

# Blockchain coming of age in finance

Substantial savings on infrastructure, transaction and administrative costs

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Distributed ledger technology (DLT), which facilitates simultaneous access, validation and record updates in an immutable manner, is gradually becoming mainstream in financial services.

Recognised primarily for its application in cryptocurrencies (crypto), DLT's extensive potential beyond is now coming to the fore.

Though regulators remain sceptical about crypto, which also faces other market-related headwinds, they are largely positive about the use of DLT infrastructure in the larger financial services space.

For instance, in April 2024, the Bank of England and the Financial Conduct Authority (FCA) jointly released a draft guidance on a digital securities sandbox.

This sandbox allows firms to test DLT in a controlled environment — across financial market processes such as securities settlement — under regulatory oversight<sup>1</sup>.

Indeed, the benefits of DLT can span the entire banking value chain — enabling data transparency and accuracy, and efficient transaction processing and verification; eliminating the need for a central authority; guarding against manipulation; and optimising know-your-customer (KYC) processes.

Moreover, DLT offers substantial savings on infrastructure, transaction and administrative costs across the trade lifecycle.

## Huge savings for the banking and derivatives industries

In the financial system, consider cross-border payments. According to a BCG study, through a combination of digital assets and permissioned, decentralised finance (DeFi) — a blockchain-based financial technology — the average transaction cost of cross-border payments can be reduced 60-80% compared with the traditional models<sup>2</sup>.

On the trading side, the global market for derivatives contracts was valued at \$19.8 trillion as of June-2023<sup>3</sup>. Annually, about 2% of the market value is spent on information technology, operations, and post-trade and securities servicing fees.

According to a study conducted by the International Swaps and Derivatives Association (ISDA) and its member firms, there is potential for 50-80% cost savings (i.e., billions of dollars yearly) across the industry in post-trade infrastructure by leveraging DLT and a common domain model (CDM)<sup>4</sup>.

No wonder then, risk practitioners view blockchain as the future of risk management, despite implementation challenges and limited use cases.

<sup>1</sup> Digital Securities Sandbox joint Bank of England and FCA consultation paper, Bank of England, April 3, 2024

<sup>2</sup> Revolutionizing Cross-Border Transactions with Permissioned DeFi, BCG, November 21, 2023

<sup>3</sup> Key trends in the size and composition of OTC derivatives markets in the first half of 2023, ISDA, December 2023

<sup>4</sup> Future of post trade, Deloitte, 2019

In specifics, blockchain could revolutionise trade lifecycle management in the following areas:



**Intraday liquidity management**

Currently, banks' fund inflows have limited transparency and the opportunity cost of holding excess liquidity is sizeable.

A blockchain-enabled intraday market can accurately deduce the timing of incoming payments, allowing banks to minimise safety buffers and manage liquidity efficiently.



**Trade reconciliation and settlement**

Trade planning involves the process of directing derivatives orders to clients. Before trades are executed, they undergo periodical reconciliation by the involved parties, with any disputes managed by legal authorities. Blockchain eliminates the need for separate verification of trade reconciliations.

DLT's sophisticated algorithm can establish terms between counterparties, including variable interest rates, currency of payments, currency rates and conditions for execution. It can also embed event triggers for contract execution into the system, thereby averting disputes.

On the other hand, derivatives clearing oversees contracts until their termination, often involving lengthy maturities. Blockchain-enabled smart contracts limit manual inspection by automatically setting up floating cash flow payments, contingent claims and more based on the algorithm.

For the settlement of assets such as stocks, adjustments to accounts on the blockchain ledger can align with off-chain settlement instructions, thus eliminating settlement barriers and enhancing collateral fluidity.

Consequently, users can handle their liquidity more smoothly, quickly and efficiently — blockchain can reduce settlement time from 2-3 days to as little as 10 minutes.



**Regulatory compliance**

The global nature of the derivatives trade necessitates a high level of regulatory reporting. The cost of regression testing is on the rise, as regulators aim to limit systemic risk. In the UK, for instance, firms spend \$2-5 billion annually on regulatory reporting.

Blockchain permits use of data related to trade placement, reporting and execution for record-keeping and reporting to regulatory agencies. These agencies can access trading information on the shared platform directly, instead of requesting for it.

DLT also enables a fully traceable ledger and simplified reconciliation of transactions. As a result, resolution to regulatory queries is faster, thereby attenuating counterparty, operational, legal and liquidity risks.



**Trade finance**

Trade and trade finance have been in a state of uncertainty globally, owing to the Covid-19 pandemic and supply-chain disruptions. Hence, there is a call for expediting digitisation.

Blockchain enables banks and fintech firms to build an ecosystem that connects buyers and sellers. It cuts processing time and eliminates documentation, while ensuring transparency, security and traceability in transactions.

## Smart solutions and standardisation key to implementation

On the other side, the transition from a traditional system to a blockchain environment poses challenges in enforcing data standards across a network, running parallel operations for certain asset classes or processes, and interoperability and integration with existing systems.

But solutions are at hand.

Interoperability between the DLT network and existing infrastructure can be achieved through smart contracts or application programming interfaces.

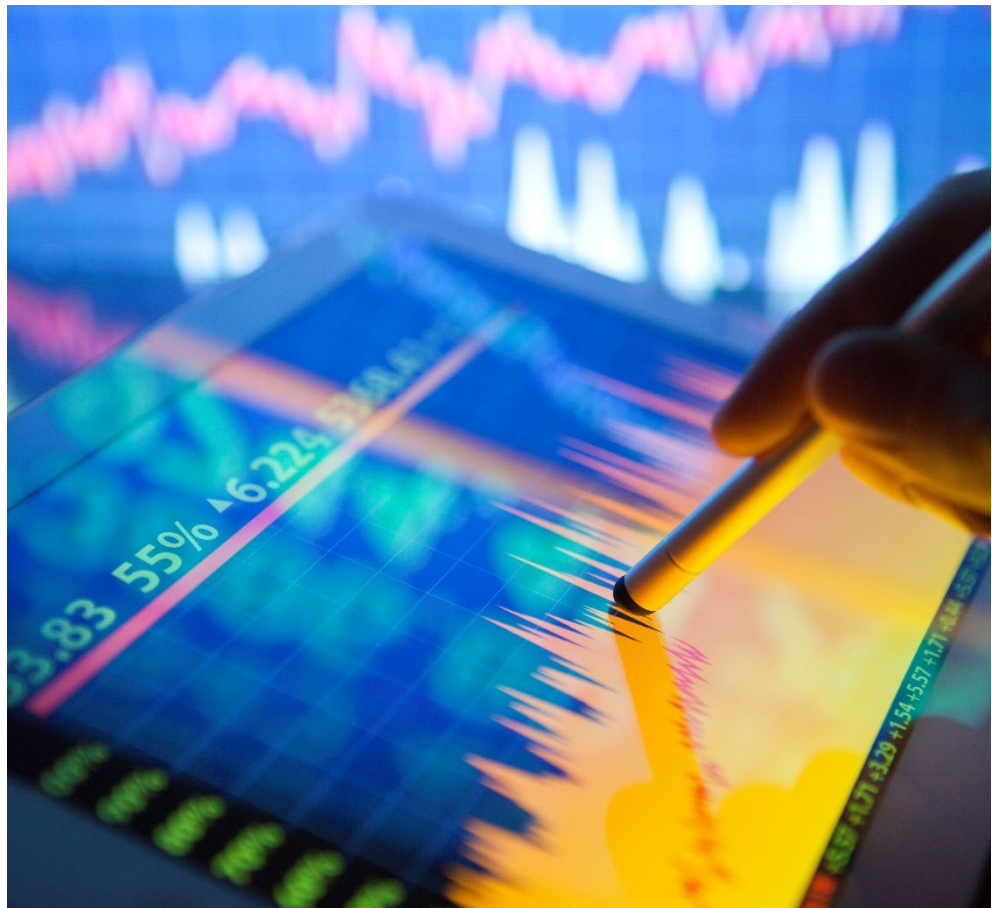
Blockchain's immutability and anonymity feature conflicts with many data management norms, and the existing laws may require participants to be identified for tax and other purposes.

That said, modifications to distributed ledger designs are underway, including solutions that are quicker and less energy intensive. This would make them easily scalable.

To be sure, much of blockchain technology is yet to be perfected or widely tested. Nevertheless, it holds great promise as a more evolved supplement to traditional financial infrastructure.

Some banks have already embarked on the blockchain journey with a long-term strategic view, and many more are expected to toe the line.

It is only a matter of time before banks embrace this transformative technology completely.





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