

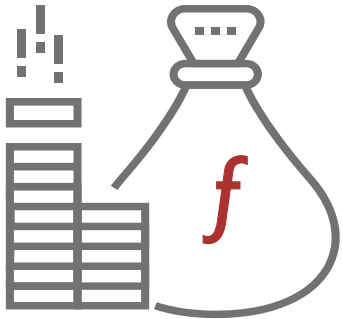


# Blueprint for the future monetary system: improving the old, enabling the new

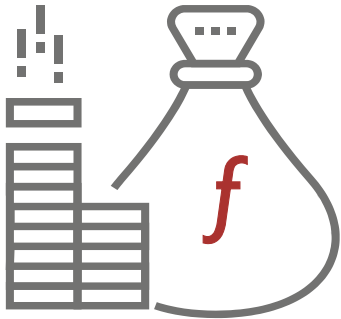
Hyun Song Shin  
Economic Adviser and Head of Research

Basel, Switzerland, 25 June 2023

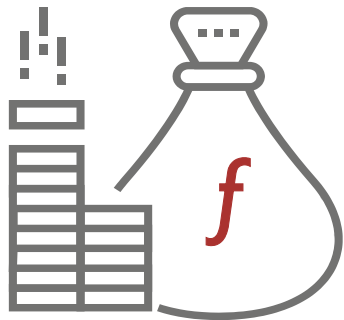
Throughout history, innovations in the monetary system have coincided with major leaps in economic activity



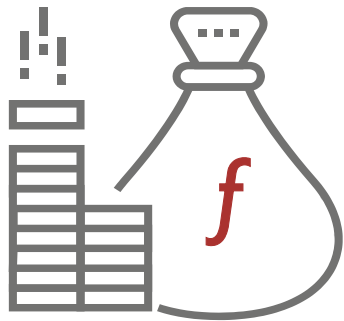
Money in the form of book entries overseen by trusted intermediaries opened the door to new financial instruments that spurred trade and commerce



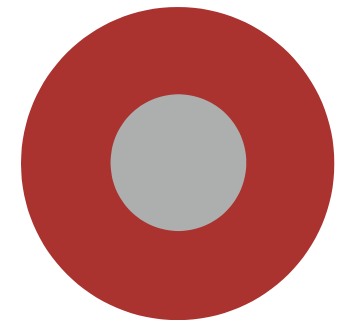
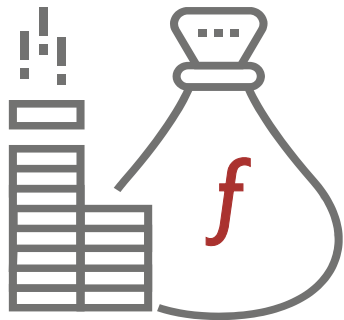
Paper ledgers gave way to their digital counterparts; digitalisation and the dematerialisation of money have wrought profound changes on society at large



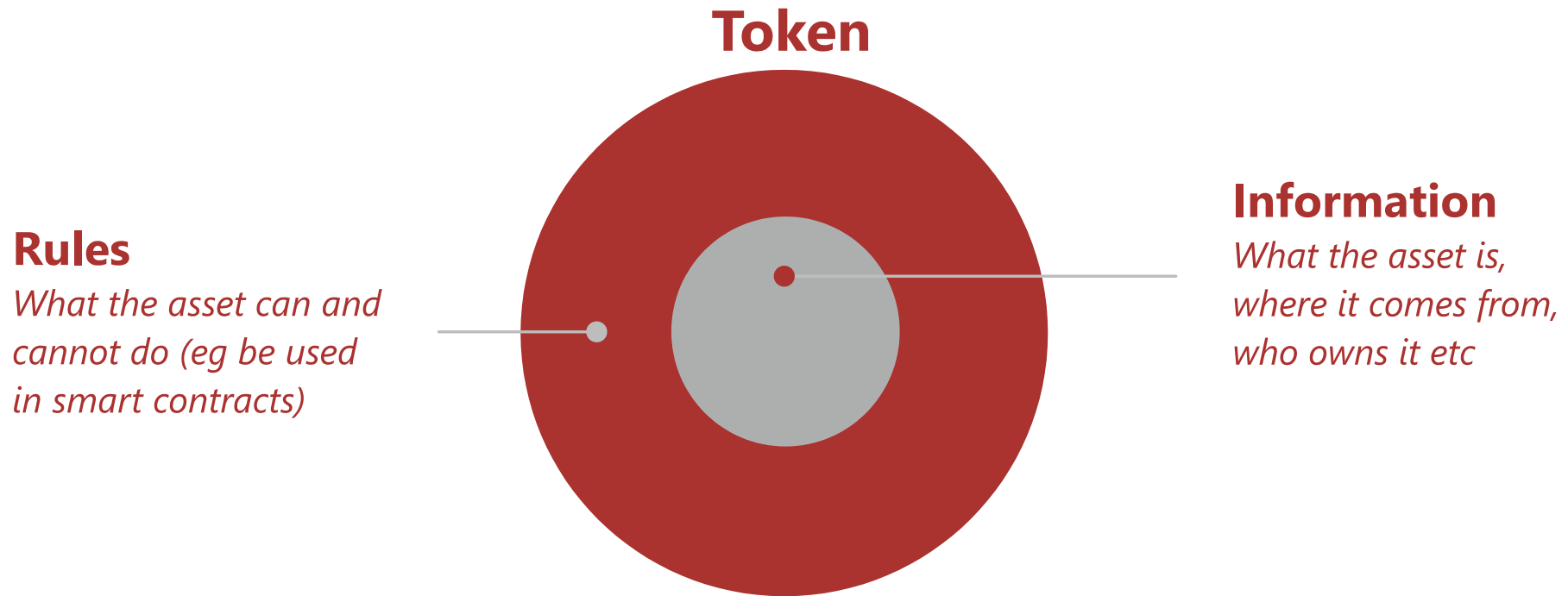
Following dematerialisation and digitalisation, what could be the next step in the evolution of the monetary and financial system?



Tokenisation could be the next big development, unlocking new types of economic arrangement



Tokens integrate records into a traditional database with the rules and logic governing the transfer process for that asset



Consider how the system works today



Amalia



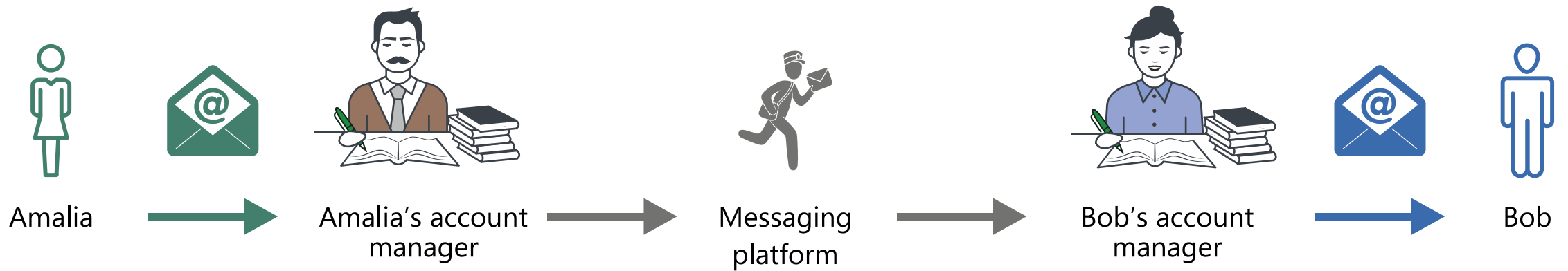
Bob



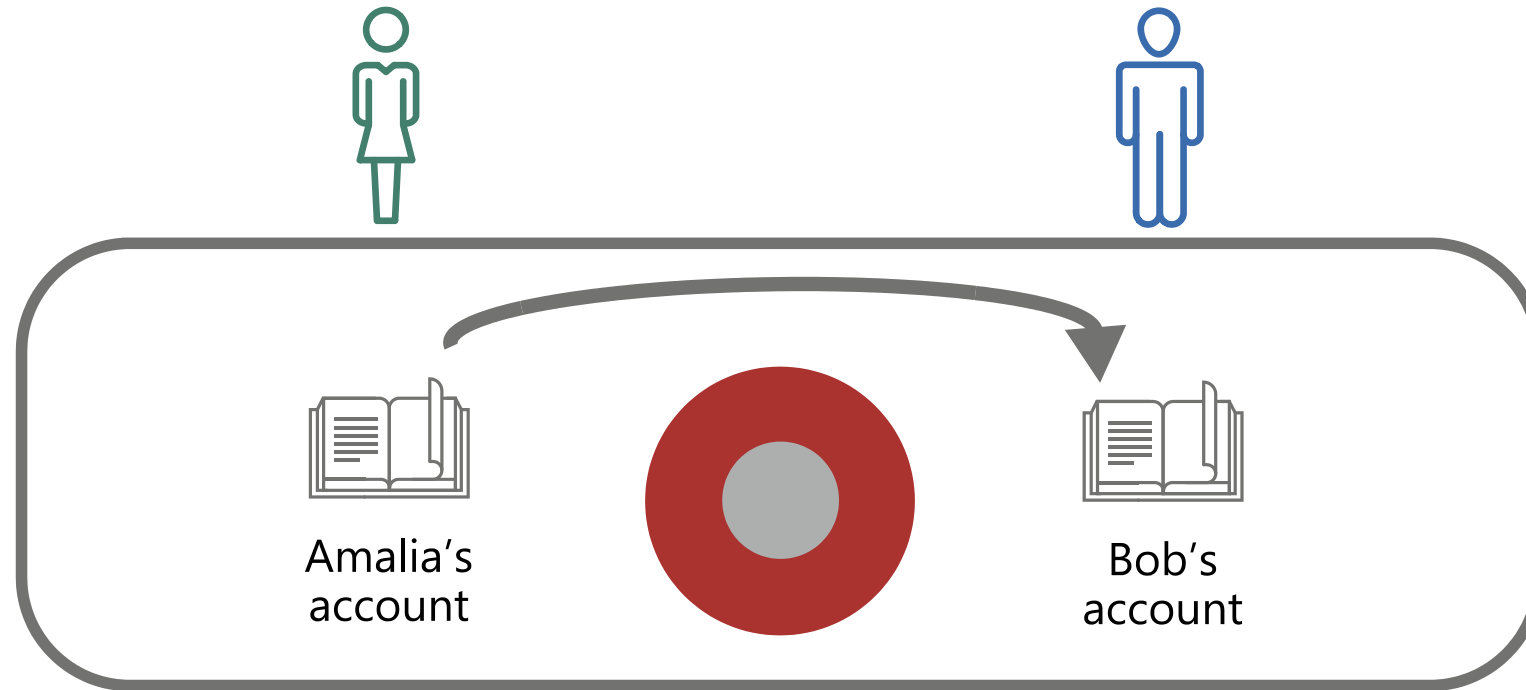
Account managers are entrusted with maintaining and updating an accurate record of ownership and transfers



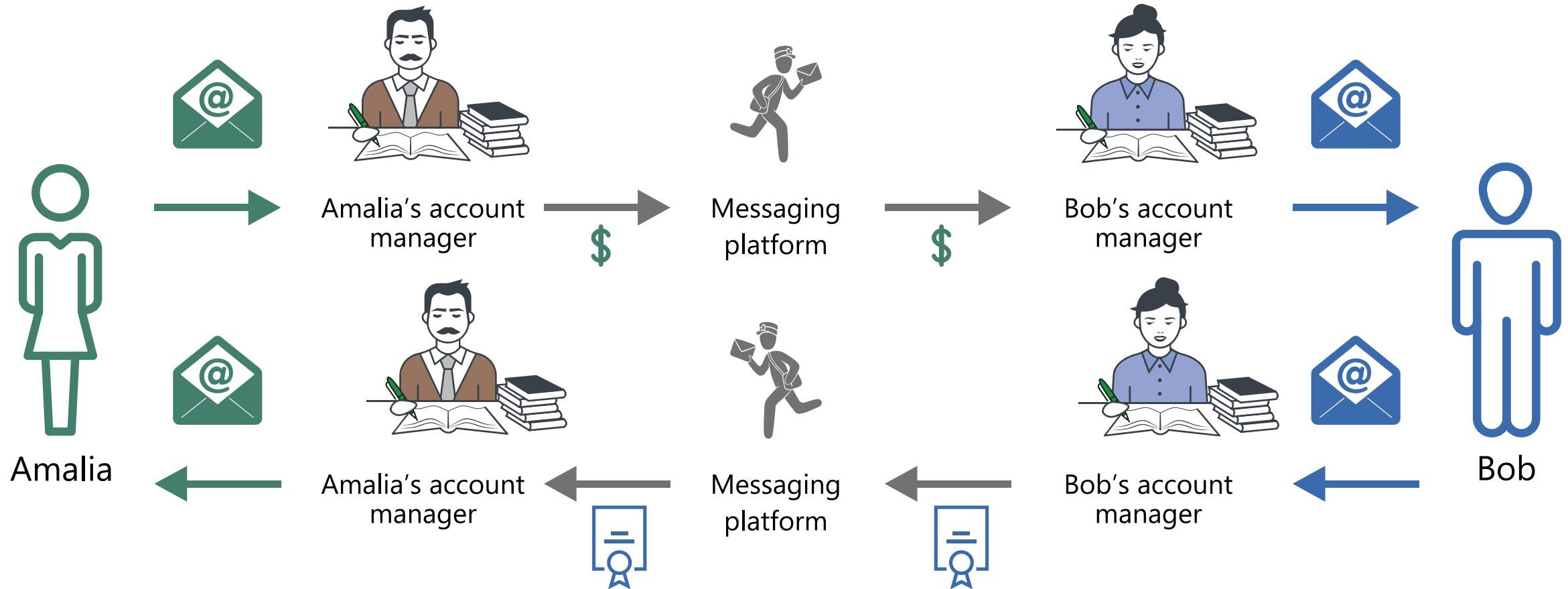
External messaging systems link these databases, and the separation between messaging, reconciliation and settlement limits the capabilities of the system



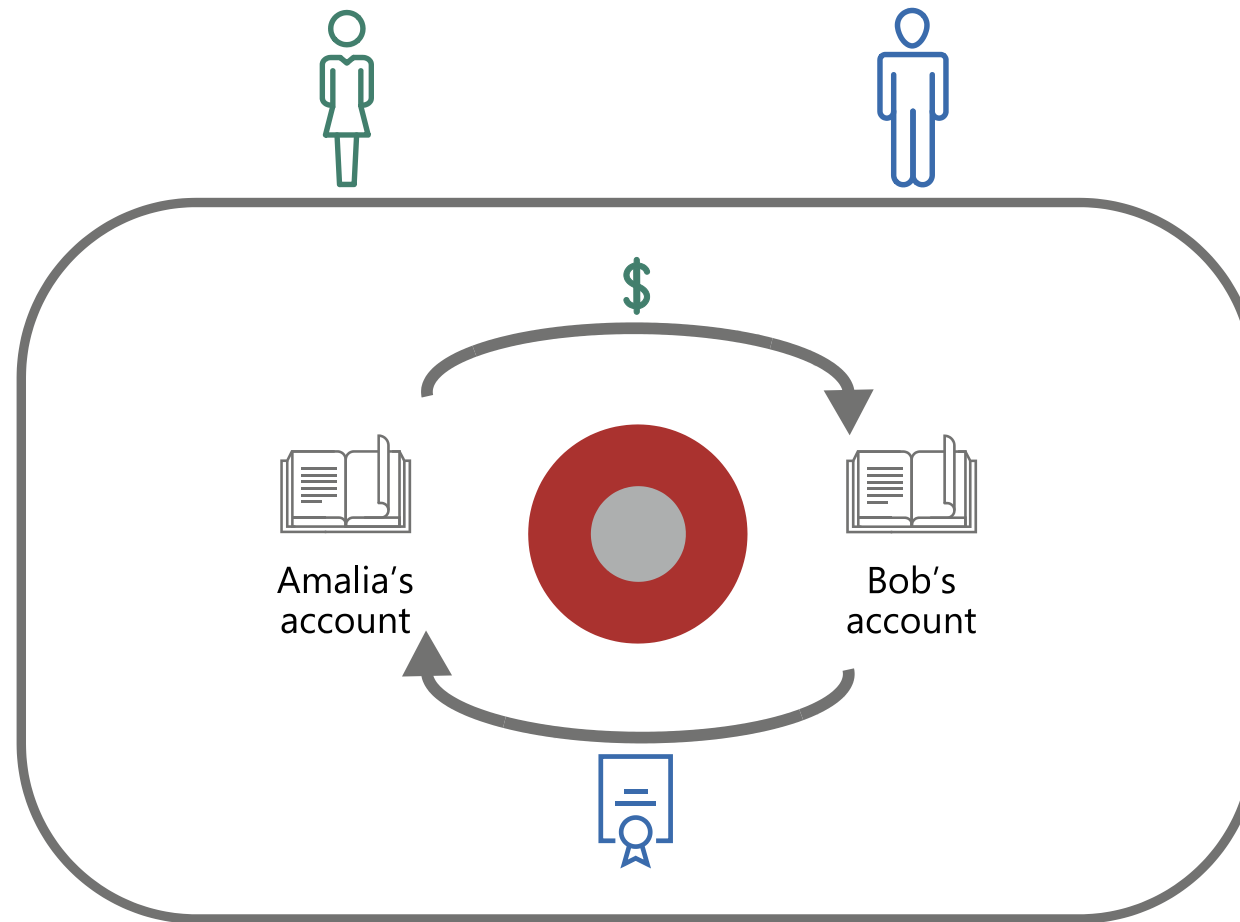
Tokenisation combines messaging, reconciliation and settlement in a single operation, improving efficiency and unlocking new features



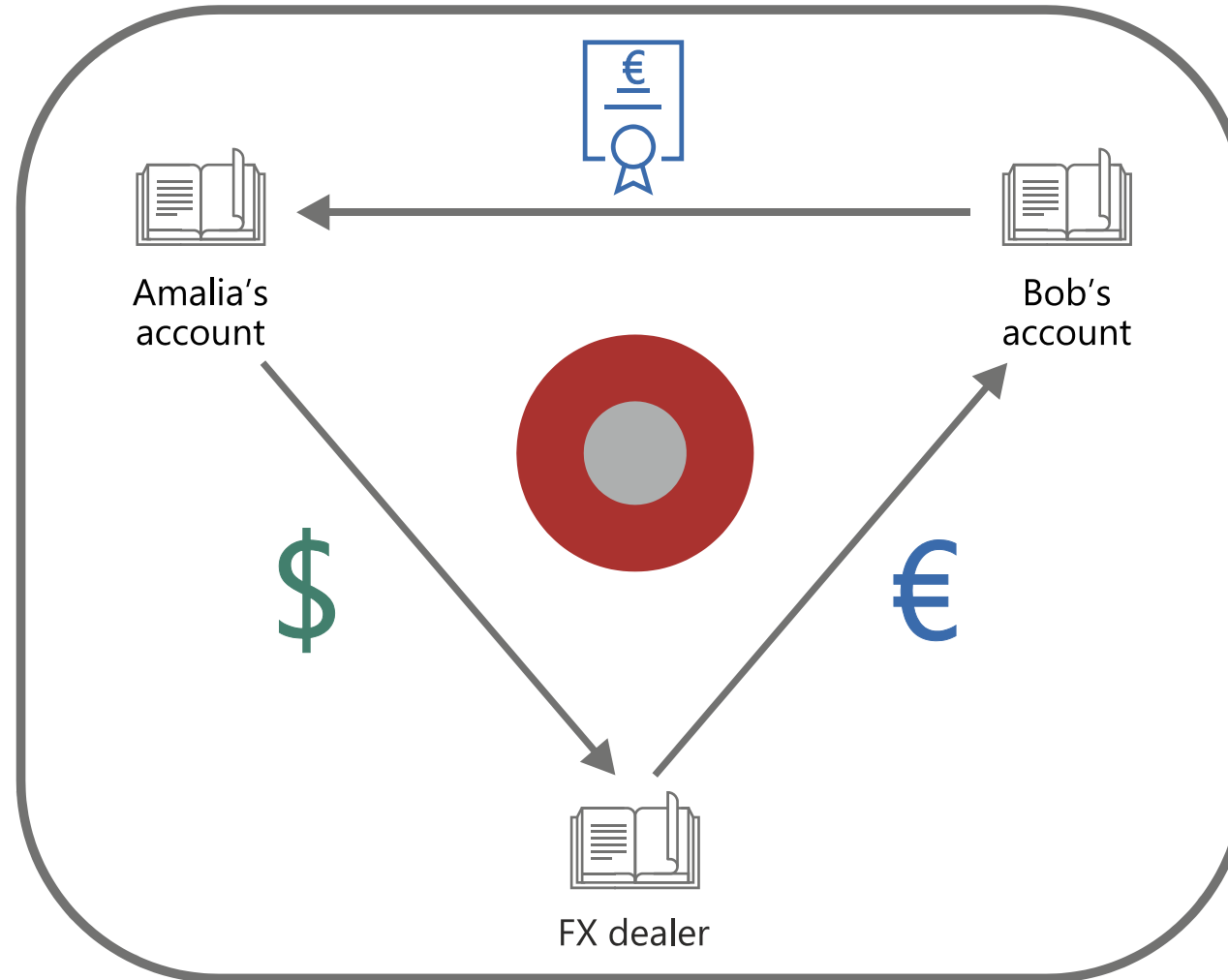
Amalia wants to buy a security from Bob, and Bob wants to sell. Under the current system, each person executes his or her transaction independently



Tokens enable *atomic settlement*, where reciprocal transfers between Amalia and Bob occur simultaneously, with one transfer being a precondition for the other



A tokenised environment allows contingent performance of actions in more complex cases, such as transactions involving multiple parties





Tokenisation could expand the universe of contractual outcomes for a more productive use of resources and better risk-sharing

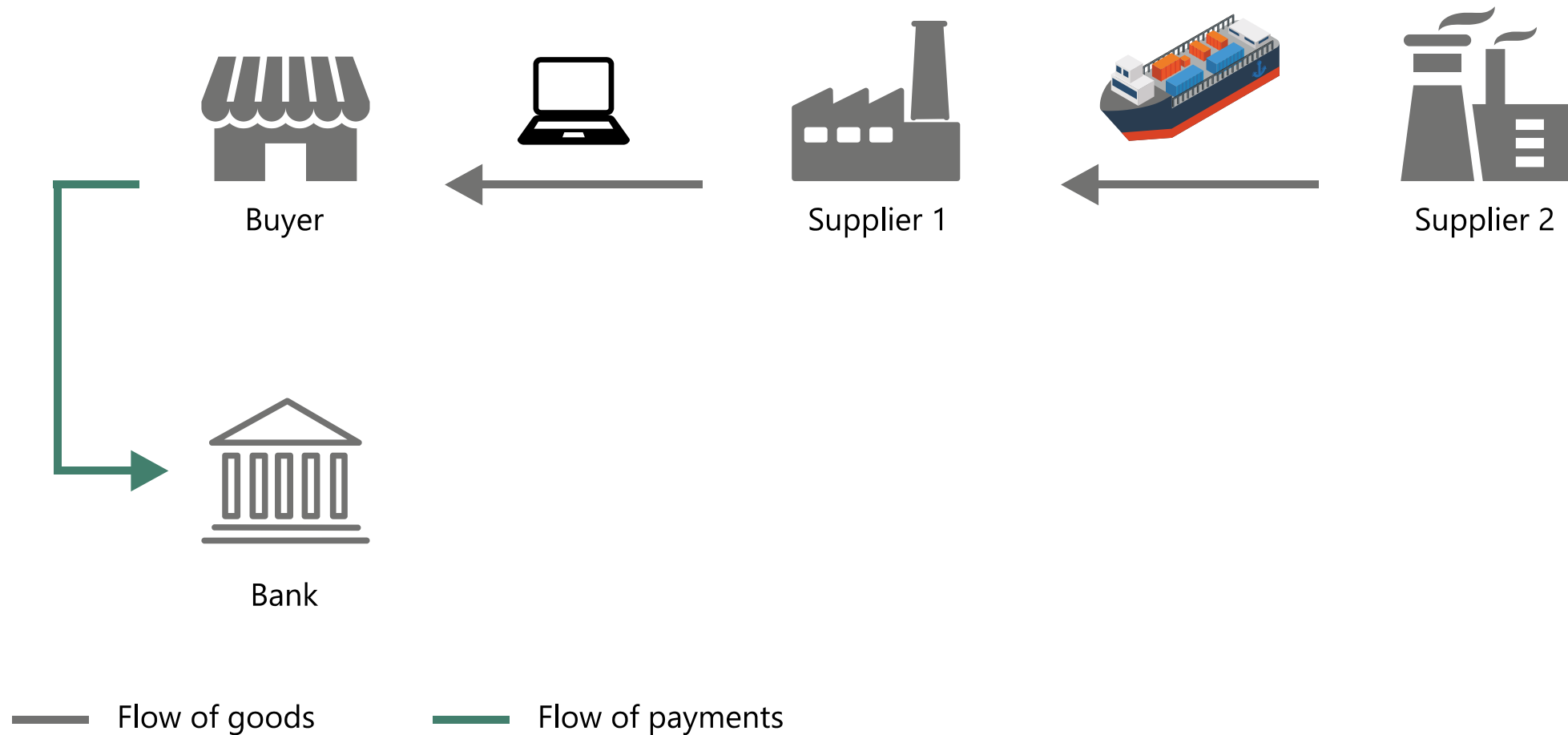
Incorporating contingent performance of actions has many potential applications, such as in supply chain financing



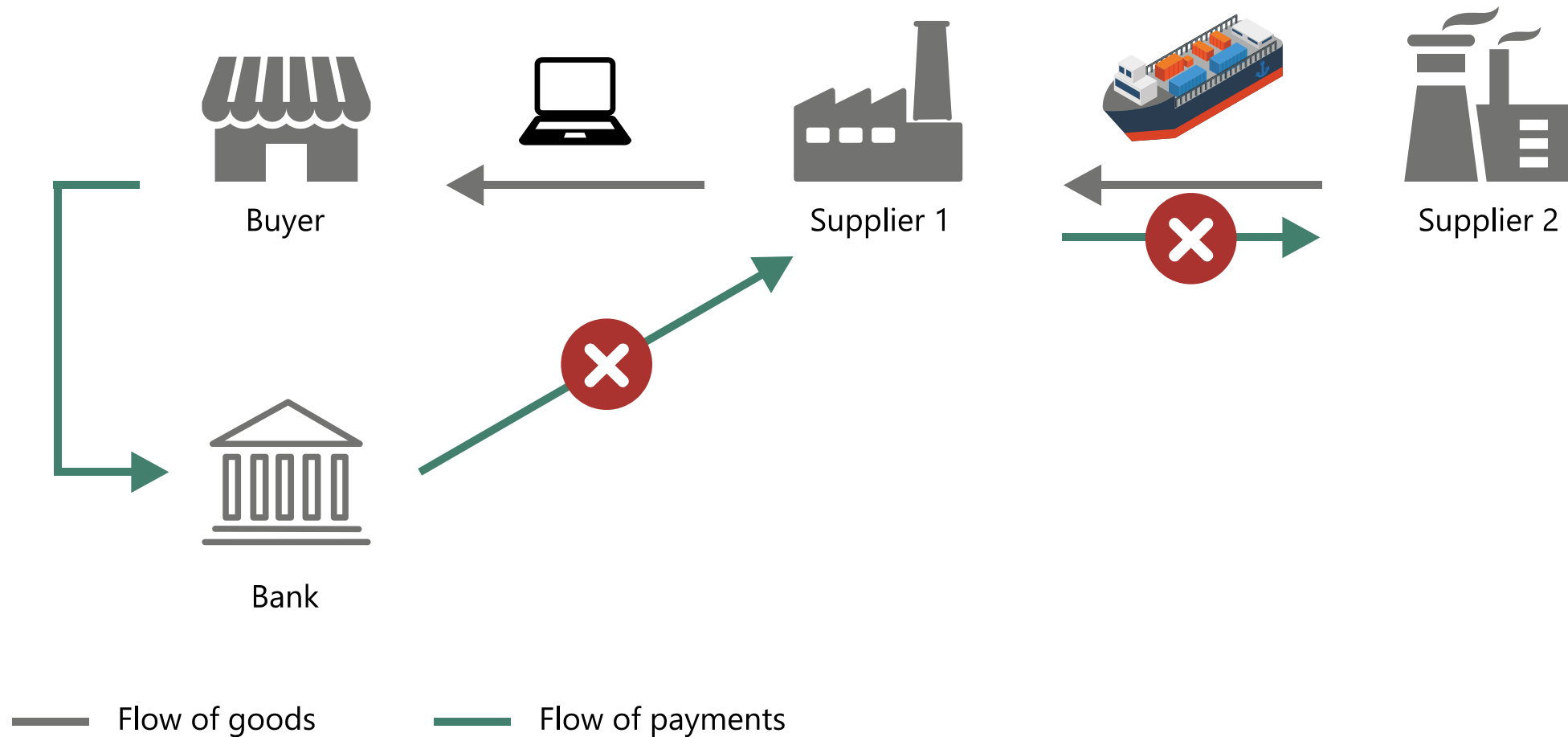
— Flow of goods



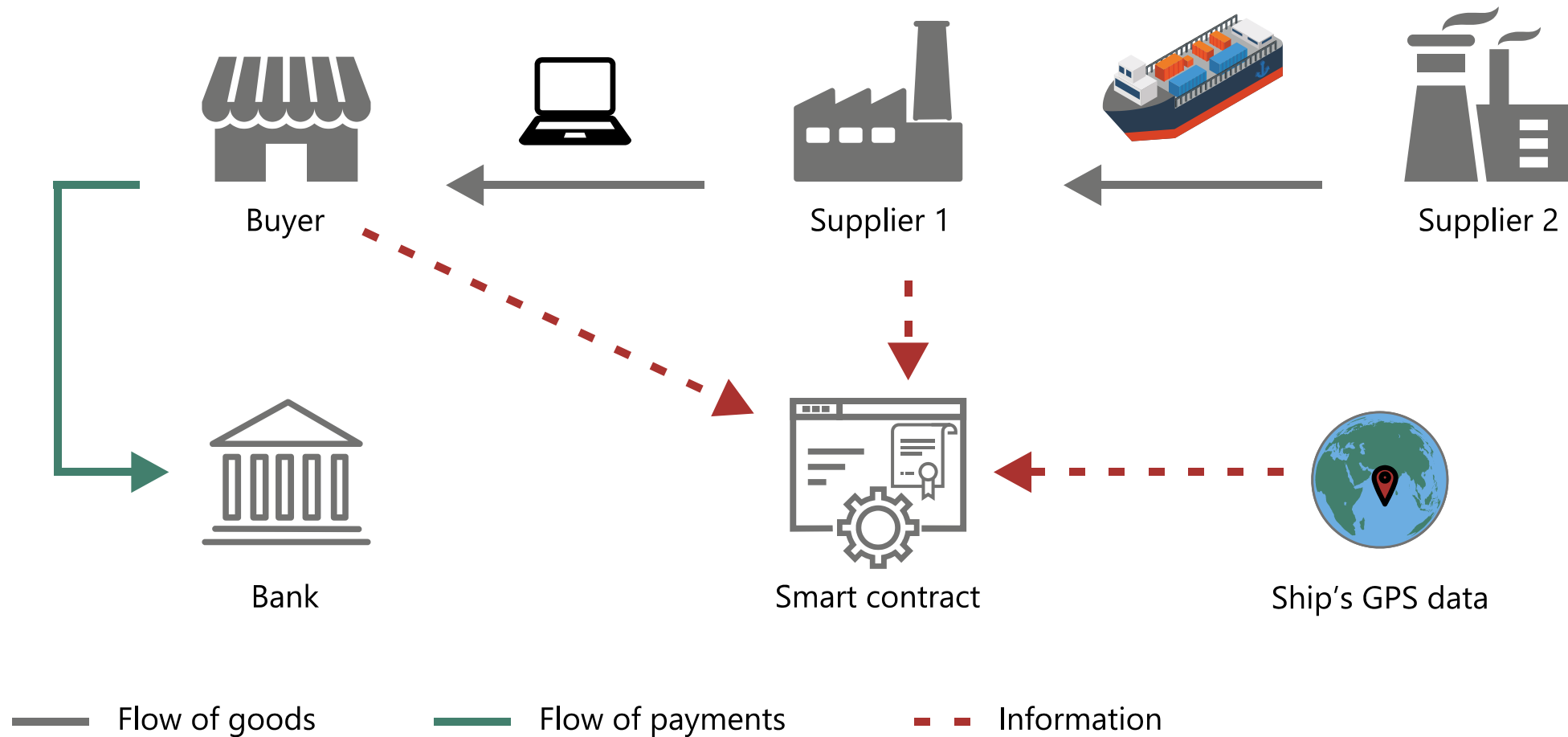
Supply chain financing has been a notoriously difficult one to solve due to information and incentive problems among many interested parties



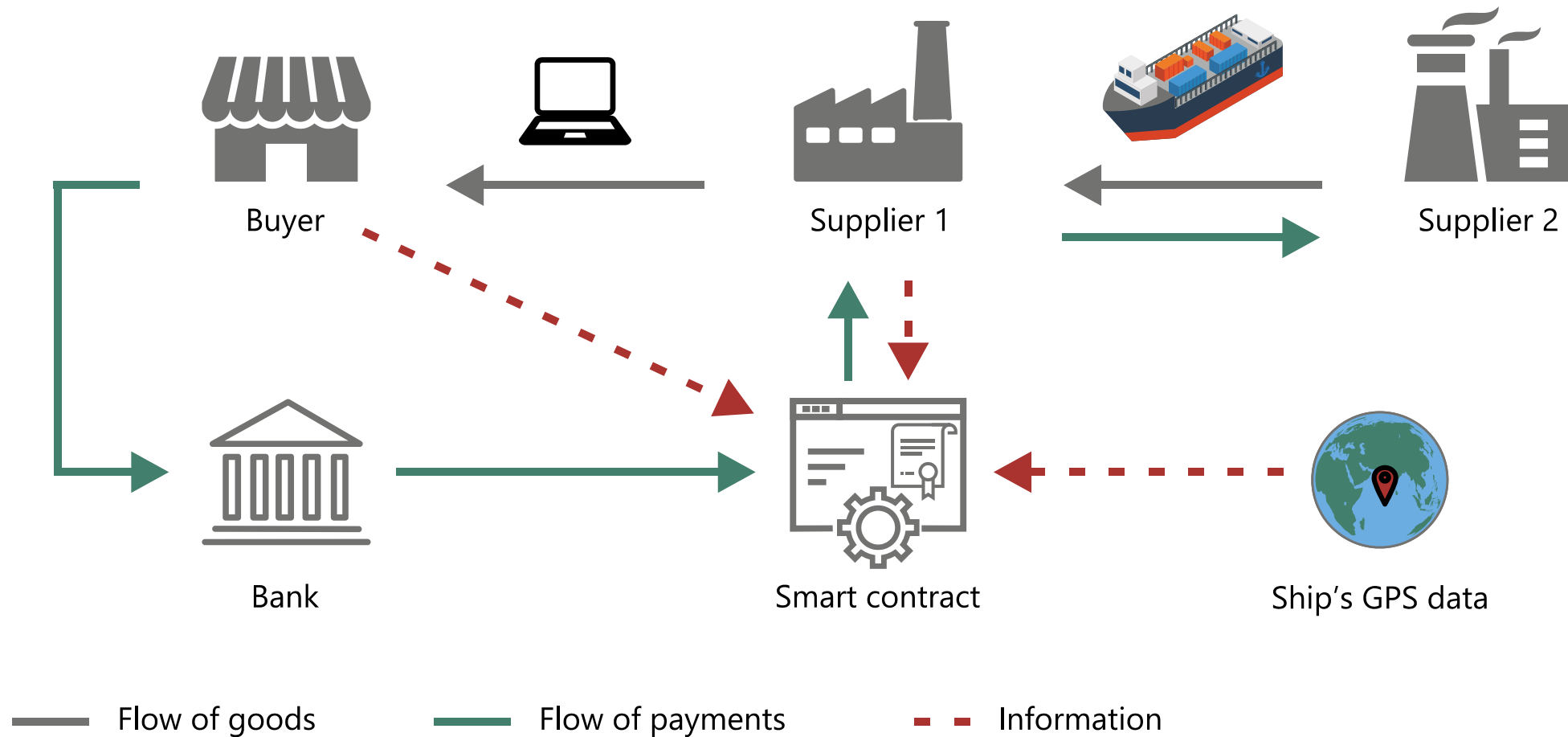
# Information and incentive problems often preclude arrangements that would otherwise have a clear economic rationale



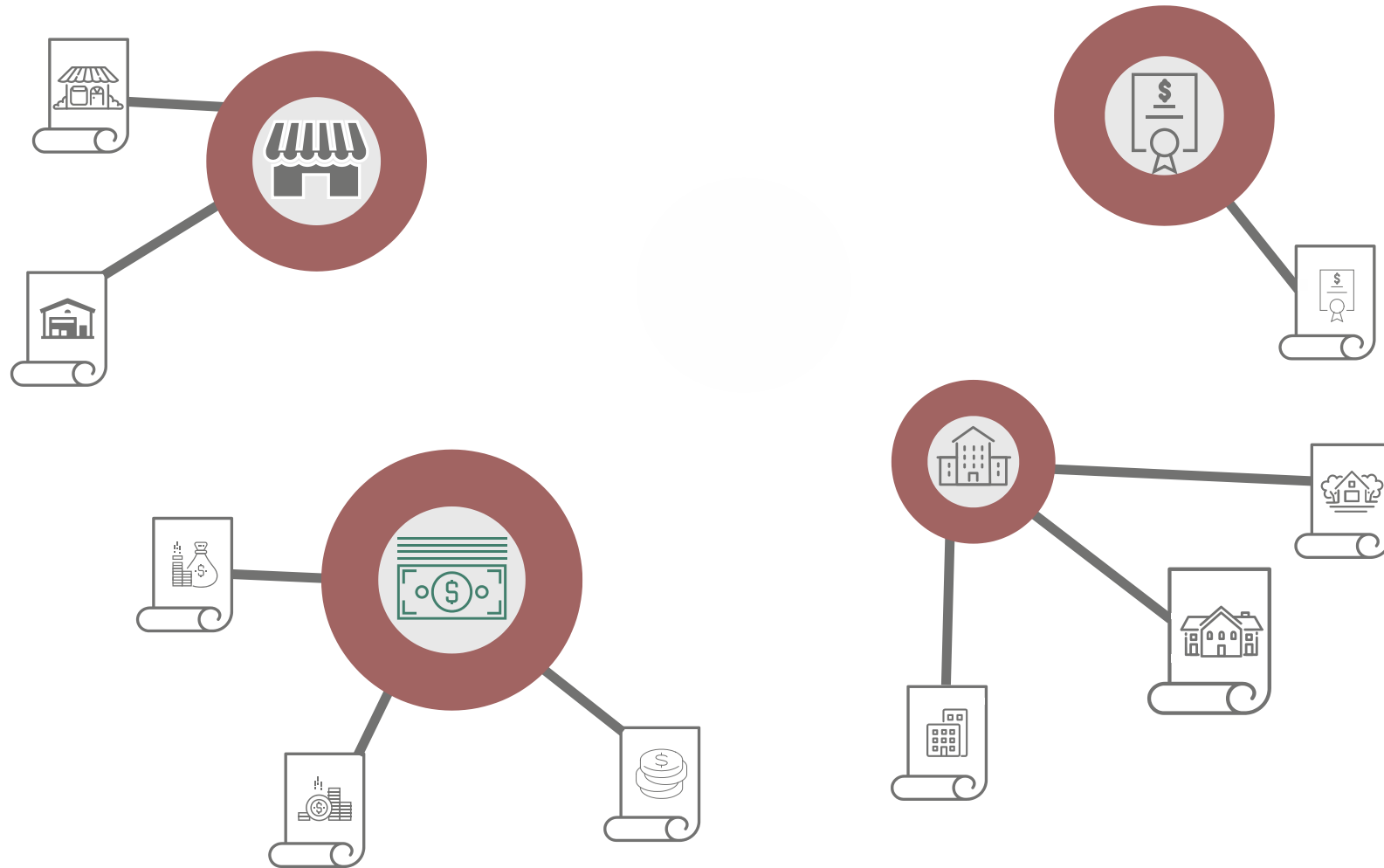
By incorporating contingent performance of actions, tokenisation could expand the universe of contractual outcomes



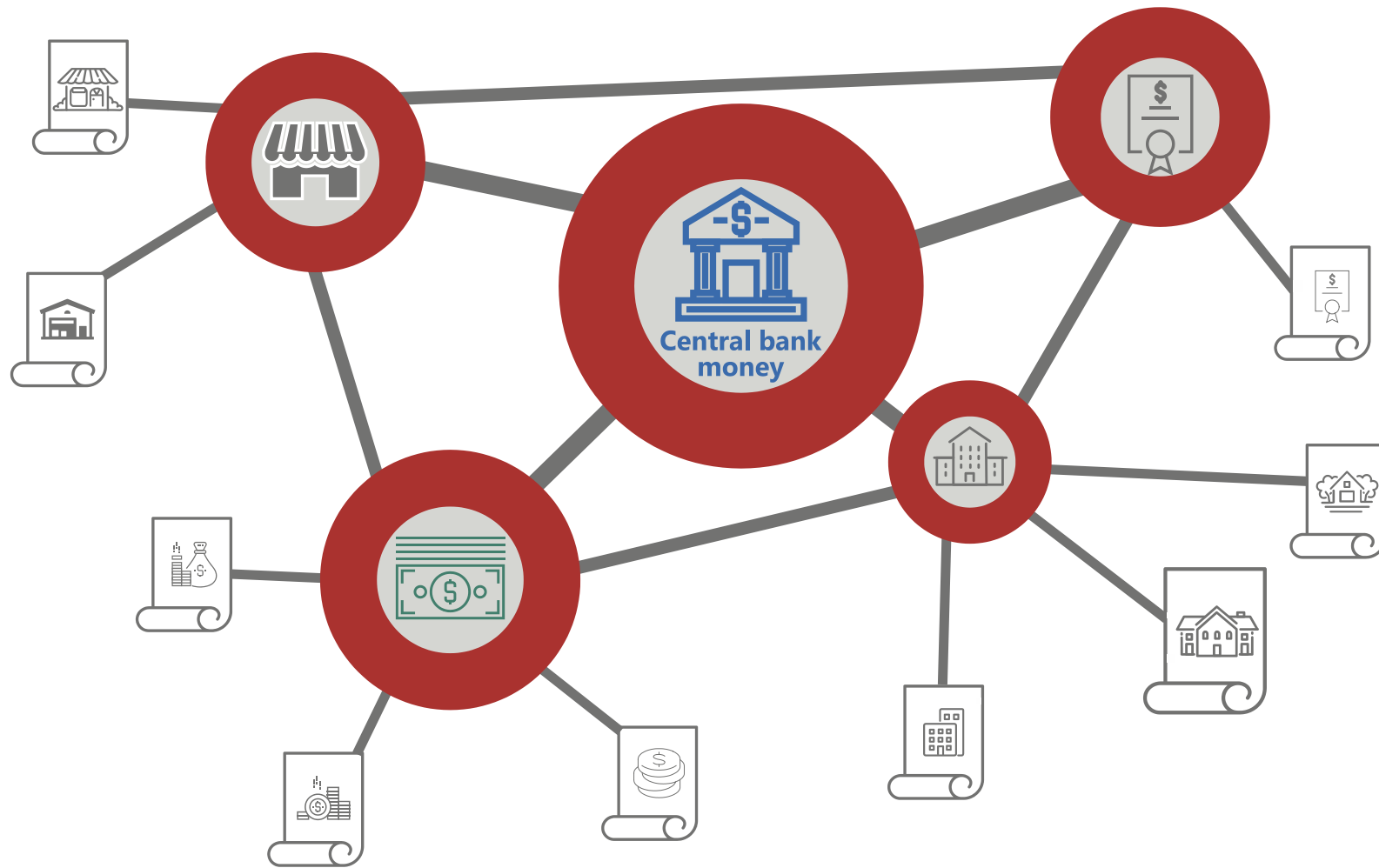
Contingencies that trigger contract provisions could include real-time external information as well as the actions of other interested parties



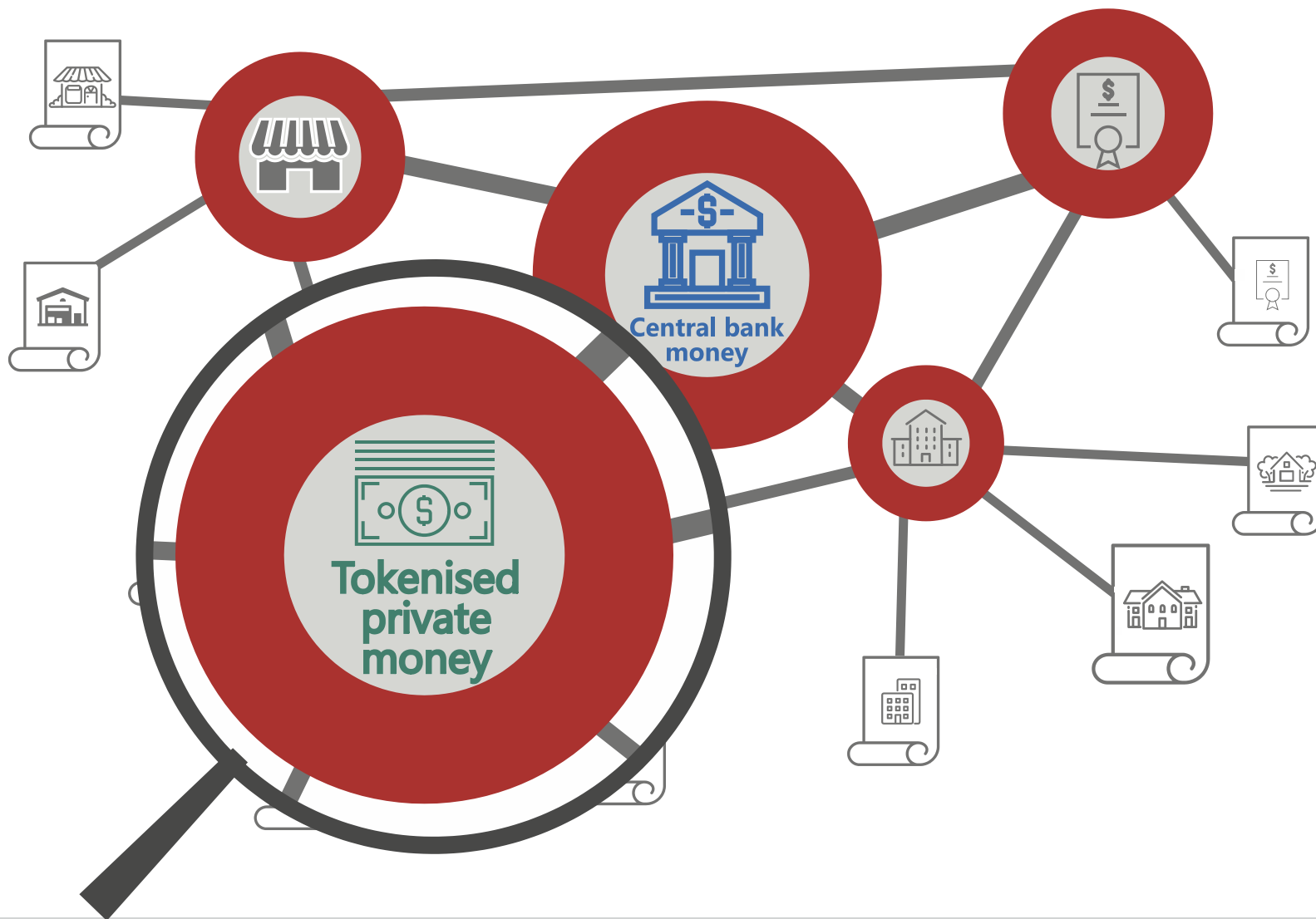
# Siloed nature of current tokenisation efforts prevents full potential from being realised



Providing central bank money in the same venue as other claims could be a game-changer by knitting together the system as a whole

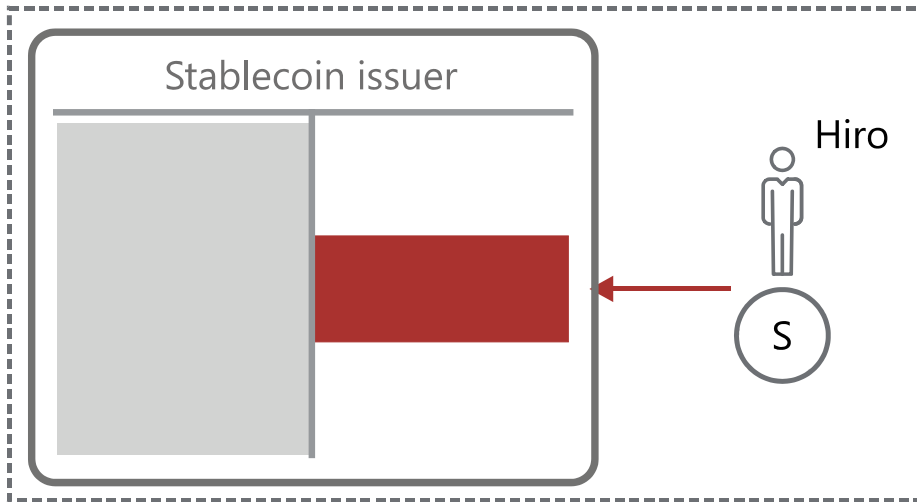


Tokenised private money complements CBDCs and serves as the primary means of payment; two candidates are asset-backed stablecoins and tokenised deposits

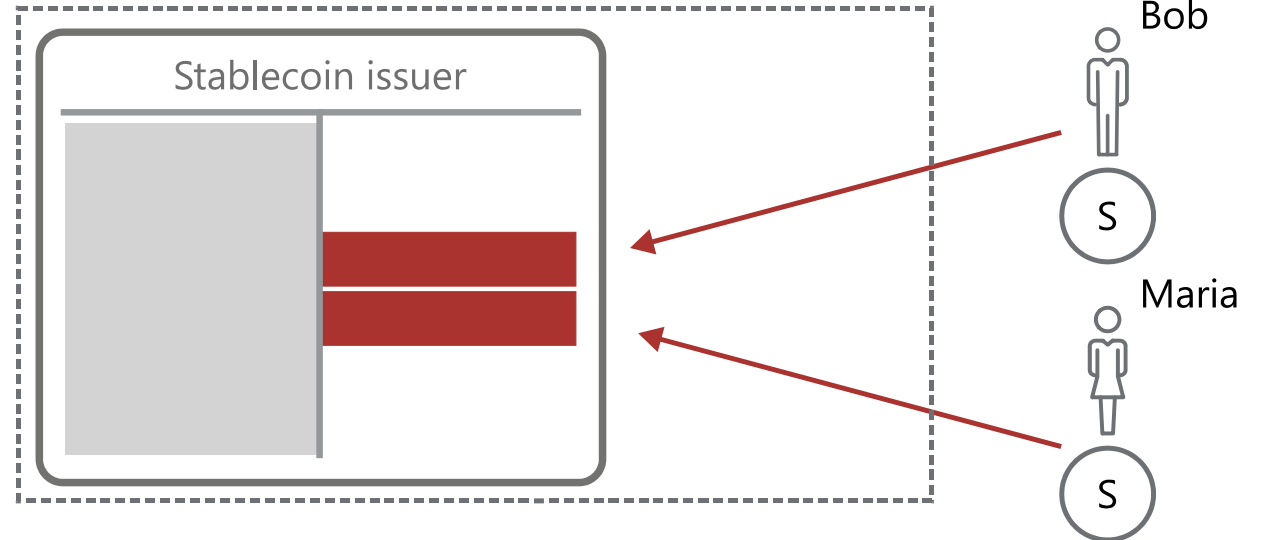


# Stablecoins represent a transferable claim on the issuer, akin to a digital bearer instrument

KYC boundary



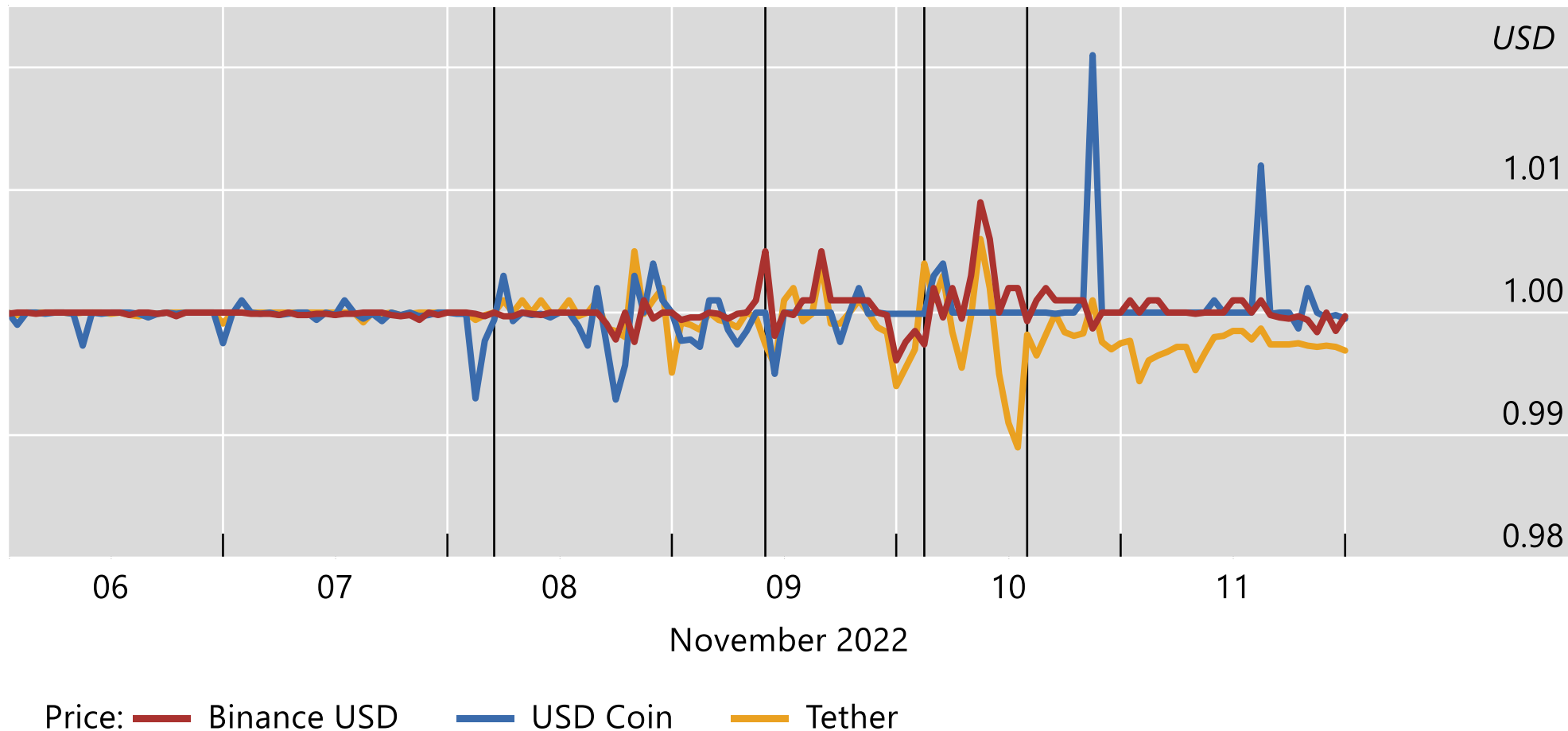
KYC boundary



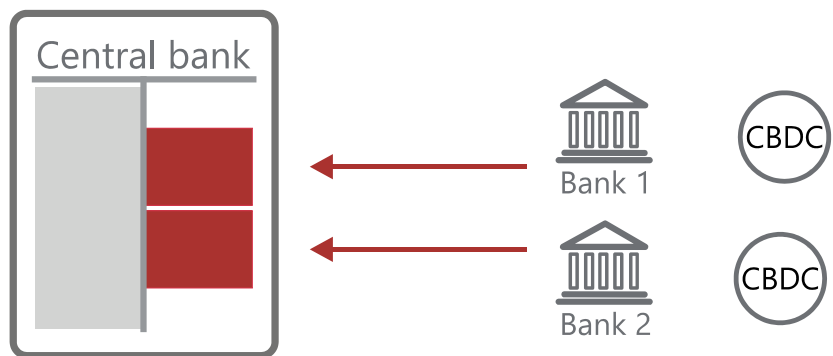
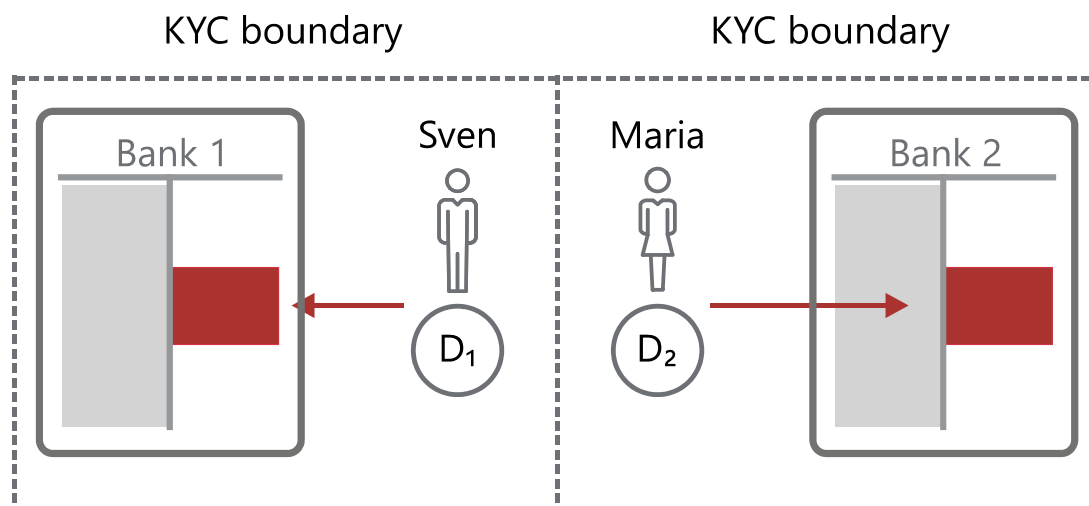


# Stablecoins' relative exchange values may depart from par, violating the principle of the "singleness of money"

Prices of stablecoins around the FTX collapse

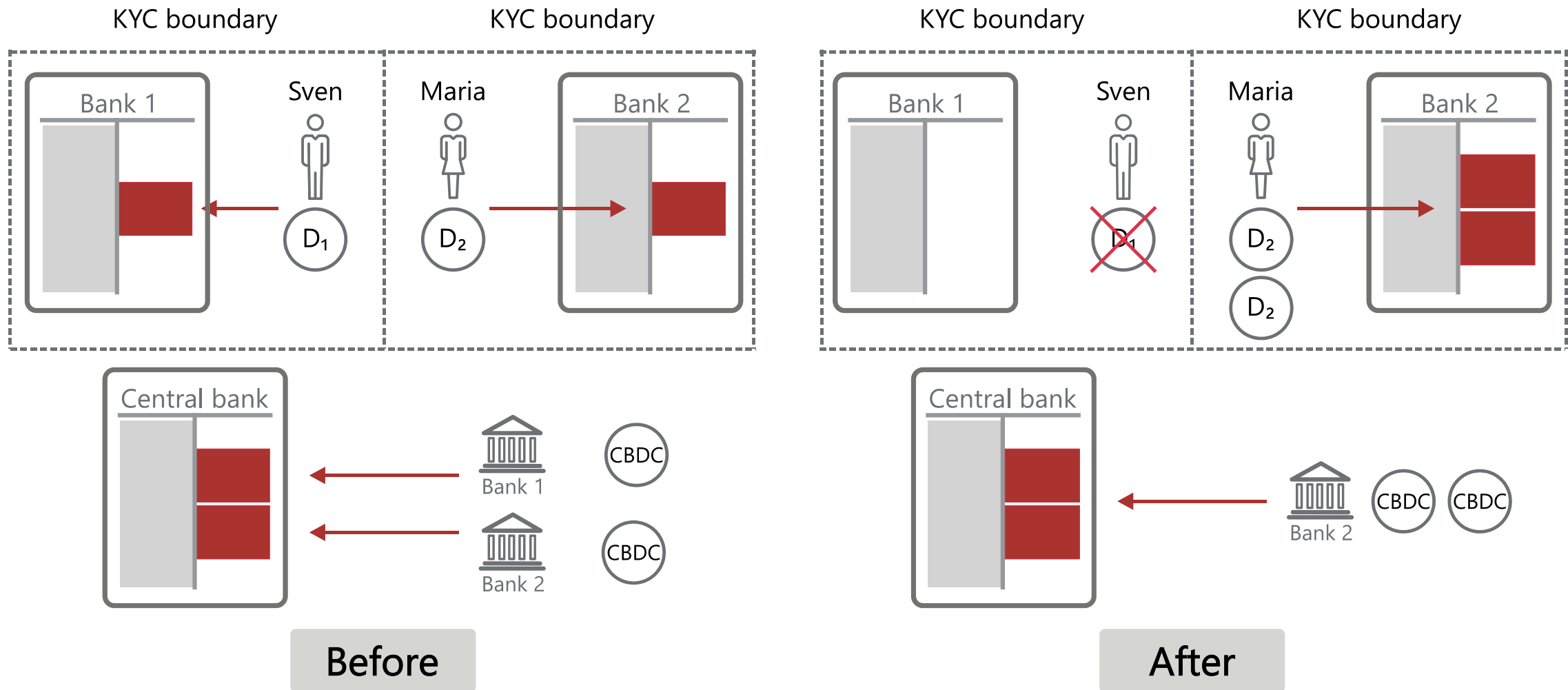


# Tokenised deposits are conducive to singleness, enhancing the key advantages of the two-tier monetary system

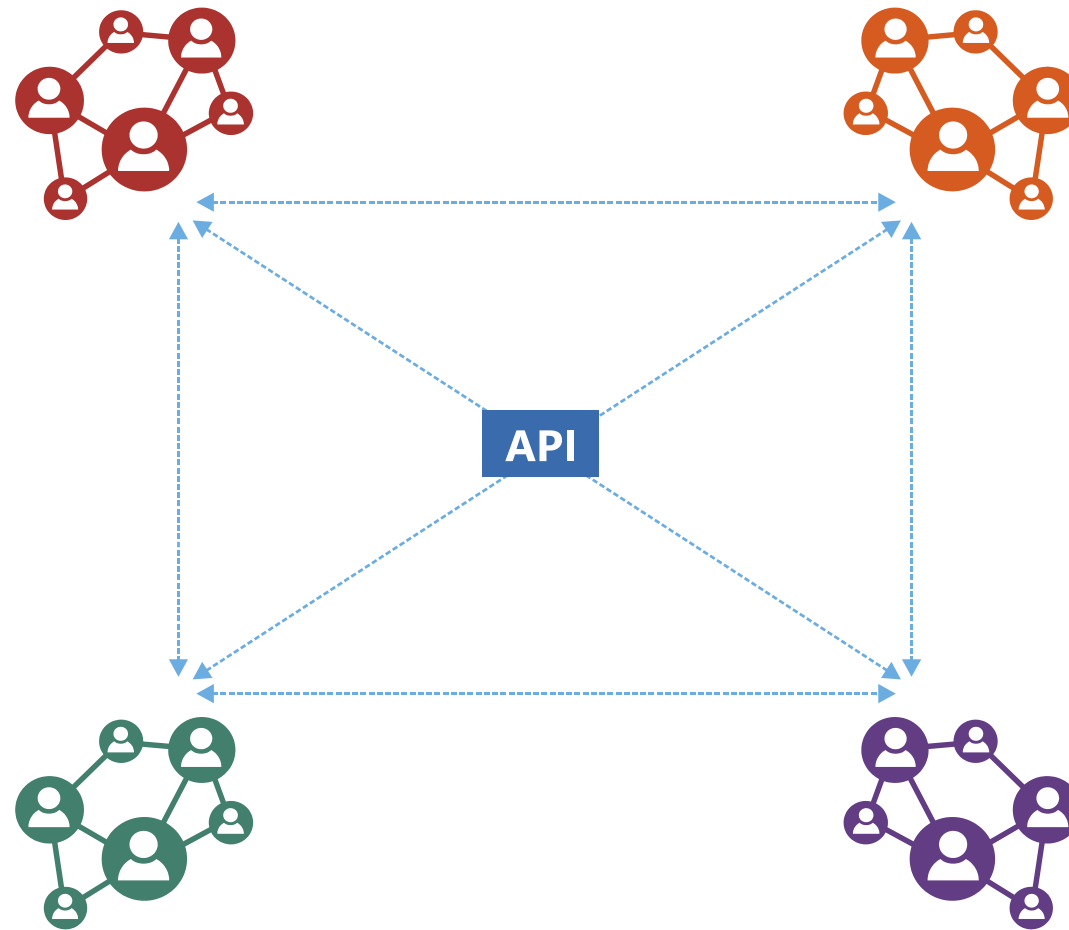


Before

Payments are settled using central bank money, ensuring they all go through at par and preserving the singleness of money



Incremental changes to existing systems interlinked through APIs could yield benefits, but history shows that incremental fixes have their limits



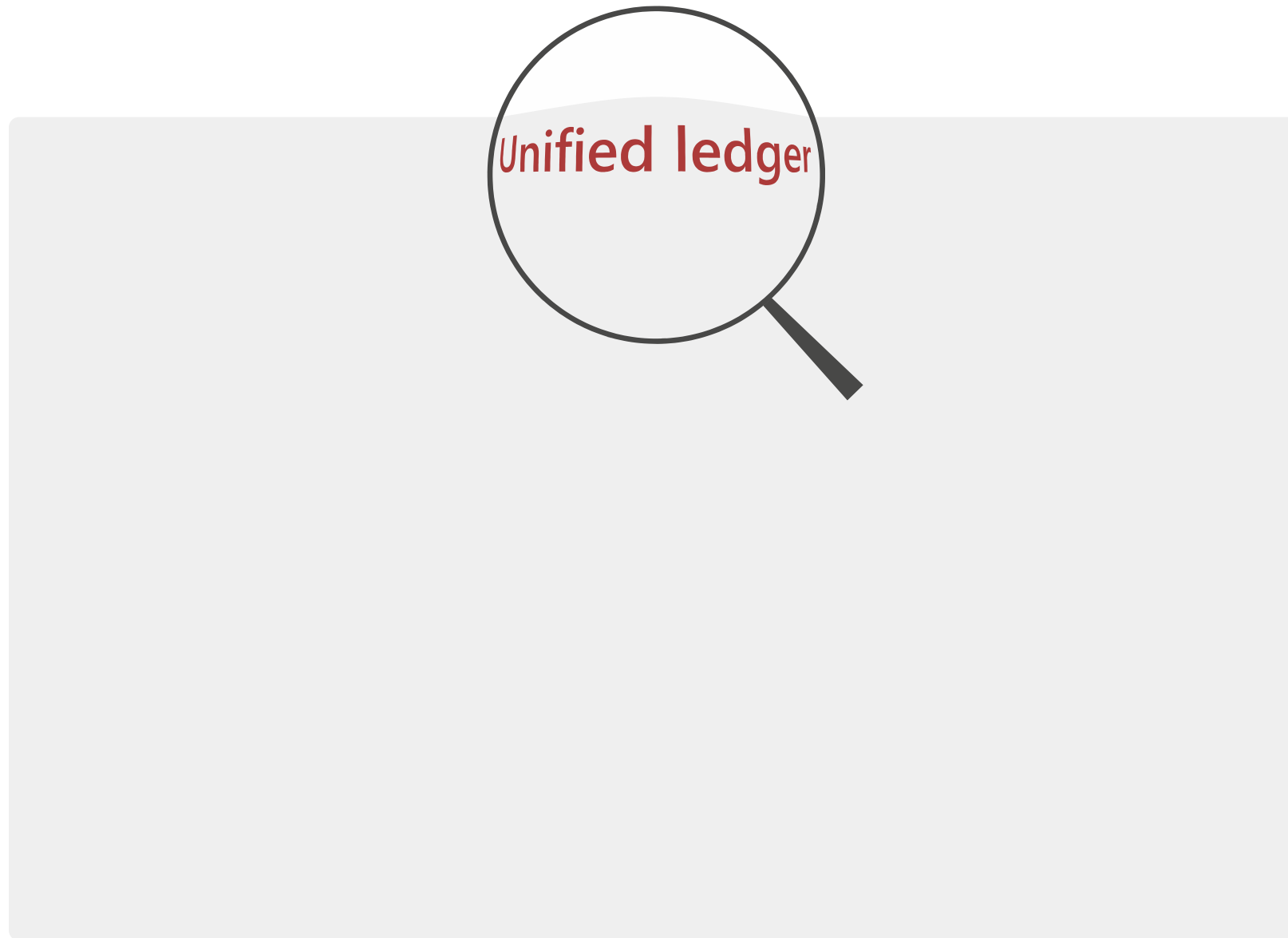
A more fundamental route is to bring together CBDCs, tokenised deposits and other tokenised assets on a shared programmable platform – a unified ledger



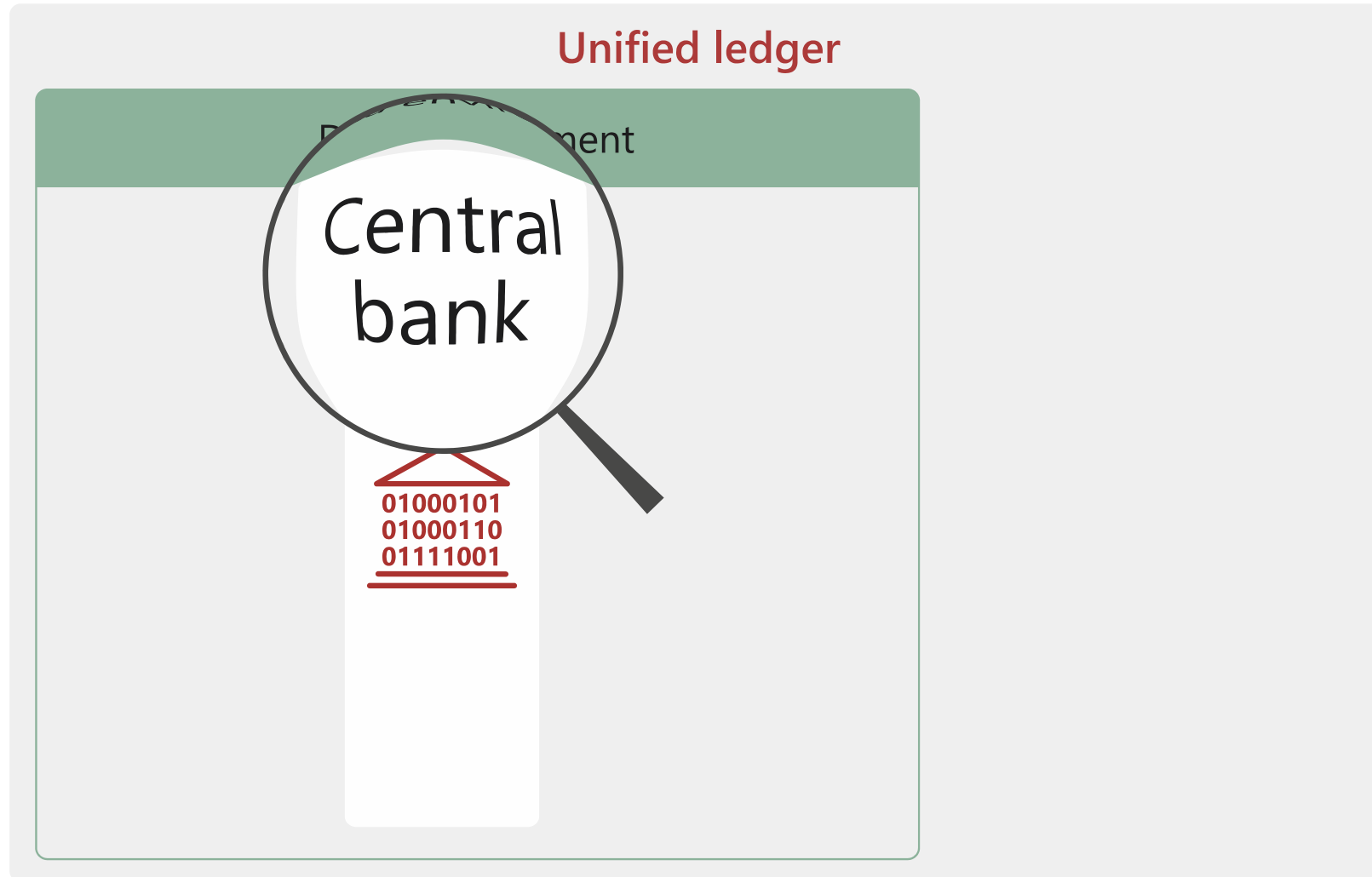
Central bank money resides in the same venue as other tokenised claims, giving firm foundation to the functionalities flowing from tokenisation



Consider the elements of a unified ledger and how they can be brought together

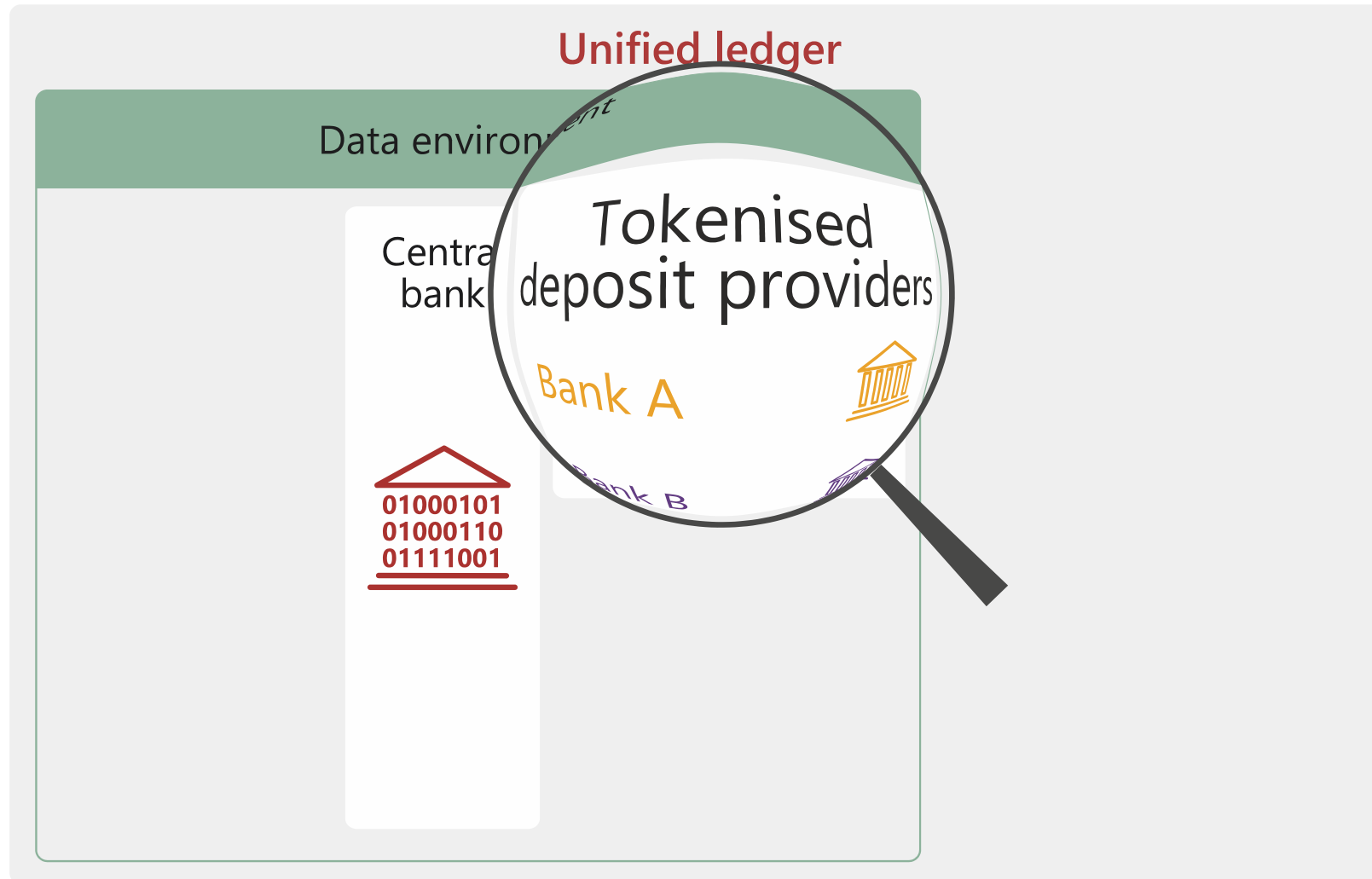


Leveraging the full potential of tokenisation needs a monetary unit of account and settlement finality that is best provided by the central bank

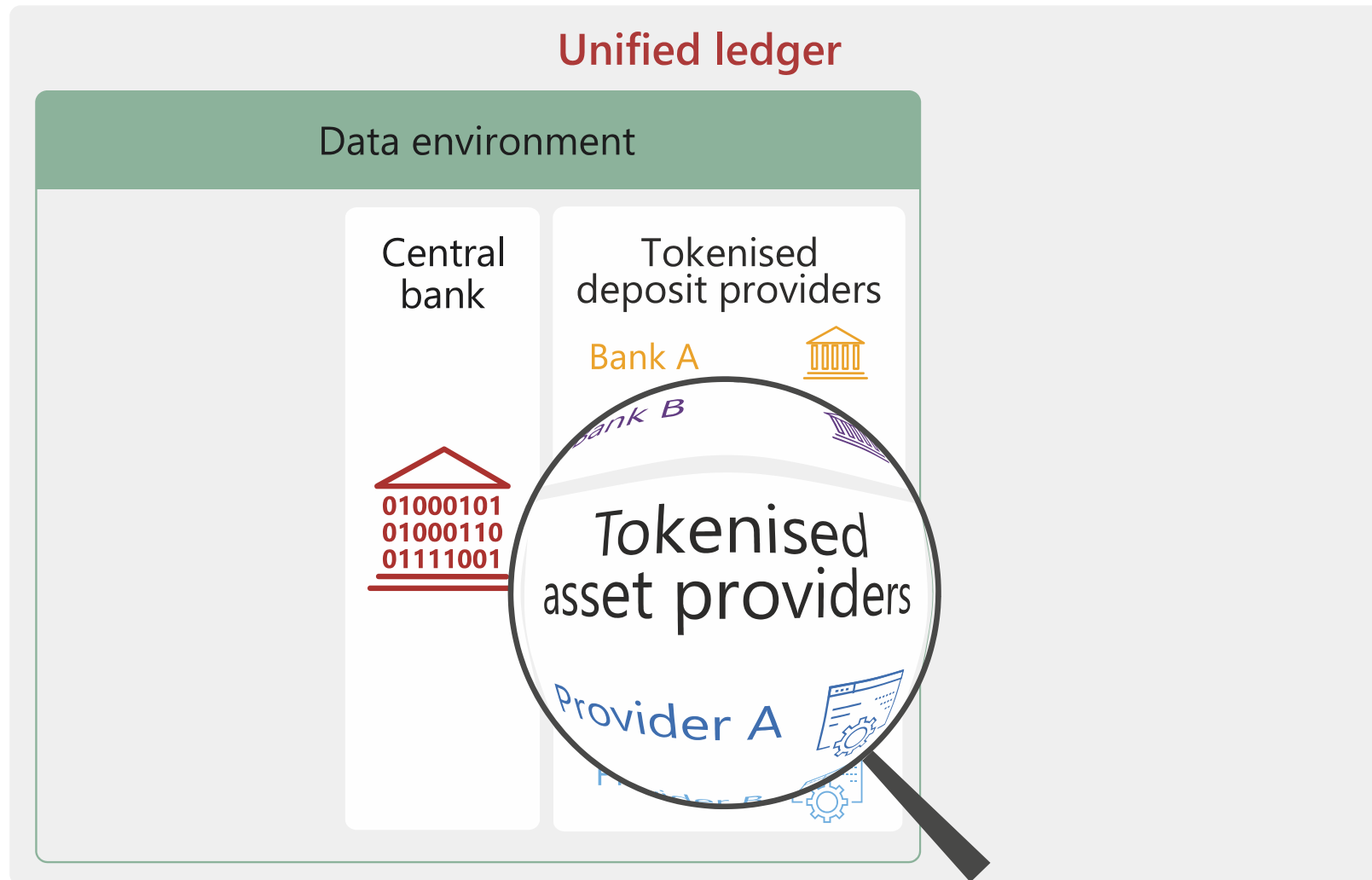




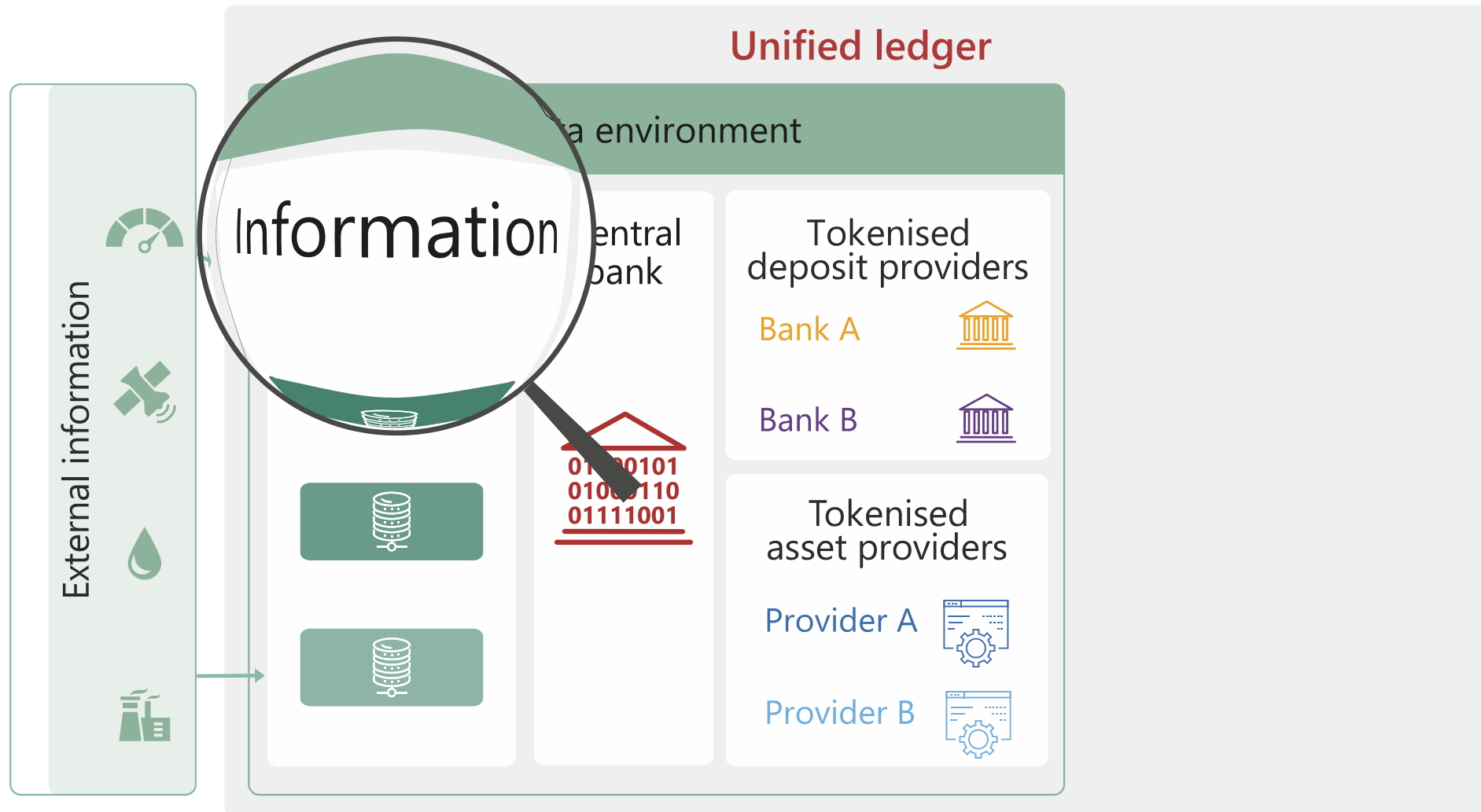
Building on central bank money, tokenised deposits provide the primary means of payment



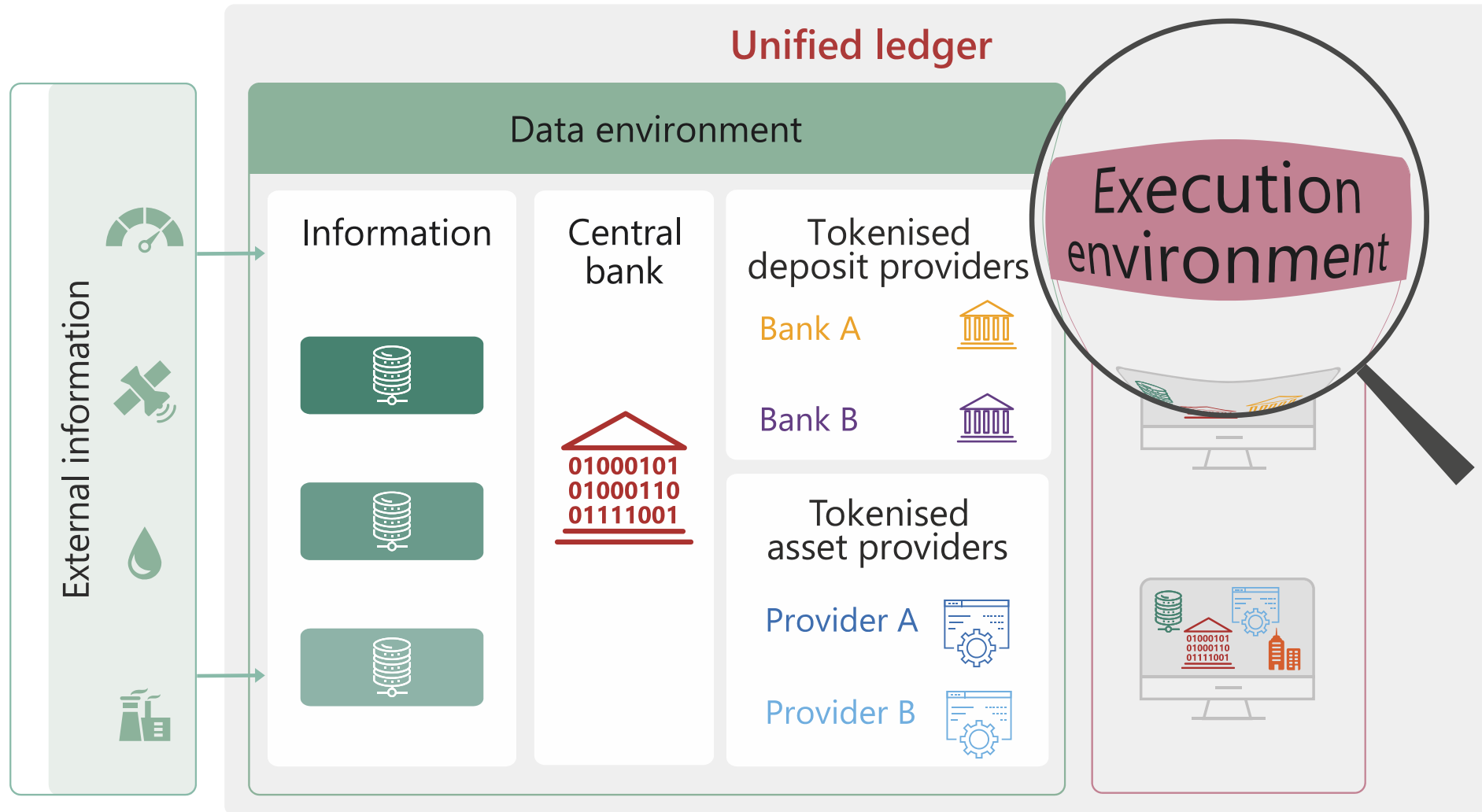
Beyond money, a unified ledger could feature other tokenised claims such as on financial and real assets



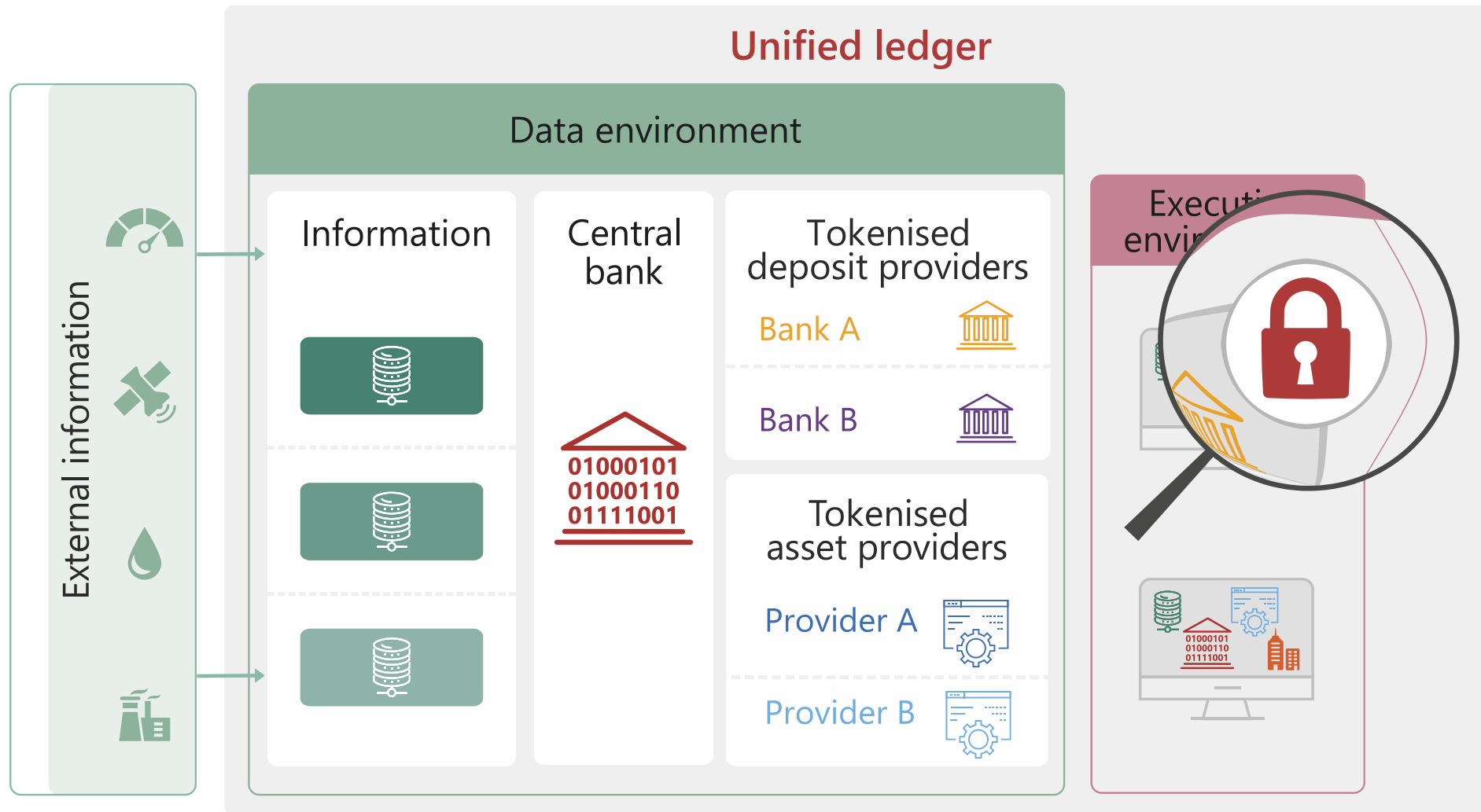
The data environment also encompasses the information necessary to incorporate real-world events in any contingent performance of actions



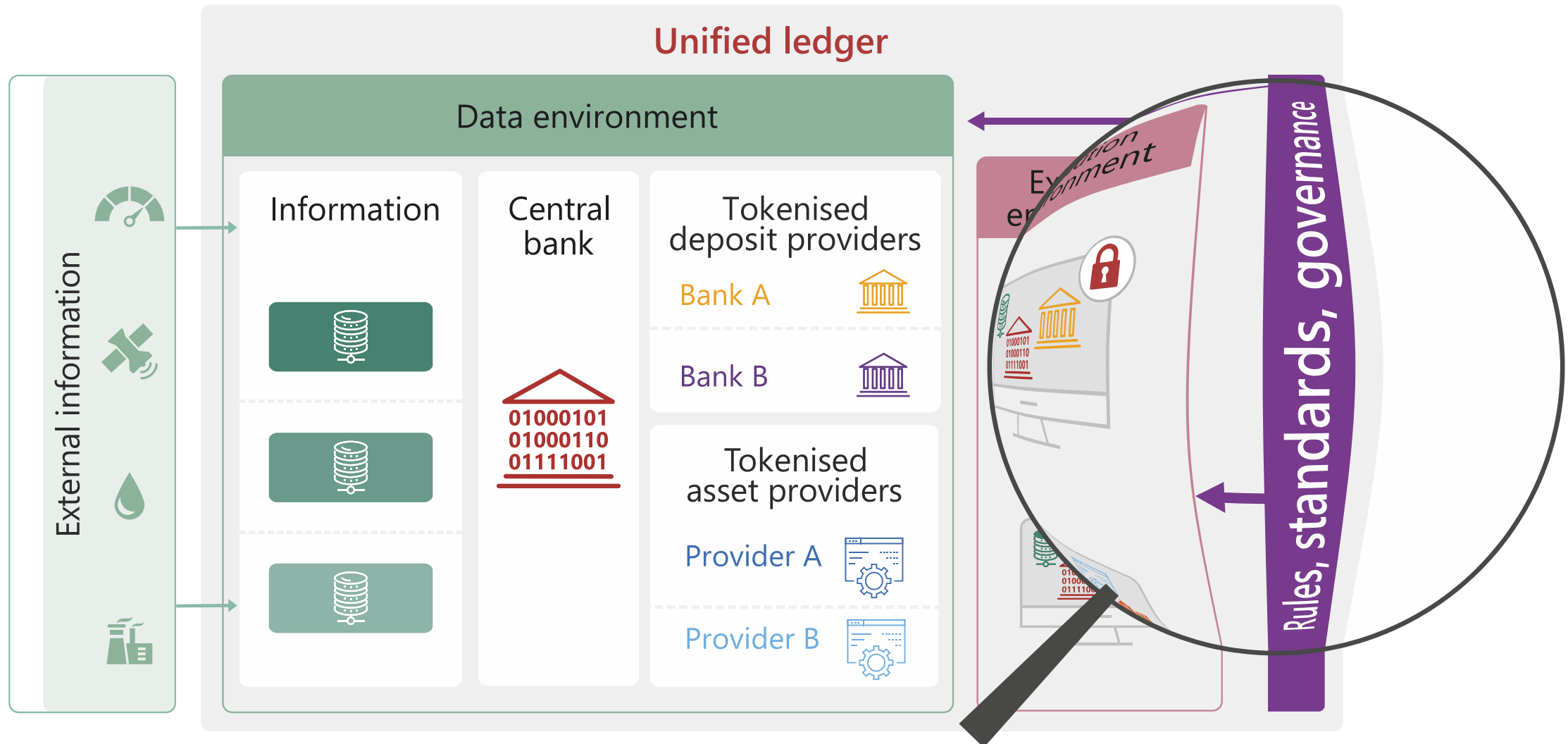
Operations involving one or more of these elements are carried out in the execution environment



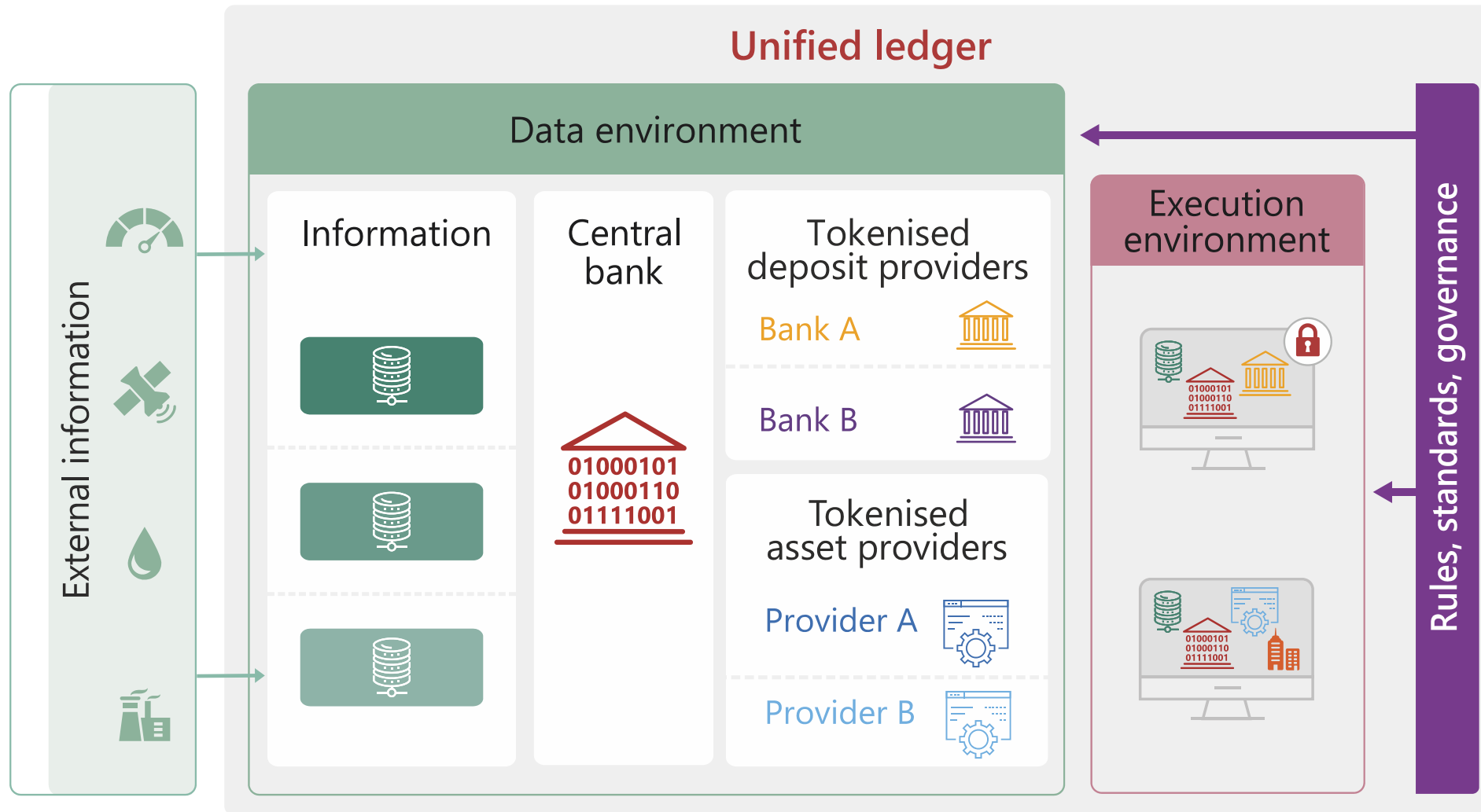
# Unified ledger should meet the highest standards of data confidentiality and cyber resilience through partitioning and encryption tools



Not least, a common governance framework lays out the rules and standards, as well as how the rulebook can be amended



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Improving the old and enabling the new through a unified ledger





