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The Intersection of NFTs and Structured Finance

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RESPONSE

THE INTERSECTION OF NFTS AND STRUCTURED FINANCE[†]

CHRISTOPHER K. ODINET* & ANDREA TOSATO**

ABSTRACT

Blockchain technology, cryptocurrencies, stablecoins and nonfungible tokens (NFTs) continue to invade financial markets. Whether through partnerships between financial institutions and tech firms or through in-house initiatives at some of the nation's largest banks, blockchain-based products, services, and transactional structures are a major point of interest. In a recent work by Steven Schwarcz, the growing NFT market is analyzed using the traditional tools of structured finance. Creating a new conceptual model called non-cash-flow monetizations, Schwarcz reveals the risks to investors and markets if the tokenization of nontraditional and largely illiquid assets proliferates. Having identified the potential harms, he offers a package of regulatory solutions grounded in public law frameworks, which might mitigate, though not completely eliminate, these potential downsides. In this Response, we review Schwarcz's article and highlight how its insights advance the understanding of novel blockchain-based transactions and their disruption of the existing financial landscape. Additionally, we provide an analysis of the private law dimension of non-cash-flow monetizations—a perspective we believe is absent from much of the public discourse and relevant academic literature.

[†] An invited response to Steven L. Schwarcz, *Next-Generation Securitization: NFTs, Tokenization, and the Monetization of "Things,"* 103 B.U. L. REV. 967 (2023).

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INTRODUCTION

Blockchain and nonfungible tokens (“NFTs”) are playing an increasingly large role in financial markets.¹ For example, since 2017, numerous entrepreneurs have used fungible tokens to raise funds for their businesses through so-called “initial coin offerings.”² Over the past five years, a multitude of “DeFi” firms have started offering investment opportunities associated with lending crypto—often referred to as “yield farming.”³ More recently, the Bank of New York Mellon announced that it would launch a digital custody platform enabling its clients to hold and trade bitcoin and ether.⁴

These activities call for exhaustive theoretical investigation through the lenses of financial regulation. Contributing to a small but growing body of literature, Steven Schwarcz has recently authored an excellent article titled *Next-Generation Securitization: NFTs, Tokenization, and the Monetization of “Things.”*⁵ In this piece, Schwarcz situates current crypto market transactions involving NFTs within the broad landscape of structured financial transactions—specifically, asset-backed securitizations.⁶ He refers to the use of NFTs to tokenize assets that do not generate revenue streams as “non-cash-flow monetizations” and meticulously explains how these transactions can be dangerous to both investors and to society at large if left unregulated.⁷ His article concludes by providing a set of normative solutions aimed at protecting investors and mitigating market risks.⁸

In this Response, we review Schwarcz’s article. First, we highlight the ways in which the article introduces novel ways of thinking about transactional structures involving NFTs. Thereafter, we identify areas that warrant further exploration, with particular attention to those that relate to private law.

¹ See, e.g., Ensuring Responsible Development of Digital Assets, Exec. Order No. 14067, 87 Fed. Reg. 14143 (Mar. 9, 2022); Anna Irrera, Suvashree Ghosh & Yueqi Yang, *Wall Street Giants Spy Opportunities Rising from FTX Ashes*, BLOOMBERG (Jan. 30, 2023, 12:23 PM), <https://www.bloomberg.com/news/articles/2023-01-30/wall-street-giants-spy-opportunities-rising-from-ftx-ashes>.

² See *Initial Coin Offerings (ICOs)*, U.S. SEC. & EXCH. COMM’N, <https://www.sec.gov/ICO> [<https://perma.cc/R9UD-HFBB>] (last updated Apr. 11, 2023).

³ See Carine Lee, *How the Celsius Network Operates and Why It’s in Trouble*, CAPITAL.COM (July 25, 2022, 6:15 AM), <https://capital.com/how-the-celsius-crypto-lending-platform-works-and-why-it-isn-t> [<https://perma.cc/7CU7-YS8N>].

⁴ Press Release, Bank of New York Mellon, BNY Mellon Launches New Digital Asset Custody Platform (Oct. 11, 2022), <https://www.bnymellon.com/us/en/about-us/newsroom/press-release/bny-mellon-launches-new-digital-asset-custody-platform-130305.html> [<https://perma.cc/U6JW-5EYX>].

⁵ See generally Steven L. Schwarcz, *Next-Generation Securitization: NFTs, Tokenization, and the Monetization of “Things,”* 103 B.U. L. REV. 967 (2023) [hereinafter Schwarcz, *NFTs*].

⁶ *Id.* at 970-79.

⁷ *Id.* at 973.

⁸ *Id.* at 999-1002.

I. SCHWARCZ'S OBSERVATIONS OF CRYPTO AND COMPLEX FINANCE

While there are numerous accounts of the inner workings of crypto technology and even some constructive pieces on the intersection of financial regulation and crypto markets,⁹ Schwarcz's paper takes the literature a step further. His research shows us how existing transactional structures—particularly ones that are all too familiar to those who study risk in financial

⁹ The literature on crypto and blockchain legal issues is too vast to contain in a single footnote. Here we provide a sampling. *See generally* HILARY J. ALLEN, DRIVERLESS FINANCE: FINTECH'S IMPACT ON FINANCIAL STABILITY (2022); CHRIS BRUMMER, CRYPTOASSETS LEGAL, REGULATORY, AND MONETARY PERSPECTIVES (2019); MICHAEL J. CASEY & PAUL VIGNA, THE TRUTH MACHINE: THE BLOCKCHAIN AND THE FUTURE OF EVERYTHING (2018); PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW (2018); JOSHUA A.T. FAIRFIELD, OWNED: PROPERTY, PRIVACY, AND THE NEW DIGITAL SERFDOM (2017); JOSHUA A.T. FAIRFIELD, RUNAWAY TECHNOLOGY: CAN LAW KEEP UP? (2021); DAVID GERARD, ATTACK OF THE 50 FOOT BLOCKCHAIN: BITCOIN, BLOCKCHAIN, ETHEREUM AND SMART CONTRACTS (2017); ADAM GREENFIELD, RADICAL TECHNOLOGIES: THE DESIGN OF EVERYDAY LIFE (2017); ANTONY LEWIS, THE BASICS OF BITCOINS AND BLOCKCHAINS (2018); KEVIN WERBACH, THE BLOCKCHAIN AND THE NEW ARCHITECTURE OF TRUST (2018); STEPHEN P. WILLIAMS, BLOCKCHAIN: THE NEXT EVERYTHING (2019); DEL WRIGHT JR., A SHORT & HAPPY GUIDE TO BITCOIN, BLOCKCHAIN, AND CRYPTO (2020); Michael Abramowicz, *Cryptocurrency-Based Law*, 58 ARIZ. L. REV. 359 (2016); Hilary J. Allen, *\$=€=Bitcoin?*, 76 MD. L. REV. 877 (2017); Jerry Brito, Houman Shadab & Andrea Castillo, *Bitcoin Financial Regulation: Securities, Derivatives, Prediction Markets, and Gambling*, 16 COLUM. SCI. & TECH. L. REV. 144 (2014); Eric D. Chason, *Cryptocurrency Hard Forks and Revenue Ruling 2019-24*, 39 VA. TAX REV. 279 (2019); Eric D. Chason, *How Bitcoin Functions as Property Law*, 49 SETON HALL L. REV. 129 (2018); Eric D. Chason, *Smart Contracts and the Limits of Computerized Commerce*, 99 NEB. L. REV. 330 (2020); Shaanan Cohnney, David Hoffman, Jeremy Sklaroff & David Wishnick, *Coin-Operated Capitalism*, 119 COLUM. L. REV. 591 (2019); Joshua A.T. Fairfield, *Bitproperty*, 88 S. CAL. L. REV. 805 (2015); Joshua A.T. Fairfield, *Tokenized: The Law of Non-Fungible Tokens and Unique Digital Property*, 97 IND. L.J. 1261 (2022) [hereinafter Fairfield, *Tokenized*]; Sarah Jane Hughes & Stephen T. Middlebrook, *Advancing a Framework for Regulating Cryptocurrency Payments Intermediaries*, 32 YALE J. ON REG. 495 (2015); Trevor I. Kiviat, *Beyond Bitcoin: Issues in Regulating Blockchain Transactions*, 65 DUKE. L.J. 569 (2015); Ronald J. Mann, *Reliable Perfection of Security Interests in Cryptocurrency*, 21 SMU SCI. & TECH. L. REV. 159 (2018); Omri Marian, *Are Cryptocurrencies Super Tax Havens?*, 112 MICH. L. REV. FIRST IMPRESSIONS 38 (2013); Juliet M. Moringiello & Christopher K. Odinet, *The Property Law of Tokens*, 74 FLA. L. REV. 607 (2022) [hereinafter Moringiello & Odinet, *Tokens*]; Max Raskin, *The Law and Legality of Smart Contracts*, 1 GEO. L. TECH. REV. 305 (2017); Carla L. Reyes, *Moving Beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal*, 61 VILL. L. REV. 191 (2016); Usha R. Rodrigues, *Law and the Blockchain*, 104 IOWA L. REV. 679 (2019); Jonathan Rohr & Aaron Wright, *Blockchain-Based Token Sales, Initial Coin Offerings, and the Democratization of Public Capital Markets*, 70 HASTINGS L.J. 463 (2019); Jeanne L. Schroeder, *Bitcoin and the Uniform Commercial Code*, 24 U. MIA. BUS. L. REV. 1 (2016); Jeremy M. Sklaroff, *Smart Contracts and the Cost of Inflexibility*, 166 U. PA. L. REV. 263 (2017); Kevin V. Tu & Michael W. Meredith, *Rethinking Virtual Currency Regulation in the Bitcoin Age*, 90 WASH. L. REV. 271 (2015); Kevin Werbach & Nicolas Cornell, *Contracts Ex Machina*, 67 DUKE L.J. 313 (2017); Kevin Werbach, *Trust, But Verify: Why the Blockchain Needs the Law*, 33 BERKELEY TECH. L.J. 487 (2018).

markets—can serve as a powerful tool in helping investors and regulators think about crypto financial products and services. In this Part I, we highlight Schwarcz’s contribution to the financial law literature.

A. *Novel Transactional Structures*

Part I of Schwarcz’s article presents a novel transactional setup to deploy NFTs as marketable securities.¹⁰ Schwarcz begins by describing the traditional securitization structure, which involves turning an otherwise illiquid asset into a liquid investment product.¹¹ This is predominantly achieved by turning assets that generate cash over a long period of time, such as loans and accounts receivable, into securities by pooling them into corporate structures, whereby certificates representing indirect interests in these cash-generating assets are sold to investors in the capital markets.¹²

The residential mortgage-backed security is a prime example. In this instance, the cash-generating asset is the mortgage loan, which is payable over a period of roughly fifteen to thirty years by borrowers according to set terms.¹³ The holder of such a loan sells it to a securitization sponsor who pools it, along with hundreds of others, into a special purpose vehicle (“SPV”)—typically a corporate trust.¹⁴ In exchange for receiving the financial assets, the trust issues certificates to the sponsor, who sells them in the capital markets.¹⁵ As the mortgage loan borrowers make their payments, cash accrues to the trust and, subsequently, to the holders of the certificates.¹⁶ This process is called securitization.¹⁷ The certificates are securities, the return on which is “backed” by the mortgage loans—thus the name, “mortgage-backed securities.”¹⁸ The certificate-holder earns a return either by holding the security over a period and receiving the payments or by selling it to someone else at profit. Schwarcz rightly observes that this optionality offers “two ways out” for investors, as they

¹⁰ See Schwarcz, *NFTs*, *supra* note 5, at 979.

¹¹ See *id.* at 979-84.

¹² See *id.* For two seminal works on this process, see STEVEN L. SCHWARCZ, *STRUCTURED FINANCE: A GUIDE TO THE PRINCIPLES OF ASSET SECURITIZATION* (Adam D. Ford ed., 3d ed. 2002 & Supp. 2010); and TAMAR FRANKEL, *SECURITIZATION: STRUCTURED FINANCING, FINANCIAL ASSET POOLS, AND ASSET-BACKED SECURITIES* (Ann Taylor Schwing ed., 2d ed. 2016).

¹³ See CHRISTOPHER K. ODINET, *FORECLOSED: MORTGAGE SERVICING AND THE HIDDEN ARCHITECTURE OF HOMEOWNERSHIP IN AMERICA* 25-29 (2019) [hereinafter ODINET, *FORECLOSED*].

¹⁴ See Christopher K. Odinet, *Modernizing Mortgage Law*, 100 N.C. L. REV. 89, 114-18 (2021).

¹⁵ See *id.* at 115.

¹⁶ See *id.*

¹⁷ See *id.* at 115-16.

¹⁸ See *id.*

can either collect regular income or sell the mortgage-backed security in the open market.¹⁹

With this established, Schwarcz turns to the novel use of securitization to monetize non-cash-flow generating assets through NFTs and other blockchain tokens.²⁰ Schwarcz notes that NFTs are used to represent a variety of high-value, nonfinancial assets such as utility rights, license rights, paintings, digital artworks, and cars.²¹ As written elsewhere, the crux of the NFT craze relates to the concept of crypto *tokenization*.²² This refers to the process whereby the owner “of a tangible or intangible asset” creates “a digital item (essentially, an entry in a blockchain ledger)” and that digital item “is to be identified with the asset itself.”²³ The digital item referred to here is a nonfungible token because it is uniquely identifiable and one of a kind within the network in which it exists—and the tangible or intangible asset is the thing that is now tokenized.²⁴ According to their issuers, ownership of these NFTs also conveys ownership or other stipulated rights in the underlying asset to which it is supposedly tethered.²⁵

In describing these transactions, Part I of Schwarcz’s article breaks the process down into three parts: inputs, intermediate structures, and outputs.²⁶ The inputs, Schwarcz explains, are the non-cash-generating assets themselves.²⁷ These, in essence, are the things that people wish to tokenize.²⁸ He uses the example of works of art that, once tokenized, will result in a number of interests that investors can purchase.²⁹ In this part he differentiates between “tokenization” and “NFT transactions.”³⁰ The former involve “the monetization of high-value nonfinancial assets, like fine art, collectible cars, rare books, and prestigious real estate, by creating and issuing to investors interests in those assets.”³¹ Looking to the latter, Schwarcz observes that

NFTs originally represented (using industry terminology) interests in utility and license rights. These rights are the inputs. Utility rights comprise an underlying use or application, such as providing special access, perquisites, or opportunities. . . . NFT interests in license rights include, for

¹⁹ Schwarcz, *NFTs*, *supra* note 5, at 971.

²⁰ *See id.* at 979-84.

²¹ *Id.* at 981-82.

²² *See Moringiello & Odinet, Tokens*, *supra* note 9, at 609.

²³ *Id.* at 611.

²⁴ *Id.*

²⁵ *See id.* at 631.

²⁶ *See* Schwarcz, *NFTs*, *supra* note 5, at 979-84.

²⁷ *See id.* at 979-82.

²⁸ *See id.*

²⁹ *Id.* at 980-81.

³⁰ *See id.* at 980-82.

³¹ *Id.* at 980 (footnote omitted).

example, the right to use and/or display photography, digital art, domain names, trading cards and collectibles, and digital/virtual items.³²

Moving to the intermediate structure, Schwarcz calls upon the familiar use of bankruptcy-remote SPVs to explain how the input is tokenized.³³ Just as securitization of a financial asset would ordinarily operate, the sponsor of the tokenization (or the NFT transaction, as Schwarcz also describes it) creates the SPV (typically a trust), and the SPV issues certificates or another interest holding device.³⁴ These interest certificates are sold to investors, and the money from these sales is used by the SPV to purchase the non-cash-generating asset.³⁵ Here, as in the more finance-focused example, the placement of the input within the SPV isolates it from the sponsor's creditors.³⁶ This, in turn, creates more certainty for certificate-holders (the outputs) in that whatever claim they have to the input is not exposed to the rights of third persons.³⁷ Notably, Schwarcz acknowledges that it is unclear whether the sponsors of non-cash-flow monetization transactions are always successful in creating SPVs that are bankruptcy remote.³⁸

Lastly, attention shifts to the outputs of non-cash-flow monetizations. Schwarcz continues unpacking non-cash-flow monetization by analogy to traditional cash-flow securitizations.³⁹ He observes that in the former "the outputs are securities issued by the SPV to investors,"⁴⁰ while in the latter "the outputs are the interests sold to investors."⁴¹ Crucially, he highlights that in non-cash-flow monetizations, "sponsors typically use blockchain (or other FinTech cryptography) to securely record ownership and transfers of the interests."⁴²

B. *A Regulatory Framework for Non-Cash-Flow Monetizations*

In Part II and Part III, Schwarcz formulates his blueprint for an effective regulatory framework to restrain non-cash-flow monetizations.⁴³ At the heart of his normative vision lies the tenet that the body of regulations developed for traditional cash-flow monetizations can be adapted for non-cash-flow monetizations: the "same-business, same-risks, same-rules principle."⁴⁴ All that

³² *Id.* at 981-82 (footnote omitted).

³³ *See id.* at 982-83.

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.*

³⁸ *Id.* at 983.

³⁹ *Id.* at 983-84.

⁴⁰ *Id.* at 983.

⁴¹ *Id.*

⁴² *Id.*

⁴³ *See id.* at 984-1002.

⁴⁴ *Id.* at 992.

is required are special rules and exceptions surgically targeting the unique features of the technology in question.⁴⁵

We believe that this is a sound approach for the regulation of non-cash-flow monetizations involving NFTs and other similar tokens. We share Schwarcz's view that financial transactions involving these novel instruments can, and should, be generally subjected to the existing regulatory framework that applies to functionally similar dealings, albeit reliant on legacy technologies. Exceptions and special rules should be introduced only when the utilization of novel technologies creates structural challenges and risks that are not adequately accommodated by the extant provisions. Contrary to popular belief, we see no evidence that NFTs, fungible tokens, blockchains, and other types of distributed ledgers demand the creation of an entirely new and specialized regulatory paradigm.⁴⁶ The words of Gerhard Casper, famously analyzed by Judge Frank Easterbrook, sound as true today as they did during the early days of cyberspace: "'The Law of the Horse' is doomed to be shallow and to miss unifying principles."⁴⁷

Following Easterbrook's guiding star, Schwarz continues articulating his framework. He reminds readers that the objective of a regulatory framework governing monetization transactions—both cash-flow and non-cash-flow—must be twofold: correcting market failures and providing benefits that exceed the regulation's costs.⁴⁸ Regarding the inputs, Schwarz observes that assets used in non-cash-flow monetizations that involve NFTs expose market participants to additional risks because they do not generate revenue streams and often lack a liquid resale market.⁴⁹ Having considered a range of options, he suggests the adoption of regulations that would compel sponsors to make more exhaustive disclosures regarding the nature of the assets used as inputs; moreover, to align their position to that of their investors, he would also obligate sponsors to retain some "minimum (unhedged) investment" in the interests they are selling.⁵⁰ Focusing on systemic risk, Schwarz forcefully and convincingly posits that systemically important financial institutions ("SIFIs") should be limited in the amount of non-cash-flow monetization interests they can hold on their balance sheets.⁵¹

Regarding intermediate structures, Schwarz is unconvinced that it is feasible to demand that sponsors of non-cash-flow monetizations set up bankruptcy

⁴⁵ *Id.* at 983-85.

⁴⁶ See, e.g., Hannah Lang, *U.S. Treasury Encourages New Laws To Address Crypto Regulation Gaps*, REUTERS (Oct. 3, 2022, 4:15 PM), <https://www.reuters.com/technology/us-treasury-encourages-new-laws-address-crypto-regulation-gaps-2022-10-03/> [<https://perma.cc/7Q59-22JE>].

⁴⁷ See Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 UNIV. CHI. LEGAL F. 207, 207.

⁴⁸ See Schwarz, *NFTs*, *supra* note 5, at 991-1002.

⁴⁹ See *id.* at 986-87.

⁵⁰ See *id.* at 991-92.

⁵¹ See *id.*

remote structures.⁵² These transactions are typically too small to support the costs associated with the creation and operation of such corporate entities.⁵³ Drawing an analogy with Article 8 of the Uniform Commercial Code (“UCC”), he proposes instead the introduction of specific legislation under which investor interests in non-cash-flow monetizations would be elevated to property rights in the underlying nonfinancial assets.⁵⁴ We are in complete agreement with this regulatory strategy. From a policy perspective, the suggested approach delivers the necessary level of protection for investors, safeguarding their position from the threat of competing creditors potentially lurking in the shadows. Moreover, the suggestion under consideration would benefit from the wealth of experience amassed by courts and legal practitioners within the UCC Article 8 framework.⁵⁵

Lastly, Schwarcz focuses on regulatory interventions for the outputs generated by non-cash-flow monetizations.⁵⁶ He believes that issuers should be under an obligation to provide extensive disclosures, making all information regarding the NFTs which are being issued easily accessible to the general public.⁵⁷ Nevertheless, Schwarcz candidly admits that this suggestion has limitations.⁵⁸ Such duties have historically been insufficient to avert market failures stemming from irrational and imprudent investment activity.⁵⁹ As such, it is unlikely that the excesses recently witnessed in the world of NFTs would have been significantly curtailed by disclosures explaining the limitations and risks of the interests acquired by investors.⁶⁰

Following this proposal, Schwarcz broadly advocates for regulations grappling with the risks of cyberattacks and technological infrastructure failure in the context of non-cash-flow monetizations.⁶¹ In his view, sponsors of these transactions should be responsible for supplementing the electronic infrastructure of the blockchain network that they are utilizing for their issuances. Schwarcz emphasizes the need for “secure hardware technology” to back the ownership and transfer of investor interests together with any other data critical to the transactions in question.⁶² Schwarcz’s suggestion is enticing, though we would have welcomed more details on the scope, breadth, and limits of these technological duties. We are somewhat concerned by the costs of these prospective obligations and their enforceability in the event of noncompliance.

⁵² See *id.* at 987-88.

⁵³ See *id.* at 992-93.

⁵⁴ See *id.* at 993.

⁵⁵ For a treatise on securities entitlement, see 47 TEXAS JURISPRUDENCE § 47-37 (3d ed. 2022).

⁵⁶ See Schwarcz, *NFTs*, *supra* note 5, at 994-99.

⁵⁷ See *id.* at 994-98.

⁵⁸ See *id.* at 996-98.

⁵⁹ See ODINET, FORECLOSED, *supra* note 13, at 30-31.

⁶⁰ See Moringiello & Odinet, *Tokens*, *supra* note 9, at 663-67.

⁶¹ See Schwarcz, *NFTs*, *supra* note 5, at 1002.

⁶² *Id.*

In our view, Schwarcz's proposed regulatory framework for non-cash-flow monetizations makes several key contributions to the nascent body of scholarship in this field. First, it systematically dissects the structure of these transactions, lucidly distinguishing between foundational and ancillary elements.⁶³ This analysis offers fertile ground for future academic research and will be extremely useful to regulators worldwide.

Second, in identifying key market risks specific to non-cash-flow monetizations,⁶⁴ Schwarcz creates a cogent list of regulatory targets.⁶⁵ In our view, his concern that the illiquidity of the input assets used in these transactions creates a significant risk for all investors, and especially SIFIs, is well founded.⁶⁶ We also share Schwarcz's suspicion that many investors mistakenly conflate "the ease by which blockchain can facilitate the transfer of their interests with the existence of market demand to purchase those interests."⁶⁷ In a similar vein, there is plenty of evidence to support Schwarcz's observation that the transactions in question are often built on shaky foundations due to "mutual misinformation," with neither sponsors nor investors entirely cognizant of the legal and economic complexities underlying non-cash-flow monetizations.⁶⁸

Third, serving as a powerful reminder that "regulation is justified only if its benefits exceed its costs," Schwarcz's article presents a cost-benefit analysis of several alternative measures that might be implemented to redress the risks of these new transactions.⁶⁹ Schwarcz cautiously concedes that his assessments are based on "rough approximations and certain untested assumptions";⁷⁰ nevertheless, his work offers a useful reference for regulators focused on developing a framework for non-cash-flow monetizations.

C. *False Promises of Financial Inclusion*

Another important contribution that Schwarcz's article makes to the NFT literature deals with the broader promise of financial inclusion.⁷¹ Crypto proponents have long argued that blockchain technologies and tokens of various kinds will have a net positive effect when it comes to providing wider access to financial products and services.⁷² Binance, one of the largest exchange platforms

⁶³ See *id.* at 979-84.

⁶⁴ See *id.* at 984-99.

⁶⁵ See *id.* at 999-1002.

⁶⁶ See *id.* at 974-76, 986.

⁶⁷ *Id.* at 988.

⁶⁸ See *id.* at 989, 997.

⁶⁹ *Id.* at 999-1002.

⁷⁰ *Id.* at 999.

⁷¹ For a larger critique of the financial inclusion promise in the broader context of fintech, see generally TERRI FRIEDLINE, *BANKING ON A REVOLUTION: WHY FINANCIAL TECHNOLOGY WON'T SAVE A BROKEN SYSTEM* (2020).

⁷² See, e.g., Ephrat Livni, *As Crypto Tanks, Tech Veterans Question Blockchain's Promise of Economic Salvation*, N.Y. TIMES (June 15, 2022), <https://www.nytimes.com/2022/06/15/business/dealbook-dc-cryptocurrency-task-force.html>.

for cryptocurrencies and other tokens, has argued that “NFTs may be the public’s chosen gateway to cryptocurrency investing and ultimately provide an avenue for financial inclusion.”⁷³ Binance’s now bankrupt competitor, FTX, once funded a program in several African countries to help individuals more easily open crypto trading accounts through the FTX platform.⁷⁴

Schwarcz points out that despite these inclusionary promises and the fact that the fractionalizing of an asset into more investable bites can have desirable outcomes,⁷⁵ the liquidity risk inherent in non-cash-generating monetizations is extremely problematic.⁷⁶ Specifically, the fact that the certificates issued to investors for these assets are themselves not liquid and cannot be easily sold creates an enormous risk.⁷⁷

We note that Schwarcz’s doubts are well-placed in this respect. As explored in a recent report by the Brookings Institute, the mechanics of crypto technologies leave much to be desired when it comes to potential for financial inclusion.⁷⁸ There is indeed a growing number of traditionally financially underserved populations “trying their hand at crypto.”⁷⁹ A University of Chicago study found that 44% of U.S. persons that are engaged in the trading of crypto are people of color.⁸⁰ The Federal Reserve reports that a growing number of underbanked households are also becoming more involved in holding crypto.⁸¹

⁷³ *How NFTs Can Pave the Way for Financial Inclusion in the Philippines*, BINANCE (Dec. 13, 2021), <https://web.archive.org/web/20221128151631/https://www.binance.com/ph/blog/nft/how-nfts-can-pave-the-way-for-financial-inclusion-in-the-philippines-421499824684903163>.

⁷⁴ See Camomile Shumba, *FTX Boosts Global Presence with AZA Finance Link in Africa*, COINDESK (May 8, 2023, 11:40 PM), <https://www.coindesk.com/business/2022/03/16/ftx-strengthens-global-presence-with-aza-finance-link-in-africa/> [https://perma.cc/R3QZ-32UB].

⁷⁵ Schwarcz alludes to another forthcoming work that will ostensibly explore this point more. See generally Steven L. Schwarcz & Robert Bourret, *Fractionalizing Investment Securities: Using FinTech To Expand Financial Inclusion*, 84 OHIO ST. L.J. (forthcoming 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4391083 [https://perma.cc/C5YH-B426].

⁷⁶ See Schwarcz, *NFTs*, *supra* note 5, at 974-76.

⁷⁷ See *id.* at 986.

⁷⁸ See Tonantzin Carmona, *Debunking the Narratives About Cryptocurrency and Financial Inclusion*, BROOKINGS (Oct. 26, 2022), <https://www.brookings.edu/research/debunking-the-narratives-about-cryptocurrency-and-financial-inclusion/> [https://perma.cc/F98S-WN27].

⁷⁹ *Id.*

⁸⁰ *Id.* (citing Press Release, NORC, More than One in Ten Americans Surveyed Invest in Cryptocurrencies (July 22, 2021), <https://www.norc.org/NewsEventsPublications/PressReleases/Pages/more-than-one-in-ten-americans-surveyed-invest-in-cryptocurrencies.aspx> [https://perma.cc/VG7B-AP2W]).

⁸¹ *Id.* (citing BD. OF GOVERNORS, U.S. FED. RESRV. SYS., ECONOMIC WELL-BEING OF U.S. HOUSEHOLDS IN 2021 (2022), <https://www.federalreserve.gov/publications/files/2021-report-economic-well-being-us-households-202205.pdf> [https://perma.cc/W7SA-PEJ6]).

Crypto activities are also notable in Black communities—with one survey revealing that 25% of Black respondents owned crypto.⁸²

The Brookings report, however, highlights a number of areas of weakness in the crypto financial inclusion narrative. The first deals with the actual needs of the unbanked. As a baseline, trading in crypto requires a bank account.⁸³ Access to a bank account is necessary in order for most investors to link actual funds needed to purchase crypto at the outset with a wallet/exchange company where trades occur.⁸⁴ The unbanked, however, do not have access to deposit account services.⁸⁵ This makes the promise of financial inclusion for this group completely illusory.⁸⁶

When it comes to payment methods, households that struggle financially typically need access to funds quickly to pay for food, housing costs, and utilities.⁸⁷ Holding cryptocurrencies and NFTs does not meet this need on the basis that these assets are extremely volatile and sometimes traded in illiquid markets. Moreover, the process of liquidating an individual's crypto holdings can be time-consuming and costly due to the transaction costs involved, especially if the assets involved have relatively low value. And while some crypto assets like stablecoins are meant to address the volatility problem, the cash-out issues remain, not to mention the often illusory nature of a coin's true stability and redemption efficacy.⁸⁸ What unbanked and underbanked households truly need, so empirical data tell us, are “simple, safe, and inexpensive ways to save their money, as well as convenience.”⁸⁹ Crypto transactions, as they currently exist in the market, do not achieve any of these objectives.

To date, crypto has instead remained a largely speculative investment asset.⁹⁰ Schwarcz shrewdly points out the inherent dangers for investors seeking to build wealth by placing their savings in non-cash-flow generating monetizations. Unlike with those who invest in financial asset monetizations, there are no “two

⁸² *Id.*

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ See MEHRSA BARADARAN, TESTIMONY OF MEHRSA BARADARAN, PROFESSOR OF LAW, UNIVERSITY OF CALIFORNIA IRVINE SCHOOL OF LAW, BEFORE THE UNITED STATES SENATE COMMITTEE ON BANKING, HOUSING AND COMMUNITY AFFAIRS 4 (2019), <https://www.banking.senate.gov/imo/media/doc/Baradaran%20Testimony%207-30-19.pdf> [<https://perma.cc/AD8X-43W8>].

⁸⁸ See generally Kara J. Bruce, Christopher K. Odinet & Andrea Tosato, *The Private Law of Stablecoins*, 54 ARIZ. ST. L.J. (forthcoming 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4191646 [<https://perma.cc/J653-97PC>] (discussing legal uncertainties underlying rights of stablecoin holders against companies that issue these assets).

⁸⁹ Carmona, *supra* note 78.

⁹⁰ See Bruce et al., *supra* note 88 (manuscript at 3-8).

ways out.” First, the underlying asset—the input—does not generate cash on an ongoing basis, like a loan or receivable debt. The investor does not earn back its investment through periodic payments because there are no periodic payments on a non-cash generating asset. Moreover, while the input itself can ostensibly be sold—imagine the collectible car or the piece of art—the investor may have no way of forcing a sale that might result in receiving a return on the investment. Furthermore, in some cases there may be no market for such a sale, or it may be highly dysfunctional.

Secondly, because these NFTs do not generate any income, they are often illiquid. This cuts off the other “way out.” Investors risk being unable to sell their tokens due to insufficient liquidity, as recently witnessed with many crypto assets. With this background, one can see that investing in non-cash-flow monetizations is far from a sure thing and especially dangerous for financially excluded households desirous to build their wealth.⁹¹

II. AREAS FOR FUTURE EXPLORATION AND CRITIQUE

While Schwarcz’s work breaks new ground in conceptualizing NFTs and related crypto processes in the context of structured finance and financial regulation more broadly, we wish to offer some points where further exploration is merited. This Part II describes the current market limitations of the securitization analogy and offers private law perspectives to complement Schwarcz’s public law analysis using financial regulation tools.

A. *Limitations of Current Market Practices*

Schwarcz’s paper, as indicated above, dissects non-cash-flow monetizations by employing the toolkit used to comprehend and regulate traditional cash-flow securitizations.⁹² The transactions in question are deconstructed into their inputs, intermediate structures, and outputs.⁹³ This approach offers powerful insights into some of the tokenizations taking place in this nascent market, especially those purportedly involving real estate assets.⁹⁴ However, in our view, the majority of transactions in which NFTs and other tokens are used to monetize non-cash-flow assets—both by volume and value—present a structure that does not lend itself to this tripartite analysis.

⁹¹ See BARADARAN, *supra* note 87, at 5-8 (describing financial barriers and incentive programs for building wealth in communities of color).

⁹² See Schwarcz, *NFTs*, *supra* note 5, at 979-84.

⁹³ *Id.*

⁹⁴ Although at this point, the tokenization of real property assets using crypto technologies is merely in the planning stages. See Moringiello & Odinet, *Tokens*, *supra* note 9, at 610-11 (discussing plans by firms such as Sotheby’s, Vanguard, and Microsoft to tokenize “industrial assets, real estate, and securities transactions”). For a discussion of nascent but currently deployed crypto transactions using crypto technologies, see generally R. Wilson Freyermuth, Christopher K. Odinet & Andrea Tosato, *Crypto in Real Estate Finance*, 75 ALA. L. REV. (forthcoming 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4268587 [<https://perma.cc/AH2V-CZJY>].

As described in other work,⁹⁵ there are currently two dominant models for tokenizations. The first is largely intermediated, and it is prevalent in high-volume, low-value NFT transactions. An individual creates and then disposes of an NFT through an online “minting” platform, such as OpenSea, Rarible, Binance NFT, SuperRare, Foundation, or Mintable.⁹⁶ This is a multistep process that can roughly be summarized as follows. At the outset, an individual creates an account with a minting platform and links it to their crypto digital wallet, through which they will send and receive funds in connection with the minting and selling of their NFT.⁹⁷ Relying on the interface provided by the minting platform, the individual then uploads a digital image, text, or music file which will be linked to their soon to be minted NFT.⁹⁸ Thereafter, the individual selects the manner in which they want to monetize their NFT; typically this will be through a sale, potentially at auction.⁹⁹

At this stage, the platform both mints the NFT and generates a webpage dedicated to this token, featuring the uploaded image, text, or music, as well as ancillary metadata.¹⁰⁰ This webpage and its contents—including the digital image, text, or music—are managed by the minting platform and are typically hosted by a web-services provider, such as Amazon, Microsoft, or Google. The NFT is created using a “smart contract” that is coded by the minting platform and executed through a distributed ledger technology (“DLT”) system of its choice, such as Ethereum, Solana, or Tezos.¹⁰¹ Once all these operations have been carried out, the NFT is offered to the public.¹⁰² Generally, both the minting platform and the person who created the token strive to attract prospective purchasers by advertising through social media and other channels.¹⁰³ Once a person agrees to acquire the NFT, the minting platform acts as an intermediary both in the payment processing and in the transfer of the NFT.¹⁰⁴

The second model for tokenizations is disintermediated and has been utilized in most of the NFT transactions that have attracted large amounts of capital. Some of the largest corporate issuers of NFTs, such as Yuga Labs¹⁰⁵ (Bored

⁹⁵ See Moringiello & Odinet, *Tokens*, *supra* note 9, at 628.

⁹⁶ See *Top NFT Minting Platforms in 2023*, COINBOUND, <https://coinbound.io/top-nft-minting-platforms/> [<https://perma.cc/SG5A-JN5K>] (last visited Apr. 18, 2023).

⁹⁷ See Moringiello & Odinet, *Tokens*, *supra* note 9, at 628-29.

⁹⁸ See Mitchell Clark, *NFTs, Explained*, VERGE (June 6, 2022, 8:30 AM), <https://www.theverge.com/22310188/nft-explainer-what-is-blockchain-crypto-art-faq> [<https://perma.cc/N5FM-4AHE>].

⁹⁹ See Moringiello & Odinet, *Tokens*, *supra* note 9, at 628-29.

¹⁰⁰ See *id.*

¹⁰¹ See *id.* at 612, 628 n.146.

¹⁰² See *id.* at 628-29.

¹⁰³ See *id.*

¹⁰⁴ See *id.*

¹⁰⁵ See YUGA LABS, <https://www.yuga.com> [<https://perma.cc/GKH6-QTSL>] (last visited Apr. 18, 2023).

Apes) and Dapper Labs¹⁰⁶ (Top Shot), as well as famous artists, such as Pak¹⁰⁷ (Merger NFT) and Beeple¹⁰⁸ (Everydays: the First 5000 Days), have adopted this structure for their transactions. The process can be summarized as follows. A person generates or acquires one or more creative works in the form of digital images, videos, or music. Relying either on a major public DLT network (e.g., Ethereum) or one under their control (e.g., Dapper Lab's FLOW Blockchain), the issuer mints one or more NFTs and then associates them with their creative works. This connecting operation typically involves the storing of the relevant images, videos, or music in servers connected to the internet and then linking each token to a specific creative work through a hyperlink or a functionally similar pointer mechanism.¹⁰⁹

Thereafter, the NFTs are offered to the general public either by the issuers directly or through specialized agents, including historied auction houses such as Christie's and Sotheby's.¹¹⁰ Alongside the NFT, the issuer may also offer either services or ancillary assets. For example, for the "Bored Apes" NFT collection, Yuga Labs grants purchasers a worldwide license to exploit the images linked to their token.¹¹¹ However, it should be noted that artists such as Beeple have been successful in auctioning NFTs loosely linked to their artworks, without granting purchasers any license, let alone assigning the copyright protecting the creation in question.¹¹²

Schwarz's tripartite analytical framework is not well-suited to the tokenization models that we have just described. Most notably, the distinction between inputs and outputs may even give rise to some misunderstandings. In the transactions under consideration, the main asset is the NFT which is offered as a unique, collectible item that has been created by a high value individual or corporate entity. Even though there are pointers to digital images, texts, or

¹⁰⁶ See DAPPER LABS, <https://www.dapperlabs.com> [<https://perma.cc/Q2GL-YU8M>] (last visited Apr. 18, 2023).

¹⁰⁷ See *Merge by Pak*, NIFTY GATEWAY, <https://www.niftygateway.com/collections/pakmerge> [<https://perma.cc/5KJV-9JYN>] (last visited Apr. 18, 2023).

¹⁰⁸ See BEEPLE, <https://www.beeple-crap.com> [<https://perma.cc/2QJQ-UMS4>] (last visited Apr. 18, 2023).

¹⁰⁹ See Fairfield, *Tokenized*, *supra* note 9, at 1296.

¹¹⁰ See *Auctions*, CHRISTIE'S, <https://nft.christies.com/auctions> [<https://perma.cc/Q48T-65KT>] (last visited Apr. 18, 2023); *NFT: Upcoming Auctions & Exhibitions*, SOTHEBY'S, <https://www.sothebys.com/en/departments/nft> (last visited Apr. 18, 2023).

¹¹¹ For a discussion of the Bored Ape's terms of service, see Juliet M. Moringiello & Christopher K. Odinet, *NFTs in Commercial Transactions*, in CAMBRIDGE HANDBOOK ON EMERGING ISSUES AT THE INTERSECTION OF COMMERCIAL LAW AND TECHNOLOGY (manuscript at 19-20) (Nancy Kim & Stacy-Ann Elvy eds., forthcoming 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4295041 [<https://perma.cc/8765-K7CW>].

¹¹² See Taylor Locke, *Millionaire Artist Beeple: This Is the Very Important Thing 'I Think People Don't Understand' About Buying NFTs*, CNBC: MAKE IT (Mar. 29, 2021, 10:16 AM), <https://www.cnbc.com/2021/03/26/digital-artist-beeple-common-misunderstanding-about-nfts.html> [<https://perma.cc/JV2J-UYGU>].

music—typically in the form of a web hyperlink—purchasers of these tokens do not, per se, acquire proprietary rights to these linked assets.¹¹³ In rare cases, subject to contractual terms, issuers of NFTs grant limited licenses or undertake to provide services for a period of time.¹¹⁴ Put simply, for the majority of such tokenizations, the input and the output are one and the same.¹¹⁵

The preponderance and significance of intermediate structures is equally unclear in the present landscape of tokenizations. As described in other work, SPVs and similar corporate vehicles are the exception and not the norm in the context of NFTs.¹¹⁶ In stark contrast with traditional securitizations, both individuals and corporate entities generally issue and commercialize NFTs directly in their own name.¹¹⁷ If a subsidiary is created for a specific tokenization, it is neither set up as an SPV, nor is there any *true sale* segregation that creates bankruptcy remoteness.¹¹⁸ In our view, the infrequency of intermediate structures is not surprising. It is the consequence of the fact that the main asset involved in these transactions are the NFTs and not the assets to which they are loosely tied via hyperlinks and similarly feeble pointer mechanisms.¹¹⁹

Lastly, we question whether tokens created in “tokenizations” and “NFT transactions” are necessarily securities.¹²⁰ Under U.S. law, this is a point of law that will be determined on the basis of the *Howey* test.¹²¹ It is certainly possible that, in some cases, issuances will satisfy the three prongs of the *Howey* test (an investment of money, with the expectation of profits, derived from the managerial effort of others).¹²² Indeed, recently the SEC has been exploring this possibility regarding several NFT issuances.¹²³ In our view, however, the *Howey*

¹¹³ See Moringiello & Odinet, *Tokens*, *supra* note 9, at 641-43.

¹¹⁴ See, e.g., Eli Tan, *This San Diego Car Wash Is Using NFTs To Drive Up Demand*, COINDESK (May 8, 2023, 11:56 PM), <https://www.coindesk.com/business/2022/09/12/this-san-diego-car-wash-is-using-nfts-to-drive-up-demand/> [<https://perma.cc/Q6JQ-TX6T>].

¹¹⁵ Moringiello & Odinet, *Tokens*, *supra* note 9, at 642.

¹¹⁶ *Id.*

¹¹⁷ See *id.* at 628-29 (describing prototypical NFT transaction).

¹¹⁸ See generally Steven Schwarcz, *The Impact of Bankruptcy Reform on “True Sale” Determination in Securitization Transactions*, 7 FORDHAM J. CORP. & FIN. L. 353 (2002).

¹¹⁹ See *supra* Section II.A.

¹²⁰ See Schwarcz, *NFTs*, *supra* note 5, at 988-95 (“The relatively high perceived value of interests in non-cash-flow monetizations suggests that some investors, possibly influenced by the history of rapidly raising prices, are looking to resale value. . . . The only explanation for these high values is that investors purchase those interests not only for practical utility but also for their investment value. That would signal that they are investing in securities.” (footnote omitted)).

¹²¹ See SEC v. W.J. Howey Co., 328 U.S. 293, 298-99 (1946).

¹²² *Id.*

¹²³ See Morgan Chittum, *SEC Reportedly Targets NFT Market over Potential Violations of Securities Law*, BLOCKWORKS (Mar. 3, 2022, 2:35 PM), <https://blockworks.co/news/sec-reportedly-targets-nft-market-over-potential-violations-of-securities-law> [<https://perma.cc/C2BS-MNZN>].

test is unlikely to be satisfied in the majority of tokenizations. In these transactions, the issuer merely creates an NFT, associates it with art, music, a tangible asset, or even an event, and then offers it to the public as a unique digital asset. Purchasers acquire these tokens because of their—actual or perceived—rarity; if there is an expectation of profits, it stems from the scarcity and collectability of these tokens and not from “the managerial efforts of others.”

B. *Private Law Perspectives*

Schwarcz’s main focus is not on the private law of non-cash-flow monetizations. Both in the analytical and normative parts of his article, the presence of complex property and contract law issues is acknowledged but afforded only brief consideration. In our view, a robust and exhaustive regulatory framework for the transactions in question can only be built on foundations laid by a thorough private law assessment.

When describing the relationship between inputs and outputs of non-cash-flow monetizations, Schwarcz states that the fungible and nonfungible tokens issued by the sponsors “represent direct or indirect interests in the assets that constitute the inputs.”¹²⁴ Though not inaccurate, we feel that this description oversimplifies the private law core of these transactions. In our view, determining the substance and legal nature of the “interest” held by investors “in the assets that constitute the inputs” of non-cash-flow monetizations is problematic. We believe that the property and contract law nexus connecting investors, tokens, and underlying assets can be a source of substantial legal risks.

This is most apparent when considering the statements made by NFT and tokenization companies against the backdrop of activities permissible under private law—specifically, property law. The best example is where NFTs purportedly representing rights in another item are auctioned off to the public. The promise, to quote one minting platform, is that NFTs can be used to “[e]stablish[] ownership of an item external to the token.”¹²⁵ As such, one may very well purchase an NFT with the genuine, yet mistaken, belief that they are acquiring ownership of another thing—either digital or physical—by virtue of owning the NFT. In fact, this is only true in a very narrow set of circumstances.¹²⁶ In general, one cannot through contract conjure into existence property rights such that one thing (like an NFT) is tethered and thereby represents ownership in another thing.¹²⁷

¹²⁴ Schwarcz, *NFTs*, *supra* note 5, at 983.

¹²⁵ Zach of Mintable.app, *Mintable Is Live! Create a Digital Item in Seconds. Manage All Your ERC-721s in One Place—And Sell Your Newly Minted Items for Profit*, MEDIUM (Apr. 15, 2019), <https://mintable.medium.com/mintable-is-live-7d022b1aaa28> [https://perma.cc/MLE3-28JY].

¹²⁶ For a discussion of these narrow instances, see Moringiello & Odinet, *Tokens*, *supra* note 9, at 615-29.

¹²⁷ *See id.* at 651.

A particularly salient example would involve the double-dealing seller of personal property.¹²⁸ Consider a situation whereby Seller claims to tokenize an item of tangible personal property—an oil painting or a piece of furniture. Seller auctions off an NFT, purportedly representing ownership in the personal property, to Buyer1. Buyer1 pays for the NFT and makes arrangements to take delivery of the personal property in three days.¹²⁹ Before that can occur, Seller agrees to sell the property to Buyer2, who pays for the item and takes delivery of it immediately. Buyer1, seeking the item but left wanting, is left only with a judgment for damages against Seller.¹³⁰ This is because the mere fact that Seller wishes and Buyer1 agrees that the NFT represents ownership in the personal property does not legally make it so.¹³¹ Rather, the general rules governing the sale of goods apply, which protect good faith purchasers for value such as Buyer2.¹³² If the personal property had truly been tokenized, then the result would be different. However, it was not and therefore whenever one purchases an NFT there is an inherent private law risk—namely, that the only thing acquired is the NFT: nothing else.

A related risk deals with the ability to tokenize corporate vehicles. Consider the case of a non-cash-flow monetization whereby a limited liability company is used as the SPV to hold the non-cash-flowing asset. A critical component of the securitization structure is for the SPV to issue interests that can be conveyed to investors and, in doing so, entitle them to rights in the SPV—specifically, the SPV's asset(s). However, it is not entirely clear under current law whether the ownership interest in an LLC can be tokenized through the minting of an NFT. It may be possible for the governing documents of the LLC to specify that the ownership interests of the LLC members will be one and the same with an externally minted NFT, but this will depend entirely on the LLC statute in the given jurisdictions. This same problem exists for corporations when it comes to tokenizing shares of stock. The private law risk here is that an investor who purchases a non-cash-flow monetization NFT may later discover that the NFT conveys no interest in the SPV, which in turn means that the investor has no interest in the underlying asset.

The aforementioned analysis is part of a larger observation—one which we intend to explore in future work—highlighting the lack of attention paid to private law by courts and scholars when considering the regulation of financial markets. Our musings in this Section II.B serve as the foundation for that future work, which will benefit significantly from the insights and overtures made by Schwarcz.

¹²⁸ See *id.* at 658-60.

¹²⁹ *Id.*

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² *Id.*; see *Lanfear v. Sumner*, 17 Mass. (16 Tyng) 110, 113 (1821).

CONCLUSION

As we have shown throughout this Response, Schwarcz makes a novel contribution to the literature about NFTs and related crypto innovations. He does so not only by drawing thought-provoking comparisons to more traditional financial transactions from the structured finance market, but also by showing how the tools of financial regulation can be used to shore up un- or under-appreciated risk with investing in non-cash-flow asset monetizations. We know his work will help spur further study of how financial regulation can and should be adapted to deal with the ever turbulent and often risky crypto market. In these pages (and in upcoming future work), we offer a private law perspective to complement these public law insights.