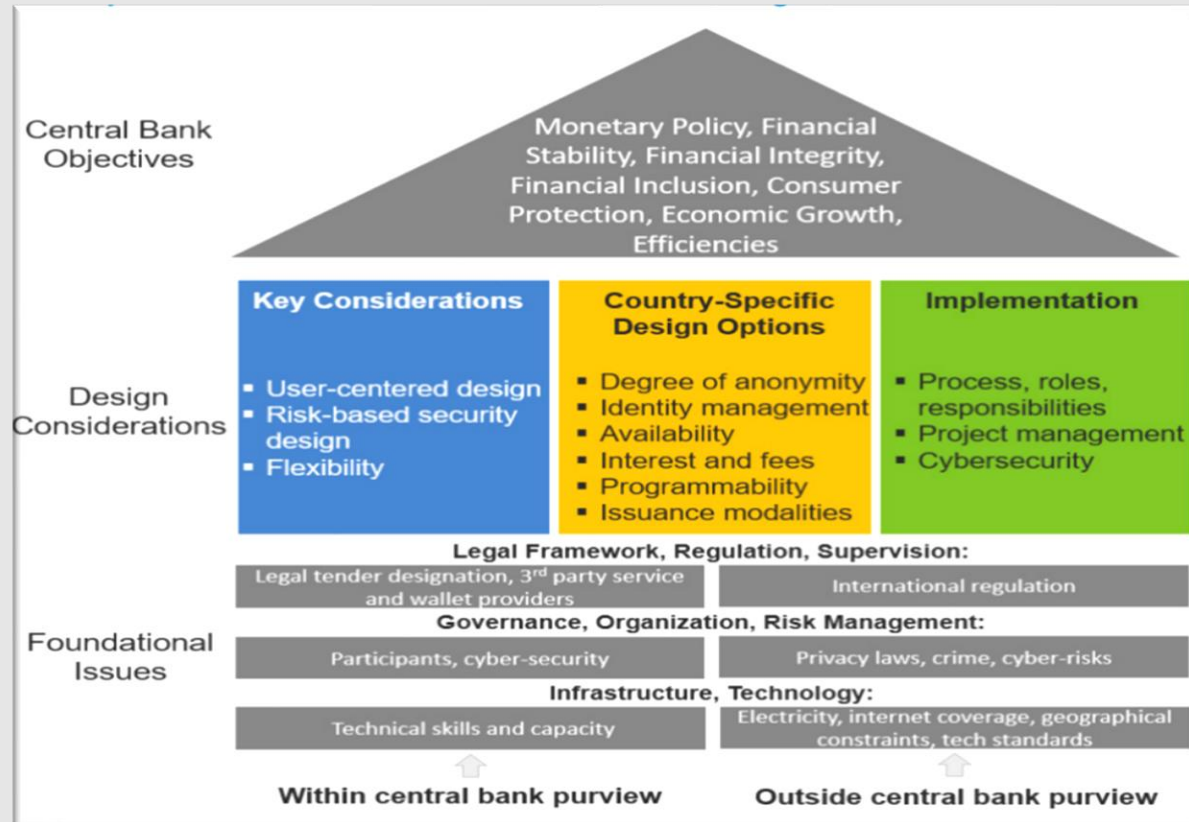
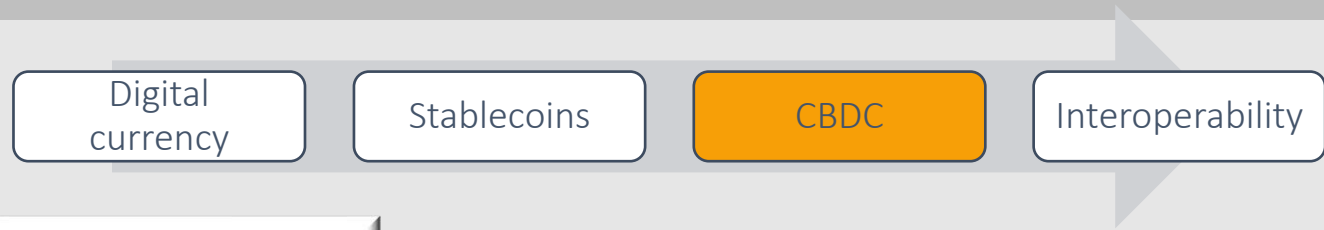
DeFi	Concentration	Transparency	Redemption	Operational resilience
<ul style="list-style-type: none">• Parallel system• (un)regulated	<ul style="list-style-type: none">• Two issuer representing 70% of market (Feb/2022)	<ul style="list-style-type: none">• Low disclosure of reserves• Solvency	<ul style="list-style-type: none">• Unclear mechanics• Handling of mass redemption	<ul style="list-style-type: none">• Cyber risks• Liquidity runs

4. Central Bank Digital Currency

Digital Assets

Central Bank Digital Currencies

Objectives, Design, Issues



- Central Bank Digital Currencies are often debated
- What are fundamental design choices?
- What are the risks?

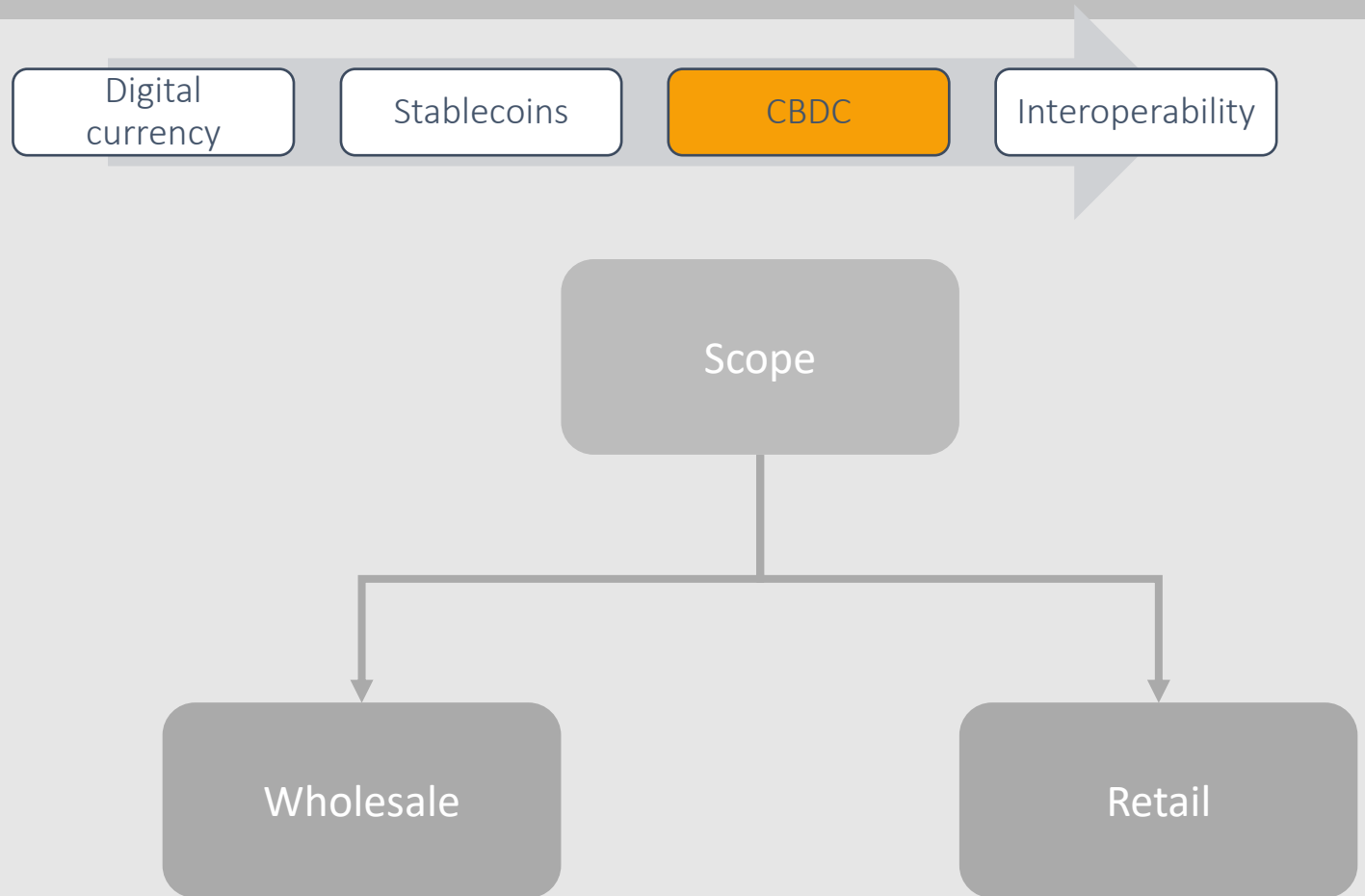
Source: IMF - A Survey of Research on Retail Central Bank Digital Currency

Digital Assets

Central Bank Digital Currencies

Design

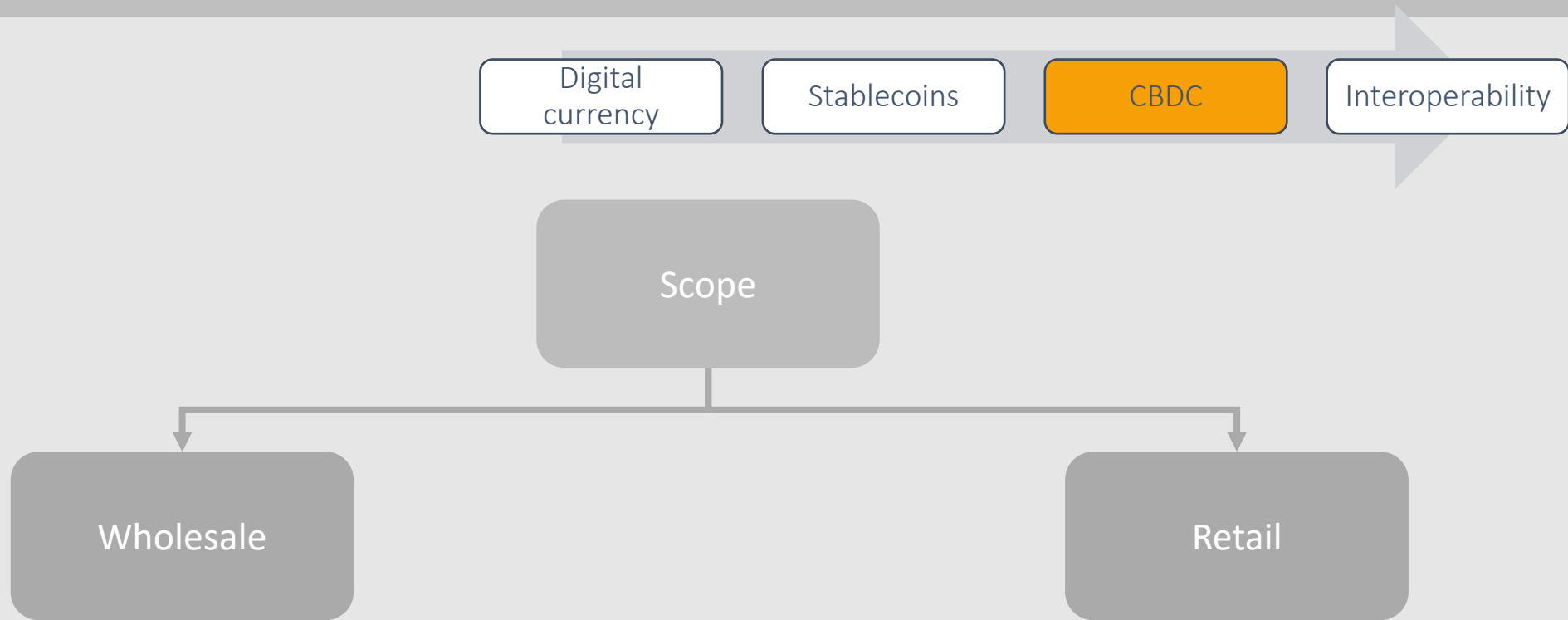
- Instrument
 - Interest-bearing
 - Limitation to individual holding
 - Programmability
 - Privacy
- Ledger
 - Degree of (de)centralisation
 - Payment authentication
 - Permissions (read/write)
 - Governance



Digital Assets

Central Bank Digital Currencies

Design



- Accessible to FI
- Improve existing system
- Achieve policy objectives
- Improve cross border payments

- Accessible to all
- Potential for disruption
- Privacy consideration
- Traceability

Digital Assets

Central Bank Digital Currencies

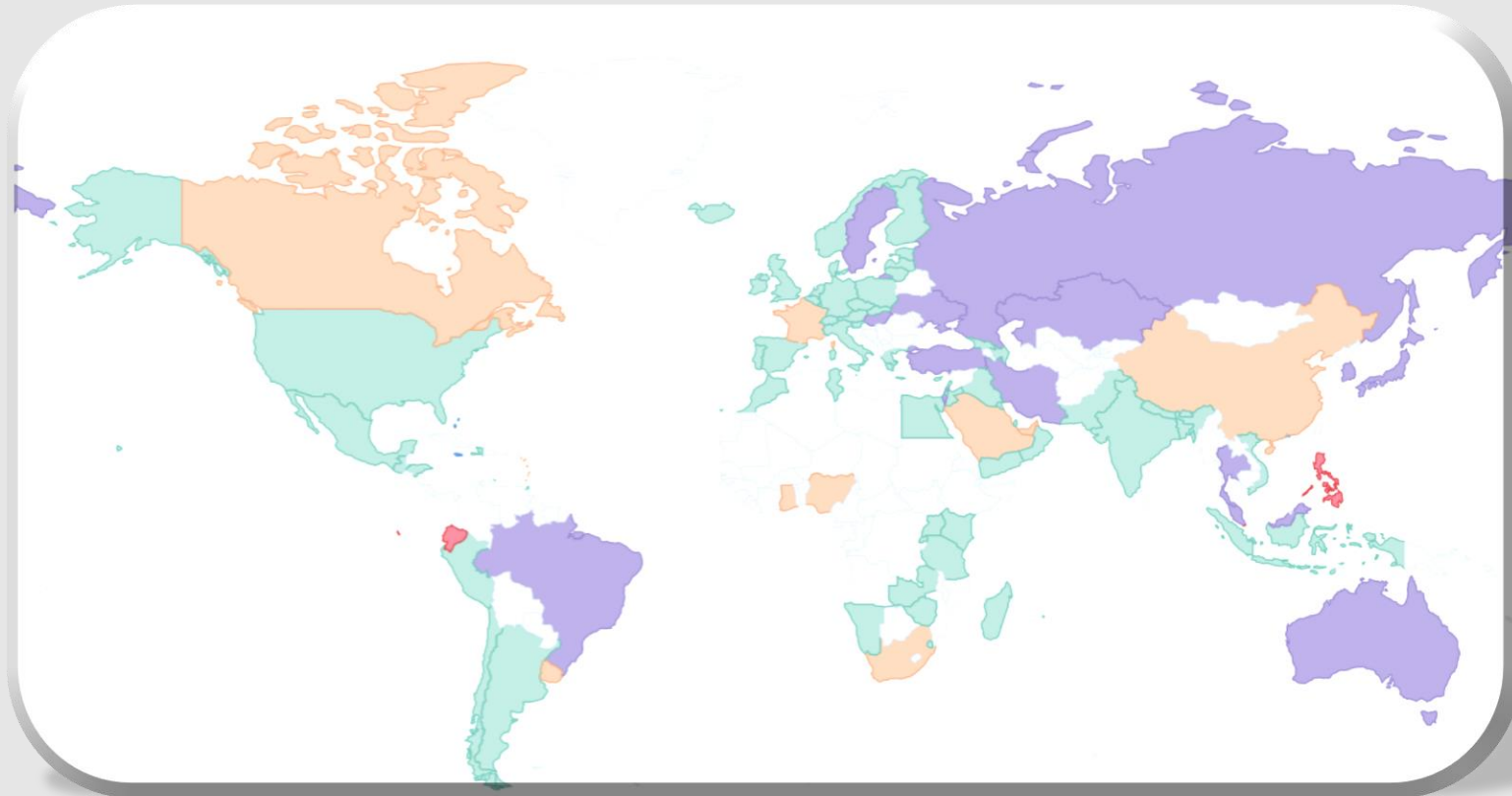
CBDC efforts overview

Digital
currency

Stablecoins

CBDC

Interoperability



Source: cbdctracker.org

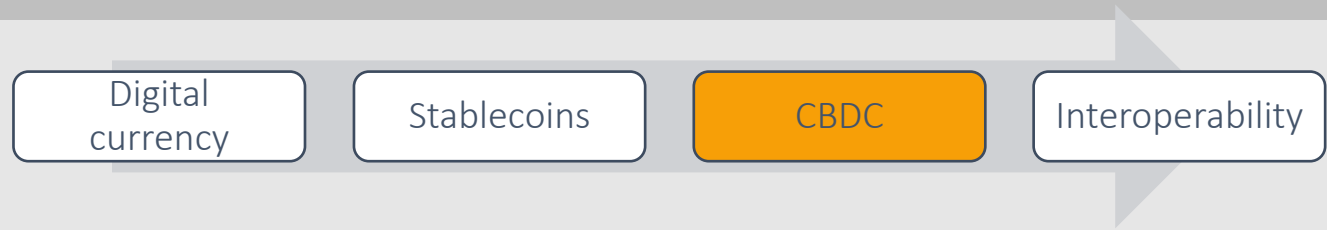
Cancelled Research Proof of concept Pilot Launched

Digital Assets

Central Bank Digital Currencies

Projects in Switzerland

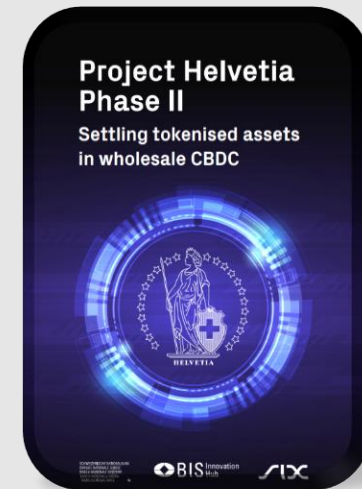
- Selected Projects explained



Settling tokenised assets in CBDC



Cross Border settlement with CBDC

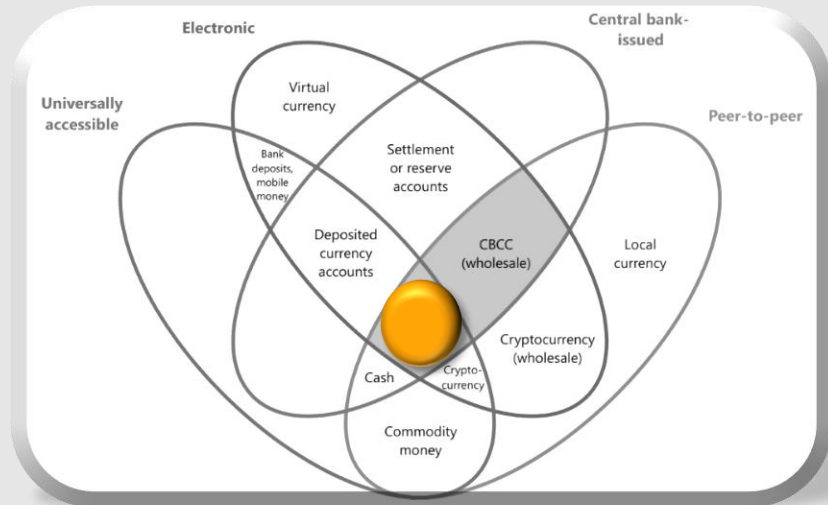
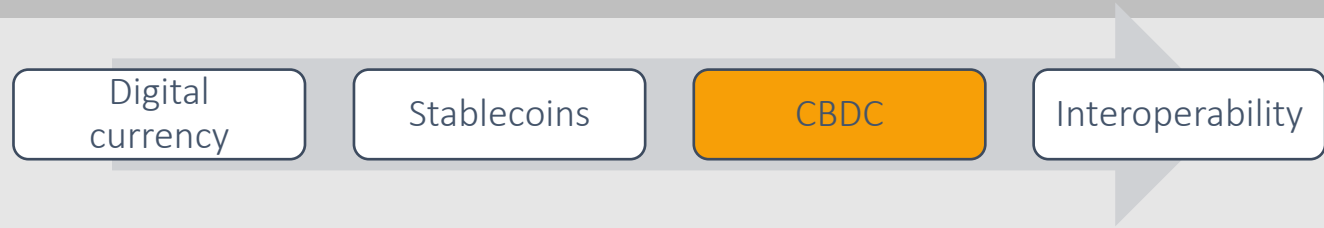


Incl. commercial banks & core banking system

Digital Assets

Central Bank Digital Currencies

Retail CBDC



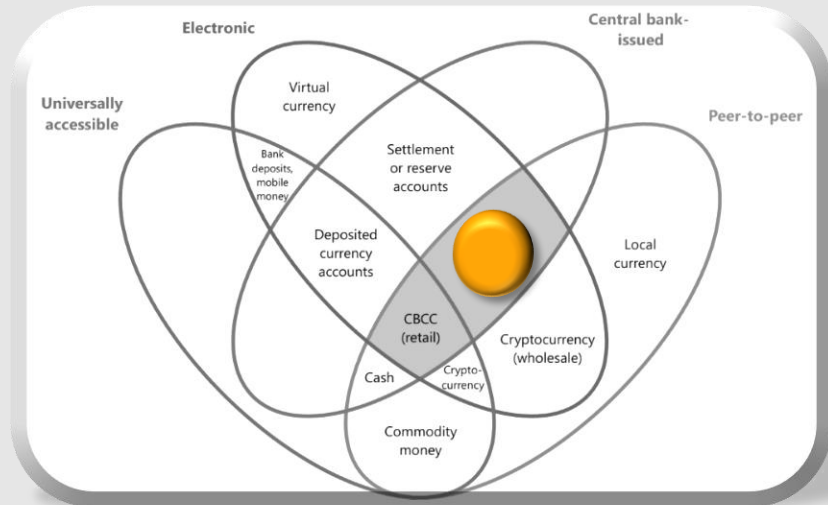
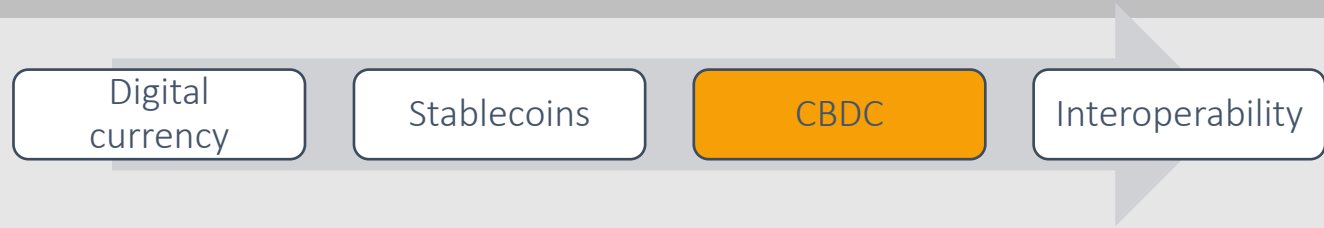
Source: bis.org

- Direct access to public money, as opposed to disappearing cash in modern digital economies
- Relatively stable digital money
- No credit and liquidity risks (same as cash today)
- Preventing oligopoly in retail payments (by financial institutions or wallet providers)
- Potential for greater privacy and control over personal information and transactions than provided by today's electronic payment system

Digital Assets

Central Bank Digital Currencies

Wholesale CBDC



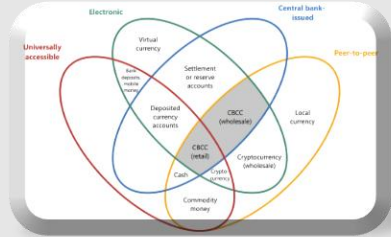
Source: bis.org

- Restricted to use by financial intermediaries
- Strong use case: cross-border payments and settlements
- Atomic settlement and settlement in real-time
- The Bank for International Settlements Innovation Hub has embarked on Project Dunbar to explore a common multi-CBDC platform to enable atomic settlement across multiple countries. It is a partnership of the MAS, Reserve Bank of Australia, Bank Negara Malaysia, and South African Reserve Bank.

Digital Assets

Central Bank Digital Currencies

Digital EURO by ECB



Source: bis.org

“In a more digital economy, we also need to ensure the strength and autonomy of European payment systems”

Christine Lagarde, ECB

Digital currency

Stablecoins

CBDC

Interoperability

Why introducing a digital Euro?

1. No solution across SEPA (Single Euro Payments Area) for retail, ecommerce or small straightforward P2P payments.
2. Decline of cash payments - access to secure central bank money in the digital age.
3. Support digital processes on a large scale (e.g. automated payments).
4. Supporting digitalisation efforts by European legislators, such as digital identity.

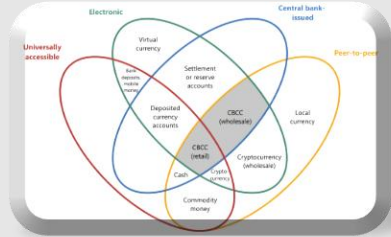
To be considered:

>340 million people could use CBDC (Central Bank Digital Currency) to pay anywhere in the Single Euro Payments Area (SEPA (Single Euro Payments Area)), cross borders and independently of international providers.

Digital Assets

Central Bank Digital Currencies

Digital EURO by ECB



Source: bis.org

Digital
currency

Stablecoins

CBDC

Interoperability

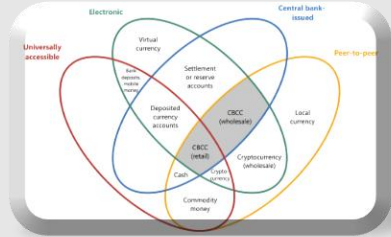
Characteristics of a digital Euro?

- Complementary to cash
- Fast and convenient access to a digital means of payment for everyone
- Business neutral

Digital Assets

Central Bank Digital Currencies

Digital EURO by ECB



Source: bis.org

Digital
currency

Stablecoins

CBDC

Interoperability

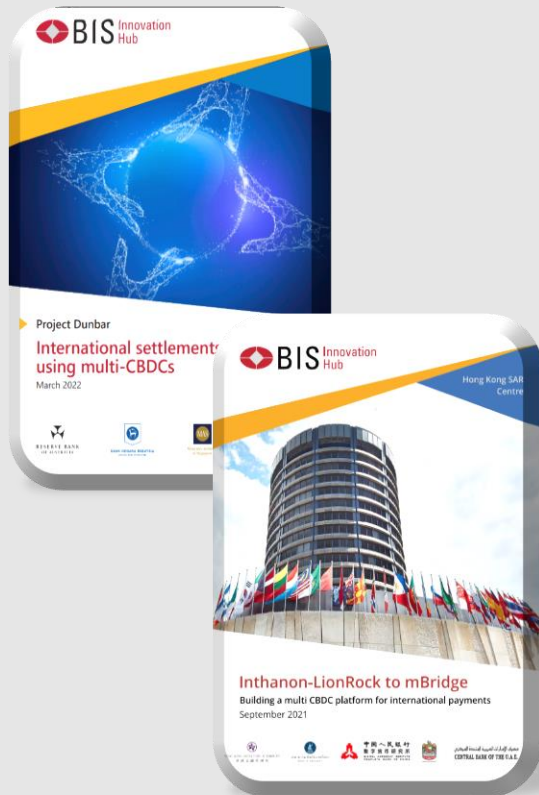
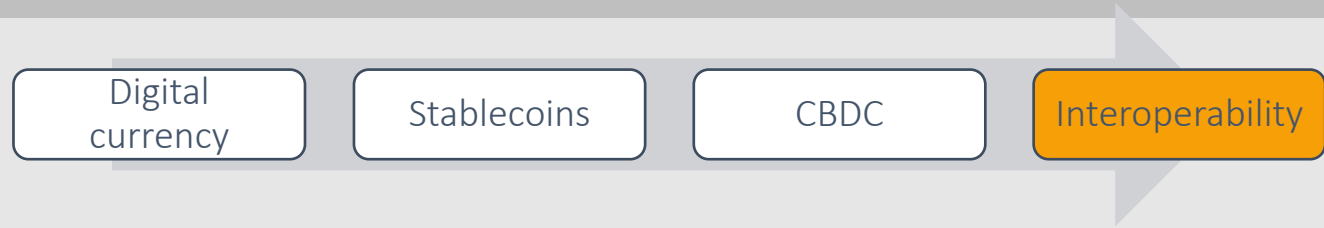
Risks of digital Euro?

- Exploration phase since October 2021 by Eurosystem experts
- Analysis of functionalities, conceivable technical infrastructure, as well as effects on the market and the role of intermediaries.
- Outflows of deposits from the banking sector and encourage short-term shifts during times of financial stress.
- Cyber security standards
- Operational resilience

Digital Assets

Central Bank Digital Currencies

Interoperability



Source: bis.org

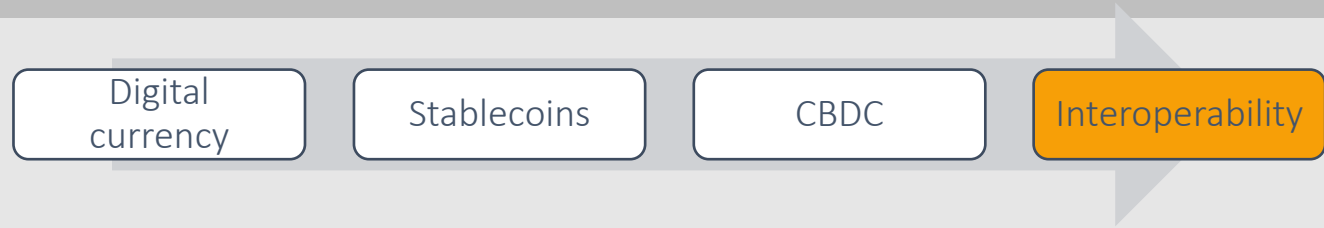
- mBridge Cross-Border Transactions
 - Multi central bank digital currency (mCBDC) platform for international payments
 - mCBDC Bridge is a wholesale CBDC co-creation project
 - exploring capabilities of distributed ledger technology (DLT)
 - studies application of CBDC in enhancing financial infrastructure to support multi-currency cross-border payments

5. Metaverse

Digital Assets

Metaverse

Glimpse into the future



Source: fiat24.com

Banking is gaining presence in the Metaverse

- 1Q22 JP Morgan first bank in the United States to enter Metaverse
- 2Q22 Fiat24, a Swiss based and FINMA licensed FinTech, entered Metaverse

What is it?

- Exploration phase
- Immersive customer experience and profiling
- (un)limited data gathering
- Enhanced “connectivity” / interoperability

Q&A

Blockchain





Happy to connect
and stay in touch

Silvan Andermatt

[LinkedIn](#)

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