

# The Crypto Frontier

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\* Views expressed here are my own and do not necessarily reflect those of the Bank of England or any of its policy committees



# The crypto ecosystem is at early stages, but is expanding quickly

## Crypto assets:

Supported by backing assets or algorithm to maintain peg to fiat

Stablecoins backed by fiat reserves



Stablecoins backed by other assets



Algorithmic stablecoins



Unbacked



Other (non-fungible)



## Infrastructure:

Blockchains



## Crypto activities:

Lending



Payments



Investment (in underlying and derivatives)



Insurance



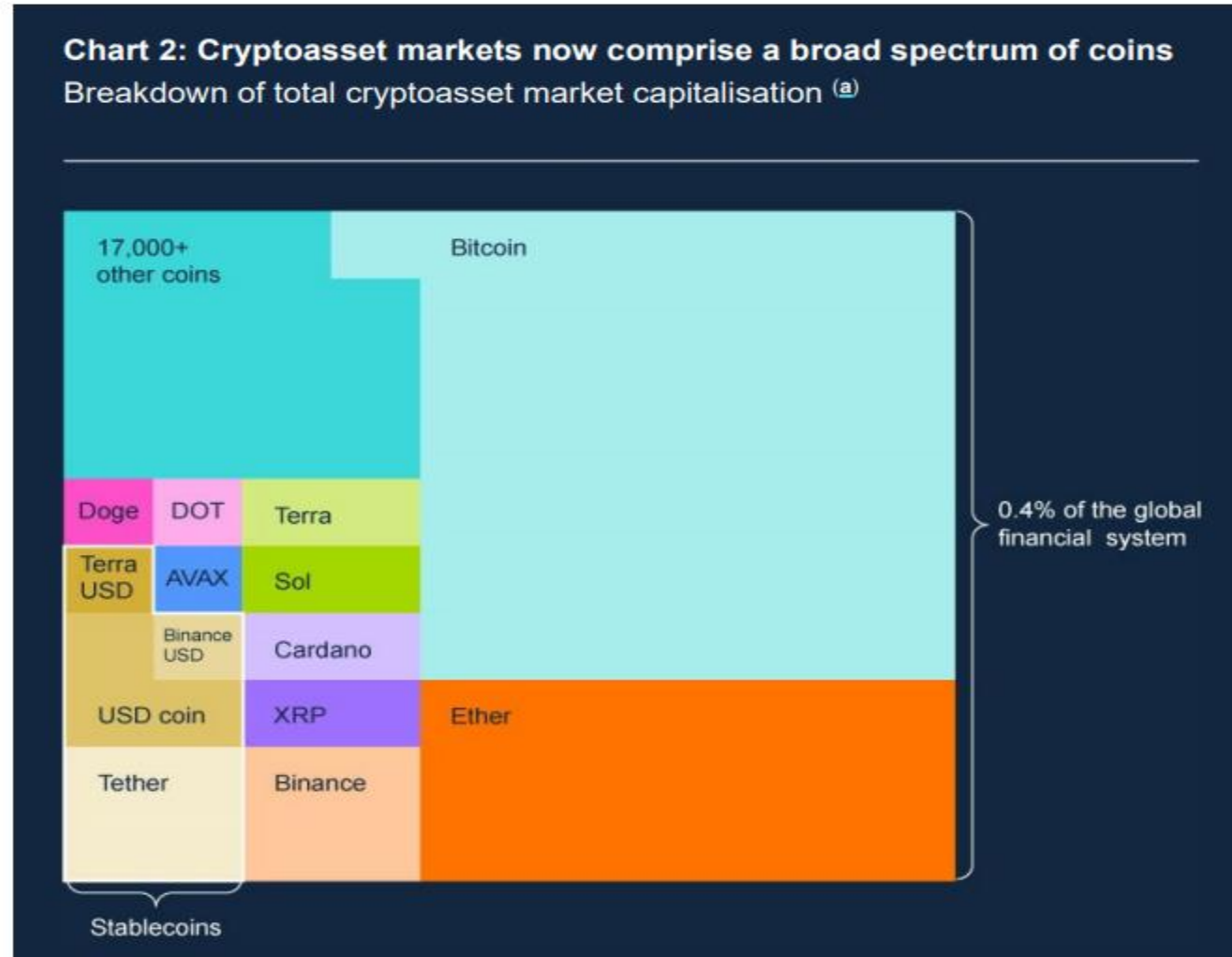
Exchanges



Decentralised (DeFi)



# There are currently thousands of different crypto assets



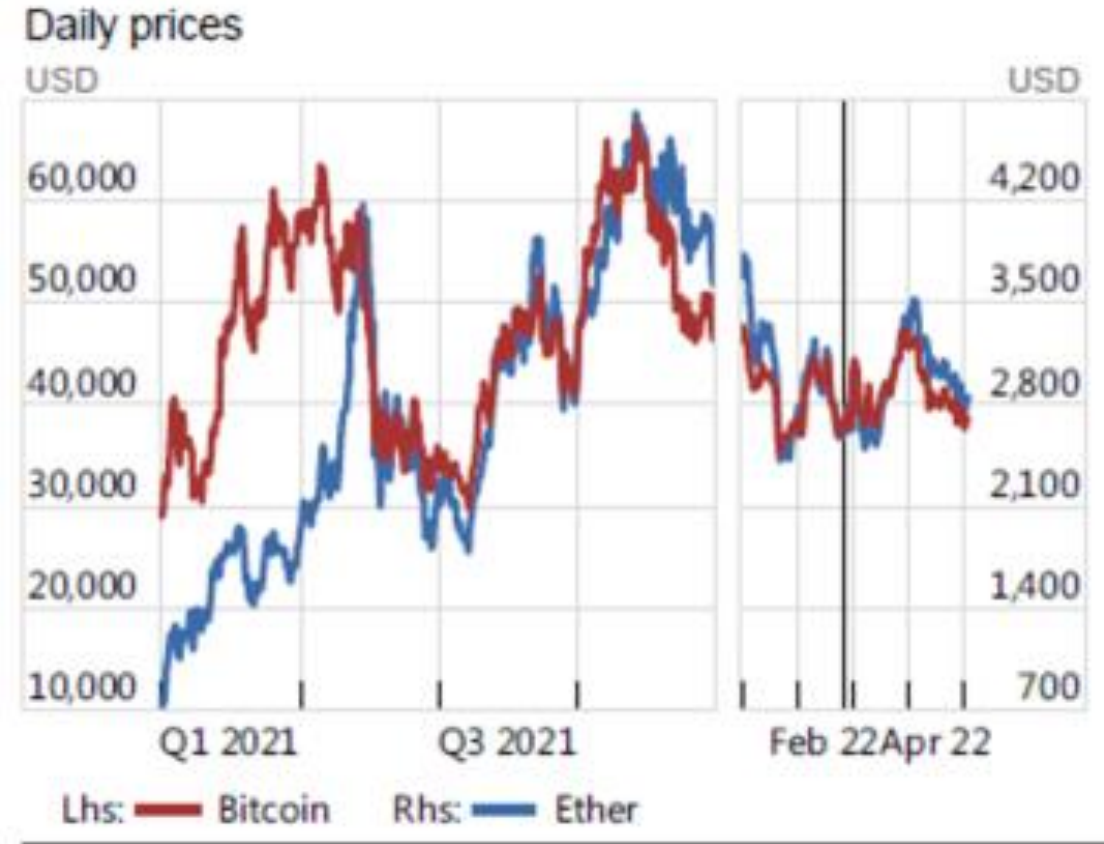
Source: CoinMarketCap,  
Bank of England

(a) Stablecoins refer to cryptoassets that claim to maintain a stable value, primarily against existing national fiat currencies.

# Daily prices of Bitcoin and Ether

**Unbacked (around 90% of market cap)**

- No intrinsic value
- Price is highly volatile
- Typically viewed as a speculative investment can be subject to capital gains tax, rather than a payments method

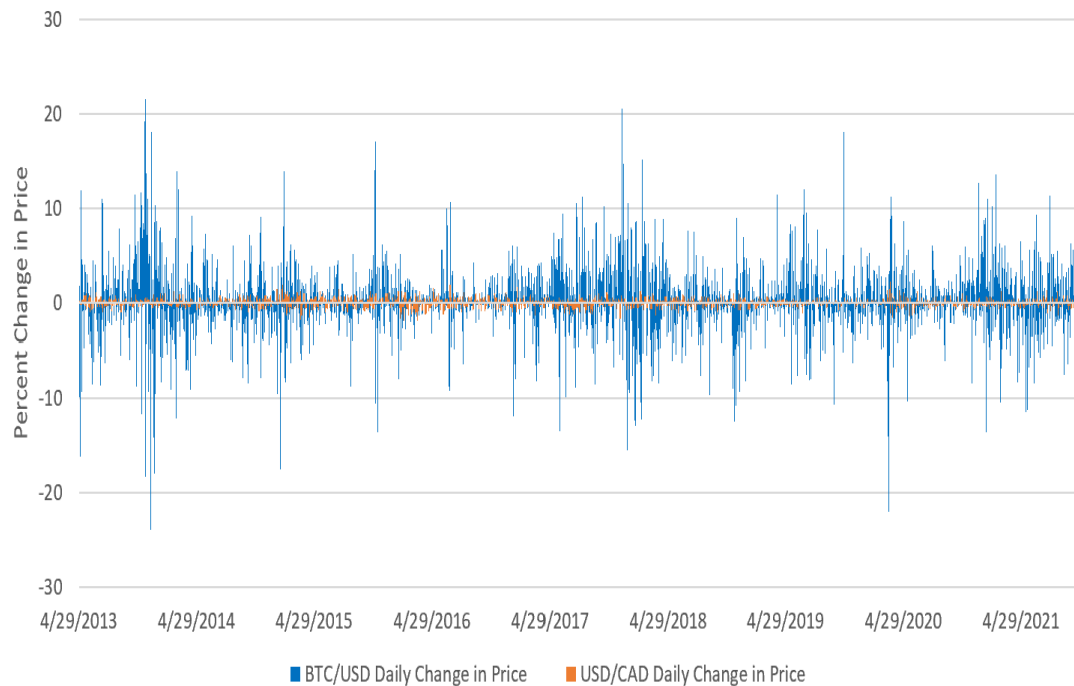


The vertical line indicates 23 February 2022, the day before the start of the Russia-Ukraine war

Sources: CoinGecko; Bloomberg; FSB calculations

# Unbacked crypto-assets prices too volatile for store of value or medium of exchange

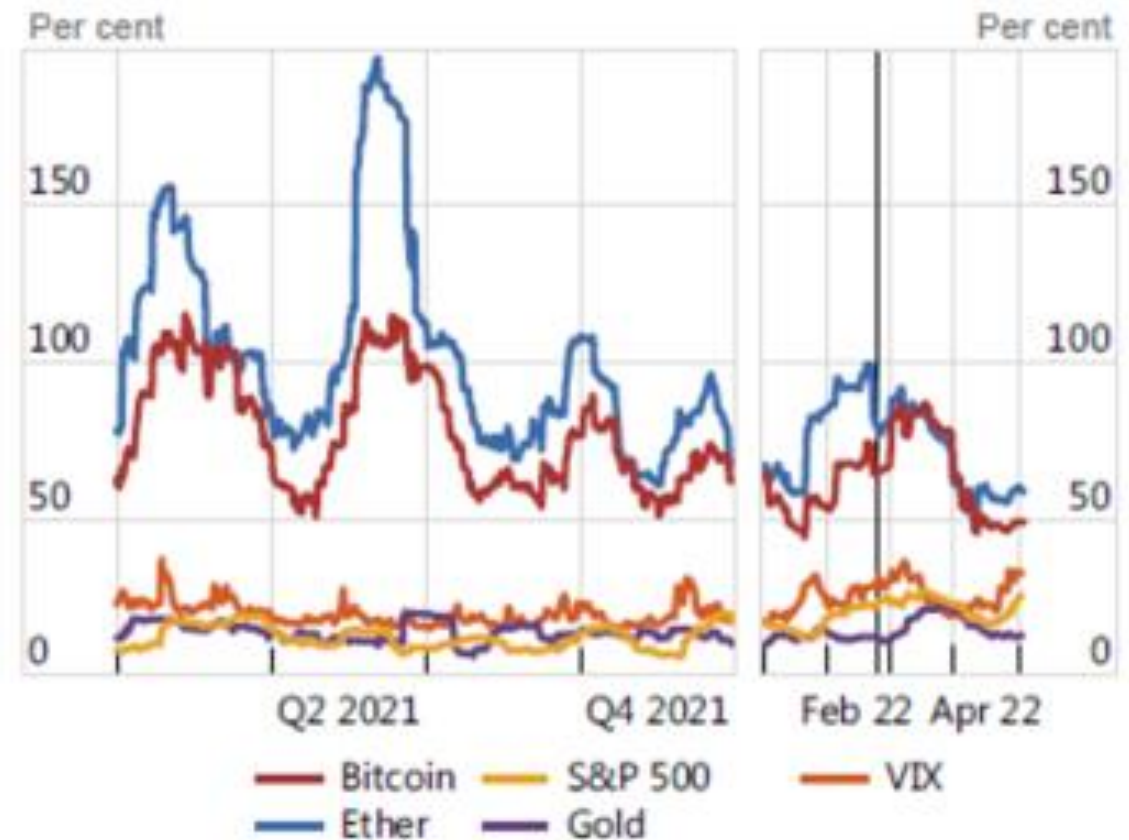
Daily Percent Change in Price of BTC/USD and USD/CAD



Source: Coinmarketcap.com and Bank of Canada

Last Observation: October 30, 2021

Daily one-month volatility\* of selected crypto-assets vs other financial assets



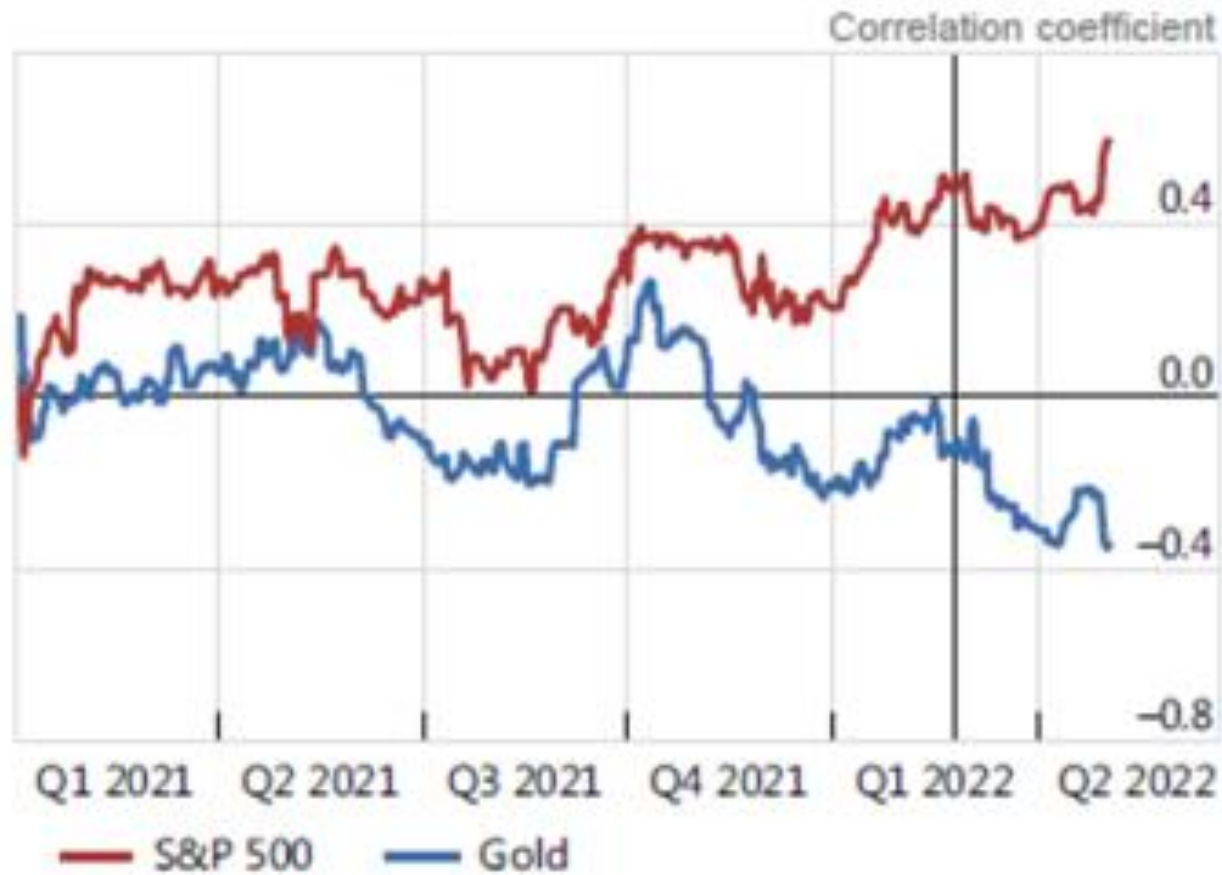
\*Realised volatility except VIX which shows implied volatility  
The vertical line indicates 23 February 2022, the day before the start of the Russia-Ukraine war.

Sources: CoinGecko; Bloomberg; FSB calculations



# Unbacked crypto-assets do not trade like an inflation hedge

60-day moving correlations of changes in the prices of bitcoin and other assets



The vertical line indicates 23 February 2022, the day before the start of the Russia-Ukraine war

Sources: CoinGecko; Bloomberg; FSB calculations

# Stablecoins show promise, but are only as good as their backing arrangements

## Potential

- Promise to redeem at par or at variable rate, so more stable
- This promise supported by backing assets or algorithm
- Possible benefits in terms of efficiency (e.g., cross border payments, use in DeFi)

## Backing arrangements

- Assets backing stablecoins must be sufficient, high quality, liquid
- Need transparency about backing assets (high frequency) and clear governance
- Algorithmic supporting mechanisms must find way to avoid “death spiral” risk (Terra Luna example)

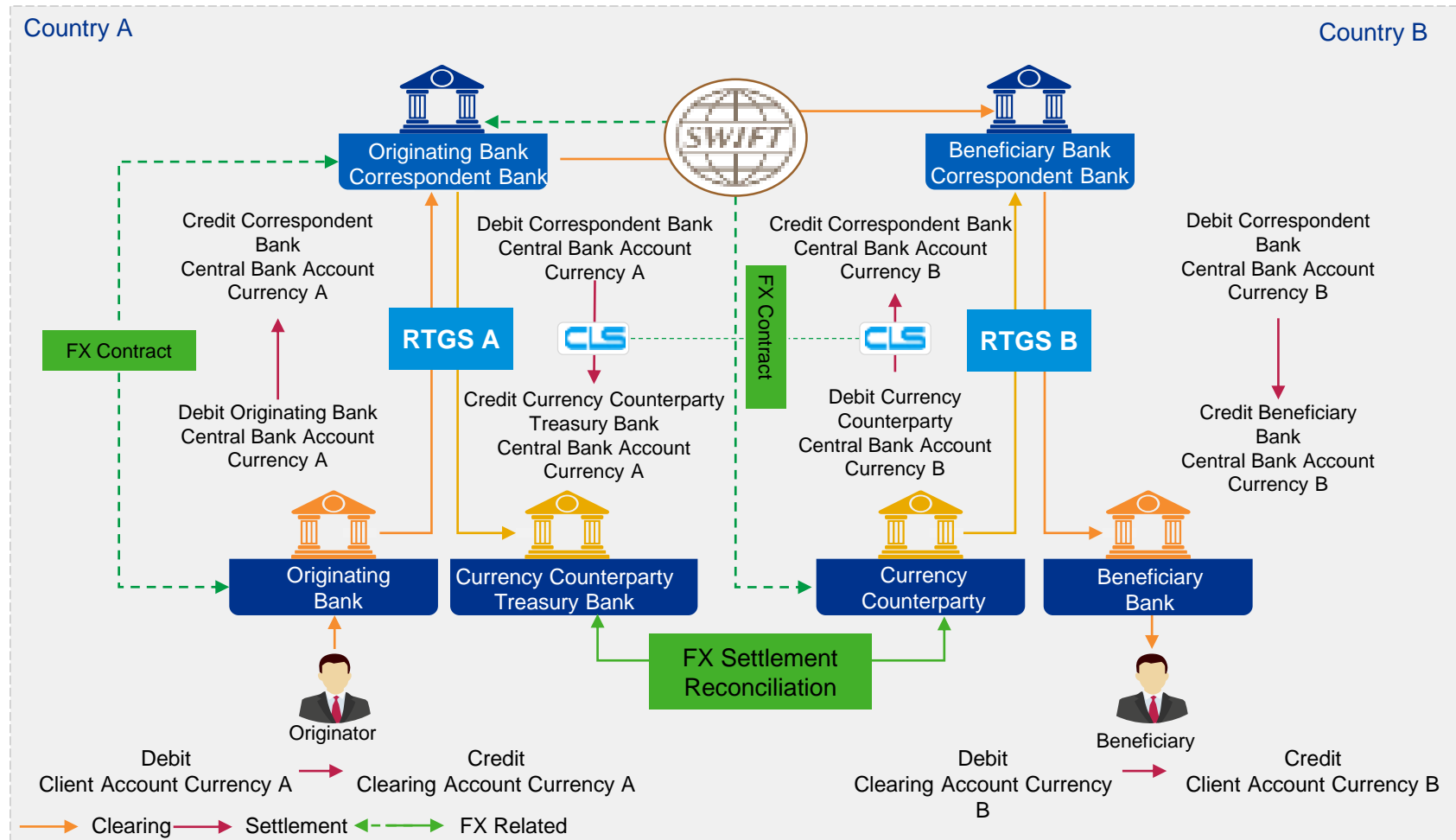
## Financial regulation lagging along several dimensions:

- Anti money laundering, counter terrorist financing
- Investor protection and market integrity (e.g., registration of exchanges with securities regulators)
- Quality and transparency of backing arrangements for stable coins (Tether example)
- Governance of both backed and unbacked crypto assets

### Many regulatory initiatives underway, including:

- Bank of England on stable coins
- President’s working group on stable coins (and Biden’s Exec Order on Responsible Development of Digital Assets)
- EU proposed regulation on Markets in Crypto Assets (MiCA)

# Low hanging fruit: increase efficiency of cross-border payments





# DeFi could be of important social value if risks are properly managed



## ***Efficiencies and lower some operational risks:***

- Decentralisation reduces the reliance on intermediaries and their inefficient infrastructure.
- Smart contracts enable automated execution and creation of new financial instruments and digital assets.
- Data are easily shared, as opposed to traditional siloed platforms that do not talk to each other.
- DeFi protocol code is visible and auditable, and every transaction is visible on the blockchain.



## ***Illicit activity:***

- Risk of fraud, misappropriation, and conflicts of interest.
- Money laundering, terrorist financing, avoidance of sanctions.

## ***Governance failures:***

- Operations and activities within DeFi often governed or administered by a small group of developers and investors.

## ***Technology failures:***

- Risks related to the underlying technology.

## ***Financial Stability***

# The crypto/DeFi ecosystem is a growing threat to financial stability

*Financial stability assessment typically covers several transmission channels*



Disruption to payments



Impact on systemic financial institutions

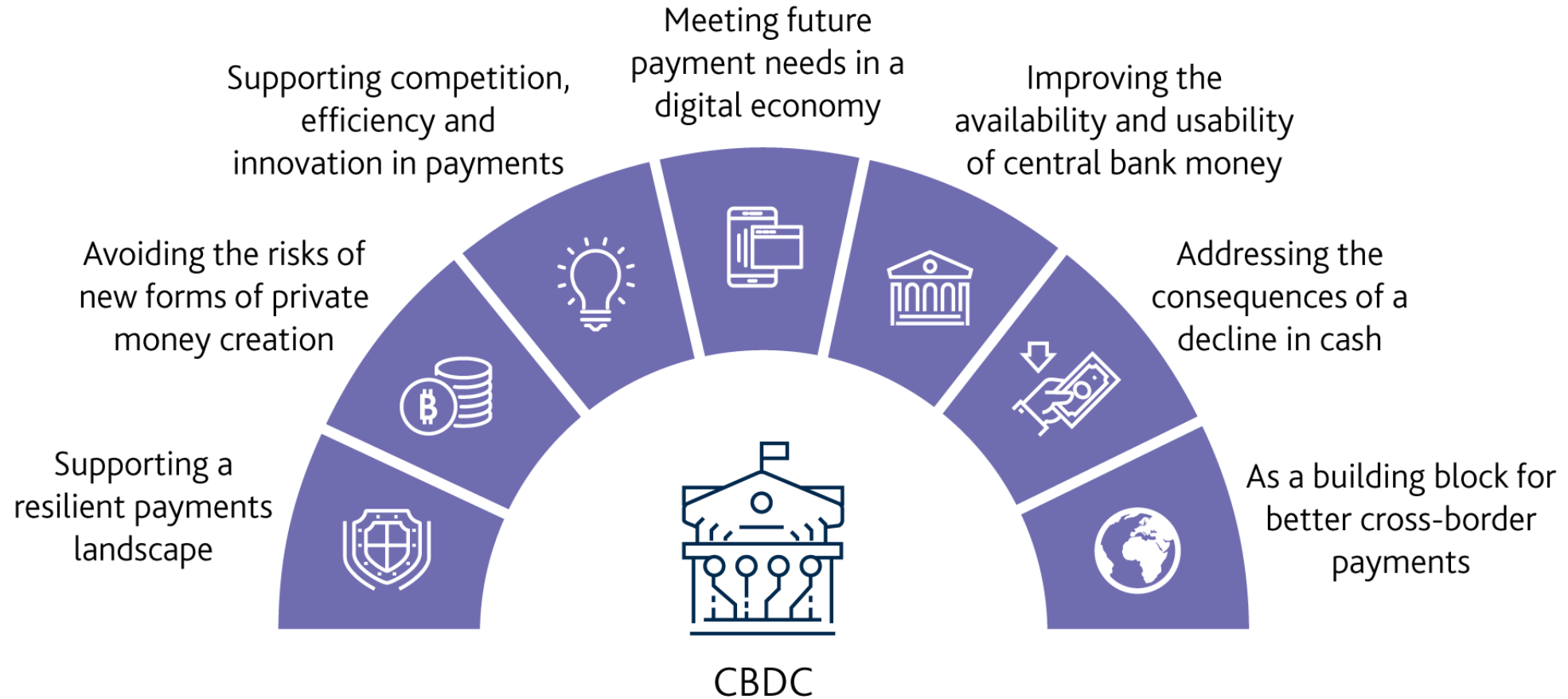


Impact on systemic financial markets (direct and indirect)



Impact on household wealth

# CBDC could support payments modernisation



Source: Bank of England (2020) *Discussion Paper on Central Bank Digital Currency*

# Key issues to be dealt with before taking a decision

## Bank funding and financial intermediation

- Interest-bearing CBDC would compete directly with commercial bank deposits, a very stable form of bank funding
- Design to avoid undesirable implications for financial intermediation or for destabilizing dynamics in periods of financial stress

## Security and integrity

- Ensure data integrity and privacy
- Secure against digital counterfeiting

## Adoption

- Convenience and cost of usage
- Merchant acceptance in two-sided market



# Three concluding policy points

- 1. Crypto assets are the bedrock of the new financial ecosystem:** consumer protection/market integrity is the first order of business for regulators.
- 2. Opportunities and risks extend well past the crypto assets themselves:** they encompass a rapidly expanding range of financial services, increasingly enabled by DeFi. Risks to financial stability appear to be low now, but are rising.
- 3. Authorities must be proactive in building a legal and regulatory framework that will guard against further build-up of risks and support responsible innovation:** History is rife with examples where unregulated financial activities that grew quickly and became intertwined with the financial system ended badly, especially for those who could least afford it.