

# Digital Assets – The Future of Markets

Global Blockchain and Smart Contracts Summit

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Berlin, Germany

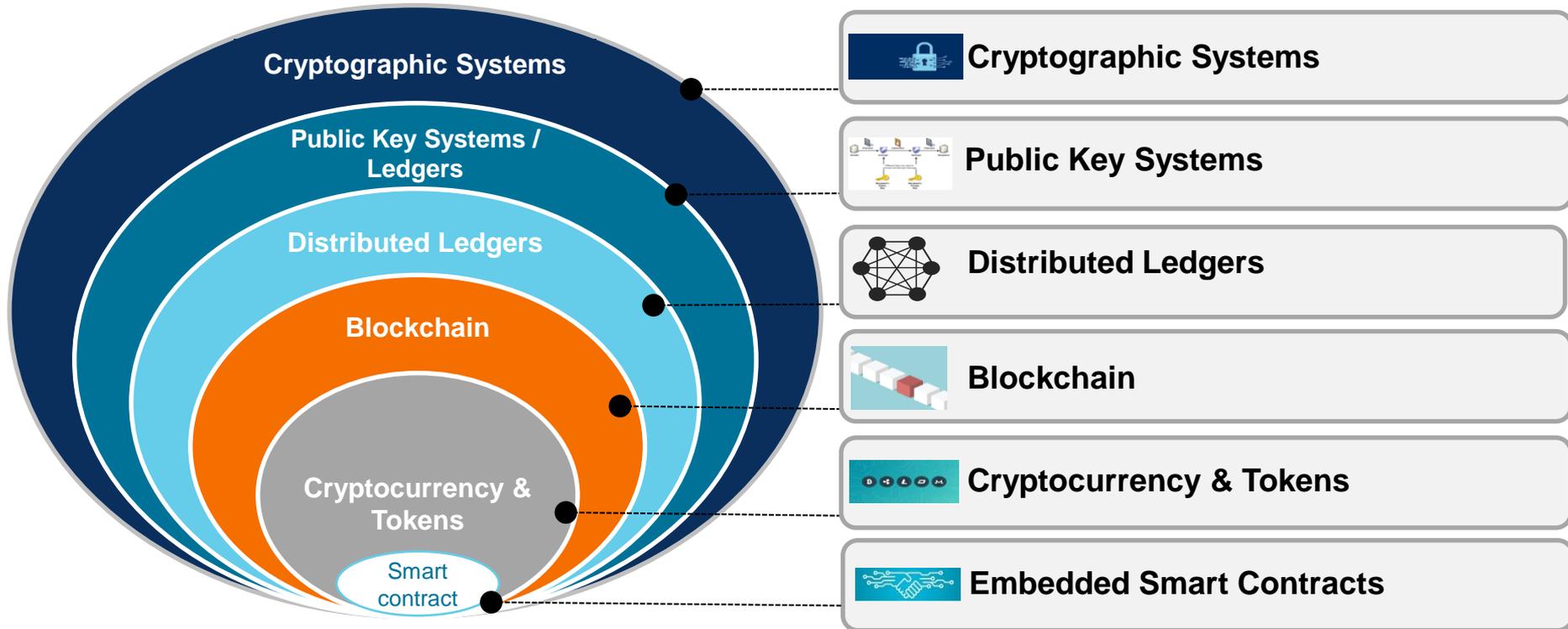
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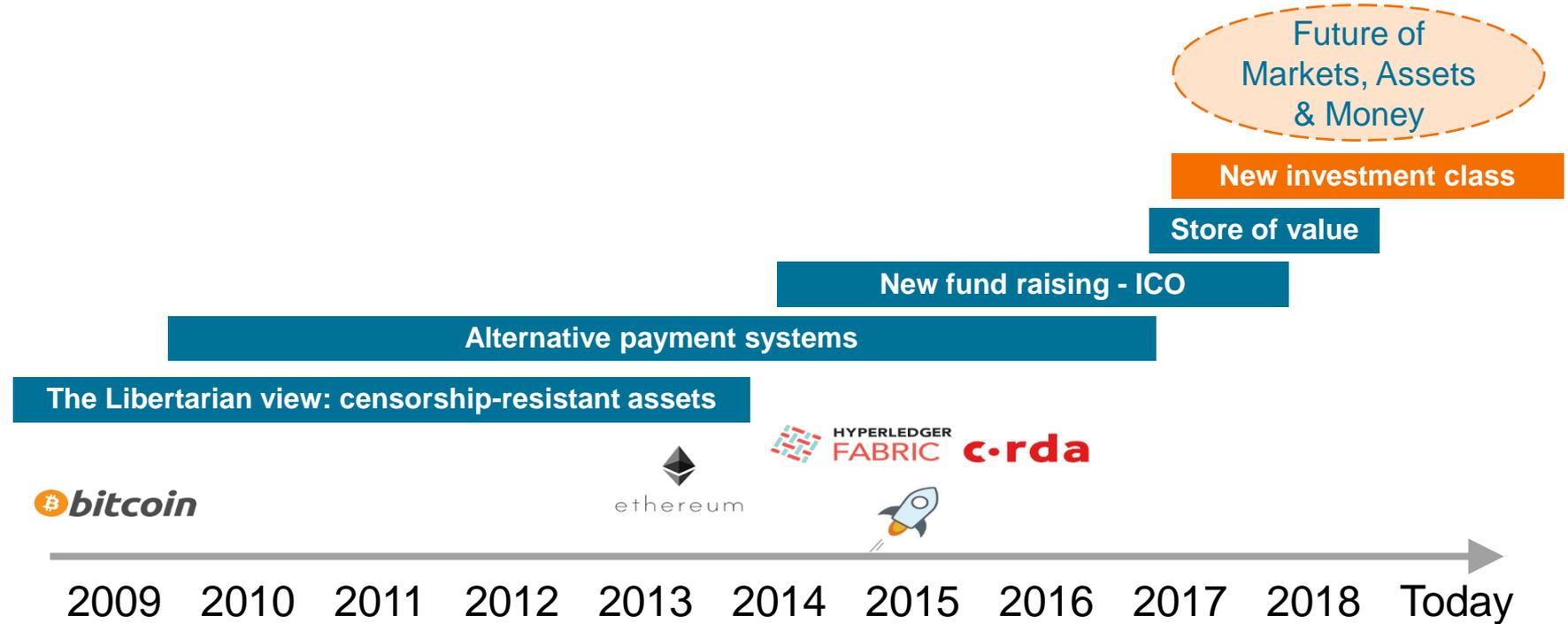
# Let's put everything into context

## From cyphers to 'digital assets'



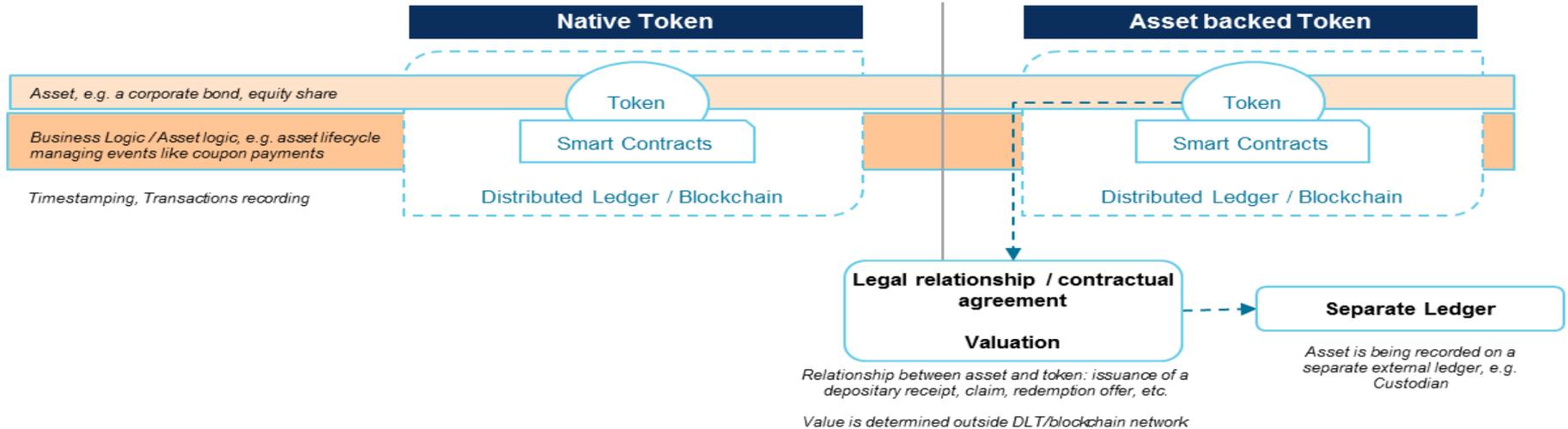
# Underlying investment thesis for tokens is evolving

Early indicator towards a new ecosystem

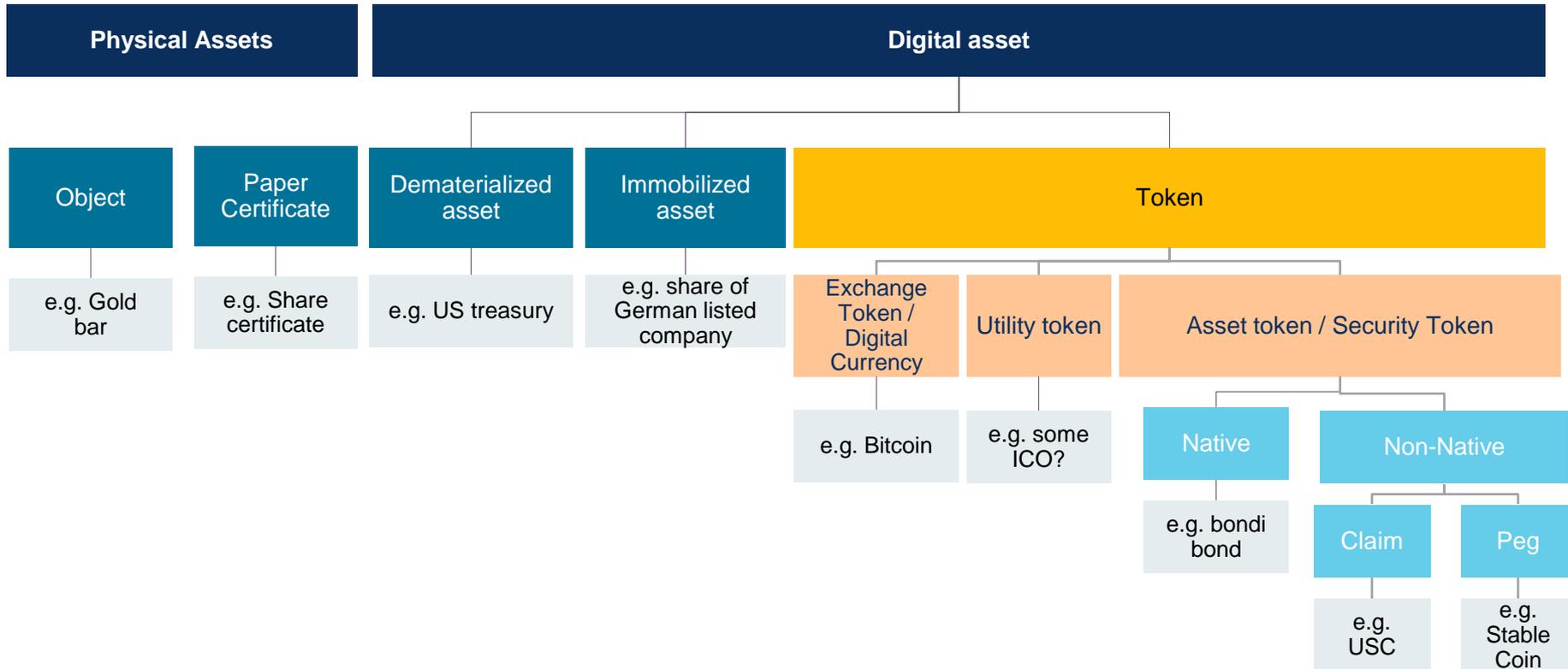


# Tokenization 101

- We refer to a “**token**” as a generic **quantified unit of value** represented and registered on a distributed ledger / Blockchain.
- Tokens are **built on top of a Blockchain network** and can be embedded in a “smart contract” logic in a specific software application.
  - ‘*Smart contracts*’ are a set of rules / business logic related to the asset, and run on the distributed ledgers. Once deployed they govern the asset life and the relationship between parties on the ledger.
- The term **tokenization** has come to refer to the creation of tokens **representing an existing asset OR a natively-issued asset** (i.e. without representation on any external ledger) directly on the Blockchain ecosystem



# Digital assets involve different asset classes and markets



# Digital assets are about a new user centric asset class

## On-demand, choice rich, infinitely expandable

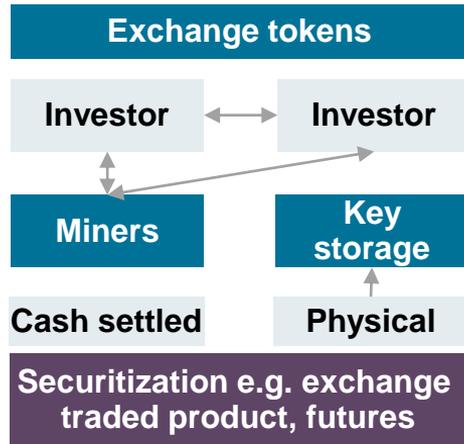
|                | Perceived issue  | How digital assets address the issue  | Consideration   |
|----------------|--|---|---|
| Speed          | <ul style="list-style-type: none"><li>Financial transactions can be subject to delays or fails</li></ul>                     | <ul style="list-style-type: none"><li>Atomic settlement</li><li>Move from T+x to T+instant</li></ul>                | <ul style="list-style-type: none"><li>Existing Faster payment solutions</li><li>T+0 settlement</li><li>Liquidity management</li></ul> |
| Transparency   | <ul style="list-style-type: none"><li>Account based models don't allow to track asset</li></ul>                              | <ul style="list-style-type: none"><li>Better end-to-end control / finality / record-keeping</li></ul>               | <ul style="list-style-type: none"><li>Data model and data privacy / permissioning</li></ul>   |
| Distribution   | <ul style="list-style-type: none"><li>Certain asset classes are less accessible given inefficient market structure</li></ul> | <ul style="list-style-type: none"><li>Easy fast access and deployment through tokenization / wallet model</li></ul> | <ul style="list-style-type: none"><li>Regulatory considerations e.g. ownership rights, KYC</li></ul>                                  |
| Intermediation | <ul style="list-style-type: none"><li>Counterparty risk and/or cost</li></ul>  | <ul style="list-style-type: none"><li>Peer-to-peer risk</li></ul>   | <ul style="list-style-type: none"><li>Segregation requirements in today's world</li></ul>   |

# Different technology choices (platforms) and standards for token creation

*-not exclusive list-*

| Type               | Description  | Considerations   |
|--------------------|--|--|
| Ethereum-based     | <ul style="list-style-type: none"> <li>Token issued in the shape of ERC-20 'standard'</li> <li>New token standards being developed to 'look like' a security</li> <li>Smart contract to control token issuance / distribution</li> <li>Can run on public Ethereum chain or private Ethereum version e.g. Quorum, Pantheon</li> </ul> | <ul style="list-style-type: none"> <li>Accepted with almost every digital custody solutions</li> <li>Public blockchain not suitable for institutional investors</li> <li>Too many new token 'standards'</li> </ul> |
| Stellar            | <ul style="list-style-type: none"> <li>Tailor-made security / asset creation with base abstractions (accounts, tokens, payments, offers, atomic exchanges, etc.)</li> <li>Public blockchain with private solution available (Lighting network)</li> </ul>  | <ul style="list-style-type: none"> <li>Scalable and cost effective</li> <li>Still not widely utilised</li> <li>Some Hyperledger integration</li> </ul>   |
| Hyperledger Fabric | <ul style="list-style-type: none"> <li>Generic tokenization platform available</li> <li>Business processes flows + security</li> <li>Private DLT under Hyperledger Project umbrella</li> </ul>   | <ul style="list-style-type: none"> <li>Good privacy solution for permissioned blockchain</li> <li>No token management (yet)</li> </ul>   |
| Corda R3           | <ul style="list-style-type: none"> <li>Enterprise level privacy non-blockchain DLT</li> <li>Available digital asset capabilities</li> </ul>  | <ul style="list-style-type: none"> <li>Corda tokens</li> <li>Adoption</li> </ul>   |

# Digital assets still create demand for intermediary and professional services

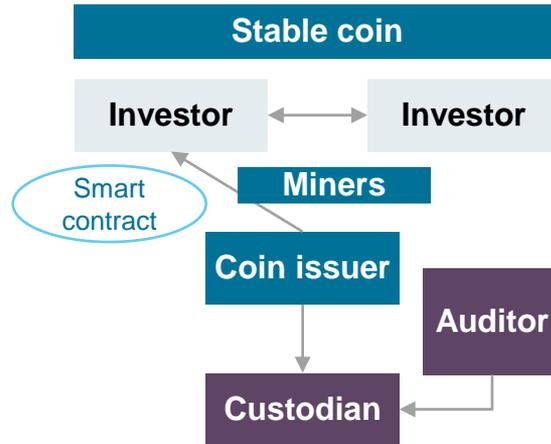


- Traditional investors have begun to create financial products in relation to exchange tokens
- At present, no traditional collective investment products have been launched (e.g. ETF/40'act)

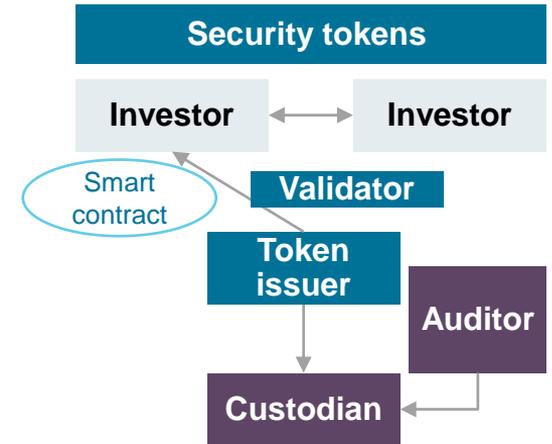
(1) See [stablecoinindex.com](https://stablecoinindex.com)

(2) See <https://www.coininsider.com/stablecoin-research/>

(3) Source: World Economic Forum (2018): Building Block(chain)s for a Better Planet, p. 11

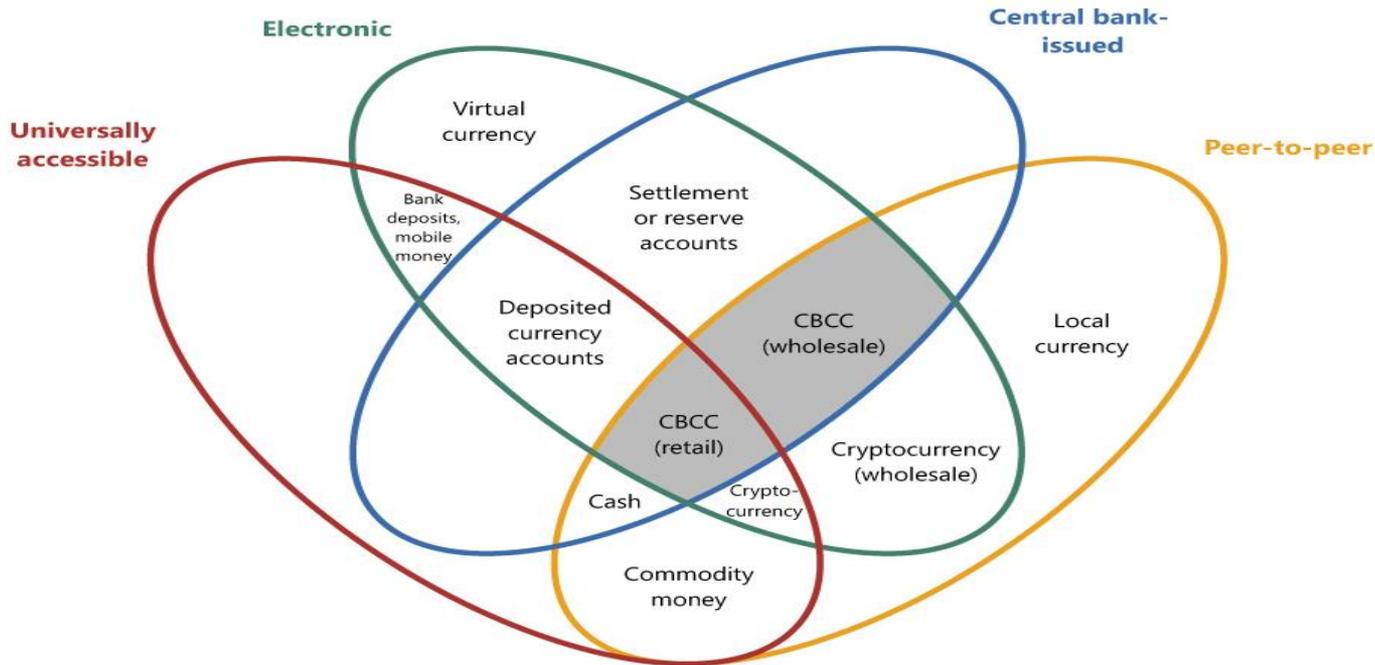


- Investors place collateral e.g. fiat cash with coin issuer
- At present \$>2.5 bn market size<sup>(1)</sup>
- 50+ live or in-development Stable Coin initiatives that have raised a combined US\$350 million in investment capital up to now<sup>(2)</sup>



- Tokenization platforms create legal, compliance and technology solutions (smart contracts) to capture rights & obligations related to underlying assets
- The value of blockchain is projected to exceed \$176 billion by 2025, and \$3.1 trillion by 2030<sup>(3)</sup>

# Old money and new money



Source: Bank for International Settlements (2018): Central bank Digital Currencies, p. 5

# Stable coins could bridge the digital and legacy asset world

| Type                | Description  | Examples   |
|---------------------|--|--|
| Exogenous indexing  | <ul style="list-style-type: none"><li>• Collateral-backed IOU</li><li>• The stabilisation mechanism is performed via issuing company holding assets in a bank account or vault (or a number thereof). Tokens represent a claim on the underlying asset</li></ul>   | <ul style="list-style-type: none"><li>• Tether</li><li>• Circle/Coinbase USDC</li><li>• TrueUSD</li><li>• Gemini USD</li><li>• Paxos</li></ul> |
| On-chain collateral | <ul style="list-style-type: none"><li>• Stablecoins are created on-chain and are backed by an other trustless assets, e.g. an ether-backed stable coin</li></ul>   | <ul style="list-style-type: none"><li>• Bitshares</li><li>• Maker</li><li>• Sweetbridge</li><li>• Haven</li></ul>                              |
| Seignorage Shares   | <ul style="list-style-type: none"><li>• Algorithm controls supply of the price-stable currency via issuing and redeeming/burning two type of assets usually denominate as shares and cash, or bond and shares. The 2 assets differ in being linked to current demand or future demand of coins</li></ul> | <ul style="list-style-type: none"><li>• Basecoin</li><li>• Carbon</li><li>• Fragments</li></ul>  |
| Endogenous indexing | <ul style="list-style-type: none"><li>• Stability is achieved via linking to some 'scarcity' sought within the blockchain itself and its variables, e.g. hashing difficulty</li></ul>  | <ul style="list-style-type: none"><li>• Academic/research only</li></ul>   |

# Summary

Digital Assets have intrinsic qualities that make them different

Programmable smart contracts drive the lifecycle of an asset (creating a new asset class)

There will no longer be a linear manner of processing (peer-to-peer)

Industry needs to change before Digital Assets can reach their potential

Institutional investors will require further enhancements to this nascent market, such as:

- Valuation models
- Security and storage
- Token properties
- Regulation
- Data distribution
- Settlement certainty

New business models could materialize to support this market

Monetization of decision making (e.g. “Facebookization” of asset servicing)

Unbundle the earning potential of cash from its transaction capacity

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