



ROSA & ROUBINI
ASSOCIATES

DIGITAL ASSETS

**The DTCC and Embedded Blockchain:
How Tokenisation Could Transform Financial
Markets Without Rebuilding Them**

By

Ridipt Singh



20 August 2026

Ridipt Singh

***DTCC and Embedded Blockchain: How Tokenisation Could Transform Financial Markets
Without Rebuilding Them***

20 August 2026

Page | 2

Table of Contents

Executive Summary	Page 3
1. DTCC and the Tokenisation of Traditional Securities.....	4
2. Why DTCC Changes the Tokenisation Equations.....	4
3. From Tokenisation to Post-Trade Transformation.....	5
4. The Economics of Putting Securities On-Chain.....	6
5. Infrastructure or New Market?.....	6
6. Conclusion – When Tokenisation Becomes Invisible.....	7
NOTES	8



Rosa & Roubini Associates Ltd is a private limited company registered in England and Wales (Registration number: 10975116) with registered office at 75 King William Street, London EC4N 7BE, United Kingdom.

For information about Rosa&Roubini Associates, please send an email to info@rosa-roubini-associates.com or call +44 (0)20 7101 0718.

Analyst Certification: *I, Ridipt Singh, hereby certify that all the views expressed in this report reflect my personal opinion, which has not been influenced by considerations of Rosa & Roubini Associates' business, nor by personal or client relationships. I also certify that no part of our compensation was, is or will be, directly or indirectly, related to the views expressed in this report.*

Disclaimer: *All material presented in this report is provided by Rosa & Roubini Associates-Limited for informational purposes only and is not to be used or considered as an offer or a solicitation to sell or to buy, or subscribe for securities, investment products or other financial instruments. Rosa & Roubini Associates Limited does not conduct "investment research" as defined in the FCA Conduct of Business Sourcebook (COBS) section 12 nor does it provide "advice about securities" as defined in the Regulation of Investment Advisors by the US SEC. Rosa & Roubini Associates Limited is not regulated by the FCA, SEC or by any other regulatory body. Nothing in this report shall be deemed to constitute financial or other professional advice in any way, and under no circumstances shall we be liable for any direct or indirect losses, costs or expenses nor for any loss of profit that results from the content of this report or any material in it or website links or references embedded within it. The price and value of financial instruments, securities and investment products referred to in this research and the income from them may fluctuate. Past performance and forecasts should not be treated as a reliable guide of future performance or results; future returns are not guaranteed; and a loss of original capital may occur. This research is based on current public information that Rosa & Roubini Associates considers reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. Rosa & Roubini Associates, its contributors, partners and employees make no representation about the completeness or accuracy of the data, calculations, information or opinions contained in this report. Rosa & Roubini Associates has an internal policy designed to minimize the risk of receiving or misusing confidential or potentially material non-public information. We seek to update our research as appropriate, but the large majority of reports are published at irregular intervals as appropriate in the author's judgment. The information, opinions, estimates and forecasts contained herein are as of the date hereof and may be changed without prior notification. This research is for our clients only and is disseminated and available to all clients simultaneously through electronic publication. Rosa & Roubini Associates is not responsible for the redistribution of our research by third party aggregators. This report is not directed to you if Rosa & Roubini Associates is barred from doing so in your jurisdiction. This report and its content cannot be copied, redistributed or reproduced in part or whole without Rosa & Roubini Associates' written permission.*

Ridipt Singh

DTCC and Embedded Blockchain: How Tokenisation Could Transform Financial Markets Without Rebuilding Them

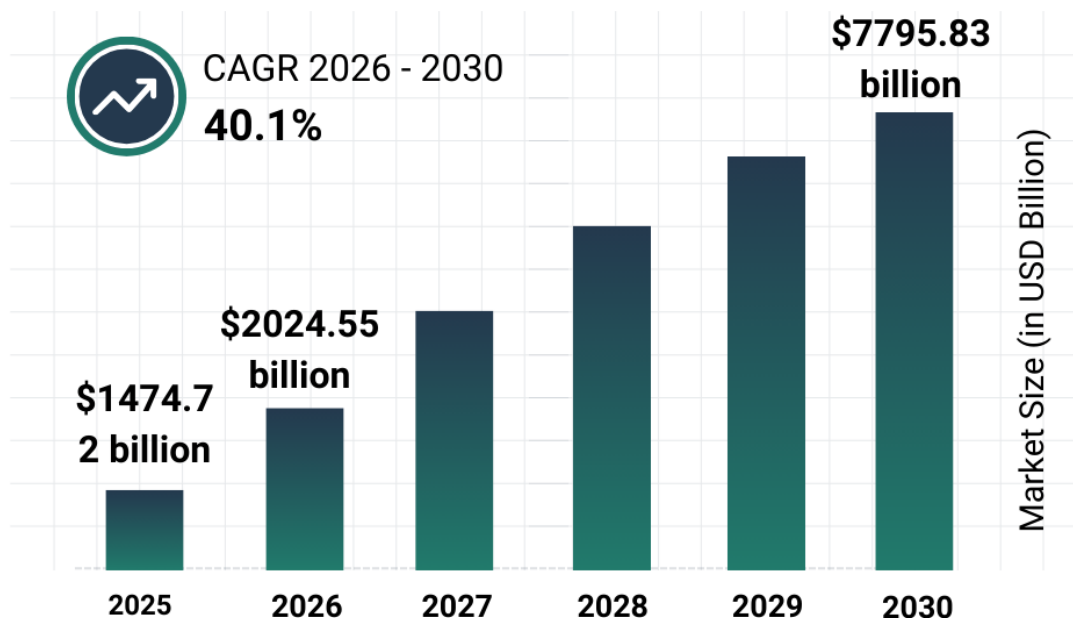
20 August 2026

Page | 3

Executive Summary

- ✦ DTCC is embedding tokenisation within existing financial-market infrastructure, allowing traditional securities already held in DTC custody to be represented on blockchain without replacing the underlying custody, recordkeeping and regulatory framework.
- ✦ The significance lies in post-trade transformation rather than simply putting securities on-chain. Tokenised securities could make securities lending, repo, collateral management, DvP and margin workflows more programmable, automated and synchronised.
- ✦ The economic opportunity is lower coordination costs. By reducing reconciliation and improving collateral mobility, programmability and settlement efficiency, tokenisation could improve capital utilisation and reduce operational friction across post-trade finance.
- ✦ DTCC illustrates an emerging “embedded tokenisation” model rather than a parallel blockchain financial system. Multiple ledgers, tokenisation platforms and form of digital money are likely to coexist, making interoperability and the preservation of liquidity and risk controls increasingly important.
- ✦ Tokenisation’s most consequential outcome maybe its eventual invisibility. Rather than replacing traditional finance, blockchain could become an underlying technological layer within institutions that already operate financial markets.

Key Picture: Tokenised Financial Assets Market Forecast



Source: [The Business](#)

1. DTCC and the Tokenisation of Traditional Securities

The Depository Trust and Clearing Corporation (DTCC), whose subsidiaries processed \$4.7 quadrillion in securities transactions in 2025, is advancing a tokenisation service that allows eligible securities already held within its custody infrastructure to be represented on blockchain networks. Industry testing and production activity has covered securities lending, collateral management, repo, delivery-versus-payments (DvP) and margin workflows, with initial production trades completed in July 2026 and a formal launch planned for October 2026.¹

Page | 4

This is not simply another crypto-native platform creating digital wrappers around off-chain assets. It is tokenisation being introduced inside the established financial market infrastructure that already supports custody, settlement and investor protection. The significance of DTCC's initiative therefore lies less in putting securities on a blockchain than in demonstrating how blockchain can be absorbed into the infrastructure through which traditional markets already operate. If this model scales, tokenisation may not replace traditional finance's institutions, it may become the technological layer through which those institutions operate.

DTCC's approach begins with securities that already exist within the traditional financial system. Eligible equities, ETFs, US Treasuries and other instruments are already held within the Depository Trust Company (DTC), rather than being newly issued as blockchain-native assets.^{2 3} The tokenisation process therefore starts with an existing security and its established institutional infrastructure. Crucially, that infrastructure is not discarded when the blockchain representation is created. DTCC's model is designed to preserve the existing entitlement, investor-protection and record-keeping framework surrounding the security.⁴ DTC continues to maintain the official records of the tokenised entitlements through its own systems, while the underlying securities remain within DTC's custody infrastructure.⁵ The result is not a replacement for the existing security or its institutional framework, but an additional digital representation connected to it.

This distinction matters because tokenisation is often described simply as putting an asset "on-chain". In DTCC's model, the more important development is the integration of blockchain functionality with infrastructure that already supports custody, settlement, record-keeping and investor protection. The blockchain representation can therefore provide programmability and facilitate new forms of collateral, settlement, lending and other financial workflows while remaining connected to the existing securities infrastructure.^{6 7 8}

DTCC's approach consequently represents a different path for institutional tokenisation. Rather than creating a parallel financial system around blockchain-based assets, it seeks to connect blockchain functionality directly to the infrastructure through which traditional securities markets already operate.

2. Why DTCC Changes the Tokenisation Equations

Tokenisation is not simply a technology problem as institutional adoption also depends on infrastructure, legal and regulatory arrangements, and network effects. Many blockchain projects can create tokens, but fewer can connect those tokens to the institutional machinery through which securities are already held, traded, lent and used as collateral. DTCC already sits within that machinery.

As a major post-trade market infrastructure provider for US securities, DTCC sits at the centre of the custody, clearing, settlement and asset-servicing processes used by thousands of broker/dealers, custodian banks and asset managers. It has spent decades standardising and operating these processes at scale. In December 2025, the SEC staff issued a no-action letter concerning DTC's preliminary tokenisation program, covering tokenised security entitlements to a defined set of securities, including Russell 1000 securities, major index ETFs and US

Treasury securities.⁹ This gives DTCC an advantage that many blockchain projects do not possess: pre-existing network effects. A tokenised security becomes more useful when the institutions that already hold, trade and collateralise securities can interact with it through infrastructure and processes they already use. The challenge,

therefore, is not simply creating a tokenised security, but connecting that token to the institutional processes that make securities usable at scale.

DTCC's approach potentially lowers this adoption barrier because institutions can access blockchain functionality while retaining much of the infrastructure through which their existing securities activities are conducted. Its ComposerX suite, including its Capital Markets Platform and Factory solutions, has been re-platformed and hosted on Microsoft Azure, while the suite is designed to bridge traditional and digital infrastructure.^{10 11} Therefore, the significance of this development lies less in technology adoption itself than in financial architecture where the important question is not simply whether blockchain can represent securities, but whether blockchain functionality can be embedded into the institutional infrastructure through which securities markets already operate.

3. From Tokenisation to Post-Trade Transformation

The analytical centre of DTCC's initiative lies in how programmable representations could change post-trade workflows rather than simply making securities "digital". In securities lending, processes involve identifying lendable assets, transferring securities, posting and managing collateral, reconciling positions and settling cash and securities. Tokenised representations could allow some of these steps to become more automated and synchronised, with programmable rules governing eligibility, transfers and other lifecycle events. DTCC's July 2026 production transactions included securities lending transaction, demonstrating that tokenised DTC securities can already participate in such workflows.¹²

Collateral management is particularly important. Financial institutions constantly need to mobilise collateral, verify eligibility, transfer assets, substitute positions and monitor collateral across counterparties and jurisdictions. DTCC's Collateral AppChain is designed as shared infrastructure for collateral mobility and capital efficiency, using Chainlink's Runtime Environment and data standards to support automated workflows involving eligibility, valuation, margining, collateral optimisation and settlement. DTCC says the platform aims to enable 24/7, near-real-time collateral management across financial markets and blockchains.¹³ By combining tokenised assets with programmable workflows, the system could make collateral operationally more mobile even when its underlying economic characteristics do not change.¹⁴

Furthermore, repo markets depend heavily on the movement of securities against cash. Tokenisation could enable more automated coordination between securities, collateral financing and settlement, potentially reducing reconciliation and settlement friction. DTCC's July production transactions included a US Treasury/repo DvP transaction, demonstrating the use of DTC-tokenised securities in an actual production workflow.¹⁵ More broadly, DTCC's work on tokenised collateral points toward the possibility of extending collateral mobility beyond traditional market hours, potentially allowing institutions to mobilise eligible assets more rapidly as liquidity and margin needs change.^{16 17}

Another critical area is delivery-versus-payment (DvP). Instead of treating the transfer of securities and the transfer of cash as separate processes, blockchain-based infrastructure can potentially synchronise the two. DTCC has already demonstrated tokenised securities in Treasury/repo and equity DvP transactions.¹⁸ This is where tokenised securities intersect with the broader evolution of tokenised money – tokenised deposits, stablecoins and potentially central bank money. As DTC prepared to connect its tokenisation service to the Stellar public blockchain, with DTC-tokenised assets expected to become available on the network in the first half of 2027, the architecture could eventually support more interoperable settlement between tokenised securities and digital forms of cash, provided compatible digital cash infrastructure develops alongside it.¹⁹

Moreover, margin processes stand to benefit similarly. Tokenised collateral could support faster margin movements and more automated collateral workflows, while ComposerX LedgerScan provides real-time visibility and reconciliation across blockchain and traditional systems.²⁰ The transformation is not that blockchain

makes securities digital; it is that the financial relationships around those securities can become increasingly programmable.

4. The Economics of Putting Securities On-Chain

The economic implications of tokenisation follow less from making securities digital than from changing how the functions surrounding them are coordinated. Research on tokenised financial markets increasingly points to potential gains not simply from faster settlement, but from integrating functions such as record-keeping, settlement, collateral management and reporting more closely.²¹

Page | 6

One of the most immediate potential effects is reduced reconciliation. Traditional securities markets require extensive coordination and record-keeping across custodians, brokers, clearing, and asset servicers. Tools such as DTCC's LedgerScan are designed to reconcile activity across traditional and digital ledgers, potentially reducing reconciliation-related operational friction.²² This links directly to the possibility of faster and more continuous settlement. Tokenisation can potentially reduce settlement times and extend activity beyond traditional market hours, but blockchain does not automatically produce instant settlement. The outcome depends on the cash leg, payment infrastructure, interoperability and settlement-finality arrangements.^{23 24}

Closely related to this is greater collateral mobility. Tokenised collateral could allow institutions to identify, transfer, pledge and substitute assets more efficiently, potentially easing collateral constraints and improving capital utilisation.²⁵ DTCC's Collateral AppChain is designed to support 24/7, near-real-time collateral management across traditional and digital markets.²⁶ Building on these operational changes is the idea of programmability. Tokenised securities can incorporate rules governing eligibility, transfers, compliance, collateral and settlement. DTCC's ComposerX architecture is designed to connect these digital workflows with existing financial infrastructure.²⁷

The economic proposition is therefore not simply "faster securities". It is the potential to reduce the cost of coordinating asset movement, financing, collateral and settlement. If tokenised securities can eventually interact interoperably with tokenised deposits, stablecoins or other forms of digital money, these efficiencies could extend from individual transactions to the organisation of post-trade finance itself.

The interesting feature of DTCC's model is how much of the existing institutional structure it leaves intact. The underlying securities remain within DTC's established custody and recordkeeping framework, while tokenised security entitlements are connected to that infrastructure. Investor protections, regulatory oversight and existing institutional relationships therefore remain part of the market structure.^{28 29} Existing trading, settlement and post-trade arrangements can therefore be augmented rather than immediately replaced by a new technological layer. This produces a paradox – the more successfully tokenisation is integrated into traditional infrastructure, the less disruptive it may appear. There does not need to be a dramatic transition from traditional securities to decentralised finance and existing institutions combined with blockchain infrastructure may capture many of tokenisation's benefits without replacing the architecture of securities markets.

5. Infrastructure or New Market?

The existing debate over tokenisation increasingly points to two broad models. The first is a parallel financial system in which blockchain-based markets develop alongside, rather than within, traditional financial infrastructure. This is the more radical crypto-native model, in which tokenisation forms the foundation of an alternative financial ecosystem. The second is embedded financial infrastructure where existing institutions integrate blockchain into established systems and market relationships, using distributed ledgers to augment rather than replace conventional financial infrastructure.^{30 31}

Conceptually, the architecture can be understood as traditional financial institutions incorporating blockchain infrastructure to support tokenised securities and programmable post-trade workflows. DTCC provides a particularly clear test of this model as its tokenisation service is designed to connect blockchain networks with

existing custody, settlement and recordkeeping infrastructure rather than require those institutions to be rebuilt.

This does not necessarily point toward a single blockchain financial system. More plausibly, multiple ledgers, tokenisation platforms and forms of digital money including tokenised deposits, stablecoins and central bank money will coexist alongside traditional settlement infrastructure.³² The question therefore shifts from which blockchain wins to how effectively these different systems can interoperate and preserve liquidity and risk controls across them. DTCC's planned connection to Stellar, alongside its broader multi-chain strategy reflects this emerging architecture.³³

Page | 7

DTCC's significance, therefore, lies less in establishing a new model of tokenisation than in providing a test of the embedded approach – whether an incumbent financial-market infrastructure can absorb blockchain technology while retaining its institutional functions, and whether doing so can materially change the economics of post-trade finance.

6. Conclusion – When Tokenisation Becomes Invisible

Securities do not need to migrate entirely from traditional infrastructure to benefit from blockchain. DTCC demonstrates one potential path in which blockchain functionality is layered onto existing custody, recordkeeping and regulatory structures, creating the potential for securities lending, repo, collateral, DvP and margin workflows to become increasingly programmable without requiring the institutional foundations of the market to be immediately replaced.

If this model scales, tokenisation may eventually become invisible. A participant in a securities market may not need to know whether a transaction is being processed through conventional databases, distributed ledgers or a combination of both. The technology underneath changes while the financial institution remains familiar. That may ultimately be the more consequential form of tokenisation: not the replacement of traditional finance with a parallel blockchain system, but the gradual absorption of blockchain into the infrastructure that already runs financial markets. The success of tokenisation may therefore be measured less by how much traditional finance it replaces than by how much of it can be transformed without needing to be replaced.

NOTES

¹ DTCC Turns Tokenization into Reality: U.S. Trades Successfully Processed Using DTC-Tokenized Assets, DTCC, 15 July 2026 <https://www.dtcc.com/news/2026/july/15/dtcc-turns-tokenization-into-reality>

² DTCC Authorized to Offer New Tokenization Service, Paving the Way to Tokenized DTC-Custodied Assets, DTCC, 11 December 2025 <https://www.dtcc.com/news/2025/december/11/paving-the-way-to-tokenized-dtc-custodied-assets>

³ Hester M. Peirce, Tokenization Trending: Statement on the Division of Trading and Market's No-Action Letter Related to DTC's Development of Securities Tokenization Services, U.S. Securities and Exchange Commission, 11 December 2025 <https://www.sec.gov/newsroom/speeches-statements/peirce-121125-tokenization-trending-statement-division-trading-markets-no-action-letter-related-dtcs-development>

⁴ SEC No-action Letter & DTC Tokenization Service FAQ, DTCC <https://www.dtcc.com/-/media/Files/Downloads/digital-assets/dtc-tokenization-service-faq.pdf>

⁵ No-Action Letter Request Related to The Depository Trust Company's Development of the DTCC Tokenization Services, U.S. Securities and Exchange Commission, 11 December 2025 <https://www.sec.gov/files/tm/no-action/dtc-nal-121125.pdf>

⁶ Hester M. Peirce, Tokenization Trending: Statement on the Division of Trading and Market's No-Action Letter Related to DTC's Development of Securities Tokenization Services, U.S. Securities and Exchange Commission, 11 December 2025 <https://www.sec.gov/newsroom/speeches-statements/peirce-121125-tokenization-trending-statement-division-trading-markets-no-action-letter-related-dtcs-development>

⁷ DTCC Connection Staff, The Essential of Tokenization, DTCC, 02 March 2026 <https://www.dtcc.com/dtcc-connection/articles/2026/march/02/the-essentials-of-tokenization-b8p39i4aw>

⁸ DTCC Turns Tokenization into Reality: U.S. Trades Successfully Processed Using DTC-Tokenized Assets, DTCC, 15 July 2026 <https://www.dtcc.com/news/2026/july/15/dtcc-turns-tokenization-into-reality>

⁹ No-Action Letter Request Related to The Depository Trust Company's Development of the DTCC Tokenization Services, U.S. Securities and Exchange Commission, 11 December 2025 <https://www.sec.gov/files/tm/no-action/dtc-nal-121125.pdf>

¹⁰ DTCC Announces ComposerX, DTCC, 04 February 2025 <https://www.dtcc.com/news/2025/february/04/dtcc-announces-composerox>

¹¹ DTCC Advances Cloud First Strategy to Modernize Core Market and Digital Market Infrastructures, DTCC, 15 April 2026 <https://www.dtcc.com/news/2026/april/15/dtcc-advances-cloud-first-strategy-to-modernize-core-market-and-digital-market-infrastructures>

¹² DTCC Turns Tokenization into Reality: U.S. Trades Successfully Processed Using DTC-Tokenized Assets, DTCC, 15 July 2026 <https://www.dtcc.com/news/2026/july/15/dtcc-turns-tokenization-into-reality>

¹³ DTCC Collaborates with Chainlink to Advance 24/7 Collateral Management, DTCC, 12 March 2026 <https://www.dtcc.com/news/2026/may/12/dtcc-collaborates-with-chainlink-to-advance-24-7-collateral-management>

¹⁴ Tokenized Collateral Could Unlock Billions in Capital and Transform Liquidity Management, DTCC, 13 March 2026 <https://www.dtcc.com/news/2026/may/13/tokenized-collateral-could-unlock-billions-in-capital-and-transform-liquidity-management>

¹⁵ DTCC Turns Tokenization into Reality: U.S. Trades Successfully Processed Using DTC-Tokenized Assets, DTCC, 15 July 2026 <https://www.dtcc.com/news/2026/july/15/dtcc-turns-tokenization-into-reality>

¹⁶ DTCC Collaborates with Chainlink to Advance 24/7 Collateral Management, DTCC, 12 March 2026 <https://www.dtcc.com/news/2026/may/12/dtcc-collaborates-with-chainlink-to-advance-24-7-collateral-management>

¹⁷ Tokenized Collateral Could Unlock Billions in Capital and Transform Liquidity Management, DTCC, 13 March 2026 <https://www.dtcc.com/news/2026/may/13/tokenized-collateral-could-unlock-billions-in-capital-and-transform-liquidity-management>

¹⁸ DTCC Turns Tokenization into Reality: U.S. Trades Successfully Processed Using DTC-Tokenized Assets, DTCC, 15 July 2026 <https://www.dtcc.com/news/2026/july/15/dtcc-turns-tokenization-into-reality>

¹⁹ DTC's Tokenization Service to Connect with Stellar Public Blockchain as DTC Advances its Multi-Chain Strategy, DTCC, 27 May 2026 <https://www.dtcc.com/news/2026/may/27/tokenization-service-to-connect-with-stellar-public-blockchain-as-dtc-advances-multi-chain-strategy>

²⁰ ComposerX LedgerScan, DTCC <https://www.dtcc.com/digital-assets/composerox/ledgerscan>

- ²¹ Tobias Adrian, Tokenized Finance, IMF eLIBRARY, 02 April 2026 <https://www.elibrary.imf.org/view/journals/068/2026/001/068.2026.issue-001-en.xml?rskey=Q9L4xl&result=1>
- ²² ComposerX LedgerScan, DTCC <https://www.dtcc.com/digital-assets/composerx/ledgerscan>
- ²³ Tobias Adrian, Tokenized Finance, IMF eLIBRARY, 02 April 2026 <https://www.elibrary.imf.org/view/journals/068/2026/001/068.2026.issue-001-en.xml?rskey=Q9L4xl&result=1>
- ²⁴ Yaiza Cabedo, Tommaso Mancini-Griffoli, Fabian Schär, and Nicolas Zhang, The Evolution of Financial Market Infrastructures Evolution in a Tokenized Economy, IMF eLIBRARY, 02 July 2026 <https://www.elibrary.imf.org/view/journals/001/2026/136/article-A001-en.xml>
- ²⁵ Tobias Adrian, Tokenized Finance, IMF eLIBRARY, 02 April 2026 <https://www.elibrary.imf.org/view/journals/068/2026/001/068.2026.issue-001-en.xml?rskey=Q9L4xl&result=1>
- ²⁶ DTCC Collaborates with Chainlink to Advance 24/7 Collateral Management, DTCC, 12 May 2026 <https://www.dtcc.com/news/2026/may/12/dtcc-collaborates-with-chainlink-to-advance-24-7-collateral-management>
- ²⁷ DTCC Announces ComposerX, DTCC, 04 February 2025 <https://www.dtcc.com/news/2025/february/04/dtcc-announces-composerx>
- ²⁸ Hester M. Peirce, Tokenization Trending: Statement on the Division of Trading and Market's No-Action Letter Related to DTC's Development of Securities Tokenization Services, U.S. Securities and Exchange Commission, 11 December 2025 <https://www.sec.gov/newsroom/speeches-statements/peirce-121125-tokenization-trending-statement-division-trading-markets-no-action-letter-related-dtcs-development>
- ²⁹ SEC No-Action Letter & DTC Tokenization Service FAQ, DTCC <https://www.dtcc.com/-/media/Files/Downloads/digital-assets/dtc-tokenization-service-faq.pdf>
- ³⁰ Stephanie Magnus, Boon Hiong Chan and Jaelynn Lee, Tokenization of Financial Markets: Mapping the Plausible Future through Scenario Analysis, Baker McKenzie and Deutsche Bank, April 2025 <https://www.bakermckenzie.com/-/media/files/insight/publications/2025/04/baker-mckenzie-x-deutsche-bank-whitepaper.pdf>
- ³¹ Yaiza Cabedo, Tommaso Mancini-Griffoli, Fabian Schär, and Nicolas Zhang, The Evolution of Financial Market Infrastructures Evolution in a Tokenized Economy, IMF eLIBRARY, 02 July 2026 <https://www.elibrary.imf.org/view/journals/001/2026/136/article-A001-en.xml>
- ³² Yaiza Cabedo, Tommaso Mancini-Griffoli, Fabian Schär, and Nicolas Zhang, The Evolution of Financial Market Infrastructures Evolution in a Tokenized Economy, IMF eLIBRARY, 02 July 2026 <https://www.elibrary.imf.org/view/journals/001/2026/136/article-A001-en.xml>
- ³³ DTC's Tokenization Service to Connect with Stellar Public Blockchain as DTC Advances its Multi-Chain Strategy, DTCC, 27 May 2026 <https://www.dtcc.com/news/2026/may/27/tokenization-service-to-connect-with-stellar-public-blockchain-as-dtc-advances-multi-chain-strategy>