

**Testimony of Ms. Lilya Tessler
Partner, Head of FinTech & Blockchain, Sidley Austin LLP**

**Before the U.S. House Financial Services Committee
Subcommittee on Digital Assets, Financial Technology, and Inclusion**

hearing on

**Next Generation Infrastructure: How Tokenization of Real-World Assets Will Facilitate
Efficient Markets**

June 5, 2024

Chairman Hill, Ranking Member Lynch, and Members of the Subcommittee,

Thank you for the privilege to testify today. It is an honor to be here.

My name is Lilya Tessler. I am a partner at the law firm Sidley Austin, member of the firm's Global Securities Enforcement and Regulatory group, and head of the firm's FinTech and Blockchain practice.

The views I share are my own and do not represent those of my colleagues, my law firm, our clients, or any other person or organization.

I. Background and Practice

I began my career over 15 years ago, advising financial institutions on the application of securities laws to innovative technologies. At the time, new technologies included electronic trading using algorithmic trading tools and alternative trading systems, which revolutionized equity market structure. Over the years, I advised clients as an in-house counsel at broker-dealers and accounting firms, and as outside counsel to many well-known technology companies and financial institutions. I was a certified public accountant and held FINRA Series 7 and 24 licenses.

Eight years ago, I started representing blockchain technology companies on novel legal issues in implementing the technology not only in financial services, but across numerous industries. I currently advise clients on tokenizing real-world assets, including public and private securities offerings. I counsel financial institutions and digital asset exchanges with day-to-day securities issues, custody rule considerations, cross-border regulatory issues, as well as broker-dealer and investment adviser registration requirements. I also advise clients in U.S. Securities and Exchange Commission (SEC), Financial Industry Regulatory Authority, Inc. (FINRA), and Commodity Futures Trading Commission (CFTC) investigations and litigation that relates to complex digital asset legal and regulatory issues.

I serve in leadership positions at several blockchain industry groups and frequently speak on topics in FinTech, with a particular focus on distributed ledger technology, blockchain tokens, and digital asset trading platforms. Most recently, I co-led a working group of academics and practitioners

composed primarily of lawyers, former federal regulators, and legal scholars to develop Proposed U.S. Disclosure Guidelines For a Particular Category of Tokens.¹

In many respects, blockchain technology is similar to other emerging technologies that changed the way companies conduct business, interact with their customers, and offer products to the market. In other hearings, you heard about blockchain native digital assets that are different from traditional assets and require a new regulatory regime, which was proposed in the Financial Innovation and Technology for the 21st Century Act and passed by the House last month.² Unlike those hearings, my testimony today will focus on the traditional assets, also known as real-world assets, with existing laws and regulations that are applicable to such assets irrespective of the technology used to record them. It is important for the Committee to focus on the ability to use blockchains to tokenize physical and intangible assets because tokenization provides the United States the capability to bring the real-world into the digital age.

Today, I will focus my remarks on:

- Establishing a baseline understanding of tokenization of real-world assets with a few examples; and
- Providing a deeper dive into one particular use case, the tokenization of alternative investments and relevant regulatory considerations.

As I will convey today, tokenized real-world assets are already subject to existing laws and regulations, but the regulations and regulators need to provide enough flexibility to fully realize the capabilities of this new technology.

II. Understanding Blockchain and Tokenization

First, the concept of using “tokens” in computing is not new or necessarily related to blockchain technology. For example, a token can be a software element that is used to identify and authenticate a user, such as when making payments online, or logging into a secure network. In the context of blockchain, tokenization of real-world assets refers specifically to the process of digitally representing and recording an asset as a token using blockchain technology.

But what is a blockchain? According to the National Institute of Standards and Technology (NIST), blockchains are distributed digital ledgers of cryptographically signed transactions that are grouped into blocks. Each block is cryptographically linked to the previous one (making it tamper evident) after validation and undergoing a consensus decision. As new blocks are added, older blocks become more difficult to modify (creating tamper resistance). New blocks are replicated across copies of the ledger within the network, and any conflicts are resolved automatically using established rules.³

¹ Proposed U.S. Disclosure Guidelines for a Particular Category of Tokens (May 3, 2024), https://www.sidley.com/en/-/media/uploads/mn23267-fintech-and-blockchain-symposium--token-standardized-disclosures-document_fnl.pdf?la=en.

² H.R. 4763, 118th Congress (2023-2024).

³ Nat’l Inst. of Standards & Tech., U.S. Dep’t of Comm., NISTIR 8202, Blockchain Technology Overview (Oct. 2018), <https://nvlpubs.nist.gov/nistpubs/ir/2018/nist.ir.8202.pdf>.

That definition contains some highly technical concepts, but I want to underline that a blockchain is a *digital ledger*. In other words, a blockchain is simply a database. It is a special type of database, and there are key differences between blockchains and traditional databases that provide users with additional capabilities which I will discuss shortly, but it is important to keep in mind that a core function of a blockchain is to record and organize information, just like any other database.

Today, we see that innumerable types of “real-world assets” are digitally represented in electronic databases. From manufacturing to retail, most companies manage their inventory and purchase orders of real-world assets (widgets, oranges, handbags, shoes, etc.) using electronic databases. This is largely uncontroversial, and has long been true in the world of finance and securities as well.⁴ After the so-called “Paperwork Crisis” in the late 1960s and early 1970s, Congress noted that securities markets “had resisted industry modernization” and had been “unable or unwilling to respond promptly and effectively to radically altered economic and technological conditions,”⁵ and directed the SEC “to end the physical movement of securities certificates in connection with the settlement ... of transactions in securities.”⁶ We already live in a digital world, so we should embrace blockchain as a tool to provide for more digital capabilities.

Tokenization – the act of recording data digitally on a blockchain – has the opportunity to be the latest evolution in “economic and technological conditions” advancing U.S. commerce and finance.

III. Tokenized Real-world Assets

Anything that is “tokenized” and recorded using a blockchain generally falls within the term “digital asset,” leading to confusion among regulators, lawmakers, and even market participants using such terms.⁷ But progress is being made. In March of this year, the CFTC’s Global Markets Advisory Committee (GMAC) recommended a “functional taxonomy” for digital assets to the CFTC.⁸ The GMAC Taxonomy defines “tokenized securities” as a controllable electronic record that represents an underlying security.⁹ This definition draws on the work of drafters of the Uniform Commercial Code (UCC), whose new Article 12 has already been enacted in several states after being approved in 2022.¹⁰

The GMAC’s recommendation recognizes that blockchain tokens may serve a variety of functions and uses, and that different classifications of tokens may exist, depending on the characteristics of

⁴ See DTCC, *From Physical To Digital: Advancing the Dematerialization of U.S. Securities* (Sept. 21, 2020) available at: <https://www.dtcc.com/dtcc-connection/articles/2020/september/21/from-physical-to-digital-advancing-dematerialization-of-us-securities>.

⁵ See SEC Securities Act Release No. 8398 (Mar. 11, 2004), 69 FR 12921 (Mar. 18, 2004) at note 102.

⁶ 15 U.S.C. 78q-1(e).

⁷ See CFTC, *DIGITAL ASSETS PRIMER* (Dec. 2020), <https://www.cftc.gov/PressRoom/PressReleases/8336-20>, noting that, “a single, widely-accepted definition of ‘digital asset’ has yet to emerge.”

⁸ See CFTC Press Release No. 8873-24, CFTC’s Global Markets Advisory Committee Advances 3 Recommendations (Mar. 7, 2024), *Adoption of an Approach for the Classification and Understanding of Digital Assets*, <https://www.cftc.gov/PressRoom/PressReleases/8873-24> (herein, GMAC Taxonomy).

⁹ *Id.*

¹⁰ Article 12 of the UCC applies to “controllable electronic records,” but excludes from its scope any digital assets that meet the definition of assets covered elsewhere in the UCC, such as deposit accounts, electronic money, and investment property. See ULA UCC § 12-102(a)(1).

a particular token. This approach has been called a “sensible token classification system,”¹¹ and recognizes that the technological act of tokenization does not change the essential nature or character of the asset being tokenized. Consequently, if the characteristics of a particular token are shared with a regulated instrument that is not itself a digital asset, it should be unnecessary to look beyond the existing classification of the regulated instrument.¹² Accordingly, any asset can be tokenized and remain subject to the laws and regulations that apply to the underlying real-world asset across a variety of industries and activities.¹³

Types of tokenized real-world assets, include, but are not limited to:

- *Securities.* Any security can be, and many have been, tokenized using both public and private blockchains.¹⁴ Although existing regulations apply to tokenized securities, U.S. federal and state regulators still need to consider whether the existing regulations should be revised, or guidance issued to provide for a tokenized securities market structure.¹⁵ I will later discuss an example of tokenized securities that will further illuminate this concept.
- *Bank Deposits.* Digital tokens can be issued by a bank or depository institution which represent an existing record of ownership or claim for a fixed amount of commercial bank money denominated in a single currency.¹⁶ The bank and tokenized deposits are still subject to applicable banking regulations.
- *Gold.* A token can be a digital representation of a bar of gold. Gold is a commodity and certain transactions in gold are subject to the Commodity Exchange Act.¹⁷ A tokenized gold transaction needs to comply with the same legal and regulatory requirements for equivalent transactions in physical gold.¹⁸

¹¹ Lee A. Schneider & Sylvia Sanchez, *Understanding and Classifying Blockchain Tokens*, Int’l J. of Blockchain Law – Volume 8 (March 2024), available at https://assets.ctfassets.net/so75yocayyva/3A8xGMSRkSTM1FSptkrrqU/8014c57336ed8e4efb7dde7622054aed/International_Journal_of_Blockchain_Law_-_Volume_VIII.pdf.

¹² *Id.*

¹³ In addition, not all tokenized real-world assets will be financial instruments, but those that are should be regulated accordingly, irrespective of the use of technology.

¹⁴ NIST defines a public (or “permissionless”) blockchain as a “system where all users’ permissions are equal and not set by any administrator or consortium,” and a private (or “permissioned”) blockchain as a “system where every node, and every user must be granted permissions to utilize the system (generally assigned by an administrator or consortium).” Nat’l Inst. of Standards & Tech., U.S. Dep’t of Comm., NISTIR 8202, *Blockchain Technology Overview* (Oct. 2018), <https://nvlpubs.nist.gov/nistpubs/ir/2018/nist.ir.8202.pdf>.

¹⁵ FINRA, *Distributed Ledger Technology: Implications of Blockchain for the Securities Industry* (Jan. 2017), http://www.finra.org/sites/default/files/FINRA_Blockchain_Report.pdf.

¹⁶ See GMAC Taxonomy. See also Bank for International Settlements, *Projects: Project Agora* (last updated May 14, 2024), <https://www.bis.org/about/bisih/topics/fmis/agora.htm>.

¹⁷ 7 U.S.C. § 1a(9).

¹⁸ CFTC regulatory provisions apply to commodity transactions with retail customers (i.e., non-Eligible Contract Participants) with leverage, margin, or otherwise financed by the offeror, and where there is not “actual delivery” of the commodity within 28 days. Thus, if tokenized gold transactions are not entered into or offered on a leveraged or margined basis, or otherwise financed by the offeror, they should not trigger these provisions. See 7 U.S.C. § 2(c)(2)(D).

- *Food and Drugs.* Any food or pharmaceutical products may be recorded and tracked on a blockchain, including stages of production, location, temperature, expiration dates, and authenticity, among other information. Nevertheless, the existing federal food and drug regulations apply to the tokenized assets and the information stored and transmitted on the blockchain.¹⁹
- *Real Estate.* A token may represent ownership in a parcel of land, a lease of a condo, or a mortgage on a home. Real estate ownership, leases, and mortgages are subject to local and state laws and contractual rights, but all these assets can be recorded using a blockchain ledger and the laws need to provide for flexibility to allow for tokenization of such real-world assets.²⁰

IV. Capabilities for A Tokenized Digital Economy

Tokenization is often talked about in terms of “pros and cons” or “benefits and challenges,” but I prefer to think of it in terms of capabilities. Like other technologies, blockchains enable users to record and transfer an asset in new or different ways, but no technology is a silver bullet that solves all problems. Today, reliance on paper records and siloed technology systems can result in certain transactions taking days to transmit and reconcile. The time and cost for this process varies by asset type, but every industry has the potential for some improvement by integrating a blockchain’s capabilities. If a real-world asset is tokenized in the blockchain ecosystem, then certain existing processes will become redundant and obsolete.

Tokenized hedge fund shares are a useful example of how the capabilities of blockchain technology can be effectively deployed. The offer, sale, trading, and custody of these shares involve financial institutions that operate in a highly regulated and complex environment. If existing regulations provide for flexibility to implement the technology for such tokenized securities, then the securities markets can benefit from increased capabilities that can be integrated into the technology.²¹ These capabilities may include:

- *Efficiency.* A blockchain smart contract enables automation of processes, such as settlement of transactions, shareholder distributions and capital calls, as well as reliance on blockchain data for easier reporting, reconciliation, and recordkeeping.
- *Risk reduction.* Smart contracts and transparent ledgers can be used to program compliance features, such as digital identity, Anti-Money Laundering/Know Your Customer (AML/KYC), investor accreditation verification, and technology-

¹⁹ See 21 C.F.R. Part 117.

²⁰ See Texas HB 5067 Relating to a study by the General Land Office on the establishment and implementation by the General Land Office of a distributed ledger-based title registry pilot program, 88(R) (May 11, 2023), <https://capitol.texas.gov/BillLookup/History.aspx?LegSess=88R&Bill=HB5067>.

²¹ See, e.g., Katya Malinova & Andreas Park, *Learning from DeFi: Would Automated Market Makers Improve Equity Trading?* (May 25, 2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4531670; See also Bank for International Settlements, Projects: Project Agora (last updated May 14, 2024), <https://www.bis.org/about/bisih/topics/fmis/agora.htm>.

enforced regulatory transfer restrictions. In addition, atomic settlement can reduce counterparty settlement risk.

- *Enhanced distribution.* By reducing the issuer’s operational and management costs and investment minimums, a tokenized security may be accessible by more investors, subject to existing regulatory requirements.
- *Liquidity.* By automating the “paperwork” involved in private securities transfers (including compliance checks), electronic trading facilities (such as liquidity pools) can operate beyond normal U.S. business hours to provide for enhanced distribution and greater liquidity of typically illiquid hedge fund shares.
- *Programmability.* Given tokens can interact with a variety of smart contracts, tokenization may lead to the development of new economic applications, due to enhanced capabilities to use tokenized assets “on-chain,” such as transactions secured with tokenized collateral.

If the existing regulations do not allow all market participants in the trade flow to rely on blockchain information as the true record of ownership of the tokenized securities, then many of these capabilities will be under-realized. Currently, due to existing regulatory guidance and lack of clarity, some issuers have resorted to using a “dual-ledger” approach, where there is a blockchain record of ownership, but the issuer’s transfer agent (or its equivalent) also maintains an “off-chain” record of ownership that serves as the official ownership record. Rather than reducing redundancies, this approach simply creates another. As a result, these issuances are tokenized securities, but cannot take advantage of all the tokenization capabilities until the blockchain is the official record of ownership which is accessed and used by all market participants.

V. Tokenized Security Market Structure

As with all real-world assets, blockchain can tokenize any securities, including alternative investments. The term “alternative investment” includes different types of investment vehicles such as hedge funds, private equity, and private credit, but the one common thread is that these investments do not have a liquid secondary market. Tokenizing securities has the potential to create secondary liquidity within the confines of the existing securities laws. Using tokenized securities, a hedge fund’s shares, as an example, can help illustrate the capabilities of blockchain technology mentioned earlier – as well as areas where existing regulatory interpretations or uncertainty constrain blockchain technology’s capabilities.

- *Issuers.* A hedge fund may issue securities reflected in a traditional ledger, or as tokenized securities on a blockchain. The method used to record securities is generally a matter of state law, not the federal securities laws.²² In fact, certain states expressly allow for the use of blockchains to record security ownership.²³ Blockchain has been recognized as a “superior solution” to traditional financial

²² See, e.g., Delaware General Corporation Law (DGCL) § 158.

²³ See, e.g., 81 Del. Laws, c. 86, §§ 5, 6.

recordkeeping for nearly 10 years.²⁴ Hedge fund shares are generally sold as private securities and rely on exemptions from registration under the securities laws.²⁵ Tokenized securities rely on these same exemptions, but with the ability to program regulatory compliance requirements into the tokens' code.²⁶ The blockchain also provides the ability to share the tokenized securities information with other market participants, such as broker-dealers and trading venues, in real-time, which provides for efficiency and enables a more liquid secondary market. If a hedge fund does not have the technical expertise to perform the work of "tokenization," then it can outsource this function to a blockchain technology company or transfer agent.²⁷ Technology companies specialize in tokenizing securities using blockchain technology while taking into consideration existing regulations when programming the technology related to the tokenized security. Although the regulatory obligation to comply with securities laws remains with the issuer, a transfer agent can be used to perform certain compliance functions.

- *Investment Advisers.* Hedge funds are managed by investment advisers that are either registered with the SEC or exempt from registration.²⁸ A registered investment adviser (RIA) is required to maintain its client's (i.e., the hedge fund's) funds and securities with a qualified custodian, typically a bank, broker-dealer, or clearing agency, among others.²⁹ Although the Custody Rule appears simple on its face, each type of qualified custodian may have different regulations that are applicable to custody and safekeeping of tokenized securities.³⁰ RIAs that invest in tokenized securities must be able to procure the services of a qualified custodian capable of custodying such assets on the blockchain. If there is no qualified

²⁴ See generally David Yermack, Corporate Governance and Blockchains (Nat'l Bureau of Econ. Research, Working Paper No. 21802, 2015). See also Vice Chancellor J. Travis Laster, The Block Chain Plunger: Using Technology to Clean Up Proxy Plumbing and Take Back the Vote (Sept. 29, 2016), https://www.cii.org/files/09_29_16_laster_remarks.pdf.

²⁵ A hedge fund will likely meet the definition of an "investment company" and thus need to rely on an exemption from registration under the Investment Company Act of 1940 (Company Act), typically Sections 3(c)(1) or 3(c)(7). See 15 U.S.C. § 80a-3(a); 15 U.S.C. § 80a-3(c)(1); 15 U.S.C. § 80a-3(c)(7). In addition, hedge fund shares are typically sold pursuant to an exemption from registration under the Securities Act of 1933 (Securities Act), such as Rule 506(b). See 15 U.S.C. § 77d(a)(2) and 17 C.F.R. § 230.506(b).

²⁶ For example, Sections 3(c)(1) or 3(c)(7) under the Company Act place limits on the number of beneficial owners of each hedge fund, which can be easily tracked for tokenized securities using blockchain technology. Among other things, SEC Rule 506(b) requires determining whether purchasers meet the definition of an "accredited investor" under the Securities Act. Blockchain technology can streamline the process of identifying and verifying persons who meet the definition of an accredited investor, as well as programming any required transfer restrictions into the code.

²⁷ Although transfer agents for privately issued securities are not required to register with the SEC, some technology companies that perform these activities have made the decision to do so. See 15 U.S.C. 78q-1(c)(1).

²⁸ See 15 U.S.C. § 80b-2(a)(11) and 15 U.S.C. § 80b-3. Investment managers who solely advise private funds that amount to less than \$150 million in total assets are exempt from registration with the SEC. 17 C.F.R. § 275.203(m)-1.

²⁹ 17 C.F.R. § 275.206(4)-2 (Custody Rule). The SEC has proposed sweeping changes to the Custody Rule. See SEC, Safeguarding Advisory Client Assets, Investment Advisers Act Rel. No. 6240 (Feb. 15, 2023), <https://www.sec.gov/files/rules/proposed/2023/ia-6240.pdf>.

³⁰ For example, a qualified custodian that is a broker-dealer is subject to the Customer Protection Rule (17 C.F.R. § 240.15c3-3) and related SEC guidance, while a qualified custodian that is a bank may be subject to the rules and regulations of the Office of the Comptroller of the Currency, the Board of Governors of the Federal Reserve System, the Federal Deposit Insurance Corporation, or state banking authorities, as applicable.

custodian willing to custody tokenized securities, the consequences will flow through the entire market structure; many RIAs will not invest in tokenized securities, private securities issuers (including hedge funds) may not tokenize their securities, and therefore the securities markets will not be able to fully realize the capabilities offered by this technology.

- *Broker-Dealers.* Any persons selling or otherwise effecting transactions in tokenized securities typically must be registered with the SEC as brokers or dealers and be members of FINRA.³¹ Broker-dealers that sell tokenized private securities, must ensure that the transaction relies on a valid exemption from registration and comply with custody requirements, among other things.³² Recognizing the market demand for tokenized securities, the SEC has sought to allow trading of tokenized securities while mitigating perceived risks. To that end, the SEC and FINRA provided guidance that restricted certain tokenized securities activities by broker-dealers.³³ Years later, the SEC provided guidance that would permit a new type of “special purpose” broker-dealer to custody tokenized securities, but not to custody traditional securities.³⁴ This position creates confusion, since a tokenized security is a traditional security that is recorded on a blockchain. This is a fundamental question in a market where tokenized real-world assets are digital representations of the underlying assets that needs to be addressed to truly realize the capabilities offered by this technology.
- *Trading Venues.* Since hedge fund shares are not registered securities, they are generally not permitted to trade on national securities exchanges.³⁵ Instead, the shares are often traded (if traded at all) “over the counter” (OTC) by broker-dealers or investors. If these shares are tokenized securities, they can be supported by alternative trading systems to create a liquid secondary trading market.³⁶ The SEC and FINRA approved tokenized securities trading venues, but the permitted operations and available infrastructure for these trading venues is different from what exists for traditional securities, which limits the ability of broker-dealers to

³¹ 15 U.S.C. § 78o.

³² Each private sale of a tokenized security facilitated by a broker-dealer must have a valid exemption from registration under the Company Act, Securities Act, and Exchange Act. A broker-dealer that has possession or control of tokenized securities must custody the assets in compliance with the Customer Protection Rule (17 C.F.R. § 240.15c3-3).

³³ Div. of Trading & Mkts., U.S. Sec. & Exch. Comm’n, Off. of Gen. Counsel, Fin. Indus. Reg. Auth., Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities (July 8, 2019), <https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities>.

³⁴ On December 23, 2020, the SEC issued a statement simultaneously (1) soliciting comment on best practices and standards relating to custody of digital assets; and (2) implementing temporary no-action relief relating to custody for a five-year period, which is set to expire in December 2025. This is known as the “Special Purpose Broker-Dealer (SPBD) Statement.”

³⁵ 15 U.S.C. § 78l.

³⁶ A broker-dealer may rely on an exemption from registration as a national securities exchange to operate a trading venue, registered with the SEC as an alternative trading system (ATS). An ATS can be used to create a liquid secondary market for the tokenized hedge fund shares but with technology capabilities to ensure that secondary trading complies with any relevant exemptions under the Company Act, Securities Act, and Exchange Act.

integrate custody functionality.³⁷ Unless the entire trade flow of a tokenized security is on-chain, the capabilities offered by blockchain technology cannot be fully realized.

The current market for tokenized real-world assets, at least in the securities space, cannot entirely develop until regulations treat these assets like any other traditional asset. The same may be true for other tokenized real-world assets, across many industries, that can take advantage of a blockchain's capabilities, but may be challenged by outdated regulations providing for recordkeeping in paper form or transmitting data by mail couriers, which is not practical in a digital economy.

VI. Conclusion

Tokenization does not change the essential nature of an asset. A security represents the same bundle of rights, whether it is represented by a paper certificate, an entry on a centralized database, or a token on a decentralized blockchain ledger. However, regulatory considerations for securities market participants that utilize a blockchain ledger as opposed to a traditional database are still being considered by the market and regulators. I urge the Committee to continue to learn about the capabilities offered by blockchain technology and how the tokenization of real-world assets can support the United States in being the leader in a digital world.

I appreciate the Committee's time today and look forward to addressing any questions you may have. Thank you.

³⁷ On September 25, 2020, the SEC's Division of Trading & Markets issued a no-action letter to FINRA describing viable noncustodial trading models for broker-dealers wishing to operate an ATS for tokenized securities. Letter from Elizabeth Baird, Deputy Dir., Div. of Trading & Mkts, SEC, to Kris Dailey VP, Risk Oversight and Operations, FINRA (Sept. 25, 2020), <https://www.sec.gov/divisions/marketreg/mr-noaction/2020/finra-ats-role-in-settlement-of-digital-asset-security-trades-09252020.pdf>.