

Blockchain-Based Token Sales, Initial Coin Offerings, and the Democratization of Public Capital Markets

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Best known for their role in the creation of cryptocurrencies like bitcoin, blockchains are revolutionizing the way technology entrepreneurs finance their business enterprises. In 2017 alone, tech entrepreneurs raised over \$6 billion through the sale of blockchain-based digital tokens, with some sales lasting mere seconds before selling out. In a token sale, also referred to as an “initial coin offering” or “ICO,” organizers of a project sell digital tokens to members of the public to finance the development of new technological platforms and services. After the initial sale, cryptocurrency exchanges scattered across the globe list tokens for trading and facilitate an active secondary market in which wild price fluctuations are common.

The recent explosion of token sales could mark the beginning of a broader shift in public capital markets. Blockchains drastically reduce the cost of exchanging value and enable anyone to transmit digitized assets around the globe in a highly trusted manner, stoking dreams of truly global capital markets that leverage the power of a blockchain and the Internet to facilitate capital formation. Lacking homogeneity, the status of tokens under U.S. securities laws is unclear. Although the SEC recently issued a Report of Investigation and has initiated several enforcement actions in which it has found that tokens are securities, confusion still surrounds the boundaries between the types of tokens that will be treated as securities and those that will not.

In this Article, we argue that the SEC and Congress should provide token sellers and the exchanges that facilitate token sales with additional regulatory certainty and a sensible path to compliance. Specifically, we outline extrinsic and intrinsic factors that courts and regulators should consider when applying the Howey test to digital tokens, adoption of which would help resolve the uncertainty surrounding tokens that mix aspects of consumption and use with the potential for profit. We further propose that lawmakers adopt both a compliance-driven safe harbor for online exchanges that list tokens with a reasonable belief that the public sale of such tokens is not a violation of section 5 of the Securities Act of 1933 as well as an exemption to the section 5 registration requirement that has been tailored to digital tokens.

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INTRODUCTION

Blockchains are transforming capital markets. With less than a hundred lines of code,¹ anyone can generate blockchain-based tokens and sell them to the public. Over the past year, parties have raised over \$6.1 billion through token sales—what some have referred to as initial coin offerings (“ICOs”)—with some

1. As described *infra* Part I, the code necessary to launch a blockchain-based token based on Ethereum’s ERC20 token standard is only fifty-seven lines of code. See *ERC20 Token Standard*, ETHEREUM WIKI, https://theethereum.wiki/w/index.php/ERC20_Token_Standard (last visited Jan. 19, 2019).

sales lasting only a matter of seconds.² Absent from these token sales are traditional disclosures and the battery of professionals and intermediaries that tightly control access to public capital markets. Tokens sellers generally draft informal technical white papers or specs and avoid traditional gatekeepers like investment bankers and national securities exchanges, which control access to the capital markets. Instead, token sales are informally announced on Reddit, discussed on Twitter and in private Telegram chatrooms, and bought and sold on “cryptocurrency” exchanges of varying degrees of sophistication.

Over the past year, tokens appear to be taking the world by storm, generating intense interest from blockchain enthusiasts, cypherpunks, and venture capitalists—all while raising the eyebrows of regulators across the globe. In 2016, less than \$100 million in tokens were sold. By October 2017, that number swelled to over \$6 billion. Several token sales raised over \$230 million each,³ with the large messaging platform Telegram completing a token sale of over \$1.8 billion.⁴

Given the intensity of interest, it is unsurprising that the Securities Exchange Commission (SEC) and its counterparts in other jurisdictions have turned their attention to token sales. In July 2017, the SEC released a Report of Investigation finding a blockchain-based token qualified as a security requiring registration under section 5 of the Securities Act of 1933.⁵ The SEC followed this investigatory report with several enforcement actions against token sellers, signaling that token sales involving promises of potential profits likely will qualify as securities under U.S. law.⁶ Other government regulators from Canada, China, Hong Kong, Malaysia, Russia, the United Kingdom, South Korea, Singapore, and Switzerland have acted with equal urgency, issuing statements

2. As described further below, blockchain-based funding has now eclipsed \$1.8 billion in cumulative proceeds. Several projects, including Bancor, Filecoin, and Tezos, have sold hundreds millions of dollars in tokens. *Cryptocurrency ICO Stats 2017*, COINSCHEDULE, <https://www.coinschedule.com/stats.php?year=2017> (last visited Jan. 19, 2019); *Cryptocurrency ICO Stats 2016*, COINSCHEDULE, <https://www.coinschedule.com/stats.php?year=2016> (last visited Jan. 19, 2019). Many token sales are “capped”—that is, only a limited number of tokens are sold. Several capped tokens sales have lasted mere seconds, raising tens of millions of dollars. *See, e.g., Jonathan Keane, \$35 Million in 30 Seconds: Token Sale for Internet Browser Brave Sells Out*, COINDESK (May 31, 2017, 5:40 PM), <http://www.coindesk.com/35-million-30-seconds-token-sale-internet-browser-brave-sells/>.

3. *See* sources cited *supra* note 2.

4. *Cryptocurrency ICO Stats 2018*, COINSCHEDULE, <https://www.coinschedule.com/stats.php?year=2018> (last visited Jan. 19, 2019).

5. Section 21(a) Report: The DAO, Exchange Act Release No. 81,207, 117 SEC Docket 81207, at 2 (July 25, 2017), <https://www.sec.gov/litigation/investreport/34-81207.pdf> [hereinafter The DAO Report]; *see also* 15 U.S.C. § 77e (2012).

6. *See, e.g., The DAO Report, supra* note 5, at 18; *Munchee, Inc., Securities Act Release No. 10-445*, 118 SEC Docket 10445 (Dec. 11, 2017) [hereinafter The Munchee Order] (cease-and-desist order); *Complaint, SEC v. AriseBank*, No. 3-18CV-186-M (N.D. Tex. Jan. 25, 2018), 2018 WL 623772; *Complaint, SEC v. PlexCorps*, No. CV 17-7007 (E.D.N.Y. Dec. 1, 2017), 2017 WL 5988934.

explaining how token sales fit within their respective securities laws frameworks.⁷

Nevertheless, open questions remain. Only Singapore and Switzerland have unambiguously stated that blockchain-based tokens with particular features will fall outside the scope of their local securities laws. Neither the SEC nor any U.S. court has reached a comparable conclusion. Regulators have, at times, indicated that there is a possibility of devising a token that falls outside of the *Howey* test, but they have also taken the position that the tokens sold today are almost all securities.⁸

In light of this uncertainty, token sellers and cryptocurrency exchanges need regulatory clarification. The recent explosion of token sales could mark the beginning of a broader shift in public capital markets—one similar to the shift in media distribution that started several decades ago. The Internet drastically reduced the cost of transmitting digital files, leading to a realignment of the music and media industries. Files could be zipped around the globe in a matter of seconds and at a low cost, stoking dreams of “celestial jukeboxes”—services that ultimately manifested in peer-to-peer networks, like Napster, and eventually in centralized media services, like YouTube and Spotify.⁹ The initial appearance of peer-to-peer networks and eventual migration to centralized service unleashed

7. Staff Notice, Canadian Sec. Adm'rs, CSA Staff Notice 46–307: Cryptocurrency Offerings (Aug. 24, 2017), http://www.osc.gov.on.ca/documents/en/Securities-Category4/csa_20170824_cryptocurrency-offerings.pdf; Notice, The People's Bank of China, Notice on the Prevention of Tokens (Sept. 4, 2017), <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3374222/index.html>; Press Release, Hong Kong Sec. & Futures Comm'n, Statement on Initial Coin Offerings (Sept. 5, 2017), <http://www.sfc.hk/edistributionWeb/gateway/EN/news-and-announcements/news/doc?refNo=17PR117>; Press Release, Sec. Comm'n Malay., Media Statement: Initial Coin Offerings (July 9, 2017), <http://www.mondovisione.com/media-and-resources/news/securities-commission-malaysia-media-statement-initial-coin-offerings/>; Press Release, Bank Rossii [Bank of Russia], Ob Ispoleovanii Chastnykh Virtualnykh Valot (Kriptoalot) [Use of Private Virtual Currencies (Cryptocurrencies)] (Sept. 4, 2017), https://www.cbr.ru/press/PR/?file=04092017_183512if2017-09-04T18_31_05.htm; Press Release, Monetary Auth. of Sing., MAS Clarifies Regulatory Position on the Offer of Digital Tokens in Singapore (Aug. 1, 2017), <http://www.mas.gov.sg/News-and-Publications/Media-Releases/2017/MAS-clarifies-regulatory-position-on-the-offer-of-digital-tokens-in-Singapore.aspx> [hereinafter Press Release, Monetary Auth. of Sing.]; Press Release, Swiss Fin. Mkt. Supervisory Auth., FINMA Publishes ICO Guidelines (Feb. 16, 2008), <https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung/> [hereinafter Press Release, Swiss Fin. Mkt. Supervisory Auth.].

8. See, e.g., Molly Jane Zuckerman, *SEC Chairman Jay Clayton Says Bitcoin Not a Security, Most ICOs Likely Are*, COINTELEGRAPH (June 6, 2018), <https://cointelegraph.com/news/sec-chairman-jay-clayton-says-bitcoin-not-a-security-most-icos-likely-are> (noting that Jay Clayton, the chair of the SEC considers tokens “securities” that act as “digital assets”).

9. See, e.g., PAUL GOLDSTEIN, *COPYRIGHT'S HIGHWAY: FROM GUTENBERG TO THE CELESTIAL JUKEBOX 197–236* (1994) (using the metaphor but disclaiming credit for generating it); Janelle Brown, *The Jukebox Manifesto*, SALON (Nov. 13, 2000, 8:30 PM), <http://www.salon.com/2000/11/13/jukebox/> (“Digital music evangelists talk a lot about a gadget they like to call the ‘celestial jukebox.’ . . . a networked device that will allow you to download any song your heart desires, anytime. Imagine a Walkman that had broadband wireless connectivity to the Net, could access the entire world’s catalog of recorded music and played back that music with impeccable sound quality.”).

a flood of both traditional media and user-generated content, which created new tensions with existing copyright laws.¹⁰

With blockchains, we could very well be witnessing a similar trend, but this time in the context of public markets and securities laws. Blockchains drastically reduce the cost of exchanging value and enable anyone to transmit digitized assets around the globe in a highly trusted—and often pseudonymous—manner.¹¹ With blockchains, technologists' dreams have shifted from celestial jukeboxes to truly global capital markets—markets that are decentralized, geographically agnostic, and accessible to all.¹²

For now, blockchain-based token sales have an immature veneer, causing some to argue that these sales simply represent new tools that will be leveraged by hucksters and unscrupulous charlatans.¹³ Digging below the surface, however, reveals that blockchain-based tokens represent a wide variety of assets, some of which will qualify as securities under U.S. law. Token sales are changing how technologists are choosing to fund their ventures and have begun to eclipse traditional financing sources, like venture capital funding, for entrepreneurs exploring blockchain technology,¹⁴ creating a viable alternative to the venture capital model that has predominated in the United States over the past sixty years.

This Article examines the phenomena of blockchain-based token sales and explains why every token sale will not always involve the sale of a security subject to U.S. securities laws. Under the current *Howey* test, each token will

10. The Internet created a number of issues related to copyright law, leading to the enactment of the Digital Millennium Copyright Act (DMCA) and a number of court decisions redefining the boundaries of secondary copyright liability. *See* 17 U.S.C. §§ 1201–05 (2012); *see also* Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd., 545 U.S. 913 (2005); Columbia Pictures Indus., Inc. v. Fung, 710 F.3d 1020 (9th Cir. 2013); UMG Recordings, Inc. v. Shelter Capital Partners LLC, 718 F.3d 1006 (9th Cir. 2013); Viacom Int'l, Inc. v. YouTube, Inc., 676 F.3d 19 (2d Cir. 2012); Perfect 10, Inc. v. CCBill LLC, 488 F.3d 1102, 1117 (9th Cir. 2007); A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001).

11. For one of the best current primers on blockchain technology—which provides a technical overview of how blockchain technology works—see ARVIND NARAYANAN ET AL., BITCOIN AND CRYPTOCURRENCY TECHNOLOGIES: A COMPREHENSIVE INTRODUCTION (2016). As outlined *infra* Part I, any asset can be represented as a token in a blockchain and traded just like a digital currency.

12. Whether blockchain-based token sales are accessible to everyone is an open question. As described further below, a number of token sales are capped at a fixed amount, for example, \$10 million. Parties seeking to purchase tokens in these sales often have to pay high fees in order to ensure that they are able to participate in the sale before others. Some purchasers are willing to pay fees in excess of \$6,000 to ensure that they gain access to tokens—prices that are inaccessible for most individuals. *See* Keane, *supra* note 2 (noting that a participant in the token sale for the Basic Attention Token “paid more than \$6,000 in ethereum mining fees to almost guarantee their place at the top of the line,” in a sale that lasted thirty seconds).

13. *See* David Z. Morris, *The Rise of Cryptocurrency Ponzi Schemes*, ATLANTIC (May 31, 2017), <https://www.theatlantic.com/technology/archive/2017/05/cryptocurrency-ponzi-schemes/528624/> (“ICOs are catnip for scammers.”). Indeed, it is possible that token sales are just modern versions of the “financial pirates” who were engaged in the widespread sale of “pieces of paper” representing ownership interest in various corporate enterprises, which prompted the passage of state blue sky laws in the early 1900s. *See* Manning Gilbert Warren III, *Reflections on Dual Regulation of Securities: A Case Against Preemption*, 25 B.C. L. REV. 495, 495 (1984).

14. Alex Sunnarborg, *ICO Investments Pass VC Funding in Blockchain Market First*, COINDESK (June 9, 2017, 12:00 PM), <http://www.coindesk.com/ico-investments-pass-vc-funding-in-blockchain-market-first/>.

need to be evaluated on a case-by-case basis—particularly *utility tokens*, which have both consumptive and speculative characteristics.¹⁵ We argue that this ad hoc approach generates costs and uncertainty, chilling lawful, economically valuable activities and technological innovation—all while providing an opportunity for the SEC to expand its jurisdiction over digital goods that have consumptive aspects. The uncertainty regarding the United States' approach to token sales will create strong incentives for token sellers to engage in regulatory arbitrage, thereby driving activity to jurisdictions that accommodate this new technology with predictability and reasonable paths to compliance.¹⁶

To address these risks, we offer several proposals. First, we outline factors which courts and regulators should consider when evaluating whether blockchain-based tokens fall within the boundaries of federal securities laws.¹⁷ Our proposed analysis is in harmony with both the letter of existing law and its spirit. If adopted, these factors will provide token sellers, exchanges, and lawyers with the means to better assess their respective risk and compliance obligations under federal securities law. Second, we argue that the SEC should consider a registration exemption designed specifically for blockchain-based tokens so parties that sell tokenized securities with blockchain technology will have a method of compliance that does not require section 5 registration or compliance with exemption requirements inconsistent with blockchain technology.¹⁸ As we discuss below, many aspects of the current registration regime and existing exemptions are not well-suited to digital tokens. They ignore important aspects of the technology and provide token sellers with strong incentives to conduct their sales outside the purview of U.S. law. Third, we recommend that Congress enact legislation instructing the SEC to adopt a safe-harbor for blockchain-based token exchanges provided they comply with certain procedures prior to listing the token and take certain steps to delist the token if it is subsequently determined to be subject to the section 5 registration requirement and does not fall into an exemption. With a safe-harbor for exchanges, the SEC can encourage relevant parties to take steps to protect purchasers from fraud, without impairing the ongoing development of this financial technology. By taking these steps, Congress and the SEC can reduce the incentive to engage in regulatory arbitrage and foster a regulatory climate which ensures that the United States retains its position in this emerging financial market.¹⁹

15. See *infra* Part II. We note that the word speculative can have a negative connotation. Our use of the word is not intended to be negative. As used throughout this Article, it refers to the possibility of reselling tokens at a price higher than the purchase price in the highly liquid secondary market for tokens.

16. See *infra* Part II.

17. See *infra* Part III. We note that the current SEC Chairman, Jay Clayton, recently published a statement on cryptocurrencies and tokens in which he included some questions for token investors. Press Release, SEC Chairman Jay Clayton, Statement on Cryptocurrencies and Initial Coin Offerings (Dec. 11, 2017), <https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11>.

18. See *infra* Part III.

19. See *infra* Part III.

This Article unfolds in three Parts. Part I provides an overview of blockchain-based tokens and their use as a tool for financing the development of new technology. We also provide a taxonomy of the different types of blockchain-based tokens currently being sold, and discuss both the size and frequency of recently-completed sales as well as the emerging “best practices” that sellers tend to follow when conducting sales. Part II provides an analysis of blockchain-based tokens under relevant U.S. securities laws.²⁰ It demonstrates that under the current approach for determining what is or is not a security, there is significant uncertainty as to the status of blockchain-based tokens. *Utility tokens*, in particular, seem to exist in a regulatory no-man’s-land insofar as they offer both an opportunity to secure the right to use or consume technological services, and a chance at turning a profit by selling the token on an exchange.²¹ We explain why current registration exemptions are not well-suited for tokens and contain anachronistic requirements that are largely unnecessary for this new technology.²² The result is a regulatory regime that creates considerable risk for token sellers, and which also fails to offer a sensible path to compliance. Part III outlines factors that courts and other regulators should weigh when evaluating blockchain-based tokens and suggests various measures that Congress, the SEC, and other lawmakers can take to balance the need for regulatory oversight with the need for certainty for token sellers.²³ We outline factors the SEC should consider when determining the security status of blockchain-based tokens²⁴ and also suggest that lawmakers fashion both a token-specific registration exemption and a safe-harbor designed for token exchanges.²⁵

I. BLOCKCHAINS, APP TOKENS, AND TOKEN SALES

At their core, blockchains are decentralized databases maintained by a network of computers. Using public-private key cryptography and strict code-based rules—known as consensus mechanisms²⁶—blockchains store tamper-resistant, resilient, and authenticated data, enabling users to engage in pseudonymous transactions.²⁷

Blockchains first emerged to facilitate the transfer of decentralized, digital currencies.²⁸ By relying on the Internet and a blockchain, digital assets—like

20. See *infra* Part I. Our analysis focuses primarily on the Securities Act of 1933. Tokens also raise a variety of interesting issues under the Securities and Exchange Act of 1934 and other laws that govern securities (for example, state blue sky laws), but length constraints require us to limit our analysis to the issues presented by the Securities Act’s registration requirements.

21. See *infra* Part II.

22. See *infra* Part II.

23. See *infra* Part II.

24. See *infra* Part III.

25. See *infra* Part III.

26. See PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW: THE RULE OF CODE 42–43 (2018).

27. *Id.*

28. *Id.* at 33. For purposes of this Article, the terms “bitcoin” and “ether,” without the first letter capitalized, refer to digital currencies with the same name. We will refer to the Bitcoin and Ethereum blockchains using a

bitcoin—could be transferred across the globe like email or music files.²⁹ A blockchain maintained a record of who owned these digital assets at any point in time without the need for a centralized intermediary, like a central bank or centralized exchange.³⁰

Blockchain technology, however, is useful for far more than just digital currencies. From a technical perspective, blockchains can be used to manage the transfer of traditional assets like stocks, bonds, and even real property simply by correlating the rights of ownership to a blockchain-backed token, which can be exchanged by anyone with an Internet connection in a matter of seconds.³¹ For our analysis, we focus on two types of blockchain-based assets: protocol tokens and app tokens, and provide a detailed overview of these assets below.

A. PROTOCOL TOKENS

Most blockchains use digital tokens to compensate parties for participation in some activity that contributes to the maintenance of the blockchain and its network. We refer to these tokens as “protocol tokens” because they anchor complex incentive mechanisms in the protocol governing the network’s maintenance. Large public blockchains are redundantly stored on computers scattered throughout the globe,³² and are managed by open source software protocols that dictate how new information is added to these shared data structures. A core component of each of these software protocols is a *consensus mechanism*, or a set of rules that governs: (1) how information is added to a

capitalized first letter. There is an open question as to how to legally characterize a digital asset, like bitcoin. Under the Uniform Commercial Code (U.C.C.), bitcoin and other cryptocurrencies are considered “general intangibles.” Jeanne L. Schroeder, *Bitcoin and the Uniform Commercial Code*, 24 U. MIAMI BUS. L. REV. 1, 8 (2016). The U.S. Internal Revenue Service (IRS) characterizes “virtual currencies” as “property”—akin to a physical asset—and taxes the purchase and sale of bitcoin and ethereum token accordingly. See I.R.S. Notice 2014-21, 2014-16 C.B. 938 (Apr. 14, 2014). There is also an open question of whether bitcoin and other cryptocurrencies are securities. See Jeffrey E. Alberts & Bertrand Fry, *Is Bitcoin a Security?*, 21 B.U. J. SCI. & TECH. L. 1, 21 (2015) (concluding that bitcoin is not a security). These issues, while also important, are outside the scope of this Article.

29. See DE FILIPPI & WRIGHT, *supra* note 26, at 63 (“The Bitcoin network . . . has no geographic boundaries.”).

30. *Id.* at 111–12.

31. The notion of using a blockchain for more than just the transfer of digital currency has been explored for several years. For example, one of the co-founders of AngellList, Naval Ravikant, described the use of “appcoins” as early March 2014 to “[a]llocate scarce resources in the network using a scarce token,” which users needed to own “to use the network.” Naval Ravikant, *The Bitcoin Model for Crowdfunding*, STARTUPBOY (Mar. 9, 2014), <https://startupboy.com/2014/03/09/the-bitcoin-model-for-crowdfunding/>. Other Bitcoin and blockchain developers began to explore the idea of “app coins” around the same time. See, e.g., David A. Johnston et al., *The Value of App Coins*, GITHUB (June 11, 2014), <https://github.com/DavidJohnstonCEO/TheValueofAppCoins>.

32. *Global Bitcoin Nodes Distribution*, BITNODES, <https://bitnodes.21.co/> (last updated Jan. 19, 2019) (listing 10,353 nodes on the Bitcoin blockchain, in 101 different countries, each storing a copy of the Bitcoin blockchain); *The Ethereum Node Explorer*, ETHERNODES, <https://www.ethernodes.org/network/1> (last visited Jan. 19, 2019) (listing 9,440 nodes supporting the Ethereum blockchain, found in countries across the world).

blockchain; and (2) how disparate members of a blockchain-based network come to periodic agreement about the current state of the shared database.³³

Today, blockchain-based consensus mechanisms make adding information to a blockchain purposefully difficult and even harder to remove once saved, creating data that is hard to alter once stored. Blockchain-based protocols groups sets of transactions into *blocks*, which are linked together to form a sequentially ordered chain.³⁴ Before a block can be added to a blockchain, the protocol requires that a valid cryptographic hash for a block (an encrypted representation of the underlying transactional data) is generated.³⁵

While generating a valid hash is not challenging, blockchain-based protocols currently make this task purposefully difficult. For most current blockchains, a valid hash for a block must have a predefined number of leading zeros, which can only be generated through a computationally difficult, brute-force guessing game often referred to as *proof of work*.³⁶ The proof of work guessing game requires a computer to repeatedly execute a hashing algorithm until the algorithm outputs a valid hash with a sufficient number of leading zeros. Members of a blockchain-based network (known as *miners*) play this proof of work guessing game and expend computational resources to generate a valid hash.³⁷

Miners engage in this game not out of the goodness of their hearts, but rather because a blockchain's protocol will reward them with tokens of digital currency. The lucky miners who win proof of work guessing games, as confirmed by other members of the network, have their accounts credited with protocol tokens, along with small fees paid by the transacting parties. Miners, in turn, can transfer these tokens to other parties or sell them on the open market.³⁸

33. See NARAYANAN ET AL., *supra* note 11, at 32–41.

34. See DE FILIPPI & WRIGHT, *supra* note 26, at 22 (“[B]undles of bitcoin transactions are grouped together into separate ‘blocks,’ which Bitcoin’s protocol links together to form a sequential, timestamped ‘chain.’”). This is why the technology is called a “blockchain.”

35. Hashes are often generated using standard cryptographic hashing functions, providing a way to represent the bundle of transactions in a block as a string of characters and numbers that are uniquely associated with that block’s transactions. See generally J. Lawrence Carter & Mark N. Wegman, *Universal Classes of Hash Functions*, 18 J. COMPUTER & SYS. SCI. 143 (1979).

36. Joseph Bonneau et al., *SoK: Research Perspectives and Challenges for Bitcoin and Cryptocurrencies*, 2015 IEEE SYMP. ON SECURITY & PRIVACY 104, 106–07 (“Bitcoin [] establishes consensus on the blockchain through a decentralized, pseudonymous protocol dubbed *Nakamoto consensus*. This can be considered Bitcoin’s core innovation and perhaps the most crucial ingredient to its success. Any party can attempt to add to the chain by collecting a set of valid pending transactions and forming them into a block. The core ingredient is the use of a challenging computational puzzle (usually given the slight misnomer *proof of work*) to determine which party’s block will be considered the next block in the chain.” (footnote omitted)).

37. *Id.* at 107.

38. For example, with Bitcoin, the size of the block reward is determined by a fixed schedule. Initially, each block had a block reward of 50 bitcoin. This has since halved to 25 bitcoin and then 12.5 bitcoin. The scheduled roughly halves every four years until roughly 2140 at which point no new bitcoins will be created. In addition to mining rewards, the miner who adds a block to the Bitcoin blockchain receives a small fee. *Id.* at 108; see also NARAYANAN ET AL., *supra* note 11, at 41–43.

Blockchain-based protocols tend to reduce the allocations of protocol tokens over time.³⁹ They thus serve as a powerful incentive for miners to support a blockchain early in the network's development and before mining becomes too computationally expensive.⁴⁰ All things equal, the earlier a miner allocates computational assets to a blockchain-based network, the greater probability that miner has of receiving an allocation of protocol tokens.⁴¹

However, protocol tokens do not only serve as a reward; they also have functional aspects. For example, on Bitcoin, the bitcoin protocol token serves as the unifying purpose of the entire network.⁴² The primary reason why the network exists is to create and transfer these tokens after they are forged from the computer hardware and the electricity needed to facilitate bitcoin transactions. The bitcoin token thus serves as a rough approximation of the expected value and total support for the Bitcoin network as a whole: the more miners who choose to support the network, the harder and more expensive it becomes to create a bitcoin, which provides the basis for a bitcoin's value.⁴³

On more advanced blockchains, protocol tokens have additional functional utility. On Ethereum, for example, a blockchain is used not just to store information about the transfer of a digital token (in the case of Ethereum, a token called ether), but also to coordinate a decentralized virtual machine—a parallelized computing system—that enables anyone participating on the network to execute programs called “smart contracts.”⁴⁴

39. See NARAYANAN ET AL., *supra* note 11, at 42 (discussing the readjustment of blocks over time).

40. Blockchains have profound economic and game theoretical models embedded in their structure. For an overview of these issues, see Joshua A. Kroll et al., *The Economics of Bitcoin Mining, or Bitcoin in the Presence of Adversaries* (Georgetown Univ. Annual Workshop on the Econ. of Info. Sec. (WEIS) Research Paper, 2013). When it comes to mining, back in 2014 it was possible for a commodity laptop to mine Bitcoin, but today the cost of mining requires specialized hardware, which is costly to acquire. NARAYANAN ET AL., *supra* note 11, at 45.

41. Bonneau et al., *supra* note 36, at 107–08 (“The randomized nature of [proof of work] is important; with a non-randomized puzzle (true proof-of-work) the most powerful individual miner could be expected to find every block first. With a randomized puzzle each miner will have a probability of finding the next block proportional to their share of the competing computational power.”); Karl J. O’Dwyer & David Malone, *Bitcoin Mining and Its Energy Footprint 3* (Nat’l Univ. of Ir. Maynooth Hamilton Inst., ISSC/ CIICT Conference Paper, 2014) (“On the other hand, as the number of people mining Bitcoin increases and the difficulty of mining follows suit, so the likelihood of discovering a valid block decreases.”).

42. See Kroll et al., *supra* note 40, at 6 (noting that the success of Bitcoin relies on participants of the network “agree[ing] that Bitcoins have value so that players will be willing to accept Bitcoins in payment”).

43. See Kroll et al., *supra* note 40, at 5–6, 5 n.5.

44. Vitalik Buterin, *A Prehistory of the Ethereum Protocol*, VITALIK BUTERIN’S WEBSITE, <https://vitalik.ca/2017-09-15-prehistory.html> (last visited Jan. 19, 2019). For a more technical overview of how Ethereum operates, see GAVIN WOOD, *ETHEREUM: A SECURE DECENTRALISED GENERALISED TRANSACTION LEDGER* (2014), <https://gavwood.com/paper.pdf>. As noted in these papers, smart contracts are written in a Turing-complete programming language called Solidity, which means they can be used to write programs that can be used in arbitrary state transition functions, allowing users to create complex programs that are value aware and can maintain a state, relying on a blockchain for storage.

Smart contracts are a new type of computer program that can be designed to operate autonomously from a centralized operator.⁴⁵ This means that unlike today's computer programs—which are executed by individuals or intermediaries, like Amazon, Google, or Microsoft—multiple members of the Ethereum network independently run a smart contract's code when triggered, using Ethereum's blockchain to access the code and record interactions with the program.⁴⁶

Once saved in the Ethereum blockchain, no single party can stop others from using the smart contract (unless specifically provided for in the underlying code), and no single party can stop the execution of the smart contract once running. Due to these characteristics, smart contracts act, in a sense, as autonomous electronic agents for parties seeking to engage in economic or social activity online.⁴⁷

In order to build a functioning decentralized virtual machine, Ethereum requires users of the network seeking to execute a smart contract to pay miners a fee (called “gas”) for each computational step in the smart contract.⁴⁸ These fees are necessary for Ethereum to run smart contract programs because without them, members of the network could choke the network with spurious requests that would prevent smart contracts from executing.⁴⁹ Ether, therefore, serves as a form of “crypto fuel” necessary for the network to function.⁵⁰

In effect, Ethereum can be conceptualized as a novel, decentralized computing system, where ether acts as a unit of account providing prepaid access to computing power provided by members of the Ethereum network. Unlike today, where individuals and businesses directly purchase an application protocol interface (API) key from Amazon Web Services or Microsoft's Azure to run software on cloud computing servers, the holders of ether can redeem their token in exchange for computing time or sell it on the open market. Ether is a way to ration access to the computing power of the network, and without it, people would have no reason to limit their use of the network. Collectively, they

45. In effect, each smart contract on the Ethereum blockchain can be viewed as an autonomous agent. Indeed, “‘contracts’ in Ethereum should not be seen as something that should be ‘fulfilled’ or ‘complied with,’” in the sense of a legal agreement, “rather, they are more like ‘autonomous agents’ that live inside of the Ethereum execution environment, [] executing a specific piece of code when ‘poked’ by a [user].” *A Next-Generation Smart Contract and Decentralized Application Platform*, WHITE PAPER, <https://github.com/ethereum/wiki/wiki/White-Paper> (last visited Jan. 19, 2019). They have “direct control over their own ether balance and their own [data storage system] to keep track of persistent variables.” *Id.*

46. DE FILIPPI & WRIGHT, *supra* note 26, at 43–44.

47. See *A Next-Generation Smart Contract and Decentralized Application Platform*, *supra* note 45.

48. *Id.*; WOOD, *supra* note 44.

49. The concept of “gas” is thus “crucial” for Ethereum to operate. *A Next-Generation Smart Contract and Decentralized Application Platform*, *supra* note 45. Gas creates a fee system that forces a malicious “attacker to pay proportionately for every resource that they consume, including computation, bandwidth and storage; hence, any transaction that leads to the network consuming a greater amount of any of these resources must have a gas fee roughly proportional to the increment.” *Id.*

50. *Id.*

would risk running too many programs for the members of the Ethereum network to handle efficiently, a classic tragedy of the commons.

B. APPLICATION OR “APP” TOKENS

A number of different protocol tokens have been launched, and in some instances publicly pre-sold, since the birth of Bitcoin in early 2009.⁵¹ However, protocol tokens are just one part of a larger emerging story. Blockchains also are supporting a second type of token—what we will refer to as app tokens—to coordinate activity related to online services and other collaborative endeavors.⁵²

App tokens differ from protocol tokens in that they are generally created by deploying a smart contract program on the Ethereum network and often serve as access to more centrally controlled online services and networks.⁵³ By using a smart contract, both experienced and relatively novice software developers can set up and generate their own cryptographically secured tokens, which can be assigned various economic, voting, participation, consumptive, or utilization rights.⁵⁴ Indeed, the Ethereum developer community has created a standardized smart contract, known as the ERC20 token standard, which makes it possible for anyone to issue a token using less than 100 lines of smart contract code.⁵⁵

The ERC20 smart contract enables its creator to set a supply of tokens, facilitates the transmission and receipt of tokens between parties participating in the Ethereum network, and maintains a record of token holders.⁵⁶ By creating tokens via an autonomous ERC20-compliant smart contract, token holders retain full control over these assets. The software, in effect, acts as an electronic agent for both the party generating the tokens and any subsequent token holder. The

51. Indeed, there are a number of blockchain-based tokens, which are based on modified versions of the Bitcoin blockchain. See Ian Miers et al., *Zerocoin: Anonymous Distributed E-cash from Bitcoin*, 2013 IEEE SYMP. ON SECURITY & PRIVACY 397, 397 (“[P]ropos[ing] Zerocoin, a cryptographic extension to Bitcoin that augments the protocol to allow for fully anonymous currency transactions.”). Notable examples of these types of tokens are Zcash, which attempt to add privacy enhancing features to the Bitcoin blockchain. See ZCASH, <https://z.cash/> (last visited Jan. 19, 2019). Other tokens, like Litecoin, have proven to be fertile testing grounds for new blockchain-based functionality. See LITECOIN, <https://litecoin.org/> (last visited Jan. 19, 2019). Tokens generated by blockchain-based protocols raise independent and interesting legal questions, but are outside the scope of this Article.

52. Another way to characterize these tokens is as “sub-currencies” for individual applications or organizations or “app coins.” See *A Next-Generation Smart Contract and Decentralized Application Platform*, *supra* note 45; Ravikant, *supra* note 31.

53. As described *infra* Subpart I.D, the majority of the app tokens in circulation today have been launched on the Ethereum network. This is because launching a token on Ethereum is “surprisingly easy.” *A Next-Generation Smart Contract and Decentralized Application Platform*, *supra* note 45. A token system “is [just] a database with one operation: subtract X units from A and give X units to B, with the provision that (1) A had at least X units before the transaction and (2) the transaction is approved by A.” *Id.* That logic can be readily implemented as a smart contract program on Ethereum.

54. Launching a token is very easy; they are the first example in the Ethereum tutorial. See *Create Your Own Crypto-Currency with Ethereum*, ETHEREUM, <https://www.ethereum.org/token> (last visited Jan. 19, 2019).

55. *ERC20 Token Standard*, *supra* note 1.

56. *Id.*

smart contract manages the cumbersome process of keeping track of who owns a token at any point in time and helps streamline the process of collecting any funds from a sale. It acts as both the bookkeeper and manager of a complicated sales process requiring little-to-no ongoing oversight once triggered.⁵⁷

As compared to protocol tokens, app tokens tend to have more specific and narrow objectives, imbuing the holder of a token with pre-defined rights, privileges, and rewards within a particular online application or service. Certain app tokens—what we will refer to as *utility tokens*—grant holders the right to access, use, and enjoy a given technology or participate in an online organization. They sometimes provide holders with governance rights, such as the right to vote on how the online service should be updated or evolve.⁵⁸

By way of illustration, consider Status, a messaging platform modeled after the popular Chinese mobile app WeChat. Status relies on a ERC20 token—the Status Network Token (SNT)—to manage the purchase of services provided by the platform.⁵⁹ Holders of SNT can obtain access to advanced features like push notifications, registering a username on the network, buying digital stickers, or setting a minimum amount of SNT that an unknown user must spend to contact another user (thereby reducing spam).⁶⁰ In addition, SNT holders are provided governance rights over the technology and are imbued with the power to influence and shape the direction of the software project by voting on decisions about how the network should be managed on an ongoing basis.⁶¹

There is also the Basic Attention Token (BAT), an ERC20 token used in the Brave Browser, a new open source web browser that automatically blocks online advertisements and tracking services.⁶² The BAT attempts to align incentives between users who consume advertising, publishers, and the advertisers who supply the underlying content. Users of the Brave browser do not see advertisements by default, but they can earn BAT if they choose to watch online advertisements, which can be used to unlock premium content on a publisher's websites. If advertisers want to run a campaign on a publisher's website, and access Brave users, they must purchase BAT tokens. And

57. As we will describe further *infra* Subpart II.C.3, the ERC20-compliant smart contract could be tied to other smart contracts to perform tasks generally handled by a transfer agent in the context of securities transactions.

58. According to Smith + Crown, an organization that creates original research related to token sales, seventy-five percent of token sales through March 2017 had tokens that provided users with the right to access on online service. Fifty percent relied on tokens as a means of payment. Governance and investment rights were less common. *Token Rights: Key Considerations in Crypto-Economic Design*, SMITH + CROWN (Mar. 30, 2017), <https://www.smithandcrown.com/token-rights/>.

59. STATUS, THE STATUS NETWORK: A STRATEGY TOWARDS MASS ADOPTION OF ETHEREUM (2017), <https://status.im/whitepaper.pdf>.

60. *Id.*

61. *Id.*

62. See *About Us*, BRAVE, <https://brave.com/about/> (last visited Jan. 19, 2019) (“The new Brave browser blocks the ads and trackers that slow you down . . .”).

participating publishers earn BAT tokens if they post engaging content, which they can, in turn, sell back to advertisers or users.⁶³

Other app tokens—what we will term *investment tokens*—are different from *utility tokens* and are not only functional in nature but provide holders with economic rights, such as a share of profits generated by a project or organization.⁶⁴ Given the economic component, it is no surprise that the SEC first focused on this variety of token in a recently released Report of Investigation that concerned tokens sold by The DAO, a decentralized organization.⁶⁵ The DAO relied on investment tokens to represent an interest in a decentralized venture capital fund. The DAO had no owner. Parties purchased tokens—DAO tokens—by transmitting ether to a smart contract managing The DAO and proceeds from the sale were stored in a collectively managed Ethereum account. Any token holder could apply to The DAO for funding by submitting a proposal via a smart contract, which included information such as a description of the project and the amount of ether requested.⁶⁶

Once a valid proposal was submitted, The DAO's underlying smart contract enabled token holders to vote on whether to fund the proposal.⁶⁷ If approved by token holders, the project would bind itself to The DAO via another smart contract, which would remit payments on installment to the project's creator if certain milestones were met.⁶⁸ The same smart contract would return any ether earned by the project to The DAO and any profits or proceeds would be redistributed to token holders on a pro rata basis.⁶⁹

Another example of an investment token is the token launched by the Blockchain Capital Fund. The fund created Ethereum-based "BCAP Tokens" with a face value equal to \$1, capped at a maximum of \$10 million tokens. Holders of the tokens are entitled to profits generated by the fund on a pro rata basis and raised capital will be used to invest in ten to twenty companies or

63. Specifically, advertisers buy BAT to fund marketing campaigns. Publishers and users are rewarded BAT tokens based on how users engage with marketing content. BRAVE SOFTWARE, BASIC ATTENTION TOKEN (BAT): BLOCKCHAIN BASED DIGITAL ADVERTISING 16 (2018), <https://basicattentiontoken.org/BasicAttentionTokenWhitePaper-4.pdf>.

64. As noted by Smith + Crown, roughly twenty-five percent of app tokens raising over \$30,000 provided some sort of profit right. *Token Rights: Key Considerations in Crypto-Economic Design*, *supra* note 58.

65. See The DAO Report, *supra* note 5, at 5–6. A "decentralized organization" is an organization that relies on blockchain technology and smart contracts as their primary or exclusive source of governance. By relying on smart contracts, these organizations aim to enable people to cooperate or collaborate on a peer-to-peer basis, and, if desired, to transact value, with less of a need to rely on a centralized entity or intermediary. See DE FILIPPI & WRIGHT, *supra* note 26, at 147–49; Vitalik Buterin, *DAOs, DACs, DAs and More: An Incomplete Terminology Guide*, ETHEREUM BLOG (May 6, 2014), <https://blog.ethereum.org/2014/05/06/daos-dacs-das-and-more-an-incomplete-terminology-guide/>.

66. Christoph Jentzsch, *Decentralized Autonomous Organization to Automate Governance*, <https://download.slock.it/public/DAO/WhitePaper.pdf> (last visited Jan. 19, 2019).

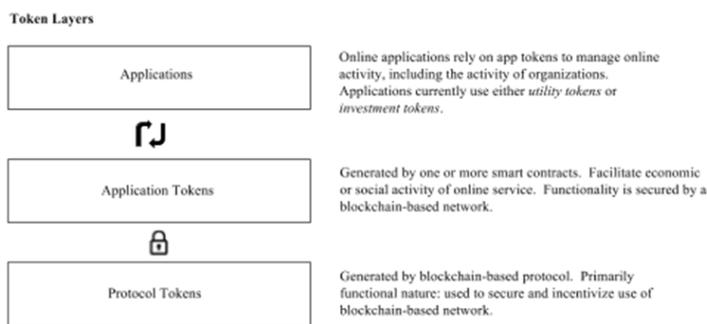
67. *Id.*

68. *Id.*

69. *Id.*

token-based projects, at roughly \$500,000 per deal.⁷⁰ Of course, real life is messier than these categories would have you believe. Given the endless possibilities in token design and ongoing experimentation, it is unsurprising that some tokens will not fall clearly into one of these single categories. A token that combines both utility and economic rights is conceivable. Similarly, the emergence of tokens like Metronome, which is similar to bitcoin insofar as it is intended to function as a payment mechanism, are not issued as a part of any particular blockchain's or network's protocol.⁷¹ Nevertheless, we offer the taxonomy as a useful framework for considering individual tokens and the features that they display.

Figure 1. A Taxonomy of Blockchain-Based Tokens



C. APP TOKEN SALES

Billions of dollars of both *utility* and *investment tokens* have been sold in 2017 and billions more were raised this year.⁷² In a relatively short period of time, a set of best practices relating to token sales has begun to emerge. Parties seeking to sell a token draft a detailed “white paper,” which provides a technical description of the project and outlines any consumptive or functional aspects of

70. *Blockchain Capital Token Sale: Membership in a Blockchain Capital Fund*, SMITH + CROWN, <https://www.smithandcrown.com/sale/blockchain-capital/> (last visited Jan. 19, 2019). The BCAP token sale lasted six hours. William Suberg, *US Regulated Venture Fund ICO Finishes \$10 Mln Sale in Six Hours*, COINTELEGRAPH (Apr. 11, 2017), <https://cointelegraph.com/news/us-regulated-venture-fund-ico-finishes-10-mln-sale-in-two-days>. As of July 5, 2017, the fund had invested in Bitcoin, Ether, and a number of other token based projects, including Bancor, EOS, Kin, Parity, Ripple, and ZeroEx. *Blockchain Capital Releases Q2 2017 BCAP Token NAV*, BLOCKCHAIN LOOP (July 5, 2017), <https://blockchainloop.com/blockchain-capital-releases-q2-2017-bcap-token-nav/>. The net asset value of the BCAP token was reported to be \$1.03. *Id.*

71. See METRONOME, DRAFT OWNER'S MANUAL 6, https://www.metronome.io/pdf/owners_manual.pdf (last updated Apr. 17, 2018) (noting how Metronome is different from Bitcoin in that there is “no presale, whitelist, or any bonus”).

72. See *Cryptocurrency ICO Stats 2017*, *supra* note 2. Nearly \$1 billion in tokens have been sold for infrastructure projects. *Id.* Over \$285 million have been sold for projects related to data storage. And, roughly \$485 million in tokens have been sold to support projects related to token trading and investment. *Id.*

a token.⁷³ White papers often contain development roadmaps, as well as descriptions of the team backing the technology. The document explains whether founders and developers will receive tokens as part of the sale and other terms and conditions of the sale.⁷⁴

Following the release of a white paper, the organization supporting the token sale releases the code to the public (usually under an open source license). Trusted technical experts vet the code to ensure that the code governing the application or the sale does not contain any errors or bugs.⁷⁵ Many projects issuing tokens also engage in a security audit and issue bounties to compensate developers if they find flaws.⁷⁶ However, as The DAO showed, this is far from a foolproof system. Fatal coding errors can persist and be exploited by bad actors even when technical audits are performed.

After the release of a white paper, the organization seeking to sell the a blockchain-based token engages in both formal and informal marketing, relying on popular technology-leaning social media sites such as Reddit and Twitter to generate interest. The promoter or seller of the token often sets up communication hubs (through Slack, Telegram, or on message boards) to keep parties interested in the token sale apprised of developments.⁷⁷

Once the token sale begins, anyone with an internet connection can conceivably buy a token. The sale operates as a worldwide crowdfunding event, where tokens can be purchased en masse, similar to the way entrepreneurs and artists have used Kickstarter to fund product development. Parties interested in

73. Indeed, public repositories of token white papers and other disclosure documents have already been created. See TOKEN FILINGS: TOKEN SALES AND ICOS DIRECTORY, <http://tokenfilings.com/> (last visited Jan. 19, 2019). Many of these whitepapers contain basic information about the token sales including the relevant websites, the location of the project, the number of employees, the supply of tokens, and information about token distribution, management teams, and advisors. See *id.*

74. *Id.*

75. For example, consider the token sale of Nimiq—a browser-based blockchain—which sold \$10 million in tokens in July 2017. Prior to the sale, Nimiq engaged in a security audit and subjected its code to peer review. Team Nimiq, *Smart Contract Audit: Audit Results*, MEDIUM (June 23, 2017), <https://medium.com/nimiq-network/nimiq-token-and-token-sale-audit-486e1994c462>. Prior to the sale, Nimiq also established a “bug bounty” program and rewards to help find security issues related to its platform. *Id.* Other securities audits occur less formally. For example, Aragon—a blockchain-based project aimed at helping people build virtual organizations—sold \$24.75 million in tokens in May 2017. William Suberg, *Biggest Ever ICO Jackpot Netted by Ethereum-Based Aragon Despite Bad Actor*, COINTELEGRAPH (May 18, 2017), <https://cointelegraph.com/news/biggest-ever-ico-jackpot-netted-by-ethereum-based-aragon-despite-bad-actor>. They publicly released their underlying source code and interested parties analyzed the code for errors and mistakes. See Jordi Baylina, *Aragon Token and Token Sale Audit*, MEDIUM (May 10, 2017), <https://medium.com/@jbaylina/aragon-token-and-token-sale-audit-21cade332f1d> (noting that the author, a developer, was “reviewing Aragon’s smart contracts” and “working closely with Aragon developers, improving the code[,] reviewing and fixing issues in this contracts [sic]”).

76. Indeed, if the code is not released under an open source license, it may signal ulterior motives on the part of the party selling the token. That is why third-party research services, like Smith + Crown, often report whether a token has “project code available.” See *ICO/Token Sales*, SMITH + CROWN, <https://www.smithandcrown.com/icos/> (last visited Jan. 19, 2019).

77. A popular place for announcements of token sales and updates from product teams is the Ethereum Sub-Reddit—an online committee with over 120,000 builders. See */r/ethereum*, REDDIT, <https://www.reddit.com/r/ethereum/> (last visited Jan. 19, 2019).

buying a token simply go to an online portal and purchase tokens, which are deposited into a digital currency wallet.⁷⁸ Many token sales are “capped.” In other words, only a fixed number of tokens are sold.⁷⁹ These “capped” token sales can sell out in a matter of minutes, if not seconds, because they tend to involve popular projects or founders with strong reputations.⁸⁰

Once sold, tokens become non-redeemable. The seller generally has no repurchase obligation, and often the tokens are not subject to transfer restrictions.⁸¹ Rather, they are actively traded on secondary cryptocurrency markets around the globe, which list tokens and facilitate their trading, much in the same way as a stock exchange lists shares in publicly traded companies.⁸² The existence of these exchanges and the ease with which it is possible to buy and sell tokens on an exchange means that even *utility tokens*—which only may entitle the holder to the use of some service or software—can generate profits if sold on exchanges for more than their purchase price.

78. There have been various projects launched to streamline the sale of tokens. One example is TokenHub, which bills itself as “the world’s first platform to deliver a turnkey solution to set up, run and manage ICOs.” TOKENHUB, <https://tokenhub.com/> (last visited Jan. 19, 2019).

79. See Keane, *supra* note 2 (describing the capped sale of the BAT token); see also Vitalik Buterin, *Analyzing Token Sale Models*, VITALIK BUTERIN’S WEBSITE (June 9, 2017), <http://vitalik.ca/general/2017/06/09/sales.html> (providing an overview of capped sales as of June 2017, including the BAT token and a token sale for Gnosis, a decentralized prediction market).

80. For example, the BAT token sale lasted only thirty seconds. Keane, *supra* note 2. Gnosis’s token sale lasted a mere fifteen minutes. Alyssa Hertig, *ICO Insanity? \$300 Million Gnosis Valuation Sparks Market Reaction*, COINDESK (Apr. 26, 2017, 5:49 PM), <https://www.coindesk.com/ethereum-ico-irrationality-300-million-gnosis-valuation-sparks-market-concerns/>. Filecoin raised \$200 million in sixty minutes. Stan Higgins, *\$200 Million in 60 Minutes: Filecoin ICO Rockets to Record amid Tech Issues*, COINDESK (Aug. 11, 2017, 11:24 PM), <https://www.coindesk.com/200-million-60-minutes-filecoin-ico-rockets-record-amid-tech-issues/>. There have been some people who have raised issue with capped token sales, because they benefit “whales” or wealthy large token traders that pay high fees to beat smaller purchasers, thus precluding the wide distribution of token sales. See Amy Castor, *Tame the Whales? Developer Nick Johnson Thinks He Can Fix ICOs*, COINDESK (July 3, 2017, 10:15 AM), <https://www.coindesk.com/tame-whales-developer-nick-johnson-thinks-can-fix-icos/> (providing an overview of this problem and outlining a potential solution to limit the effect of large purchasers in token sales).

81. Some tokens have varied this restriction, particularly of late. For example, Protocol Labs sold a token called Filecoin, which contained transfer restrictions. See *Filecoin Token Sale Economics*, COINLIST, https://coinlist.co/assets/index/filecoin_index/Filecoin-Sale-Economics-e3f703f8cd5f644aec7ae3860ce932064ce014dd60de115d67ff1e9047ffa8e.pdf (last visited Jan. 19, 2019). In addition, often times the organization selling a token will reserve authorized tokens for founders, early employees, and key advisors. These allocations often are placed on a vesting schedule. See, e.g., *id.*; Luis Cuende, *Aragon Network Token Sales Terms*, ARAGON BLOG (Apr. 21, 2017), <https://blog.aragon.org/aragon-network-token-sale-terms-8998f63a3429/> (“Vesting is a must. There are no excuses not to do it. It aligns everyone’s incentives and ensures that no founder dumps happen. Founders . . . will have 2 years vesting with 6 months cliff. This means we will mature 25% of our tokens each 6 months. Early contributors, presale partners and advisors will have 6 months vesting with 3 months cliff. This means they will mature 50% of their tokens at the end of month #3, and the rest on month 6.”).

82. Currently, there are a handful of token exchanges that facilitate the sale of tokens, including Bitfinex, a Hong Kong-based exchange, and Poloniex, a U.S.-based exchange. See BITFINEX, <https://www.bitfinex.com/> (last visited Jan. 19, 2019); POLONIEX, <https://poloniex.com/> (last visited Jan. 19, 2019). These exchanges often enable parties to trade both protocol tokens (like bitcoin and ether), as well as app tokens.

All proceeds from the token sale go to the organization or group of developers selling the tokens. The nature of these organizations run the gamut. Some are organized as traditional business entities or not-for-profit foundations.⁸³ Others are not formally organized and instead consist of a loosely connected group of developers, and the proceeds from the token sale are distributed to those individuals.⁸⁴

Many of these projects have opted to organize outside of the United States. In particular, a number of parties engaging in an app token sale are forming not-for-profit companies in Zug, Switzerland.⁸⁵ The Swiss canton thus far has taken a laissez-faire approach to token sales, and local law firms have streamlined the process for handling relevant legal work.⁸⁶ Indeed, according to a recent survey of over 200 token sales, by researchers from the Università Bocconi and Politecnico di Milano, School of Management, only 18.6% of the sales originate from the United States, with the majority originating from projects located in Russia, China, Switzerland, Singapore, and elsewhere around the globe.⁸⁷

D. GROWTH OF PROTOCOL AND APP TOKEN SALES

To date, there have been over 1,080 tokens in public circulation, with a total market capitalization that has widely fluctuated, reaching over \$365 billion

83. For example, several large VC-backed companies have recently engaged in token sales, receiving proceeds from the sale, in part, from traditional venture capital funds. See Stan Higgins, *Filecoin Presale Raises \$52 Million Ahead of ICO Launch*, COINDESK (Aug. 5, 2017, 11:01 AM), <https://www.coindesk.com/filecoin-presale-raises-52-million-ahead-ico-launch/> (explaining how Protocol Labs sold tokens ahead of a token sale, including from large institutional venture capitalists); Jon Russell, *Kik Could Pave the Way for More Mainstream Tech Company ICOs*, TECHCRUNCH (Sept. 12, 2017), <https://techcrunch.com/2017/09/12/kik-ico/> (noting that Kik was engaged in a token sale, which was targeted at raising \$125 million, despite the fact that “it was founded in 2009; has mainstream traction via its messaging app, with 15 million monthly users; has raised more than \$170 million from investors that include Chinese internet giant Tencent; [and] is valued at more than \$1 billion”). Other projects are organized as not-for-profit corporations. For example, Bancor—a protocol facilitating the exchange of blockchain-based tokens—raised over \$150 million through a token sale, with proceeds going to a not-for-profit corporation organized in Switzerland. See John Biggs, *How to Run a Token Sale*, TECHCRUNCH (Sept. 22, 2017), <https://techcrunch.com/2017/09/22/how-to-run-a-token-sale/> (“The [Bancor] fundraiser was executed by a Swiss non-profit foundation, that has a mandate to use its funds in order to develop and promote the open-source Bancor protocol.”).

84. The most notable example of an informal group engaging in the token sale was The DAO. The DAO was not a formally organized company. Rather it was managed by several smart contracts, which managed an Ethereum-based address. That being said, there was a centralized company, in part, behind The DAO, named Slock.it. Slock.it helped manage and promote the sale of DAO Tokens. See Christoph Jentsch, *The History of the DAO and Lessons Learned*, MEDIUM: SLOCK.IT BLOG (Aug. 24, 2016), <https://blog.slock.it/the-history-of-the-dao-and-lessons-learned-d06740f8cfa5> (describing the role of Slock.it in the development of The DAO, but noting that “Slock.it, would be just one of the many companies that would offer products and services to it”).

85. See, e.g., Biggs, *supra* note 83.

86. *Swiss Crypto Moves on Fundraising Gold Rush*, FINNEWS (Sept. 8, 2017, 12:48 PM), <https://www.finews.com/news/english-news/28822-crypto-switzerland-rules-icos-cryptocurrencies> (“Switzerland has been home to a glut of initial coin offerings, the digital currency version of initial public listings. The country’s standards for such ICOs are laxer than in other hubs like the U.S., Singapore, South Korea, Russia move [sic] to regulate cryptocurrency offerings or even, as China did recently, ban them.”).

87. Saman Adhami et al., *Why Do Businesses Go Crypto? An Empirical Analysis of Initial Coin Offerings*, 100 J. ECON. & BUS. 64, 69 (2018).

in terms of total token supply in January 2018.⁸⁸ Almost half of these tokens have been deployed on the Ethereum blockchain, and the majority of these tokens have been sold in 2017.⁸⁹ Token sales have been used to fund a variety of different projects, including projects in the realm of social media, the Internet of Things, advertising technology, new identity platforms, as well as financial and gambling or gaming projects.⁹⁰

Not surprisingly, not all token sales have been successful. While several token sales have generated proceeds in excess of \$100 million, generating headlines, other app token sales have fallen flat, generating little for the parties seeking to generate funding.⁹¹

Successful token sales tend to concentrate token ownership in the hands of a few purchasers. For example, Iconomi—a new financial services company operated out of Slovenia that enables anyone to create their own investment fund comprised of other blockchain-based tokens⁹²—sold a token (called ICN), receiving proceeds of \$10,000,000.⁹³ Yet, the overwhelming majority of the tokens (eighty-one percent) were sent to a mere ten blockchain-based accounts, suggesting that the sale was dominated by a few large purchasers.⁹⁴

The same trend held for the sale by FirstBlood, a decentralized eSports gaming app that allows people to play against one another and gamble on popular online games.⁹⁵ FirstBlood raised \$6 million through a token sale.⁹⁶

88. *Top 100 Tokens by Market Capitalization [Total Supply]*, COINMARKETCAP, <https://coinmarketcap.com/tokens/views/market-cap-by-total-supply/> (last visited Jan. 19, 2019) (listing the total market cap based on the supply of tokens as over \$55 billion). It is worth noting that many tokens are “locked” by the selling party. The total market capitalization for tokens in circulation is significantly lower, at roughly \$10 billion. *Top 100 Tokens by Market Capitalization*, COINMARKETCAP, <https://coinmarketcap.com/tokens/> (last visited Jan. 19, 2019) (listing the total market cap based on circulating supply at \$10.3 billion).

89. Some tokens have been issued on other blockchains including Omni, Nxt, and the Bitcoin blockchain (via Counterparty). *See All Coins*, COINMARKETCAP, <https://coinmarketcap.com/assets/views/all/> (last visited Jan. 19, 2019).

90. *See Cryptocurrency ICO Stats 2017*, *supra* note 2 (providing a distribution of token sales by category).

91. *See Token Sale Market Performance*, SMITH + CROWN (May 25, 2017), <https://www.smithandcrown.com/token-sale-market-performance/> (outlining the distribution of token sales over \$25,000 and noting that “more than half of all funds raised went to the top 10% of the projects” and noting that “[t]hese high-raise projects usually dominate news headlines about token sales, but the longer tail of smaller-raise projects is important and is often ignored”).

92. TIM M. ZAGAR ET AL., *ICONOMI: OPEN FUND MANAGEMENT PLATFORM TO DISRUPT THE INVESTMENT INDUSTRY* (2016), <https://assets.ctfassets.net/sdlntm3tthp6/resource-asset-r417/141319880b2b2c2cb728330479200015/1524183c-9e37-4050-9148-d746d584384a.pdf>.

93. Sid Kalla & Matt Chwierut, *2016: The Year Blockchain ICOs Disrupted Venture Capital*, COINDESK (June 1, 2017, 11:01 AM), <http://www.coindesk.com/2016-ico-blockchain-replace-traditional-vc/>.

94. *ICONOMI Top 100 Token Holders*, ETHERSCAN, <https://etherscan.io/token/tokenholderchart/0x888666CA69E0f178DED6D75b5726Cee99A87D698> (last visited Jan. 19, 2019).

95. *First Blood Token Sale (ICO)*, SMITH + CROWN, <https://www.smithandcrown.com/sale/first-blood/> (last visited Jan. 19, 2019) (describing the FirstBlood token sale and the underlying project); FIRSTBLOOD, <https://firstblood.io/#/home> (last visited Jan. 19, 2019).

96. *First Blood Token Sale (ICO)*, *supra* note 95.

However, roughly seventy-four percent of the tokens are held in a mere 100 accounts, suggesting a limited number of actual purchasers.⁹⁷

The value of some of these app tokens has increased rapidly over the past several years. For example, consider Golem, a decentralized supercomputing platform that competes with existing cloud service providers like Amazon and Microsoft by enabling anyone to rent computing resources from others.⁹⁸ Golem has sold an app token (called GNT) which acts as pre-paid access to the computational resources provided collectively by members of the Golem network. Even though the Golem platform has not yet launched, the value of the Golem token has grown dramatically, from an initial price of \$0.015 to a high of \$1.25 per token (a 9,120% increase).⁹⁹

Likewise, DigixGlobal sold a token (called DGD) which represented an ownership interest in physical gold bullion maintained by the company.¹⁰⁰ The DGD token has swelled from roughly \$6 a token to a high of over \$350—for a total market capitalization of over \$890 million—in little over a year despite the fact that the project has barely inched beyond a “beta” software release.¹⁰¹

Given the dramatic rise in the price of tokens and the ability for early purchasers to realize this gain by selling on an exchange, these new digital assets appear to have not only functional or consumptive value but also a *speculative value* in a literal sense—the possibility or prospect of buying a token at one price and selling it in the future to someone for a higher price. Because many app tokens cap their total supply, they create artificial scarcity. Users, or potential users, of online services relying on tokens are purchasing or selling these tokens in hopes that the online service becomes popular and useful. With a limited or diminishing supply of tokens, the value of the tokens could theoretically increase, as more and more individuals or businesses decide to use the service, rewarding those who purchased or acquired tokens before mass adoption.

Due to this dynamic, some argue tokens are an important new tool that makes it possible to launch, fund, and generate support for new technology projects in ways that are easier and cheaper than traditional options.¹⁰² In the

97. *FirstBlood Top 100 Token Holders*, ETHERSCAN, <https://etherscan.io/token/tokenholderchart/0xaf30d2a7e90d7dc361c8c4585e9bb7d2f6f15bc7> (last visited Jan. 19, 2019).

98. GOLEM, THE GOLEM PROJECT: CROWDFUNDING WHITEPAPER (2016), <https://golem.network/doc/Golemwhitepaper.pdf>.

99. *Golem*, COINMARKETCAP, <https://coinmarketcap.com/currencies/golem-network-tokens/> (Dec. 15, 2018) (noting that the initial value of Golem’s token “GNT” was \$0.015 and it swelled to nearly \$0.68 in June 2017).

100. ANTHONY C. EUFEMIO ET AL., DIGIX’S WHITEPAPER: THE GOLD STANDARD IN CRYPTO-ASSETS (2016), <https://digix.global/whitepaper.pdf>.

101. *DigixDAO*, COINMARKETCAP, <https://coinmarketcap.com/currencies/digixdao/> (last visited Jan. 19, 2019) (displaying a graph demonstrating that the price of the “DGD” token has traded at ranges between \$6.31 on May 1, 2016 to just over \$100 on May 24, 2017); Digix, *Dev Update 31st July 2017*, MEDIUM: KEEPING STOCK (July 31, 2017), <https://keepingstock.net/dev-update-31st-july-2017-540eb57aea31> (providing a development update of the Digix platform and its “beta launch”).

102. This view has been advanced by venture capitalists, like Albert Wenger from Union Square Ventures and Balaji Srinivasan, a Board Partner at Andreessen Horowitz. Albert Wenger, *Crypto Tokens and the Coming*

most optimistic view of the technology, tokens align the incentives of developers, contributors, users, and supporters of a given technology project. They are freely tradable, and anyone who is interested in a project can become involved early in the process by simply purchasing a token. Tokens and token sales thus serve as a potent new mechanism for raising capital, attracting early adopters, and generating interest from the public. If a project attracts early supporters, tokens lay the foundation for network effects, which enhance the value and potential usefulness of the service, particularly with two-sided markets.¹⁰³

Others see echoes of the Tulip mania that swept through Holland in the early 1630s or the Great South Sea Bubble in England in the early 1720s.¹⁰⁴ For these critics, token sales represent blind and irrational speculation that will ultimately end in financial ruin.¹⁰⁵ Online services relying on tokens are modern heirs of the charlatans and fraudsters whose conduct prompted the federalization of securities regulation in the first instance.¹⁰⁶ Everyday citizens will be left holding the bag, as parties selling and issuing tokens profit handsomely.¹⁰⁷

The truth likely lies in between. Today, few would argue that the birth of limited liability joint stock companies during the Industrial Age transformed how humans organized their economic activities, improving economic productivity and overall wealth. At the same time, there is no question that the first few hundred years of public stock ownership were often marked by fraud

Age of Protocol Innovation, CONTINUATIONS (July 28, 2016), <http://continuations.com/post/148098927445/crypto-tokens-and-the-coming-age-of-protocol>; Balaji S. Srinivasan, *Thoughts on Tokens: Tokens Are Early Today, but Will Transform Technology Tomorrow*, EARN.COM (May 27, 2017), <https://news.21.co/thoughts-on-tokens-436109aabcb>; see also Richard Kastelein, *What Initial Coin Offerings Are, and Why VC Firms Care*, HARV. BUS. REV. (Mar. 24, 2017), <https://hbr.org/2017/03/what-initial-coin-offerings-are-and-why-vc-firms-care> (“For blockchain startups, ICOs are a win-win—they allow startups to raise funds without having equity stakeholders breathing down their necks on spending, prioritizing financial returns over the general good of the product or service itself. And there are many in the blockchain community who feel that ICOs are a long-awaited solution for non-profit foundations that want to build open-source software to raise capital.”).

103. See Ramon Recuero, *The Token Effect*, Y COMBINATOR BLOG (Aug. 16, 2017), <https://blog.ycombinator.com/the-token-effect/> (“Tokens allow decentralized protocols to capture the value of the network. A token is the basic economic unit in the ecosystem and should represent a scarce resource. Tokens are spent to use this resource and are earned by contributing to the network.”); Nick Tomaino, *The Token Economy: Network Ownership Effects Enabled by Crypto Tokens Are Fueling a New Era of Internet Products* (Mar. 14, 2017), <https://thecontrol.co/the-token-economy-81becd26b9de>; see also Geoffrey G. Parker & Marshall W. Van Alstyne, *Two-Sided Network Effects: A Theory of Information Product Design*, 51 MGMT. SCI. 1494 (2005) (describing network effects of two-sided markets and the challenges of creating such effects).

104. See generally Nicolaas W. Posthumus, Jr., *The Tulip Mania in Holland in the Years 1636 and 1637*, 1 J. ECON. & BUS. HIST. 434 (1929).

105. See, e.g., Nathaniel Popper & Su-Hyun Lee, *‘Financially Ruined’: Cryptocurrency Investors Learn Hard Lessons After Bitcoin Boom Busts*, FIN. POST (Aug. 22, 2018, 1:07 PM), <https://business.financialpost.com/technology/blockchain/financially-ruined-cryptocurrency-investors-learn-hard-lessons-after-bitcoin-boom-busts>.

106. Bill Harris, *Bitcoin Is the Greatest Scam in History*, RECORDE (Apr. 24, 2018, 12:30 PM), <https://www.recode.net/2018/4/24/17275202/bitcoin-scam-cryptocurrency-mining-pump-dump-fraud-ico-value>; Daniel Roberts, *Half of ICOs Fail—and ICO Funding Is Way Up*, YAHOO! FIN. (July 10, 2018), <https://finance.yahoo.com/news/half-icos-fail-ico-funding-way-anyway-170800395.html>.

107. See generally RICHARD DALE, *THE FIRST CRASH: LESSONS FROM THE SOUTH SEA BUBBLE* (2004).

and periods of irrational speculation.¹⁰⁸ As with any new development, the effect of tokens will depend on the use to which they are put.

While it was technically feasible to build electronically represented securities before the advent of blockchains,¹⁰⁹ the new technology breaks down barriers and dramatically reduces the cost of issuing, trading, and managing the sale of both securities and other assets worldwide. Anyone with access to an Internet connection and a computer now can issue a security and represent that security as a token. Moreover, due to the disintermediated and transnational nature of a blockchain, these *investment tokens* can be bought and sold in any country and by any person with an Internet connection, and they can be freely traded across the globe, often on unregulated exchanges.

In a sense, blockchains do to finance what the Internet did to copyright during the late 1990s and early 2000s by making it increasingly easy to create, disseminate, and trade securities and other assets in ways that were not available before. Before the advent of the Internet, it was possible to create, reproduce, and disseminate copyrightable content digitally by, for example, swapping floppy disks. But, these files were difficult to transmit and often required the use of physical media as a method of transfer. Copyright infringement occurred, but not at an intolerable volume.

With the growth of the Internet and a newfound ability to send digital files to anyone, anywhere across the globe, copyright infringement grew exponentially.¹¹⁰ In reaction, governments and legislatures jumped to action, passing new laws, like the Digital Millennium Copyright Act (DMCA), to shield intermediaries from copyright liability.¹¹¹ Ultimately, mass copyright

108. *Id.* at 182.

109. Indeed, the 1978 amendments to Article 8 of the Uniform Commercial Code “sought to reduce the need for handling paper in the securities markets and to accommodate an increasing use of electronic information technology. It provided for paperless, intangible ‘uncertificated’ securities.” Steven L. Harris & Charles W. Mooney, *Negotiability, Electronic Commercial Practices, and a New Structure for the UCC Article 9 Filing System: Tapping the Private Market for Information Technology*, 31 IDAHO L. REV. 835, 837 (1995). These amendments were retained in the 1994 revisions. See U.C.C. § 8-102(a)(18) (AM. LAW INST. & UNIF. LAW COMM’N 1994) (defining an “uncertificated security”).

110. These risks were obviously known before the Internet gained mainstream adoption. For example, influential futurist Ithiel de Sola Pool noted in 1983:

For copyright, the implications [of electronic publishing] are fundamental. Established notions about copyright become obsolete, rooted as they are in the technology of print. The recognition of a copyright and the practice of paying royalties emerged with the printing press. With the arrival of electronic reproduction, these practices become unworkable. Electronic publishing is analogous not so much to the print shop of the eighteenth century as to word-of-mouth communication, to which copyright was never applied.

ITHIEL DE SOLA POOL, *TECHNOLOGIES OF FREEDOM* 214 (1983).

111. See Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (codified as amended at scattered sections of 17 U.S.C. (2012)). As recognized by scholars at the time, “[t]he emergence of electronic networks ha[d] undeniably placed significant pressure on [the] existing intellectual property system.” Eric Schlachter, *The Intellectual Property Renaissance in Cyberspace: Why Copyright Law Could Be Unimportant on the Internet*, 12 BERKELEY TECH. L.J. 15, 16 (1997). This led, in part, to the implementation, of the Online Copyright Infringement Limitation of Liability Act (OCILLA)—a part of the DMCA—which created a conditional safe harbor for “internet service providers” and other online intermediaries from claims of copyright

infringement, facilitated by Internet technologies, caused courts to re-examine theories of secondary copyright liability to account for a new generation of online services unimaginable before the digital age.¹¹²

Blockchain-based tokens create a similar situation. Software developers use blockchain technology to create *investment tokens* and engage in public offerings simultaneously in potentially every jurisdiction across the globe. The cost of structuring this offering is lower than the cost of engaging in such sales previously and requires minimal ongoing monitoring or enforcement on the part of the selling party. These tokens can be widely dispersed and purchased by anyone with an Internet connection.¹¹³

In effect, the distributive power of the Internet is being combined with the raw power of a blockchain to manage and transfer assets globally. This combination has extraordinary potential for capital formation, streamlining a once cumbersome process of raising funding while holding out the hope of democratizing access to capital by unleashing untapped entrepreneurship.

At the same time, however, when digital goods, which are meant to be consumptive in nature, are tokenized and sold online using blockchain technology, they begin to resemble securities. Just as blockchains break down barriers related to the sale of digitized securities, blockchains also decrease the cost of selling and managing the sale of digital goods, making them highly liquid. These goods become capable of being traded or transferred by anyone and to anyone around the globe, all facilitated by token exchanges.

In this regard, digital goods (like an API key or pre-paid access to online services), which before blockchains could not be reasonably viewed as securities, begin to resemble securities once they are tokenized. These digital goods are no longer bought and sold in bilateral transactions between a supplier and a purchaser, but rather are widely available and accessible through market-based exchanges found across the globe. Due to the distributed nature of a blockchain, tokenized representations of digital goods or other assets become fungible, exhibiting characteristics of securities because they can increase in value, are liquid, and can be sold to fund new projects.

II. TOKENS UNDER U.S. SECURITIES LAWS

The recent explosion of tokens sales raises obvious questions surrounding their status under U.S. securities laws, an inquiry governed by a complicated body of case law and administrative materials applying a test first articulated by

infringement arising from, inter alia, linking to copyright-protected materials and hosting copyright infringing materials uploaded by the service provider's users if the service provider adopts and reasonably implements a policy of addressing and terminating accounts of users who are found to be "repeat infringers" and does not interfere with "standard technical measures" that copyright owners use to identify or protect copyrighted works. See 17 U.S.C. § 512 (2012).

112. See sources cited *supra* note 10.

113. See *supra* Subpart I.B.

the United States Supreme Court in *SEC v. W.J. Howey Co.*¹¹⁴ Within this framework, significant uncertainty as to whether digital tokens will be treated as securities exists. For *investment tokens*, which assign economic rights to their holders, the analysis is relatively straightforward. These are often securities dressed in different clothing and thus would be subject to U.S. securities laws.¹¹⁵

For *utility tokens*, however, the analysis is more muddled. These tokens combine functional and consumptive elements with high liquidity and *speculative value* in a way that raises challenges under the *Howey* test. Because they entitle the holder to use a service or software, they have a practical use and derive value from the rights they confer on their holders. They also, however, can appreciate in value and, for this reason, present opportunities for speculation. In a sense, they resemble event tickets, rare wines, artwork, or other collectibles, but this analogy is limited. The existence of highly liquid exchanges that facilitate an active secondary market as well as the use of advance token sales to finance completion of the project are important ways that *utility tokens* differ from these more traditional, non-securities that combine consumption with the potential for profit.

In this Part, we provide an overview of the U.S. federal securities laws, with an emphasis on the *Howey* test. We discuss the application of that test to digital tokens and conclude that there is significant uncertainty as to the status of tokens, particularly *utility tokens*. We further consider the possibility that token sellers can organize their sales to comply with the major registration exemptions and conclude that this is not currently a viable path for the organizers of token sales.¹¹⁶

A. OVERVIEW OF U.S. SECURITIES LAWS

The Securities Act of 1933 (Securities Act)¹¹⁷ provides the statutory framework for federal regulation of securities offerings. Prior to the passage of this Act, offerings of securities were regulated at the state level, under states' "blue sky laws." These laws were typically merits-based: state governments either approved or disapproved the offering of a security depending on its perceived merit.¹¹⁸

After the stock market crash of 1929, Congress inserted the federal government into the mix with the Securities Act. Unlike the state blue sky laws, the Securities Act and its sister statute, the Securities and Exchange Act of 1934 (Exchange Act),¹¹⁹ reflect a regulatory approach that seeks to protect investors

114. 328 U.S. 293, 298–99 (1946).

115. See *infra* Subpart II.B.

116. We note that the below analysis does not account for state securities laws, which vary significantly from state to state. State securities laws create added complexity to questions related to the sale of tokens, which would require an entirely separate analysis.

117. 15 U.S.C. § 77a (2012). Of course, after a company goes public, it is subject to ongoing disclosure requirements, which are primarily imposed by the Securities and Exchange Act of 1934. See *id.*

118. Mark A. Sargent, *A Future for Blue Sky Law*, 62 U. CIN. L. REV. 471, 473 (1993).

119. 15 U.S.C. § 78a.

by ensuring that they receive information about both the securities that are sold to and traded by the public and the companies that issue them. Rather than giving the SEC the authority to approve securities based on their merits, the Securities Act requires that securities sold through a public offering be registered with the SEC¹²⁰ and that the issuer disclose a variety of information to investors in connection with the registration requirement.¹²¹ The Exchange Act subjects issuers to ongoing disclosure requirements after the public sale of its securities; both statutes include antifraud provisions.¹²²

The Securities Act applies only when a transaction involves a security.¹²³ If the subject of a transaction is not a security, the Securities Act does not apply. The term “security” is defined broadly and includes a variety of common investment mechanisms, like stocks and bonds, as well as a catch-all term—“investment contract”—intended to capture innovative financial arrangements that are, in substance, securities but which do not take the form of a traditional security.¹²⁴ Whether or not a token is subject to the securities laws will depend on whether it is an “investment contract.”¹²⁵

The question of whether a transaction involves an “investment contract” is one of substance, not form, and turns on the test adopted by the Supreme Court in *Howey*.¹²⁶ Under the *Howey* test, an investment contract is “a contract, transaction or scheme whereby [1] a person invests his money [2] in a common enterprise and [3] is led to expect profits solely from the efforts of the promoter

120. As described further below, there are exemptions to the registration requirement.

121. Zachary J. Gubler, *Public Choice Theory and the Private Securities Market*, 91 N.C. L. REV. 745, 747 (2013).

122. See 15 U.S.C. § 78j; 17 C.F.R. § 240.10b-5 (2018) (commonly referred to as “Rule 10b-5”). Rule 10b-5 prohibits the use of any “device, scheme, or artifice to defraud,” and creates liability for any misstatement or omission of a material fact, or one that investors would think was important to their decision to buy or sell the stock. Courts held early on that investors can sue under Rule 10b-5, and the scope of liability is broad: a wide range of participants, from brokers to issuers to company employees may be liable, provided that the fraud was “in connection with” a securities purchase or sale. See *Superintendent of Ins. v. Bankers Life & Cas. Co.*, 404 U.S. 6, 13 n.9 (1971) (implying a private cause of action in section 10(b)). The fraud is considered to be “in connection with” a securities transaction, if it was material to the decision to buy or sell a security. See *Section 10(b) Litigation: The Current Landscape*, ABA (June 29, 2017), https://www.americanbar.org/groups/business_law/publications/blt/2014/10/03_kasner/ (listing the requirements to establish securities fraud).

123. 15 U.S.C. § 77e (“Unless a registration statement is in effect as to a security . . .”).

124. *Id.* § 77b(a)(1) (“The term ‘security’ means any note, stock, treasury stock, security future, security-based swap, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganization certificate or subscription, transferable share, investment contract, voting-trust certificate, certificate of deposit for a security, fractional undivided interest in oil, gas, or other mineral rights, any put, call, straddle, option, or privilege on any security, certificate of deposit, or group or index of securities (including any interest therein or based on the value thereof), or any put, call, straddle, option, or privilege entered into on a national securities exchange relating to foreign currency, or, in general, any interest or instrument commonly known as a ‘security’, or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing.”).

125. See The DAO Report, *supra* note 5, at 11. In finding that DAO Tokens were securities, the SEC applied the *Howey* test and concluded that the tokens were investment contracts. *Id.* at 11–15.

126. 328 U.S. 293 (1946).

or a third party.”¹²⁷ The test “embodies a flexible rather than a static principle” and was designed to capture “the countless and variable schemes devised by those who seek the use of the money of others on the promise of profits.”¹²⁸

B. STATUS OF APPLICATION TOKENS UNDER U.S. SECURITIES LAWS

As we show below, the current test for an investment contract has no categorical resolution when it comes to tokens and, in particular, *utility tokens*. Although certain aspects of the *Howey* test are straightforward, other aspects implicate novel issues relating to the scope of U.S. securities regulation. This difficulty primarily arises from the dual nature of many *utility tokens*: they are consumptive insofar as they entitle their holders to access a technological service, but they can also be used by some purchasers as an investment opportunity. The nature of *utility tokens* makes categorical determinations about their status under U.S. securities laws impossible and subjects token sellers to significant uncertainty as to their regulatory obligations.

1. *Investment of Money*

In the context of blockchain-based tokens, the first prong of the *Howey* test—an investment of money—is relatively straightforward. The term “money” captures much more than traditional currency. It also includes goods, services, promissory notes, and other “exchange[s] of value.”¹²⁹

Purchasers of *protocol*, *utility*, and *investment* tokens generally pay with a digital currency, like bitcoin or ether, and thus will satisfy the first prong of *Howey*. Despite departing from many traditional notions of what money is (for example, digital currency involves no physical bills or coinage), units of digital currency are routinely exchanged for increments of traditional fiat currency and can be used for a variety of transactions in which valuable goods and services are exchanged. For this reason, at least two courts have determined that bitcoin qualifies as money for purposes of both anti-money laundering statutes¹³⁰ and the Securities Act.¹³¹ In short, whether it is because virtual currencies are treated

127. *Id.* at 298–99.

128. *Id.* at 299.

129. *Useton v. Commercial Lovelace Motor Freight, Inc.*, 940 F.2d 564, 574–75 (10th Cir. 1991) (citations omitted); *see also* *Int'l Bhd. of Teamsters, Chauffeurs, Warehousemen, and Helpers of Am. v. Daniel*, 439 U.S. 551, 560 n.12 (1979); *Hector v. Wiens*, 533 F.2d 429, 432–33 (9th Cir. 1976); *Frazier v. Manson*, 484 F. Supp. 449, 452 & n.5 (N.D. Tex. 1980) (concluding that limited partnership interests received in exchange for services, rather than money, met the “investment of money” requirement although the limited partners’ participation in the day-to-day operation of the business precluded security status due to *Howey*’s “efforts of others” requirement); *Sandusky Land, Ltd. v. Uniplan Grps., Inc.*, 400 F. Supp. 440, 445 (N.D. Ohio 1975).

130. *United States v. Faiella*, 39 F. Supp. 3d 544, 545 (2014) (“Bitcoin clearly qualifies as ‘money’ . . . under these plain meaning definitions. Bitcoin can be easily purchased in exchange for ordinary currency, acts as a denominator of value, and is used to conduct financial transactions.”).

131. *SEC v. Shavers*, No. 4:13–CV–416, 2013 WL 4028182, at *2 (E.D. Tex. Aug. 6, 2013) (“First, the Court must determine whether the BTCST investments constitute an investment of money. It is clear that Bitcoin can be used as money. It can be used to purchase goods or services, and as Shavers stated, used to pay for individual living expenses. The only limitation of Bitcoin is that it is limited to those places that accept

as the equivalent of traditional fiat currency or because they involve an exchange of value, the purchase of an app token with virtual currency likely meets this prong of the *Howey* test.¹³²

2. Common Enterprise

The second prong of the *Howey* test—common enterprise—“focus[es] on the extent to which the success of the investor’s interest rises and falls with others involved in the enterprise.”¹³³ The *Howey* Court did not explain precisely what it meant by a “common enterprise,” and lower court opinions have developed at least three ways of approaching this issue: “horizontal commonality,” “broad vertical commonality,” and “narrow or strict vertical commonality.”¹³⁴

The horizontal commonality test requires multiple purchasers (more than one) who are all exposed to the risk of the enterprise.¹³⁵ This typically means that their monetary investments have been pooled and that they stand to enjoy gain or suffer losses according to the success of the enterprise.¹³⁶

Vertical commonality “focuses on the relationship between the investor and the promoter.”¹³⁷ The broad version of vertical commonality requires that the investor’s outcome be dependent on the promoter’s efforts or expertise. It does not require that the promoter’s fortune rise and fall with that of the investor (as is the case with narrow vertical commonality), only that the investors are dependent upon the efforts of the promoter.¹³⁸ The narrow test requires that “the fortunes of the investor are interwoven with and dependent upon the efforts and

it as currency. However, it can also be exchanged for conventional currencies, such as the U.S. dollar, Euro, Yen, and Yuan. Therefore, Bitcoin is a currency or form of money, and investors wishing to invest in BTCST provided an investment of money.”)

132. Some commentators and courts analyze the distinction between a purchaser’s consumption expectation and an investor’s profit expectation under the rubric of whether or not there has been an investment, rather than just a payment, of money. See, e.g., Joan MacLeod Heminway & Sheldon Ryan Hoffman, *Proceed at Your Peril: Crowdfunding and the Securities Act of 1933*, 78 TENN. L. REV. 879, 895–98 (2011). We address these issues below in connection with the “expectation of profits” prong of the *Howey* test.

133. Miriam R. Albert, *The Howey Test Turns 64: Are the Courts Grading This Test on a Curve?*, 2 WM. & MARY BUS. L. REV. 1, 16 (2011).

134. *Id.* at 16–18; see also 1 THOMAS LEE HAZEN, *THE LAW OF SECURITIES REGULATION* § 1:52 (7th ed., rev. vol. 2016).

135. Albert, *supra* note 133, at 17.

136. See, e.g., SEC v. Infinity Grp. Co., 212 F.3d 180, 188 (3d Cir. 2000); *Steinhardt Grp. Inc. v. Citicorp*, 126 F.3d 144, 151 (3d Cir. 1997).

137. James D. Gordon III, *Defining a Common Enterprise in Investment Contracts*, 72 OHIO ST. L.J. 59, 67 (2011); see also 1 HAZEN, *supra* note 134, § 1:52.

138. See, e.g., *Revak v. SEC Realty Corp.*, 18 F.3d 81, 87–88 (2d Cir. 1994) (“To establish ‘broad vertical commonality,’ the fortunes of the investors need be linked only to the efforts of the promoter. ‘Strict vertical commonality’ requires that the fortunes of investors be tied to the fortunes of the promoter.” (citations omitted)); see also *Long v. Shultz Cattle Co.*, 881 F.2d 129, 140–41 (5th Cir. 1989) (“While our standard requires interdependence between the investors and the promoter, it does not define that interdependence narrowly in terms of shared profits or losses. Rather, the necessary interdependence may be demonstrated by the investors’ collective reliance on the promoter’s expertise even where the promoter receives only a flat fee or commission rather than a share in the profits of the venture.”).

successes of those seeking the investment or of third parties.”¹³⁹ This test typically requires that the promoter (or third party) have a financial stake in the enterprise such that the promoter bears the risk of loss and the potential for gain alongside the investor.

Like the investment of money prong, most tokens will meet at least one (if not more) of the tests currently utilized. Determining precisely which version of commonality will suffice to establish a common enterprise is a surprisingly difficult undertaking. Circuit courts have reached disparate outcomes on which variety (or varieties) they will recognize as satisfying *Howey*'s common enterprise requirement, and in many circuits the validity of one or more versions of commonality has not yet been decided.¹⁴⁰ We address all three below.

Most *utility* and *investment tokens* will meet the horizontal commonality test insofar as they are typically sold to more than one purchaser, and the received funds are pooled to finance the project. In the case of *investment* tokens, like DAO Tokens, that entitle their holders to a share of the earnings generated by the enterprise, the investors' dependence on the success of the enterprise is clear. Even in the case of *utility tokens*, however, both their consumptive and *speculative value* will rise and fall with the success of the enterprise: if the project is completed as intended, the *utility token* will be more useful, and it will also, presumably, have a higher value on token exchanges than it would have had the project not been completed successfully. For these reasons, both *utility* and *investment tokens* will likely meet the horizontal commonality test in most situations.

Vertical commonality may present a more difficult question because of variations in the way that a seller is linked to token purchasers. In the case of broad vertical commonality, it seems that both *utility* and *investment* tokens are likely to meet the requirements of the test insofar as the value of the token (whether consumptive, speculative, or based on some income stream generated by the enterprise associated with the token) will be likely to depend on the efforts of the promoters in developing and completing the project.

Narrow vertical commonality, however, generally requires that the promoters have some financial stake in the enterprise. The applicable test requires that their fortunes rise and fall with those of investors.¹⁴¹ In the case of

139. *SEC v. Glenn W. Turner Enters., Inc.*, 474 F.2d 476, 482 n.7 (9th Cir. 1973); *see also SEC v. SG Ltd.*, 265 F.3d 42, 49 (1st Cir. 2001) (quoting *Glenn W. Turner Enters.*, 474 F.2d at 482 n.7).

140. *See, e.g., Gordon III, supra* note 137, at 68–69 (“The circuit courts of appeal are profoundly divided over the definition of a common enterprise. The Third, Sixth, and Seventh Circuits require horizontal commonality. By contrast, the Fifth and Eleventh Circuits use broad vertical commonality. The First, Fourth, and D.C. Circuits accept horizontal commonality but have not ruled on vertical commonality. The Second Circuit accepts horizontal commonality, rejects broad vertical commonality, and has not ruled on narrow vertical commonality. The Ninth Circuit recognizes both horizontal commonality and narrow vertical commonality. The Tenth Circuit has rejected a requirement of horizontal commonality in favor of an ‘economic reality’ approach.” (footnotes omitted)).

141. *See, e.g., SEC v. Pinckney*, 923 F. Supp. 76, 82 (E.D.N.C. 1996) (“Accordingly, the court adopts the strict vertical commonality approach; a common enterprise may be established by showing that the investor’s profits are directly related to the promoter’s profits.”).

tokens, this may or may not be the case. Sellers may very well have their own financial interest in the enterprise (for example, receive a token allocation of their own), but they might not. It will depend on the terms of the particular sale. In the case of *investment tokens*, in which proceeds will be distributed to token holders, retention of tokens by the selling party would almost certainly create narrow vertical commonality. With *utility tokens*, however, the argument could be made that even if the party receives an allocation of tokens, the promoter's fortunes are not sufficiently tied to those of the investors: no profits are being distributed to anyone, and to the degree the promoter and investor's fortunes are tied together, it is only with respect to consumptive and, perhaps, speculative interests.

3. *Expectation of Profits from the Efforts of Others*

Howey's final prong, the profit expectation requirement, has two components: (1) at the time of purchase, the investor must have a reasonable expectation of profits; and (2) those profits (if realized) must result from the efforts of others. The United States Supreme Court has, on occasion, articulated a narrow view of what constitutes profits, indicating that it means "either capital appreciation resulting from the development of the initial investment . . . or a participation in earnings resulting from the use of investors' funds."¹⁴² More recently, however, the Court has indicated that the word "profit" is not limited to a strict accounting definition. Instead, in this context it means "income or return, to include, for example, dividends, other period payments, or the increased value of the investment."¹⁴³

a. *Expectation of Profits, Not Consumption*

To meet the "expectation of profits" requirement, the purchaser's motivation in participating in the transaction must be securing "a financial return."¹⁴⁴ If the purchaser is motivated by a desire to use or consume an underlying good or service, the transaction does not involve a security.¹⁴⁵ The Supreme Court first recognized the distinction between purchasers whose expectations are related to consumption and those whose have an expectation of

142. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 852 (1975).

143. *SEC v. Edwards*, 540 U.S. 389, 396 (2004) (emphasis added) ("Concededly, *Forman's* illustrative description of prior decisions on 'profits' appears to have been mistaken for an exclusive list in a case considering the scope of a different term in the definition of a security, 'note.' But that was a misreading of *Forman*, and we will not bind ourselves unnecessarily to passing dictum that would frustrate Congress' intent to regulate all of the 'countless and variable schemes devised by those who seek the use of the money of others on the promise of profit.'" (citation omitted) (quoting *SEC v. W.J. Howey CO.*, 328 U.S. 293, 299 (1946))).

144. *SEC v. Life Partners, Inc.*, 87 F.3d 536, 547 (D.C. Cir. 1996).

145. *Rice v. Branigar Org., Inc.*, 922 F.2d 788, 791 (11th Cir. 1991) (holding that purchases of lots and memberships in an adjacent country club were not securities); *Libaire v. Kaplan*, No. 06-1500, 2008 WL 794973, at *7-8 (E.D.N.Y. Mar. 24, 2008) (holding that the purchase of share in a corporation that operated a private hunting reserve did not involve a security because the purchase was motivated by a desire to access the facility).

profits in *United Housing Foundation, Inc. v. Forman*.¹⁴⁶ At issue in *Forman* was the status of shares in a housing corporation that entitled the purchaser to occupy an apartment.¹⁴⁷ Applying the *Howey* test, the Court found that the purchasers of the shares were motivated by a desire to secure housing, not a financial return. In addition to entitling their owner to occupy an apartment, the shares were subject to a variety of restrictions and limitations on resale, which made it impossible to realize any real appreciation in value. The Court looked to these restrictions and to the nature of long-term housing in a cooperative to find that the purchasers had an expectation of consumption, not profit, which excluded the shares from the definition of security.¹⁴⁸

Kickstarter (more accurately the companies and individuals that fund their projects on the platform) provides a contemporary example of the consumption versus investment distinction in action. Because funders will receive a product in the future in exchange for their payment, these transactions typically are not subject to securities laws.¹⁴⁹ For much the same reason, various collectibles and rare items are not considered securities, even though they may generate a financial return or profit on secondary markets. As discussed more fully below, the expectation of profit requirement has uncertain application to tokens, particularly *utility tokens*.

For some app tokens, the distinction between a profit interest and consumption will be manifest. *Investment tokens* bestow express economic rights on their holders, and these economic rights are, at least in part, why purchasers buy these tokens. Again, The DAO is instructive here: holders of DAO tokens were entitled to receive a share of the profits generated by the projects that The DAO funded, and these economic rights (along with the opportunity to participate in The DAO's funding decisions) were the reason DAO tokens were purchased. The SEC recognized this in relation to DAO tokens, finding in its recent Report of Investigation that because "DAO Token holders stood to share in potential profits" from the projects funded by the DAO "a reasonable investor would have been motivated, at least in part, by the prospect of profits on their investment."¹⁵⁰

The distinction between consumption and profit with *utility tokens*, however, becomes harder to tease apart. These tokens, by definition, entitle their holders to some element of use or consumption, but the active secondary market for tokens also allows them to be viewed as an investment opportunity. The

146. 421 U.S. 837 (1975).

147. *Id.* at 837.

148. *Id.* Similarly, under the consumption versus investment distinction, the SEC has indicated it would take no action against the sale of unregistered bonds to finance construction of an assisted-living center in which bondholders would reside and receive medical care pursuant to services contracts coupled with the bonds. Spring Park Life Care Cmty., SEC No-Action Letter, 1985 WL 54240 (May 17, 1985).

149. C. Steven Bradford, *Crowdfunding and the Federal Securities Laws*, 2012 COLUM. BUS. L. REV. 1, 32 ("Contributors on reward or pre-purchase sites are offered no financial return of any kind. They are promised only a product or service—a consumption item. Therefore, no investment contract is being offered.")

150. The DAO Report, *supra* note 5, at 12.

Forman distinction between consumption and profit expectations certainly provides sellers of *utility tokens* a strong argument against treating them as securities. Because these tokens entitle the holder to use, consume, or access an online service or serve other functional purposes (for example, participating on a messaging platform or surfing the Internet without ads), elements of a consumption purpose are present. Naturally, industry participants have focused on this consumptive aspect of app tokens to argue that as a class, they fall outside of the securities laws.

At the same time, however, the rights that tokens confer are not specific to the initial purchaser, and there is an active market for tokens that takes place on online exchanges and platforms.¹⁵¹ However attractive these tokens may be to some purchasers on account of their consumptive potential (and no doubt there are some purchasers who are primarily motivated by consumption), there are also purchasers including venture capitalists and newly formed hedge funds (sometimes referred to as “crypto funds”) motivated by the potential financial gains that would result from an increase in the value of the token on the secondary market.¹⁵² It also seems likely that many purchasers remain unsure, at the time of purchase, whether they will “consume” the token or sell it—a rational economic actor would base this decision on whether the price of the token is higher than the right conferred by the token.

Blockchain-based tokens, in other words, present a hybrid or mixed transaction in which elements of consumption and investment are intertwined.¹⁵³ Mixed transactions are certainly not new. Given the investment-based focus of securities regulation, it is unsurprising that most status determinations that turn on the distinction between consumption and profit expectations involve at least some degree of investment alongside consumption: even in *Forman*, where the Supreme Court first addressed the role of consumptive intent in determining status as a security, the matter involved at least some degree of profit potential insofar as residents of the housing cooperative could enjoy reduced fees on account of revenue received by the cooperative from lessors of commercial space also owned and managed by the housing corporation.¹⁵⁴ According to the Court, however, this profit potential was simply insufficient to confer security status in light of fundamental consumptive nature of the transaction (securing entitlement to a home).¹⁵⁵

After *Forman*, the SEC has issued No-Action Letters when faced with mixed transactions in which the consumptive element outweighs the profit motivation. The Ticket Reserve, for example, secured a No-Action Letter for a

151. See *supra* Subpart I.B.

152. Nathaniel Popper, *Easiest Path to Riches on the Web? An Initial Coin Offering*, N.Y. TIMES, June 23, 2017, at A1.

153. In this regard, app token sales resemble crowdfunding. Heminway & Hoffman, *supra* note 132, at 897 (“The hybrid nature of the motivation of purchasers of crowdfunding interests is, [], unlikely to change the conclusion that crowdfunding interests represent an investment of money.”).

154. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 856–57 (1975).

155. *Id.* at 857.

trading platform involving event tickets that it planned to design and operate.¹⁵⁶ Its platform would allow sellers and buyers of tickets to a variety of events to identify one another and arrange transactions bilaterally. The Ticket Reserve acknowledged that some would use the platform to attempt to buy and sell tickets for profit but argued that, in light of the platform's design and operation, it would be too speculative for any investor to have an expectation of profit because the Ticket Reserve would not guarantee any liquidity, would not guarantee a buyer, and would not repurchase any tickets in the event no buyer is available. Sellers of memberships in country clubs, golf clubs, and sports clubs have also secured No-Action Letters because of the profit versus consumption distinction.¹⁵⁷

On the other hand, when the expectation of profit dominates any expectation of consumption, a mixed transaction will be treated as involving a security. Another high-profile case involving televangelists Jim and Tammy Faye Bakker demonstrates such a situation. In that case, *Teague v. Bakker*, the Fourth Circuit reversed a trial court order granting the defendants judgment as a matter of law on the basis that the "lifetime partnerships" offered by Jim Bakker were not, in fact, securities.¹⁵⁸ These partnerships were sold to finance the construction of Heritage Village, a "vacation park" attached to Bakker's pre-existing "Christian retreat center," Heritage USA. Purchasers of these units were guaranteed annual lodging at the vacation park for a certain period each year. Despite the obvious consumptive element of the lifetime partnerships (lodging for a particular time each year), the Fourth Circuit held that the directed verdict was inappropriate—the partnerships were advertised as entitling holders to discounted lodging privileges worth far more than the price paid for the interests and were led to believe that this was made possible by the renting out of fifty percent of the site to the general public at non-discounted prices.¹⁵⁹ Because the promotional "materials [] allow[ed] the reader to infer that the value of the [lifetime partnerships] was enhanced by virtue of the commercial activities of the PTL facilities in catering to patrons paying full price," there was sufficient profit potential for a jury to find that they were securities, notwithstanding the aspect of consumption represented by entitlement to lodging at Bakker's facility.¹⁶⁰

As *Forman* and *Bakker* demonstrate, mixed transactions can go in either direction. Much depends on the intent of the purchasers (consumption or profit-

156. Ticket Reserve, Inc., SEC No-Action Letter, 2003 WL 22195093 (Sept. 11, 2003); *see also* San Francisco Baseball Assocs., L.P., SEC No-Action Letter, 2006 WL 488513 (Feb. 24, 2006) (service operated by San Francisco Giants to assist in matching buyers and sellers of seat license that entitled the holder to purchase season tickets).

157. Olohana Golf Club, Inc., SEC No-Action Letter, 2003 WL 21831944 (July 31, 2003) (golf club in Hawaii); Manchester Country Club, SEC No-Action Letter, 1999 WL 301382 (May 13, 1999) (golf and country club in New Hampshire).

158. 35 F.3d 978, 986 (4th Cir. 1994).

159. *Id.* at 988–90.

160. *Id.* at 989.

seeking)¹⁶¹ and, in this regard, the materials used to promote the “opportunity” to purchasers are important.¹⁶² If those materials emphasize the profit potential, it is more likely that the offering is of a security. On the other hand, inclusion of features intended to make it more difficult for purchasers to subsequently realize an appreciation in value cut against security status. *Forman* is, again, instructive insofar as the shares were subject to a variety of restrictions on transferability. A resident who wished to terminate her occupancy was required to first offer the shares to the housing corporation *at the initial price*. In the event the corporation chose not to exercise this right (which the Court characterized as “extremely unlikely”), the shares could only be sold to certain third parties for no more than “the initial purchase price plus a fraction of the portion of the mortgage” that the resident had paid off.¹⁶³

Take, as another example, the No-Action Letter issued by the SEC in relation to seat licenses issued by the San Francisco Giants and a proposed service that would match buyers and sellers of seat licenses.¹⁶⁴ The seat licenses were transferable only with the permission of the Giants, and licensees warranted that they were acquiring the seat licenses for their own use only (consumption) and not for transfer, distribution, or resale. Similarly, in the No-Action Letter issued in relation to bonds sold to finance the construction of an assisted living center and which entitled the holder to a unit in the center, the SEC indicated that it had given “particular consideration” to the fact that “the bonds [were] non-transferable and [would] not appreciate in value”¹⁶⁵

When *utility tokens* are considered in light of both case law and administrative materials, the uncertainty surrounding their status becomes apparent. No doubt, there is an element of consumption present in *utility tokens*, which makes it possible to fashion arguments under *Forman*. However, they are also highly liquid and afford their holders the possibility of selling at a profit in the future.

Transfer restrictions could eliminate any potential for profit, and given the emphasis placed on such restriction by courts and the SEC, imposition of transfer restrictions would certainly cut against treating a token as a security. However, transfer restrictions are not commonly adopted by organizers of token-backed projects for reasons not related to the speculative potential that active secondary markets facilitate. Although the ability to resell tokens on an exchange creates opportunities for purchasers to profit, the existence of trading on secondary markets assists with price discovery, presumably distributing the tokens to those who value them the most. A free-floating token matches supply

161. See, e.g., *SEC v. Goldfield Deep Mines Co. of Nevada*, 785 F.2d 459, 464 (9th Cir. 1985) (“It is of added significance that during trial, investors testified that they had enrolled in Goldfield’s ore purchase program with the expectation of profit.”).

162. *Fogel v. Sellamerica, Ltd.*, 445 F. Supp. 1269, 1277 (S.D.N.Y. 1978) (“[T]he court must consider the motivation of the purchaser, as well as the promotional emphasis of the developer.” (citations omitted)).

163. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 842–43 (1975).

164. *San Francisco Baseball Assocs., L.P.*, SEC No-Action Letter, 2006 WL 488513 (Feb. 24, 2006).

165. *Spring Park Life Care Cmty.*, SEC No-Action Letter, 1985 WL 54240 (May 17, 1985).

and demand without the ongoing involvement of the initial organizers and creators of the platform or service. Adoption of transfer restrictions would prevent certain blockchain-based platforms from efficiently operating and would require that organizers of the platform constantly monitor the number of outstanding tokens, the rate at which they are used, and unmet demand for tokens. In effect, the availability of token exchanges allows the outsourcing of these functions.

Therefore, while the case law and administrative materials indicate that token sellers could significantly limit their exposure by adopting transfer restrictions, token sellers' reluctance to impose transfer restrictions does not necessarily indicate that they are marketing and selling tokens as an investment opportunity. Reliance on a highly liquid and transparent secondary market as the mechanism through which end-users obtain the right to use the platform or service is a business decision that can be completely consistent with utility and consumption.

A variety of other factors are relevant to determining whether token purchasers are motivated by an expectation of profits or a desire to use the platform. The way the sale is advertised is one important piece of data that the SEC has a history of taking into consideration when assessing whether the required expectation of profits is present.¹⁶⁶ In fact, in a recent administrative proceeding in which the SEC found that a particular *utility token* was a security, the SEC focused extensively on the online advertisements that cast the token as an investment opportunity rather than as the price of admission for an application.¹⁶⁷ Similarly, the audience that is targeted and the means through which the token sale is advertised can also shed light on the likely motivations of purchasers. Ads and announcements that target investment-focused online discussion groups or websites, for example, may indicate that purchasers are likely to be motivated by an expectation of profits. Conversely, ads and announcements that target potential end-users of the platform or service may indicate that purchasers are more likely to be motivated by a desire to use or consume the service.

An additional and potentially relevant data point is the timing of the token sale in relation to the point at which the token becomes functional. It is not uncommon for tokens to be sold months in advance of there being any sort of useable platform or service, but sales can also take place much closer to or contemporaneously with the point at which the project is operational and the token can be used to access it. Tokens that are either immediately functional or which will be in a relatively short amount of time after sale seem to offer purchasers a stronger interest in consumption than tokens that will not have any actual use for several months. However, as Kickstarter demonstrates, this is no more than an inferential rule of thumb: individuals are often willing to pre-pay

166. *See, e.g.*, SEC v. Banner Fund Int'l, 211 F.3d 602, 614–15 (D.C. Cir. 2000).

167. The Munchee Order, *supra* note 6, at 6.

for products far in advance of availability and in situations where there is no secondary market for the interest that was purchased. The SEC and courts have implicitly acknowledged the possibility that purchasers can be motivated by use or consumption even though the transaction takes place long before consumption or use is even possible.¹⁶⁸ Although it should certainly not be dispositive and is of limited relevance, the timing of the sale in relation to the point at which a token will be functional can help shed light on the likelihood that purchasers are motivated by a desire for use or consumption.

Given the fact intensive nature of this inquiry, no categorical answer is possible. The security status of *utility tokens* will depend on a mix of facts and circumstances that will differ for each token. Certainly, sellers of *utility tokens* can avoid taking certain actions that make their token sale resemble an offering of securities—for example, by advertising it as an investment opportunity or targeting the sale of tokens to investors, venture capitalists, or hedge funds. But, the novel way that tokens combine both speculative and consumptive value alongside the undeniable fact that some token purchasers will be motivated by an expectation of profits no matter how the token offering is conducted preclude any easy or definite answers at this stage.

b. Efforts of Others

Under the second component of *Howey*'s final prong, the expected profits must result from the efforts of others. Although the *Howey* Court's formulation of the test indicated that the profits must result "solely" from the efforts of others, subsequent case law has relaxed this requirement and instead focused on whether the efforts of others are "entrepreneurial or managerial" in nature and the degree to which the efforts of others are required to generate the profits.¹⁶⁹ This is to say that minor investor involvement in the generation of profits will not automatically take a transaction out of the scope of the Securities Act.¹⁷⁰ If, however, the generation of profits is primarily dependent on the efforts of investors, their involvement will preclude a finding that the transaction involves a security.¹⁷¹ Investors simply do not need the protection of the securities laws

168. See, e.g., Spring Park Life Care Cmty., SEC No-Action Letter, 1985 WL54240, at *4–5 (May 17, 1985); *Forman*, 421 U.S. at 842, 853.

169. See, e.g., *Int'l Bhd. of Teamsters, Chauffeurs, Warehousemen, and Helpers of Am. v. Daniel*, 439 U.S. 551, 561 (1979); *Forman*, 421 U.S. at 852.

170. See, e.g., *SEC v. Merch. Capital, LLC*, 483 F.3d 747, 755 (11th Cir. 2007); *Lino v. City Investing Co.*, 487 F.2d 689, 692 (3d Cir. 1973) ("[A]n investment contract can exist where the investor is required to perform some duties, as long as they are nominal or limited and would have 'little direct effect upon receipt by the participant of the benefits promised by the promoters.'" (quoting *Multi-level Distributorships and Pyramid Sales Plans*, Securities Act Release No. 33-5211, [1971–1972 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 98,446 (Nov. 30, 1971))).

171. *Steinhardt Grp. Inc. v. Citicorp*, 126 F.3d 144, 154 (3d Cir. 1997) (finding that limited partnership interests were not securities because the limited partner had "quite significant powers" that went "far afield of the typical limited partnership agreement whereby a limited partner leaves the control of the business to the general partners").

if they can exercise control over the profit-generating activities and their own efforts will determine whether or not the enterprise is successful.¹⁷²

Although courts employ a variety of formulations,¹⁷³ the relevant questions are the amount of control that the purchaser maintains over the operation,¹⁷⁴ the degree and ways in which the investor is able to participate,¹⁷⁵ and whether the investor must rely upon the promoter's efforts or expertise.¹⁷⁶ In assessing whether or not investor involvement will preclude a finding that a particular transaction involves a security, courts look to "the expectations of control at the inception of the investment,"¹⁷⁷ which includes examining the investors' rights under the relevant contract or governing document.¹⁷⁸

Given the intensely factual nature of the "efforts of others" inquiry, categorical proclamations are impossible. For example, interests in general partnerships are not typically treated as securities,¹⁷⁹ but the facts and circumstances present in a particular situation can prompt a court to treat them as such. In a recent case, the Tenth Circuit reversed a district court order dismissing an enforcement action brought by the SEC against the promoters of an oil and gas business organized as a general partnership.¹⁸⁰ The Tenth Circuit held that, notwithstanding the strong presumption against treating general partnerships as securities, the SEC's complaint alleged facts sufficient to treat the partnership interests at issue as securities. Central to the Tenth Circuit's holding were the allegations that the venturers would still be reliant on the managing partner's efforts even if they voted the managing partner out of office

172. See, e.g., *Goodwin v. Elkins & Co.*, 730 F.2d 99, 114 (3d Cir. 1984) (Becker, J., concurring) (characterizing the *Howey* test as an attempt to "separate passive investments from active, participatory interests in businesses").

173. See 5B ARNOLD S. JACOBS, DISCLOSURE AND REMEDIES UNDER THE SECURITIES LAWS § 9:69 (2018) (listing a variety of standards applied by lower courts in the "efforts of others" context, all of which focus on the nature of any efforts contributed by the investor and the degree of control retained by investors).

174. *SEC v. Unique Fin. Concepts, Inc.*, 196 F.3d 1195, 1201 (11th Cir. 1999) ("[T]his Court has clearly stated that 'the crucial inquiry [for the third prong] is the amount of control that the investors retain under their written agreements.'" (alteration in original) (quoting *Albanese v. Fla. Nat'l Bank*, 823 F.2d 408, 410 (11th Cir. 1987))); *Williamson v. Tucker*, 645 F.2d 404, 421 (5th Cir. 1981) ("So long as the investor has the right to control the asset he has purchased, he is not dependent on the promoter or on a third party for those essential managerial efforts which affect the failure or success of the enterprise." (internal quotation marks omitted)).

175. *Rossi v. Quarmley*, 7 F. Supp. 3d 502, 508 (E.D. Pa. 2014) ("Here, plaintiff's Amended Complaint demonstrates that he has meaningfully participated in the partnership, thus plaintiff's interest in Principia Ventures LLC is not an investment contract both because of plaintiff's right to be involved in the management of the LLC and because profits from Principia Ventures came from his personal efforts.").

176. *Gordon v. Terry*, 684 F.2d 736, 741 (11th Cir. 1982) ("[T]he focus is on the dependency of the investor on the entrepreneurial or managerial skills of a promoter or other party.").

177. *SEC v. Merch. Capital, LLC*, 483 F.3d 747, 760 (11th Cir. 2007); see also *Endico v. Fonte*, 485 F. Supp. 2d 411, 415 n.16 (S.D.N.Y. 2007) (stating that the "controlling standard" is "whether [the investor] was expected at the time of the transaction to remain passive").

178. See, e.g., *Keith v. Black Diamond Advisors, Inc.*, 48 F. Supp. 2d 326, 332–33 (S.D.N.Y. 1999) (examining member-managed LLC Operating Agreement and finding that member interests were not securities where members had a variety of control and participation rights).

179. See, e.g., *Williamson*, 645 F.2d at 421 (adopting a presumption that general partnership interests are not securities).

180. *SEC v. Shields*, 744 F.3d 633, 647–48 (10th Cir. 2014).

and that the interests were marketed to a large number of investors without any experience or expertise in the oil and gas industry.¹⁸¹

Distributorship and franchise agreements provide another example of the effect that differing levels of investor participation will lead to different results under the *Howey* test. Where the investors largely remain passive with regard to sales efforts, such arrangements will be treated as securities.¹⁸² However, when the franchisee or distributor undertakes activities that will determine the degree to which the enterprise will generate profits, these arrangements are not securities. In *Gotham Print, Inc. v. American Speedy Printing Centers, Inc.*, for example, the master franchisee for a geographic area was responsible for undertaking a variety of activities that would determine whether its investment was profitable.¹⁸³ Such activities included locating and recruiting franchisees, conducting seminars, and otherwise promoting the sale of franchises. Although the master franchisee's success would be dependent in part on the efforts of the franchisor and ultimate franchisees, its own involvement precluded treating the arrangement as an investment contract.¹⁸⁴

i. Degree of Participation and Control

Some tokens, particularly many *utility tokens*, do not entitle their holders to any degree of participation in or control over the development of the project. Initial purchasers pay for the token in digital currency, and owning it enables them to either utilize the technology when it is completed or transfer the token to someone else. They do not participate in the enterprise as it is being developed, and they do not control how the sellers of these tokens work toward completing the project for which the tokens are sold. In these situations, the efforts of others certainly predominate and may even predominate to a degree that would satisfy a narrow reading of “solely.”

On the other hand, some *utility tokens* allow their holders to participate in certain decisions related to the enterprise, and it is conceivable that such participation, if sufficiently extensive, could call into question the security status of the token. The point at which participation by token holders will take the enterprise outside of the definition of security (because the relevant efforts are no longer efforts of others) is only visible with hindsight. Variation in the voting and participation rights extended to token holders is another issue that prevents categorical determinations as to the security-status of *utility tokens*.

Even in the case of *investment tokens*, the “efforts of others” prong may also lead to differing, and possibly counterintuitive results. Because these tokens may give their holders rights to participate in managerial decision-making, some *investment tokens* may not ultimately qualify as securities even though the expectation of profits is express. In the realm of more traditional business

181. *Id.* at 646–48.

182. *See, e.g.*, *United States v. Herr*, 338 F.2d 607, 610 (7th Cir. 1964).

183. 863 F. Supp. 447, 454 (E.D. Mich. 1994).

184. *Id.* at 455.

arrangements, interests in general partnerships and joint ventures are typically not considered securities for precisely this reason. General partners and venturers typically have the ability to participate in the management of the enterprise, so any profits generated are not from the efforts of others, as required by the *Howey* test.¹⁸⁵

DAO Tokens again provide a helpful example of how the “efforts of others” can make assessing the status of *investment tokens* difficult. As discussed above, DAO Tokens allowed their holders to vote on the projects that The DAO would fund. The fundamental purpose of The DAO was to provide funding to proposed projects and to generate profits for its token holders by retaining an entitlement to a share of the profits generated by the projects it funded. Because each token holder was entitled to participate in each funding decision, it is at least arguable that token holders participated sufficiently in the profit-making activities of the enterprise to remove the tokens from the definition of security.¹⁸⁶ However, in its Report of Investigation regarding DAO Tokens, the SEC rejected this position for two reasons. According to the SEC, (1) opportunities presented to DAO Token holders were vetted and filtered by a variety of individuals (including the co-founders of The DAO) prior to being submitted to token holders for a vote; and (2) DAO Token holders were “widely dispersed and limited in their ability to communicate with one another.”¹⁸⁷ The SEC’s characterization of the degree of dispersion may not be completely accurate. Ten accounts owned over twenty percent of total DAO Tokens, with the top 100 accounts accounting for roughly forty-seven percent of DAO token ownership. These accounts tended to be clustered, indicating that The DAO was substantively controlled by only a handful of token holders.¹⁸⁸ While this may not be sufficient to take DAO Tokens out of the definition of “investment contract,” it is not difficult to imagine a scenario in which ownership of tokens that give their holders some degree of control or participation rights are sufficiently concentrated to fail the “efforts of others” prong.

All told, even with *investment tokens* in which the profit expectation is clear, the particular rights that a token bestows upon its holder make categorical determinations of security status impossible. An investment token that gives its holders sufficient control or participation rights may be more akin to an interest in a general partnership or joint venture than a security.

185. *Williamson v. Tucker*, 645 F.2d 404, 421 (5th Cir. 1981) (“[A] general partnership or joint venture interest generally cannot be an investment contract under the federal securities acts.”).

186. *See, e.g., Steinhardt Grp. Inc. v. Citicorp*, 126 F.3d 144, 153–54 (3d Cir. 1997); *Nichols Charolais Ranch, Inc. v. Barton*, 460 F. Supp. 228, 231 (M.D. Fla. 1975), *aff’d*, 587 F.2d 809 (5th Cir. 1979).

187. The DAO Report, *supra* note 5, at 14.

188. Johannes Pfeffer, *A Network View on the DAO (Part 1)*, MEDIUM (May 26, 2016), <https://medium.com/@oaeae/a-network-view-on-the-dao-61081f72c418>.

ii. *Timing of Efforts in Relation to Sale*

Another potentially relevant consideration under the “efforts of others” prong is the timing of those efforts in relation to the sale, and in this regard, tokens differ. Some tokens are sold prior to the commencement of the project and most of the efforts will occur post-sale. Others are sold when the project has been completed (or when it is close to completion), and in these situations, the relevant efforts will occur primarily prior to the sale.

This relevance of the timing of the efforts was recognized explicitly by the District of Columbia Circuit in a controversial and widely-criticized decision, *SEC v. Life Partners, Inc.*¹⁸⁹ This case involved viatical settlements, which are financial contracts in which investors purchase fractional shares in life insurance policies. The policyholder received funds, and the investor eventually received a portion of the policy pay-out after the policyholder’s death. In its opinion, the D.C. Circuit Court of Appeal declined to apply the securities laws to the viatical settlements offered by Life Partners because the relevant efforts (evaluating potential policyholders and medical conditions, reviewing the insurance policies, and negotiating the purchase price) occurred prior to the sale.¹⁹⁰ According to the court:

[I]f the value of the promoter’s efforts has already been impounded into the promoter’s fees or into the purchase price of the investment, and if neither the promoter nor anyone else is expected to make further efforts that will affect the outcome of the investment, then the need for federal securities regulation is greatly diminished.¹⁹¹

Since it was decided, *Life Partners* has been roundly criticized by both courts and commentators. For example, in *SEC v. Mutual Benefits Corp.*, the Eleventh Circuit expressly rejected the analysis in *Life Partners* deeming the D.C. Circuit’s approach as novel and not envisioned by the holding in *Howey*.¹⁹² In reaching its decision, the Eleventh Circuit observed that under *Howey* and the more recent Supreme Court decision of *SEC v. Edwards*, courts must construe the term “security” broadly to “encompass virtually any instrument that might be sold as an investment.”¹⁹³ The court refused to engage in artificial line drawing relating to the timing of a promoter’s efforts because investment schemes “often involve a combination of both pre- and post-purchase managerial activities, both of which should be taken into consideration in determining whether *Howey*’s test is satisfied.”¹⁹⁴

This is not to say that the timing of the token sale in relation to the point at which the token becomes usable is totally irrelevant. Rather, as discussed above,

189. 87 F.3d 536, 547 (D.C. Cir. 1996).

190. *Id.*

191. *Id.*

192. 408 F.3d 737, 743 (11th Cir. 2005) (“We decline to adopt the test established by the *Life Partners* court. We are not convinced that either *Howey* or *Edwards* require such a clean distinction between a promoter’s activities prior to his having use of an investor’s money and his activities thereafter.”).

193. *Id.* (internal quotation marks omitted) (quoting *SEC v. Edwards*, 540 U.S. 389, 393 (2004)).

194. *Id.* at 743–44.

the likelihood that the token was purchased for consumptive purposes (rather than with an expectation of profit) seems higher when the token is immediately functional (or will be functional shortly) despite the fact that crowd-funding ventures like Kickstarter as well as a variety of cases and administrative materials show that this is not a rule. Because viatical settlements did not involve any potential consumption interests on the part of the purchaser, the timing was only relevant under the “efforts of others” prongs. In the context of digital tokens, however, the timing of the efforts that go into developing the platform, software, or service seems more relevant to the expectation of profits inquiry and the distinction between consumption and profit expectancies recognized in *Forman*. As the SEC has already indicated, however, there is no bright-line rule or categorical answer—a token that is sold only when it is functional can still be a security if it is clear that there is still an expectation of profits.

C. APP TOKENS AND REGISTRATION EXEMPTIONS

Given the difficulty in applying the *Howey* test to *utility tokens* and even some *investment tokens*, there appears to be a high risk of inconsistent case law or an overly broad application of these laws when courts and the SEC are faced with questions related to this technology. If this occurs, subjecting token sellers and exchanges to significant regulatory uncertainty, a second set of issues will come into focus—whether it is possible to structure token sales to fit within various exemptions from section 5 registration requirements and, if possible, whether it makes business sense to do so. Based on the level of funding being raised in connection with utility token sales, the global nature of these sales, the number of tokens sold, and the active resale market for tokens, existing securities exemptions are not particularly well-suited for this new funding mechanism. As currently conceived, these exemptions create the risk of channeling a large portion of inherently consumptive goods that could benefit many, into the hands of the few. Laws enacted at a time when it was impossible to contemplate today’s wave of digital and financial innovation would have the effect of excluding everyday consumers from an entire generation of digital technology.

1. Section 4(a)(2) Exemption

Section 4(a)(2) of the Securities Act creates a transaction exemption for sales that do not involve a public offering.¹⁹⁵ Application of this exemption depends on “whether the particular class of persons affected needs the protection of the [Securities] Act.”¹⁹⁶ If the offerees can “fend for themselves,” the transaction does not involve a public offering.¹⁹⁷ Courts determining whether or not an offering falls within this exemption consider a variety of factors, including the number of offerees as well as their relationship to one another and

195. 15 U.S.C. § 77d(a)(2) (2012).

196. SEC v. Ralston Purina Co., 346 U.S. 119, 125 (1953).

197. *Id.*

the issuer, the number of units offered, the size of the offering, the manner of the offering, the information that has been provided to investors or that they can otherwise access, as well as any precautions that are put in place to prevent resale.¹⁹⁸

As they are currently conducted, token sales almost certainly do not constitute exempted private placements because the number of purchasers is typically high and purchasers are dispersed and often remain unknown due to the pseudonymous process. Token sales are typically done at a high volume (for example, over 100 million for the recent sale of FileCoin, described further below), and the total amounts raised have recently been in the tens, if not hundreds of millions of dollars.¹⁹⁹ As to resale, token sales are typically conducted through online websites and portals, another fact which makes them look more public than private. For these reasons, the statutory exemption for transactions “not involving a public offering” is unlikely to provide token sellers with a reliable avenue to compliance with the securities laws.

2. Regulation D

Regulation D also offers two exemptions from the section 5 registration requirement: Rule 504²⁰⁰ and 506.²⁰¹ Despite being “housed” in the same regulation, Rules 504 and 506 correlate to two different statutory provisions and, for this reason, differ in their criteria.

Rule 504 was adopted pursuant to section 3(b)(1) of the Securities Act, which allows the SEC to develop exemptions that cover offerings of up to \$5 million provided the exemption is consistent with the public interest.²⁰² Accordingly, Rule 504 provides an exemption for offerings that do not exceed \$5 million. While there are no limitations on the type of investor (that is, securities can be sold to unsophisticated investors) or the number of purchasers, securities sold pursuant to Rule 504 “cannot be resold without registration under the Act or an exemption.”²⁰³ Additionally, Rule 504 offerings must also comply with applicable state blue sky laws, which can include registration and merits review of the security.

198. *Steed Fin. LDC v. Nomura Sec. Int'l*, No. 00 CIV. 8058 (NRB), 2001 WL 1111508, at *5 (S.D.N.Y. Sept. 20, 2001); *SEC v. Cont'l Tobacco Co. of S.C.*, 463 F.2d 137, 158 (1972). Most of these factors originated in a 1935 Release issued by the SEC’s General Counsel. Factors Involved in Determining Whether Transaction Is “Public Offering,” Securities Act Release No. 33-285, [1935–1936 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 2740 (Jan. 24, 1935).

199. *Filecoin Token Sale Economics*, COINLIST, https://coinlist.co/assets/index/filecoin_index/Filecoin-Sale-Economics-e3f703f8cd5f644aecd7ae3860ce932064ce014dd60de115d67ff1e9047ffa8e.pdf (last visited Jan. 19, 2019) (noting that FileCoin engaged in a token sale that would issue “200,000,000” Filecoin); *see also supra* Subpart I.C.

200. 17 C.F.R. § 230.504 (2018).

201. *Id.* § 230.506. It previously included a third exemption, Rule 505, but its repeal became effective on May 22, 2017. Exemptions to Facilitate Intrastate and Regional Securities Offerings, 81 Fed. Reg. 83,494 (Nov. 21, 2016) (“The removal of 17 C.F.R. § 230.505 (Rule 505) will be effective on May 22, 2017.”).

202. 15 U.S.C. § 77c(b) (2012).

203. 17 C.F.R. § 230.502(d).

Rule 506 offers a safe-harbor that will bring an offering within section 4(a)(2).²⁰⁴ Unlike Rule 504, Rule 506 does not limit the amount raised, but it does limit the number of investors that can participate if the offering is not limited to accredited investors.²⁰⁵ Unlike Rule 504 offerings, Rule 506 offerings are not subject to state blue-sky laws.²⁰⁶

Of particular importance to token sales, securities sold in a Rule 504 or Rule 506 placement are restricted securities, which means that they cannot be resold by the initial purchaser for a period of time in the absence of registration or another exemption.²⁰⁷ For token sales, this is problematic. Initial token purchasers would be unable to sell their tokens without registering or fitting them within another exemption. This is in obvious tension with the highly liquid secondary market for tokens that currently exists. There is no doubt that this market allows some market participants to treat tokens as a pure investment vehicle, but this is only part of the story. This market also serves to allocate real rights of consumption to those who value them most—in other words, completely aside from enabling some token holders to attempt to profit from the appreciation in value, these markets facilitate the efficient allocation of the right to use newly developed technology. Restricting the transfer of tokens is not only an issue for token sellers and initial purchasers looking to turn a profit, but it would also negatively impact individuals who have a real need for a particular digital service and are willing to pay for it. Thus, as currently conceived, neither Rule 504 and 506 fit token sales particularly well and would have the effect of preventing everyday U.S. consumers from interacting with novel and potentially useful online services.

Notwithstanding the issues raised by the transfer restrictions, Rule 506 holds out some advantages for token sales (at least as compared to Rule 504). First, there is no cap on the amount that can be offered. Second, it is possible to avoid limitations on the number of investors by limiting it to accredited investors.²⁰⁸ Some token offerings have taken this step and require purchasers to qualify as accredited investors. Nevertheless, the transfer restrictions are problematic insofar as they would bar the securities from being sold on token

204. *Id.* § 230.506(a) (“Offers and sales of securities by an issuer that satisfy the conditions in paragraph (b) or (c) of this section shall be deemed to be transactions not involving any public offering within the meaning of section 4(a)(2) of the Act.”).

205. *Id.* § 230.506(b)(2). Rule 506 provides that there shall be no more than thirty-five purchasers. Rule 501(e)(1)(iv), however, provides that accredited investors will not count toward this limitation. *Id.* § 230.501(e)(1)(iv).

206. 15 U.S.C. § 77r(b)(4).

207. Transfer restrictions appear in Rule 502, 17 C.F.R. § 230.502(d), but are incorporated into both Rules 504 and 506. *Id.* §§ 230.504(b), 230.506(b).

208. Pursuant to Rule 501(e), accredited investors are excluded in counting the number of investors for purposes of the Rule 506(b) maximum of thirty-five investors. *Id.* § 230.501(e)(1)(iv). Rule 506(c) (which allows issuers to engage in general solicitation and advertising) is limited to offerings that only involve accredited investors. *Id.* § 230.506(c)(2).

exchanges after the initial sale for at least a year and thus could deprive parties from accessing and using *utility tokens* for potentially useful online services.²⁰⁹

The uneasy fit between token sales and the current regime of securities regulation is illustrated by the recent token sale for Filecoin, a decentralized file sharing system. Filecoin aims to decrease the cost of storing and accessing files online by building a network of individual computers that will store small pieces of files uploaded to the network.²¹⁰ To manage and keep track of members' contributions to the network, Filecoin relies on a native token to keep track of files flowing through the network. Those that store parts of files for others on the network earn and receive Filecoin from other users for dedicating hard drive space to the network.²¹¹

Protocol Labs, the party behind the Filecoin network and token, structured the sale as a 506(c) private placement. The organizers of this sale relied on CoinList, a centralized intermediary, in part developed by Protocol Labs, to manage the sale of Filecoin, while the underlying technology was further developed.²¹² The mechanics of the sale centered on a Simple Agreement for Future Tokens (a "SAFT"), which by its terms was characterized as a security.²¹³ Filecoins were sold to verified accredited investors through a sale that ultimately resulted in a total of \$257 million in proceeds for Protocol Labs.²¹⁴

Protocol Labs intends to deliver tokens to holders once the underlying Filecoin network is developed and launched.²¹⁵ Its position is that even though the SAFT was an admitted security, the underlying subject matter of the security—the Filecoin token—is not. In effect, Protocol Labs is attempting to

209. Rule 144 governs the resale of restricted securities, such as those sold pursuant to Regulation D. *Id.* § 230.144(d)(1)(ii). In addition to other requirements, this rule requires that the restricted securities be held for a certain period of time prior to resale—in the case of securities issued by a non-reporting company, which are not held by affiliates, the holding period is one year. *Id.*

210. PROTOCOL LABS, FILECOIN: A DECENTRALIZED STORAGE NETWORK 1 (July 19, 2017), <https://filecoin.io/filecoin.pdf> ("Filecoin is a *decentralized storage network* that turns cloud storage into an algorithmic market. The market runs on a blockchain with a native protocol token (also called 'Filecoin'), which miners earn by providing storage to clients. Conversely, clients spend Filecoin hiring miners to store or distribute data.").

211. *Id.*

212. *Introducing CoinList*, MEDIUM (Oct. 20, 2017), <https://medium.com/@coinlist/introducing-coinlist-16253eb5cdc3> (noting that CoinList was the product of collaboration between Protocol Labs and AngelList).

213. See *Filecoin, a Product of Protocol Labs, Inc.: SAFT (Simple Agreement for Future Tokens)*, COINLIST, https://coinlist.co/assets/index/filecoin_index/Protocol%20Labs%20-%20SAFT%20for%20Filecoin%20Token%20Presale-0f43e05c4ad1c0bd8993b60c4d6bf3cbd4f3d278dd7a62dde1972c9d82c65184.pdf (last visited Jan. 19, 2019) (providing in section 4(b) that "[t]he Purchaser has been advised that this instrument is a security and that the offers and sales of this instrument have not been registered under any country's securities laws and, therefore, cannot be resold except in compliance with the applicable country's laws").

214. See Stan Higgins, *\$257 Million: Filecoin Breaks All-Time Record for ICO Funding*, COINDESK (Sept. 8, 2017, 3:00 PM), <https://www.coindesk.com/257-million-filecoin-breaks-time-record-ico-funding/>.

215. *Filecoin Token Sale Economics*, *supra* note 199 ("The SAFT is a fundraising instrument and legal agreement between two parties, where one party (the buyer) buys tokens to be delivered at a future date by the other party (the seller), after the Network Launch or some other event important to the creation of a crypto token network.").

analogize the use of the SAFT to a forward contract, whereby Protocol Labs sells tokens ahead of time to a buyer in the future.²¹⁶

However, it is unclear whether the SAFT will limit the risk that a Filecoin is deemed a security. When Protocol Labs delivers the tokens to SAFT holders, the underlying Filecoin token will still need to be evaluated under *Howey*'s test for an investment contract. And, delaying the timing on the delivery of Filecoins will not necessarily remove Filecoins from *Howey*'s broad definition of an investment contract because the relevant inquiry will focus on whether purchasers were motivated by an expectation of profits or a desire to use the online service. Although *Life Partners* remains on the books, the timing of the "efforts" of the selling party should not weigh heavily into the *Howey* analysis.

Here, the profit and speculative motives of those obtaining Filecoins through the SAFT appear to predominate, at least for a large subset of future Filecoin holders. As part of the sale, Protocol Labs sold nearly \$52 million worth of Filecoin to venture capital funds and prominent angel investors—organizations and individuals that routinely purchase securities and thus presumably purchased these tokens in such large quantities because they viewed them as potentially valuable assets that would increase in value.²¹⁷ These venture capital funds and sophisticated angel investors presumably were not motivated by the consumptive aspects of the token. Rather, they entered these transactions with an express expectation that they would generate profit.²¹⁸

Indeed, this understanding is unambiguously affirmed under the terms of the SAFT. When entering into this agreement, purchasers and future holders of Filecoins represented that they were

enter[ing] into th[e] SAFT with the predominant expectation that (i) he, she or it, as the case may be, will profit upon the successful development and Network Launch arising from the efforts of the Company and its employees to develop and market the Filecoin Network, the Network Launch and related sale of the Tokens;

216. *See id.* Such a characterization, however, is a bit incongruous, because the SAFT is modeled closely on a popular financing document, a Simple Agreement for Future Equity (SAFE) which is developed by the large Silicon Valley accelerator Y-Combinator (YC). Under the SAFE, purchasers receive preferred equity in the future, generally at a discount, when a company hits a financing milestone. *Id.* ("The Simple Agreement for Future Tokens (SAFT) is a legal agreement, similar to the YC SAFE. Think of it a bit like a forward contract—the seller (Protocol Labs) sells tokens ahead of time to a buyer (you); the seller must then build the network, and deliver the tokens at Network Launch in the future."); *see also Startup Documents: Safe Financing Documents*, Y COMBINATOR, <https://www.ycombinator.com/documents/> (last updated Sept. 2018); SAFT PROJECT, <http://saftproject.com/> (last visited Jan. 19, 2019).

217. *See Higgins, supra* note 83 ("Notable backers of the Filecoin pre-sale include Union Square Ventures and Sequoia Capital, . . . [and], Winklevoss Capital, Digital Currency Group and Y Combinator president Sam Altman . . .").

218. Many of these large venture capital funds received tokens at a discount even as compared to other accredited investors who were able to participate in the Filecoin token sale. These advisors were sold FileCoins at a maximum price of \$0.75, while other accredited investors paid up to \$5.00 for a Filecoin. By the end of the sale, the value of a Filecoin resulted in more than a six-fold increase in the price per token, at least on paper, indicating a potential for profit. *Filecoin Token Sale Economics, supra* note 199.

and (ii) the Company will make actual delivery of the tokens to the Purchaser upon the Network Launch.²¹⁹

By relying on the SAFT structure, Protocol Labs has chosen to treat Filecoins as investment vehicles. As to those token holders who receive Filecoins through a SAFT, Filecoins are not simply functional digital assets that represent pre-paid access to a decentralized file sharing system. They are also an express means to generate profits and a return on an investment, just like a stock or bond—a fact admitted by SAFT holders.

Even without such an express admission, the investment intent is evident from the fact that the return enjoyed by those holding Filecoin will depend on the value of Filecoins going forward and may depend on the ongoing efforts of Protocol Labs after the project is operational. This will almost certainly be relevant to the issue of whether Filecoins themselves are securities. The fact that the Filecoins will be delivered in the future, after the network launches, is not dispositive under *Howey*.²²⁰ The inquiry still will center on whether holders of Filecoins expect to generate a profit substantially based on Protocol Labs's efforts.

If Filecoins are in fact deemed securities, it would create complications for Protocol Labs. Because Protocol Labs sold these tokens pursuant to Rule 506(c), if these tokens are characterized as securities, they will need to be sold as restricted securities.²²¹ Purchasers will have limited avenues to transfer these “restricted tokens,” and Filecoins will have limited avenues for re-sale except under certain limited securities law exceptions.²²²

For example, token holders not affiliated with Protocol Labs could avail themselves of Rule 144 of the Securities Act and sell these tokens after the applicable holding period.²²³ They could also potentially avail themselves of the so-called “Section 4(1½) exemption,” but this would require that purchasers

219. *Filecoin, a Product of Protocol Labs, Inc.: SAFT (Simple Agreement for Future Tokens)*, *supra* note 213. This structure has now been generalized by Protocol Labs as the “SAFT Project.” *See* SAFT PROJECT, *supra* note 216.

220. *See, e.g.*, The Munchee Order, *supra* note 6.

221. Securities issued under Rule 506 (the section 4(2) safe harbor) are “restricted securities” under Rule 144, and under Rule 502(d), the issuer must “exercise reasonable care to assure that the purchasers of the securities are not underwriters within the meaning of section 2(a)(11) of the Act” (that is, they are not purchasing with a view to distribution of the securities). *See* 17 C.F.R. § 230.502(d) (2018). Rule 502(d) provides that “reasonable care” may be demonstrated by the following (which are not exclusive): (1) reasonable inquiry to determine whether the purchaser is acquiring the securities for the purchaser’s own benefit or for others; (2) written disclosure to each purchaser before sale that the securities have not been registered under the Securities Act (that is, that they are restricted) and, therefore, cannot be resold unless they are registered or an exemption from registration is available; and (3) placement of a legend on the certificate or other document that evidences the securities stating that the securities have not been registered and describing or referring to the restrictions on transferability and resale of the securities (known as a “restrictive legend”). *Id.*; *see also* Regulation D Release, Securities Act Release No. 6825, [1989–1990 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶ 84,404 (Mar. 14, 1989).

222. *See* 17 C.F.R. § 230.502(d).

223. *Id.* § 230.144; *see also* 1 HAZEN, *supra* note 134, § 4:106 (providing an overview of the safe harbor exemption for secondary transactions under SEC Rule 144).

have access to the information that is comparable to the information included in registration, that purchasers meet sophistication standards, and that no general solicitations take place, all of which present serious issues in the context of token resales.²²⁴ Alternatively, purchasers of Filecoins could engage in a Rule 144A offering, which would permit these token holders to avoid the holding period by selling these restricted securities to qualified institutional buyers (“QIBs”), such as saving and loans associations, banks, investment and insurance companies, and employee benefit plans.²²⁵ Furthermore, they could resell these tokens to purchasers outside of the United States under Regulation S, assuming that the Filecoin will not flow back into the United States.²²⁶

Under such a scenario, the only parties that can hold these tokens—without subjecting Protocol Labs to potential securities laws violations—is the initial accredited investors, large institutions, or foreign investors. The end result could hurt U.S. consumers. If Filecoin becomes an important and widely used technology, as some argue, U.S. consumers may not be able to purchase these tokens without creating significant risk for the initial investors and Protocol Labs.

3. Regulation A

Regulation A offers another potential avenue for exempting token sales from the section 5 registration requirement if the seller is sufficiently concerned about security status and does not want to undertake a full section 5 registration. Although it was previously limited to offerings of \$5 million or less, the Jumpstart Our Business Startups Act (JOBS) required the SEC to amend Regulation A to exempt security offerings of up to \$50 million.²²⁷ The resulting amendments to Regulation A (Regulation A+ as it has come to be known) provide a route for issuers to conduct offerings that look similar to SEC-registered public offerings but relax many of the more onerous requirements.²²⁸ Importantly, Regulation A offerings are not subject to transfer restrictions—the securities sold pursuant to a Regulation A offering can be resold.²²⁹ However (and perhaps as a result of the fact securities in a Regulation A offering are not subject to transfer restrictions), issuers are required to file an offering statement and disclose much of the information that they would have to include in a going-

224. See 1 HAZEN, *supra* note 134, § 4:109.

225. This is also known as a Section 4(1 1/2) Exemption. For an overview of this exemption, see *id.* §§ 4:107–4:111.

226. 17 C.F.R. § 230.904 (safe harbor for offer or sales of securities by non-issuers that are deemed to be conducted offshore).

227. 15 U.S.C. § 77c(b)(2)(A) (2012).

228. ANZHELA KNYAZEVA, REGULATION A+: WHAT DO WE KNOW SO FAR? 2 (2016), https://www.sec.gov/files/Knyazeva_RegulationA%20.pdf. (“Overall, early signs indicate that Regulation A+ may offer a potentially viable public offering on-ramp for smaller issuers—an alternative to a traditional registered IPO . . .”).

229. 1 HAZEN, *supra* note 134, § 117 (“There are no required restrictions on resales of securities offered under Regulation A.”).

public registration statement (for example, financial statements that are compliant with GAAP).²³⁰

Regulation A authorizes two tiers of offerings, differing in the characteristic amounts, investor limitations, and post-sale requirements.²³¹ Tier 1 applies to issuances up to \$20 million.²³² Tier 1 offerings are not restricted to any particular type of investor, nor is there a limit on the amount that investors can invest. Tier 1 offerings are still subject to state blue sky laws, however.²³³ Tier 2 applies to issuances up to \$50 million.²³⁴ Tier 2 offerings are also open to both accredited and non-accredited investors, but non-accredited investors can only invest a limited amount based on their income or net worth. Unlike Tier 1, Tier 2 offerings are exempt from state blue sky laws.²³⁵

Because of the amounts that are possible to raise with a Regulation A offering, registration under section 12(g) of the Exchange Act is another consideration. The Securities Exchange Act requires that issuers with assets over \$10 million and a class of equity securities held of record by either more than 500 non-accredited investors or 2,000 persons register that class of securities with the SEC.²³⁶ This, in turn, activates the 1934 Act's requirements of periodic reporting, proxy regulation, and the reporting of certain transactions involving insiders. Regulation A does carve out an exception from registration under section 12(g),²³⁷ but it is limited to Tier 2 offerings that meet certain criteria including, a requirement that these issuers engage a transfer agent and have under \$75 million in public float.²³⁸

With regard to token sales, Regulation A appears to have more potential than the exemptions offered under Regulation D. The limitations on amounts raised are significantly higher (although still less than the amounts that have been raised in some of the largest recent token sales), and the lack of transfer restrictions would allow issuers to sell tokens without restricting their resale on token exchanges. The prospect of registration under section 12(g) is, however, problematic.²³⁹

230. See generally 17 C.F.R. §§ 230.251–203.260 (Regulation A).

231. *Id.* § 230.251(a)(1)–(2).

232. *Id.* § 230.251(a)(1).

233. Rutheford B Campbell, Jr., *The SEC's Regulation A+: Small Business Goes Under the Bus Again*, 104 KY. L.J. 325, 334–35 (2016) (providing an overview of the battle between the SEC and various states relating to preemption for Tier 1 and 2 offerings).

234. *Id.* § 230.251(a)(2).

235. See Campbell, *supra* note 233, at 334.

236. 15 U.S.C. § 78l(g) (2012).

237. 17 C.F.R. § 240.12g5-1(a)(7).

238. *Id.*

239. The section 12(g) registration requirement applies to equity securities. It is not completely clear that *utility tokens* would qualify as such because they do not entitle holders to a share of any profit and do not appear to represent a residual claim, even in the event of liquidation of the enterprise. They do, however, entitle the holder to use a service—in other words, they are owed something by the enterprise when they redeem their token. To the extent the need to classify tokens as either equity or debt arises, there do appear to be strong arguments that *utility tokens* are more like debt securities than equity securities insofar as they represent a claim that is fixed (albeit one to receive a service, rather than receive payment) and do not involve governance rights.

In this regard, the exception for Tier 2 offerings could prove useful for token sales, but the requirement that a seller rely on a registered transfer agent is completely inconsistent with the technology that underlies these digital assets. Blockchains are, at their core, a technology that renders third-party intermediaries like transfer agents largely unnecessary. Transfer agents perform primarily administrative functions, such as issuing and canceling certificates to reflect changes in ownership; paying out interest, dividends, or other distributions to stock-and-bond-holders; mailing out reports and proxy material; and handling lost, stolen, or destroyed certificates.

These functions could be handled by a smart contract but are simply unnecessary for *utility tokens*. For example, many *utility tokens* currently do not pay interest or dividend payments. And because blockchains are tamper-resistant data structures, tokens cannot be lost or destroyed unless an entire blockchain is compromised. The distribution of reports and other materials could be conceivably triggered by a smart contract themselves or become less necessary if the holder of the token has no control over the development of the underlying software service or no other form of control. Requiring the use of transfer agents to facilitate the exchange of tokens obviates the technological innovations that are at their core and prevents parties from availing themselves of the benefits of blockchain technology.

Likewise, there may be difficulty for Tier 2 offerings due to the \$75 million limitation on the total public float of utility or *investment tokens*. Several tokens already have public floats that exceed this amount after their value usually denominated in a bitcoin is converted into dollars.²⁴⁰ This sort of limitation would have the effect of artificially suppressing the supply of technological services by limiting the number of tokens available. For those apps that depend on users to host data or complete certain tasks (in addition to those which look to network effects to increase value over time), an artificial ceiling on the number of tokens (and therefore the number of users) would have serious negative effects on the viability and functionality of the underlying digital service to which a token correlates.

4. Regulation Crowdfunding

Given the similarities between crowdfunding and token sales, this Article would not be complete without a discussion of Regulation Crowdfunding,²⁴¹ a recently adopted exemption that allows issuers to sell up to \$1,070,000 worth of

Crowdfunding interests similarly defy easy categorization in this regard, which has prompted one prominent scholar to label them “unequity.” Joan MacLeod Heminway, *What Is a Security in the Crowdfunding Era?*, 7 OHIO ST. ENTREPRENEURIAL BUS. L.J. 335, 360 (2012).

240. *All Tokens*, COINMARKETCAP, <https://coinmarketcap.com/tokens/view/all> (last visited Jan. 19, 2019) (listing 32 out of a total 271 tokens with a market capitalization higher than \$75 million).

241. 17 C.F.R. § 227.100. This exemption was adopted pursuant to section 4(a)(6) of the Securities Act of 1933. 15 U.S.C. § 77d(a)(6) (2012).

securities during a twelve-month period. Because of this limitation, Regulation Crowdfunding is almost certainly a non-starter for organizers of token sales.

Additionally, Regulation Crowdfunding requires that the offering take place through a platform provided by a broker-dealer or funding portal, a requirement which is obviously tailored specifically to crowdfunding and not to token sales.²⁴² Again, reliance on blockchain technology obviates the need for intermediaries. Ownership of each token as well as transfers of ownership from one holder to another are executed and recorded on the blockchain. Securities sold pursuant to Regulation Crowdfunding are also subject to transfer restrictions,²⁴³ which are problematic for the reasons discussed above. Together, the low limitation on the amount that can be raised, the intermediary requirement, and transfer restrictions make Regulation Crowdfunding a poor fit with token sales.

III. REGULATION OF TOKEN SALES UNDER U.S. SECURITIES LAWS

The uncertainty created by *utility tokens* and lingering questions related to how these tokens can be squared with existing exemptions to various disclosure requirements leaves the United States and its market participants in a difficult situation. The United States' current piecemeal approach under the *Howey* test, although flexible, leaves token sale participants without ready answers to the questions that will determine whether the tokens they offer are securities. If token sales do indeed represent an important new avenue for entrepreneurial financing, this approach threatens the United States' position in the quickly developing world of financial technology in which other jurisdictions are already attempting to offer clear regulatory guidance. This will ultimately make it more difficult for would-be end-users of new technology to access and utilize token-driven platforms and software. This is all to say that while the need for investor protection is undeniable, balance is key.

For this reason, courts and the SEC should focus on providing token sale participants with additional certainty when it comes to the application of the *Howey* test. As we argue below, lawmakers should assess the status of token sales by focusing on various *intrinsic* and *extrinsic* factors related to the sale of blockchain-based tokens to determine whether the token is being sold as an investment opportunity or as a means to access or use a blockchain-based application or service. To provide additional clarity, the SEC could issue interpretive guidance, but at a minimum, the agency should identify the considerations that will govern application of *Howey* to digital tokens through administrative orders and reports. To further ameliorate concerns related to both investor protection and the need for a sensible and clear path to compliance, we also suggest that Congress and the SEC (1) create a compliance-based safe-harbor for token exchanges that list tokens under a reasonable belief that the

242. 17 C.F.R. § 227.100(a)(3).

243. *Id.* § 227.501.

public sale of those tokens will not violate section 5 of the Securities Act and (2) create an exemption that is specifically tailored for *investment tokens* (but which would also be available for *utility tokens* that qualify as securities).

A. THE RISKS OF THE CURRENT PIECEMEAL APPROACH

As demonstrated in Part II, token sales present several vexing questions under *Howey*. Historically, the SEC has preferred to regulate through methods that foster some degree of unpredictability, such as No-Action Letters and enforcement proceedings, rather than rule making.²⁴⁴ The numerous open questions created by the application of *Howey* to token sales give the SEC ample opportunity to take this approach. This practice “maximizes the effective scope of the Commission’s jurisdiction”²⁴⁵ and leaves regulated entities and individuals unable to “find the outer limits of the rules” until they “fac[e] an enforcement action.”²⁴⁶ For the agency, “[t]oo much clarity in the rules is deemed to provide a ‘roadmap to fraud,’”²⁴⁷ but it also leaves token sellers who are operating in good faith with no reliable way to assess their regulatory obligations and risk.

Regulation through enforcement is necessarily piecemeal and incremental. Purchasers will receive inconsistent protections from one transaction to another, and designers of tokens will be forced to labor under considerable uncertainty, at least until a sufficient number of cases and administrative materials have addressed the major issues presented by app tokens. This applies equally to the token exchanges who face the risk of liability for participating in the distribution of unregistered securities. Unless they are operating at the extremes of the spectrum in which status is clear, the designers of tokens and the exchanges will have a difficult time assessing whether they are preparing to sell a security or not, potentially chilling innovation. Assuming a desire to comply with the applicable regulatory regime, this puts token sellers, as well as the exchanges on which they trade, in a difficult position: their compliance obligations depend on a determination of whether they are selling a security, but this is a question for which there is currently no clear answer.

This state of affairs is already becoming apparent. As noted, since July 2017, the SEC has issued a report, entered into a cease-and-desist order, and is prosecuting several matters where it is taking the position that certain blockchain-based tokens are securities. The first order, The DAO Report, established only that tokens which resemble traditional securities will be treated as such. As discussed above in Part II, DAO Tokens are clearly *investment tokens* under the taxonomy laid out in Part I. The SEC’s decision to treat such

244. Donald C. Langevoort, *The SEC as a Bureaucracy: Public Choice, Institutional Rhetoric, and the Process of Policy Formulation*, 47 WASH. & LEE L. REV. 527, 531 (1990).

245. *Id.*

246. A.C. Pritchard, *The SEC at 70: Time for Retirement?*, 80 NOTRE DAME L. REV. 1073, 1086 (2005).

247. *Id.*

tokens as securities is almost certainly correct and should come as a surprise to no one.

More recently, the SEC issued a cease-and-desist order with a token project whereby it determined that a self-described “utility” token was subject to the section 5 registration requirement.²⁴⁸ This order, which was released as part of a settlement and was therefore not the product of any true adversarial process, establishes that the SEC will look at the manner of sale in determining whether a token qualifies as a security or not. But, it also leaves many important questions unanswered. For example, how important were the aspects of the manner of sale that the SEC focused on the result (that is, if the token seller had not marketed the tokens in areas where the app itself would not be available, would the result have been the same)? How important to the result was the fact that the development team indicated that they would maintain the value of tokens by “burning” some tokens after they were spent, thereby limiting supply? How much does timing of the sale in relation to token functionality matter? On this point, the order stated that the SEC would have reached the same result even if the token were immediately functional, but this fact was not before the SEC (the relevant *utility tokens* would not be functional for several months after sale), so this statement is best classified as administrative dicta in an order that did not result from any sort of adversarial process. A future court applying the *Howey* test to a *utility token* that is immediately functional after sale will not be bound by the SEC’s statement in the order, a fact which, no doubt, will be considered by token sellers and their advisors in the future.

This uncertainty will create strong incentives to engage in regulatory arbitrage, and in the case of tokens, large scale migration to non-U.S. jurisdictions is a real possibility. In recently issued guidance, the Monetary Authority of Singapore sent a strong signal that it would not subject *utility tokens* to the country’s regime of securities regulation.²⁴⁹ Although the guidance is limited, it appears that Munchee tokens would not have been treated as securities under Singapore’s laws.

Ultimately, large-scale avoidance of the United States would have negative consequences for the U.S. financial system and would put a new generation of technological advancement off-limits to most U.S. citizens. Put simply, in our increasingly global economy, parties who are currently in the United States and are interested in selling app tokens can look elsewhere to build and launch their projects.

Provided they are willing to organize the sales in ways that should not present issues for typical token-funded projects, token sellers seeking increased regulatory certainty may choose to conduct the sale outside of the United States. Regulation S provides safe harbors pursuant to which issuers can structure their offerings so that they are deemed to be conducted outside of the United States.²⁵⁰

248. The Munchee Order, *supra* note 6, at 2, 10.

249. See Press Release, Monetary Auth. of Sing., *supra* note 7.

250. See generally 17 C.F.R. §§ 230.901–905 (2018).

The SEC has issued guidance indicating that token sales could be conducted on the Internet and still qualify as taking place outside of the United States if the relevant website takes precautions designed to prevent making sales to residents of the United States.²⁵¹

Sellers of tokens could also structure themselves to qualify as foreign private issuers under Rule 405 of Regulation C, provided they are organized in a foreign jurisdiction, fifty percent or less of their outstanding voting shares are held by U.S. citizens or residents, and they do not maintain a certain degree of business contacts with the United States.²⁵² Although this status does not automatically exempt a foreign private issuer from the section 5 registration requirement, it does make it easier for the issuer to avail itself of Regulation S. For organizers of token sales, securing foreign private issuer status is within reach. These are typically enterprises that require no central physical location and few physical assets. The work required to complete the project can be completed anywhere with a reliable Internet connection. Required physical assets are minimal, and many of them will be owned by the software developers and other technologists who work on the projects (who themselves can be dispersed globally) and not by any legal entity whose securities are being sold.

China's recent attempt to ban ICOs and token trading provides an apt illustration of the geographic flexibility and potential for regulatory arbitrage that exist here. In late 2017, China instituted a ban on token trading, but barely six months later, Chinese newspapers began reporting that the ban was essentially ineffective.²⁵³ Chinese companies are still launching ICOs, but have simply been listing or domiciling them in jurisdictions in which ICOs are legal.²⁵⁴

An ad hoc, case-by-case approach to security status may have worked previously when sellers of securities (or contracts that would potentially be deemed securities) could not engage in regulatory arbitrage as easily. The sales of orange grove interests that were at issue in *Howey*, for example, could not easily be taken outside the jurisdiction of the SEC and U.S. securities laws. Sales of app tokens and the online projects that they support, on the other hand, can be taken outside the purview of U.S. law and regulators more cheaply and much more easily. A haphazard or over-inclusive regulatory approach will drive token sales outside of the United States and out of the reach of U.S. purchasers. The

251. Statement Regarding Use of Internet Websites to Offer Securities, Solicit Securities Transactions, or Advertise Investment Services Offshore, Securities Act Release No. 33-7516, Exchange Act Release No. 34-39779, Investment Advisers Act Release No. 1710, Investment Company Act Release No. 23701, 63 Fed. Reg. 14,806 (Mar. 27, 1998).

252. 17 C.F.R. § 230.405. Disqualifying business contacts include: (1) having a majority of officers or directors be U.S. citizens or residents; (2) more than fifty percent of the company's assets are in the United States; and (3) the business is principally administered in the United States.

253. See, e.g., Dan Pelberg, *China's ICO Ban Isn't Working, and It May Not Last Long*, CRYPTO DISRUPT (May 25, 2018), <https://cryptodisrupt.com/chinas-ico-ban-isnt-working-and-it-may-not-last-long/>.

254. Adriana Hamacher, *Future Crypto: 7 Clean Sneaks Past China's ICO Ban*, BLOCKCHAIN NEWS (Mar. 26, 2018), <https://www.the-blockchain.com/2018/03/26/future-crypto-7-clean-sneaks-past-chinas-ico-ban/>.

relevant question for regulators, then, is whether maintaining a particular regulatory approach is worth driving these projects outside of the United States, depriving would-be U.S. end-users of the ability to use new digital technology, and ultimately forcing U.S. companies to forego the new generation of financial techniques. Significantly, because *utility tokens* are the key to using the services that they fund, a regulatory approach that drives token sales away from the United States is ultimately keeping those services out of the reach of all U.S. citizens, even those who have only an expectation of consumption.

At the same time, there is no denying that token sales create risks of fraud and abuse. A completely hands-off approach to the regulation of digital tokens would ignore this reality. No doubt, the SEC has a role to play in the prevention of fraud in connection with the sale of tokens that are clearly securities and present the risks traditionally associated with securities. However, fraud prevention and investor protection are not the SEC's only missions. The agency also has a mandate to encourage and facilitate capital formation,²⁵⁵ and it is our position that this objective counsels in favor of providing token sellers and exchanges with a more predictable regulatory framework.

When evaluating the costs and benefits of potential regulation, it is essential to recognize that the SEC is not the only regulatory agency with authority to police for bad behavior when it comes to app token sales. If *utility tokens* are not categorically deemed securities, they are best analogized to digital goods or commodities, and would likely fall under the purview of the Federal Trade Commission (FTC) and the Consumer Financial Protection Bureau (CFPB).²⁵⁶ Both agencies police for acts or practices that are manipulative, fraudulent, deceptive, or unfair and could address fraudulent or ill-conceived app tokens or token sales that do not involve securities.²⁵⁷

255. See *What We Do*, SEC, <https://www.sec.gov/Article/whatwedo.html> (last visited Jan. 19, 2019) (“The mission of the U.S. Securities and Exchange Commission is to . . . facilitate capital formation.”); see also Heminway, *supra* note 239, at 337 (“[T]he key policies underlying U.S. securities regulation are . . . enhancing prospects for capital formation to sustain business activity and growth.”).

256. The Federal Trade Commission is the federal agency charged with protecting consumers. It has already entered the world of cryptocurrencies, bringing charges which were eventually settled against a fraudulent bitcoin mining operation. See Press Release, Fed. Trade Comm’n, Operators of Bitcoin Mining Operation Butterfly Labs Agree to Settle FTC Charges They Deceived Consumers (Feb. 18, 2016), <https://www.ftc.gov/news-events/press-releases/2016/02/operators-bitcoin-mining-operation-butterfly-labs-agree-settle>. The Consumer Financial Protection Bureau also has a consumer protection mission, but it is specific to the financial sector. The agency has issued a consumer advisory on bitcoin and is accepting bitcoin-related complaints from consumers. See generally CONSUMER FIN. PROT. BUREAU, CONSUMER ADVISORY: RISKS TO CONSUMERS POSED BY VIRTUAL CURRENCIES (2014), http://files.consumerfinance.gov/f/201408_cfpb_consumer-advisory_virtual-currencies.pdf.

257. The FTC is charged with the prevention of “unfair methods of competition” and “unfair or deceptive acts or practices” in commerce. 15 U.S.C. § 45(a) (2012). The CFPB is empowered to prevent “unfair, deceptive, or abusive act[s] or practice[s] . . . in connection with any transaction with a consumer for a consumer financial product or service, or the offering of a consumer financial product or service.” 12 U.S.C. § 5531(a) (2012).

The SEC does not shy away from regulatory turf wars,²⁵⁸ and its recent entry into the world of tokens demonstrates its intention to claim jurisdiction over at least a portion of the field. The potential involvement of other regulatory agencies magnifies the consequences of this approach—there is a real risk that token sellers will face regulatory uncertainty as to the status of tokens under multiple regulatory regimes, giving sellers additional reasons to flee to other jurisdictions. This is especially the case for *utility tokens* that look very much like a digital good because of the rights of use that they impart to their holders, but also allow purchasers to treat them as investment opportunities on account of the potential for speculative profit. Sellers of these tokens will be at the mercy of the SEC (and potentially other U.S. regulators). From a political economy perspective, the SEC has less room to maneuver than it has had previously. The ease with which relevant parties can engage in regulatory arbitrage means that the SEC has a real reason to consider the needs of token sellers for a rational and predictable regulatory regime. At a minimum, token sellers and exchanges need a reliable way of answering the threshold, definitional question—whether they are selling a security—to determine whether the transaction is subject to the securities laws.

B. IDENTIFYING EXTRINSIC AND INTRINSIC FACTORS RELATED TO TOKEN SALES

Our first suggestion is that the SEC provide further guidance on the application of *Howey* to digital tokens, particularly *utility tokens*, by identifying the factors it will consider when determining whether a token is a security. Doctrinally, *utility tokens* rest on uncertain ground. They offer both consumptive and speculative benefits, and the interest that token holders have in both consumption and speculation are inextricably intertwined—purchasers can reasonably have both an expectation of consumption and one of profit. To be sure, there are purchasers who, at the time of purchase, intend to sell the tokens at a profit in the future. But, there are also those who intend to utilize the token in the future. It also seems likely that there are many purchasers who buy tokens because they think they project will be successful and are therefore confident that they will have the option of either using it or selling it at some point in the future.

Forman and other authorities provide limited guidance on how to apply the expectation of profits prong under these circumstances. *Forman* concerned parties' motivations for purchasing long-term housing. Even in the absence of transfer restrictions, the individuals who bought into the housing cooperative had a clear interest in utilizing the housing. This puts sellers of tokens in a conundrum: even if they design and sell a *utility token* that provides no entitlement to profits, entitles the holder to use a service (has strong consumptive

258. Jonathan R. Macey, *Administrative Agency Obsolescence and Interest Group Formation: A Case Study of the SEC at Sixty*, 15 CARDOZO L. REV. 909, 939–40 (1994).

characteristics), provides token holders with the right to participate in the development of a technological system, and even require that purchasers affirm that they only intend to purchase tokens for consumptive purposes, an application of *Howey* that focuses only on those purchasers who plan to resell on a token exchange could lead to a finding that that token is a security.

To clarify these boundaries, the SEC and, eventually, federal courts should identify the factors it will consider when determining whether a digital token is a security. At the agency level, this could take the form of interpretive guidance. At a minimum, while issuing further administrative orders and reports, the SEC should identify and apply the relevant factors in a way that provides meaningful guideposts to token sale participants.

Substantively, these factors should focus primarily on capturing tokens for which investment intent outweighs any interest in use or consumption. First, the *Howey* analysis should focus on *intrinsic* factors concerning the consumptive aspects of the token itself, that is, the role of the token in the application. For a *utility token* to fall outside the boundaries of federal securities law, the token should be needed to coordinate activity on the application, solve a technical problem, or entitle the user to receive some sort of benefit in the context of the online platform or application. There should be a consumer benefit: the more dependent operation of the application is on tokens and the participation of token holders, the clearer the interest in consumption is. Tokens sold for applications that can be operated without the token, for example, would appear to offer a less significant interest in consumption than tokens sold for an application that is simply not available unless the user has a token. This type of approach should keep the mere fact that resale is possible from causing all *utility tokens* to be treated as securities, while also providing a flexible approach to address token sales that attempt to evade their obligations under the securities laws.

Second, the *Howey* analysis should focus on *extrinsic* factors relating to: (1) the manner in which the token sale is marketed and the audience toward which marketing efforts are directed; (2) the ability of the token seller to disproportionately or materially impact the value of the token both before and after the sale; and (3) to a lesser degree, whether a token, at the time of sale, can be used within a technological system. These three factors focus the *Howey* analysis and help untangle questions related to whether a token is primarily consumptive in nature or is being used as part of an investment scheme.

For blockchain-based tokens to avoid the ambit of federal securities laws, any marketing material prepared by the selling party should not contain express or implied indications that the value of the token will appreciate and token sellers should not take affirmative steps to market and sell their tokens to sophisticated investors, venture capital funds, crypto hedge funds, and other investors that have no intent to use or consume the underlying good or service. Efforts to sell tokens to these parties creates a strong presumption that the token holders view *utility tokens* as an investment scheme that will provide holders the ability to generate a profit. Absent extenuating circumstances, these parties only purchase

or seek to acquire tokens to enjoy the benefits of token appreciation and not to use the blockchain-based service that relies on the tokens, thus tipping the economic realities of the token towards a classification as a security under *Howey*. Investors in token-based platforms and services have little need for direct exposure to tokens and can purchase ownership interests in any underlying legal entity creating or selling blockchain-based tokens, in compliance with federal securities laws.

In much the same way, formal waivers or other agreements whereby token purchasers affirmatively acknowledge that they are not purchasing the token for speculative purposes should be factored into a *Howey* analysis. These agreements represent affirmative efforts on the part of the token seller to control and manage the expectations of token purchasers and sets an objective baseline for evaluating a purchaser's expectation.

Likewise, if token sellers create mechanisms to filter out potential purchasers, through questionnaires or otherwise, which preclude purchasers that are at risk of acquiring the token for speculative purpose, it too should weigh against a finding that a token is an investment contract. Attempts to weed out potential speculative investors during the sale process would mitigate the risk of undue speculation, at least initially, and would be strong evidence that the sale was not intended to be an investment opportunity.

The *Howey* analysis also should focus on extrinsic efforts on the part of the seller to impact the value of the token through actions that are not related to development or operation of the platform. For example, if a seller takes steps to list a token in regulated U.S. marketplaces prior to, during, or shortly after the sale or fails to impose transfer restrictions on tokens issued to the developers or organizations developing the tokens, it indicates that the selling party may be prioritizing the speculative aspects of the token over their consumptive aspects and suggests that the token is an investment opportunity. The same rationale applies to token distribution structures where sellers "burn" tokens or otherwise try to manipulate the scarcity of the underlying asset. These acts signal to purchasers that the sellers or organizers will be involved directly in non-operational efforts to manage the value of the tokens, in the same way that executives of traditional companies undertake share buy-backs and other transactions to manage the price of publicly traded equity securities.

Finally, as to the "efforts of others" prong, a variety of factors will be relevant. The timing of the sale in relation to functionality (that is, when the token can actually be used for something) is relevant insofar as a token sale that takes place far in advance of anticipated functionality is more likely to be a security because token holders are reliant upon the efforts of the development team for the project to ever reach the point at which the service, platform, or network can actually be used.²⁵⁹ Aside from timing, the degree of control is

259. Indeed, the Swiss guidelines that were released in early 2018 incorporate a timing component. *Utility tokens* that do not also carry economic rights will not be treated as securities, provided they are functional when sold. Press Release, Swiss Fin. Mkt. Supervisory Auth., *supra* note 7.

another factor relevant to the “efforts of others” inquiry. Even after a token is functional, the presence of a centralized group of people (or even a single person) who control the value or operation of a blockchain-based network will likely provide necessary efforts for the ongoing viability of the network and value of tokens may still meet the “efforts of others prong.” On the other hand, if the network, platform, or software is structured or evolves in a way where there is no centralized group or third party whose efforts are integral to the ongoing success (or failure) of the project (as is the case with bitcoin, for example), the “efforts of others” prong will likely not be met. A high-level staff member of the SEC recently acknowledged the potential importance of decentralization (or the lack thereof) in this context in remarks he made recently at the Yahoo Finance All Markets Summit: Crypto.²⁶⁰

Through the above approach, the subset of blockchain-based tokens which more closely resemble digital goods or other commodities than securities would fall clearly outside the scope of the federal securities laws. Access to these consumable goods would not need to be mediated by regulated entities like broker/dealers or regulated exchanges. Assuming compliance with any applicable state securities laws, any fraud or other malfeasance related to the sale could be addressed by the FTC or through state consumer protection and fraud law. Given the existence of obvious consumer risk, it may be that new disclosure regimes tailored to consumer risk in this context are necessary. At the same time, tokens that focus on providing purchasers with the opportunity for profit would be subject to the federal securities laws and regulated like other more traditional investment opportunities. Investors in blockchain-based tokens could still gain exposure to blockchain-based enterprises directly acquiring *investment tokens* or in the case of *utility tokens* that meet the factors outlined above by investing in the underlying companies developing these new consumable goods.

C. SAFE-HARBOR FOR TOKEN EXCHANGES

Our next suggestion is that Congress promulgate a safe-harbor for token exchanges. Under the Securities Act—and as the SEC recognized in its recent report—it is not only issuers that face liability for selling an unregistered security.²⁶¹ Instead, “underwriters,” as defined in the Securities Act,²⁶² also face

260. William Hinman, Dir., SEC Div. of Corp. Fin., Remarks at the Yahoo Finance All Markets Summit: Crypto: Digital Asset Transactions: When Howey Met Gary (Plastic) (June 14, 2018), <https://www.sec.gov/news/speech/speech-hinman-061418>.

261. The DAO Report, *supra* note 5, at 16.

262. 15 U.S.C. § 77b(11) (“The term ‘underwriter’ means any person who has purchased from an issuer with a view to, or offers or sells for an issuer in connection with, the distribution of any security, or participates or has a direct or indirect participation in any such undertaking, or participates or has a participation in the direct or indirect underwriting of any such undertaking; but such term shall not include a person whose interest is limited to a commission from an underwriter or dealer not in excess of the usual and customary distributors’ or sellers’ commission. As used in this paragraph the term ‘issuer’ shall include, in addition to an issuer, any person

liability for facilitating or otherwise participating in the sale of unregistered securities.²⁶³ The term underwriter is defined broadly to include not only traditional underwriters (which act as an intermediary between the issuer and investors by buying the securities from the issuer and selling to public investors) but also anyone who “offers or sells for an issuer in connection with the distribution of a security” or “participates or has a direct or indirect participation in any such an undertaking.”²⁶⁴ As to tokens that are securities, token exchanges almost certainly fall within this definition insofar as their websites list tokens, make offering materials available to prospective purchasers, and facilitate the actual sales.²⁶⁵ Given the significant risk that selling tokens presents for the token exchanges, we also suggest a compliance-based safe-harbor that protects token exchanges from liability under the Securities Act if the SEC, at some point in the future, reclassifies or determines that a *utility token* is a security.

A safe-harbor would help mitigate risks created by doctrinal uncertainty currently swirling around the sale of *utility tokens*. It would also, however, provide an opportunity for the SEC and Congress to encourage best practices across the sector. Due to the Securities Act, exchanges are already dissuaded from listing *investment tokens*. However, due to the uncertainty outlined above, many exchanges do not list *utility tokens* for fear that, at some point in the future, they will be reclassified as a security. Thus, there is a risk that the exchange of *utility tokens* will over time gravitate to foreign exchanges or exchanges that are comfortable with this degree of risk, which often do not have appropriate compliance and security measures in place. This places U.S. consumers at risk and impedes the development of best practices in the industry. Perhaps of greatest concern, it could also diminish the United States’ role in regulating access to these tokens and markets for online technology.

Providing these intermediaries with a safe-harbor would give regulators an opportunity to offer a “carrot” in exchange for voluntary adoption of measures that are aimed at protecting purchasers of *utility tokens* from malfeasance and fraud. Exchanges will have a clear path to compliance with existing law that does not require them to forego participation in a growing sector.²⁶⁶

directly or indirectly controlling or controlled by the issuer, or any person under direct or indirect common control with the issuer.”).

263. SEC v. Offill, No. 3:07-CV-1643-D, 2012 WL 246061, at *5 (N.D. Tex. Jan. 26, 2012).

264. 15 U.S.C. § 77b(11).

265. See, e.g., SEC v. Chinese Consol. Benevolent Ass’n, 120 F.2d 738, 740–41 (2d Cir. 1941). In this case, the Second Circuit held that a “New York corporation organized for benevolent purposes” was liable as an underwriter for participating in the sale of unregistered bonds issued by the Republic of China. *Id.* at 739, 740–41. The organization had no official relationship with the government of China, but had the mission of assisting the Chinese people and government. *Id.* at 739. One way it sought to do so was by encouraging the purchase of bonds issued by the government of China by individuals in the United States. *Id.* They took out ads in papers urging individuals to do so, collected funds from purchasers, and delivered those funds to the relevant bank in New York. *Id.*

266. Such an approach also aligns with prevailing theories of cyberlaw, which guided the development of the internet. See, e.g., Jacqueline D. Lipton, *Law of the Intermediated Information Exchange*, 64 FLA. L. REV. 1337, 1342 (2012) (noting that a unified theory of cyberlaw centers on the fact that “all Internet interaction must

The safe-harbor should be designed in a fairly straightforward manner, insulating compliant exchanges from liability for facilitating the sale of unregistered securities, provided they took certain steps prior to listing the token and take immediate steps to delist the token if it is subsequently found to be a security.²⁶⁷ Possibilities for pre-listing actions include requiring that exchanges perform technical due diligence to ensure the token satisfies reasonable security practices and requiring that the exchange ensure that certain disclosures are made by the organizers of the project. We also suggest that the safe-harbor require that the exchange have reached some reasonable conclusion that the token is not, in fact a security. This could be achieved, for example, by conditioning the application of the safe-harbor on the receipt of an opinion from qualified counsel that the token does not qualify as a security under the *Howey* test. Alternatively, it could be framed in terms of characteristics that would counsel against security-status but which would not necessarily be dispositive in the event a private plaintiff or the SEC subsequently brings an action or enforcement proceeding. For example, the safe-harbor could apply only to tokens that relate to projects that are already operational or will be operational within a certain time after listing. As discussed above, such tokens are more clearly consumptive in nature.

The safe-harbor could also address other ancillary issues related to the buying and selling of tokens. Token sales tend to concentrate in the hands of a few, including founders and large purchasers, creating risk of abusive trading practices that could disproportionately hurt consumers by manipulating the price of a utility token or dumping tokens based on inside information. To prevent such abuses, the safe harbor could also include a condition requiring that listed tokens include reasonable transfer restrictions on the founders and that the exchange take reasonable steps to limit the amount that any one individual token holder can purchase.

be facilitated by *third party intermediaries*"); Frank Pasquale, *Beyond Innovation and Competition: The Need for Qualified Transparency in Internet Intermediaries*, 104 NW. U. L. REV. 105, 105 (2010) ("Internet intermediaries govern online life."); Jonathan Zittrain, *A History of Online Gatekeeping*, 19 HARV. J.L. & TECH. 253, 257 (2006) ("[L]ooking to control individual behavior by altering the incentives of intermediaries and by changing the operation of technology—can be found in almost every doctrinal area implicated by cyberlaw.").

267. We note that there are other types of safe harbors that have been in connection with internet regulation, including complete immunity under the Communications Decency Act, a notice and takedown regime under the DMCA, and a no-interference regime applied in the context of the trademark statute. See Mark A. Lemley, *Rationalizing Internet Safe Harbors*, 6 J. ON TELECOMM. & HIGH TECH. L. 101, 110 (2007). Our proposed safe harbor is animated by the trademark regime. It gives securities regulators the information needed to quickly and cheaply identify token sales impacting U.S. consumers, at the same time it discourages intermediaries from taking an overly expansive view as to whether a utility token would qualify as a security. Through our approach, we aim to encourage best practices on the part of exchanges. Such an approach encourages a conservative, but not overly aggressive approach to the determination of whether a token is a security and accommodates future guidance provided by regulators.

D. EXEMPTION

Our final suggestion is that the SEC implement a registration exemption that has been designed for tokens that are, in fact, securities. We anticipate that such an exemption will be primarily useful for sellers of *investment tokens*, but it would also be available for any *utility tokens* that run the risk of being deemed securities. As discussed above in Part II, current exemptions are not well-suited for token sales (although compliance is not impossible) because amounts raised routinely exceed the limitations that currently apply to multiple exceptions, and transfer restrictions are in obvious tension with token sales and the active secondary market in which they are purchased and sold. With an exemption, the SEC can offer token sellers a path to compliance that has been tailored to the unique characteristics of tokens and, in doing so, allow issuers of these securities to leverage the efficiencies of blockchain.

Of the currently-existing exceptions, Regulation A provides the most logical starting point for designing a token-specific exemption. Many of Regulation A's current features would not require adjustment as its two caps (\$50 million for a Tier 2 offering; \$20 million for a Tier 1)²⁶⁸ will capture most token sales. Securities sold under Regulation A are not restricted securities²⁶⁹ and, therefore, a Regulation A offering would not require token sellers to forego listing their tokens on an exchange.

Regulation A also includes disclosure requirements,²⁷⁰ and while we do not recommend dispensing completely with disclosure, the types and amount of disclosure should be adjusted to better fit with tokens and token-funded projects. Voluntary disclosure is already the norm—organizers of token offerings generally produce a white paper, disclose technical information, and make the code available to potential purchasers and third-party experts who vet it. Rather than force token sales to comply with disclosure requirements designed for more traditional business entities and securities offerings, the SEC should look to the disclosure practices that are already becoming standard as a basis for designing the disclosure requirements in the exemption. In particular, the SEC may consider requiring disclosure of the relevant code, any evaluation of the code that has been performed by technical experts, the identities of the organizers/promoters and developers working on the project, material risks related to the project, as well as information about how the proceeds from the sale will be used going forward.

Another aspect of Regulation A that would potentially raise issues for token sales is the limited exemption from the requirement that securities be registered under section 12(g) of the Exchange Act. Currently, to be exempt from this requirement, the offering must be a Tier 2 offering and employ the

268. 17 C.F.R. § 230.251 (2018).

269. 1 HAZEN, *supra* note 134, § 117 (“There are no required restrictions on resales of securities offered under Regulation A.”).

270. 17 C.F.R. § 230.252 (requiring offering statement); *id.* § 230.253 (requiring offering circular).

services of a transfer agent.²⁷¹ Of course, one of blockchain's major innovations is its elimination of the need for third party intermediaries like transfer agents. In effect, the smart contracts managing token sales working in conjunction with a blockchain function as a transfer agent by maintaining ownership and processing transactions. Delaware, the premier state for forming business organizations, acknowledged this when it amended its corporate statute to allow corporations organized there to track stock ownership using blockchain technology.²⁷² Requiring that token sellers engage the services of a transfer agent would introduce an inefficient redundancy and force parties to these transactions to forego what is widely considered to be the major advantage of blockchain. Accordingly, if a token-specific exemption offers conditional exemption from registration under section 12(g), we suggest that the SEC consider removing the transfer agent requirement.

Another aspect of this exemption from section 12(g) which would require consideration is the limitation of a \$75 million float. As discussed above, a limitation on the public float would artificially limit the number of tokens available. Because these tokens function primarily as the price paid to use a service, a limitation on public float is, in reality, an artificial limitation on the supply of these services. It may also have technological ramifications insofar as the service depends on users to contribute computing power and data storage space, which could in turn decrease the cost of a technology for consumers.

CONCLUSION

In less than a decade, blockchain technology has made fundamental changes to the financial system. Blockchains are supporting alternative currencies and reduce the need for intermediaries to perform certain financial services. When combined with smart contract technology, blockchains hold out the potential to alter traditional methods by which companies raise capital and have already begun to do so.

U.S. regulators, primarily the SEC, sit at a critical moment. It is certainly possible to cast tokens as securities under the current standard for determining what is an "investment contract," thereby bringing them within the jurisdiction of the U.S. securities regulation apparatus. For some tokens—those that most closely resemble traditional securities—this makes sense. For other tokens, specifically *utility tokens*, status under the securities laws is not clear. No doubt, it is possible to view these tokens as an investment opportunity, and some individuals do. On the other hand, these tokens are the price of admission to an ever-growing body of newly developed digital technology. They offer their holders the opportunity to use or consume something, and in this regard, the active secondary market for tokens functions not as a platform for speculation but instead as a mechanism for allocating these valuable consumptive rights to

271. *Id.* § 240.12g5-1(a)(7).

272. S.B. 69, 149th Gen. Assemb. (Del. 2017).

those who value them the most. Under the traditional test, there is significant uncertainty as to the status of these tokens. Because of the ease with which sellers of tokens can avoid the United States altogether, the risks of regulatory uncertainty and agency overreach are significant. Encouraging token sellers to flee the U.S. market will ultimately deprive U.S. consumers of the use of these newly developed technologies.

As U.S. regulators, and potentially even Congress, move forward with efforts to fashion an approach to token sales, we suggest that they consider token sellers' needs for predictability and certainty in the short term. Again, other jurisdictions are already stepping in to provide a climate in which compliance obligations are more easily ascertained. This is a context in which regulatory arbitrage is cheap, and the possibility of large-scale migration out of the U.S. market is real.