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New architecture of payments systems

Distributed ledger technology warrants real-life application

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Distributed ledger technology has made significant advances over recent years, affirming arguments that it is now beginning to challenge existing payments systems. DLT addresses inefficiencies and resiliency while allowing interoperability with existing and future payments systems. The case to implement this technology is among the strongest in cross-border payments, post-trade clearing and securities settlement.

Today, payments systems must address stricter regulation, liquidity and end-to-end risk management than ever before while preserving privacy, speed and scalability. Systems likewise have to accommodate an increasingly compressed securities life cycle, delivery v. payment and settlement in central bank money. They must also be able to adapt quickly to ensure new technologies can be integrated or allow interoperability to address a rapidly changing payments landscape.

Existing systems for large-value transactions are based on real-time gross settlement systems introduced in the 1990s. Many are in need of modernisation. But some critics doubt if DLT will be able to

future-proof payments systems. The question is whether DLT is superior to existing systems at reducing residual frictions, costs and risks and whether the technology can adapt to emerging requirements. Moreover, some pundits wonder whether DLT pilot projects have had enough success to warrant application to real-life situations. To all these, the answer is increasingly Yes.

Essential catalysts

DLT rests on the decentralisation of exchange, removes single points of failure and can streamline existing market structure by collapsing layers of interactions that impose undue risks, frictions and costs. Through these steps, the technology makes payments systems more efficient and resilient while making access more equitable and reducing operational and financial inefficiencies.

DLT relies on tokenisation of assets and currencies, by which all properties to allow an asset or currency to be transferred are recorded with the token. The combination of decentralisation and tokenisation offers the possibility to achieve true delivery v. payment in peer-to-peer transactions. These are the forebears of a faster, more efficient and more accessible payments infrastructure.

The tokenisation of currency plays a special role to allow

transactions to be conducted with finality. In the public sector, the adoption of central bank digital currencies is an essential catalyst to offer certainty in tokenised exchanges and a necessary condition to advance tokenisation of assets.

DLT addresses residual concerns about scalability and interoperability. In October 2018, the New York-headquartered Depository Trust and Clearing Corporation showed that DLT can support peak trading volumes in US equity markets. The third of phase of Project Jasper – an initiative run by Accenture, the Bank of Canada, Payments Canada, DLT company R3 and TMX, the parent company Toronto Stock Exchange – proved that DLT platforms can achieve settlement finality while addressing necessary scalability and privacy criteria.

Accenture was able to synchronise business processes across blockchain platforms from different technology providers, offering corporations the possibility to operate in a broader system not bound by a specific DLT platform.

Altered architecture

The superior data-sharing properties of DLT mean regulators can impose strict access and editing controls to safeguard privacy standards. Compared with current technologies, DLT enables more

efficient information sharing while preserving data integrity. It is designed to transfer and record ownership of tokens instantaneously, immutably and securely.

The existing institutional and legal arrangements are in large part endogenous to the technology of the market structure. Any significant change in technology may therefore require new institutional and legal arrangements. The adaptability and flexibility of DLT implies that such changes can be gradual.

DLT is set to alter the architecture of payments systems. Recent technological advances demonstrate that it is ready to be deployed in real-life scenarios. Concerns about the lack of maturity or scalability of the technology have been progressively assuaged and should no longer restrict DLT adoption.

The technology is part of a longer-term vision to promote increasing tokenisation of assets and currencies and offers the best technology to achieve that goal. More importantly, DLT can support broader objectives of improved financial integrity, equity, integration, resilience and transparency in payments. ●

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