Christopher J Waller: The next frontier of payments innovation

Speech by Mr Christopher J Waller, Member of the Board of Governors of the Federal Reserve System, at Sibos 2025, Frankfurt am Main, Germany, 29 September 2025.

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Thank you for inviting me to speak here today.[1] The theme for Sibos this year, "the next frontiers of global finance" is a fitting one. We are indeed witnessing a new frontier of innovation in payments and the broader financial system. New technologies like distributed ledgers, tokenized assets, smart contracts, and artificial intelligence (AI) have the potential to make payments smarter, faster, and more efficient. I know many of you in the audience today represent firms that are using the latest cutting-edge advances to bring new global solutions to the market.

The conference theme also accurately captures that we are at the *next* frontier. I often note that the modern history of payments is a story of technological innovation.[2] The history spans from the last century, when payments and securities transfers were converted from paper to electronic solutions, to the present day when we increasingly have payment systems that process transactions in real time, 24/7.

Lastly, the conference theme recognizes the global nature of payments and financial infrastructures that underpin international commerce. Of particular focus in this domain are cross-border payments, which involve transactions across a layered and complex set of networks and experience frictions that contribute to higher costs, slower speeds, limited transparency, and barriers to access. Multiple opportunities for improvement exist in international payments, including improvements to smaller-value remittances, business-to-business payments, and collateral management in capital markets.

As we enter the next frontier, let us remember that this is not a new story and that we should not fear new technologies, nor new types of providers. Instead, we should ask how new technologies could benefit all types of actors, including the most sophisticated financial firms as well as consumers, while not losing sight of the need for guardrails that promote safety for consumers and the broader financial system. In addition, we should ask how new technologies could be used to upgrade the infrastructures that serve as critical components to the global financial system, in a way that maintains and extends safety and resilience. These are the topics I will consider today.

Choice and competition

I approach these issues fundamentally as an economist and as a firm believer in the free market. In particular, I would highlight the importance of choice in how markets function and how competition develops. In general, choices encourage competition, leading to better quality products and services. Businesses innovate to differentiate products, including by incorporating new technical capabilities. This improves market responsiveness to consumer demand. Businesses also incorporate new technologies to compete on cost and efficiency. I see stablecoins, for example, as simply another

choice available to consumers and businesses, where they have signaled a need in the market to further improve payments.[3] I believe that we must take this articulated need seriously and respect the ability of the private sector to develop solutions.

This dynamic is nothing new. Market participants have long had choices in the types of payment instruments they use. Public and private forms of money coexisting, in multiple forms, is in fact a common feature in all developed economies. In the United States, consumers have had central bank money in the form of cash, commercial bank money in the form of deposits in a bank account, and nonbank money (or "e-money") in the form of a funds balance on a nonbank payment app. Stablecoins are simply a new form of private money and will exist alongside these other payment instruments, provided consumers accept them as safe, low-risk assets with regulatory protections.[4]

Consumers and businesses have for decades also had a choice of providers of payment services and financial products including banks, card networks, nonbank payment service providers, and, more recently, other fintechs. Having a choice of providers is important because needs and preferences vary among consumers and businesses. I may choose one provider if I want to park my emergency fund in a high-yield savings account, and I may choose different providers if I want to process a cross-border payment, pay someone with a QR code, or buy a crypto-asset. A choice of providers also encourages competition on cost, speed, efficiency, and user experience.

Additionally, firms have options for payments and financial infrastructure, which is important because firms might choose to route money or securities on different rails depending on business needs. Some may value speed; some may prefer the ability to batch payments and settle on net to capture liquidity savings. Some will prefer the features of a centralized financial market infrastructure and its built-in regulatory guardrails; some may prefer to transact on public blockchains, with different models for achieving security and integrity. Having multiple options is also good for public policy objectives like promoting resilience across the broader payment system.

Assessing benefits of the next frontier of innovations

Given this backdrop of new technologies and new entrants within a competitive market, let's explore how this could lead to positive economic outcomes.

First, will the next frontier of innovations translate to lower costs? An influx of new market entrants certainly has the potential to drive down costs as they compete for customers, particularly if blockchain-based transactions prove to be cheaper. If stablecoins present a lower cost alternative to consumers and businesses, I am all for it. We are already seeing this dynamic develop outside of the United States, where U.S. dollar stablecoins are an attractive option in countries in which access to dollar banking services is expensive or limited. We also know that cross-border payments, in particular remittances, are relatively expensive. This is attributable in part to the complexity of transactions involving multiple infrastructures, currencies, and intermediaries. One way in which innovative technologies could translate to lower costs is through efficiency gains.

This brings me to my second question: how might new technologies improve the efficiency of the payment system? Distributed ledger technology, or DLT, is rapidly

becoming an efficient infrastructure for 24/7 transactions, recordkeeping, and data management by enabling multiple platforms, parties, assets, and functions to be combined in new ways. As an example, DLT-based platforms can support 24/7 real-time payments and securities transfers by using programmable functionalities like smart contracts to enhance operational efficiency and automate more complex financial transactions. With the ability to specify the precise time at which a transaction settles and under what conditions, DLT-based platforms have the potential to increase the flexibility and efficiency of settlement for money and assets.

Many cross-border payments today rely on the correspondent banking model-a network of bilateral banking relationships that enables financial institutions to access foreign financial systems and to conduct business across jurisdictions without establishing physical and legal presence in every market they serve. While correspondent banking has been the backbone of global payments for decades, this model faces several challenges, including high transaction costs, slower processing times, and a global decline in correspondent banking relationships. While these frictions are attributed in part to the process of sending payments through a complex chain of correspondent banks, I should note that not all frictions are barriers to overcome. Certain frictions are purposely built into the global payment system for compliance and risk-management reasons, such as preventing money laundering and countering the financing of terrorism.[5]

DLT-based platforms have the potential to improve upon the existing correspondent banking model, and private-sector firms are pursuing multiple approaches to do so. One way is through the "stablecoin sandwich" model, in which fiat currency in one country is converted first into a stablecoin, then that stablecoin is transferred to another individual, and then converted back into the local fiat currency at its destination. Another way is through the use of tokenized deposits, where banks represent deposit liabilities on a blockchain for wholesale and cross-border transactions. Either model has the potential to improve transparency, cost, and timeliness, while balancing the need for safety and integrity of the transfer. DLT-based platforms generally (and stablecoins, specifically) may also present opportunities for efficiency gains in remittance payments, where today, money transfer operators rely on large global networks of agents and pre-position capital in various currencies to pay out customers in different jurisdictions. These examples also demonstrate that innovation is not an issue of "TradFi" versus "DeFi," but rather poses an opportunity to harness the complementary strengths each has to offer, especially at a time where we are seeing increased convergence between the two.

Importantly, efficiency will depend on the extent to which DLT networks can interoperate with one another and with traditional payment rails. This is particularly true because payments exhibit significant network effects. Fortunately, numerous private-sector advances in interoperability are emerging given this market need, and as an operator of core payment and settlement infrastructure, we at the Federal Reserve continue to assess how we can improve our existing rails that serve private-sector firms.

Let's turn from DLT to AI. AI can further improve the efficiency of payments in a number of ways, including through automating manual tasks, detecting fraud or compliance risks, and now with agentic AI, executing tasks on behalf of a person or company quickly and cheaply through the use of AI agents.[6] Let's again take the example of

cross-border payments, which involve multiple jurisdictions, each with its own compliance requirements. Firms are increasingly exploring AI and machine learning (as well as smart contracts) to automate compliance activities.

Third, can new technologies and products maintain and build trust in the digital ecosystem? I believe they can. One common criticism of stablecoins is that they will somehow undermine the trust in money. Under regulatory frameworks like the GENIUS Act in the United States, payment stablecoins will be backed at least 1 to 1 with safe, liquid assets and users will be able to redeem their stablecoins at par. I have long advocated that a right-sized regulatory framework can address concerns related to safety and financial stability, while allowing stablecoins to scale on their own merits.[7]

As with any technology, ecosystem operators will need to assess and manage risks, including cybersecurity. As payments shift to new rails and include stablecoins, tokenized assets, and smart contracts, new opportunities for cyberattacks will emerge. Achieving security and resilience means ensuring these digital platforms are hardened against misuse, with redundancy and safeguards in place that match the scale of domestic and global payments. Building resilience requires both the private and public sectors to work together on standards, cybersecurity, and risk management, so that innovation goes hand-in-hand with safety.

Roles of the private and public sectors

This brings me to the roles that the private and public sectors can play at the next frontier of payments innovation. I often argue that the private sector can most reliably and efficiently allocate resources and take risks to explore the value of new technologies.[8] The private sector is also best positioned to serve consumers and provide products and services that meet their needs. You don't want the government to decide what technologies are in or out, or decide what consumers want. Further, the private sector brings a depth and level of technical expertise required to translate new technologies into practical improvements for payments.

The role of the public sector is to support the private sector in specific circumstances where that is useful. At the Federal Reserve, that means serving as a convener to solve coordination problems, providing regulatory clarity when within our specific remit, and operating core payment and settlement infrastructure that the private sector uses. Complementary private and public roles can contribute to a safe and efficient payment system.

Looking ahead, I believe it is important to understand how the Federal Reserve can continue to support private-sector innovation. One way is to conduct research and experimentation on emerging technologies. At the Federal Reserve, we are conducting hands-on research on the latest wave of innovations, including tokenization, smart contracts, and AI in payments. We do this to understand how private-sector innovators will use these to improve payments, as well as identify any opportunities to upgrade our own payment infrastructures.

Another way is to engage actively with industry on innovations. That is why, in three weeks, I am convening industry leaders and U.S. policymakers to discuss how to further improve the payment system. That is also why I appreciate coming to events like

Sibos, where industry experts within the private sector engage with public-sector officials to discuss how we can best navigate the next frontier of innovations. Thank you.

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1 Thank you to Alex Sproveri, Kirstin Wells, and Priyanka Slattery of the Federal Reserve Board for their assistance in preparing this text. The views expressed here are my own and not necessarily those of my colleagues on the Federal Reserve Board or the Federal Open Market Committee.

2 See Christopher J. Waller, "Technological Advancements in Payments (PDF)," speech delivered at the Wyoming Blockchain Symposium, Teton Village, WY, August 20, 2025.

3 See Christopher J. Waller, "Reflections on Stablecoins and Payments Innovations," speech at "Planning for Surprises, Learning from Crises" 2021 Financial Stability Conference, Cleveland, OH, November 17, 2021.

4 See Christopher J. Waller, "Reflections on Stablecoins and Payments."

5 See Christopher J. Waller, "Interlinking Fast Payment Systems," speech delivered at the Global Fintech Fest 2024, Mumbai, India, August 28, 2024.

6 For additional discussion on AI in payments, see Christopher J. Waller, "Technological Advancements in Payments."

7 See Christopher J. Waller, "Reflections on a Maturing Stablecoin Market (PDF)," speech delivered at A Very Stable Conference, San Francisco, CA, February 12, 2025.

8 See Christopher J. Waller, "What Roles Should the Private Sector and the Federal Reserve Play in Payments? (PDF)" speech delivered at The Clearing House Annual Conference 2024, New York, NY, November 12, 2024.