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Initial Coin Offerings: Emerging Technology's Fundraising Innovation

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ABSTRACT

As Bitcoin becomes popular among the masses and blockchain technology is adopted among different industries, more people have been investing in new cryptocurrencies in hopes of making a fortune. A cryptocurrency is a digital currency that uses code to verify transactions via a peer-to-peer network. Since 2016, emerging technology companies have increasingly opted to conduct initial coin offerings (ICO) to fund the development of their networks rather than pitch to venture capitalists or hold an IPO. In an ICO, developers sell a new cryptocurrency, sometimes called a token, that allows exclusive access to their network without selling off equity or granting investors voting rights. Retail investors looking for the next cryptocurrency to make Bitcoin-level gains in value are investing significant capital into these tokens without the protections afforded by the SEC for similar investment opportunities. In 2017, billions of dollars were raised by these ICOs, and many investors were duped by fraudulent sales. This year, ICOs are on pace to raise over $10 billion.

The U.S. government has regulated ICOs inconsistently. The SEC identifies most ICO "tokens" as securities, the IRS taxes them as property, and the FinCEN regulates them as money. For the SEC, applying the traditional Howey test to these tokens has proven difficult. While some tokens are clearly securities, others may not be, due to their independent utility as a means to access proprietary networks. Regardless, SEC warnings have not subdued ICOs. This Comment presents a new legal framework that meets the interests of the SEC, investors, and the innovative companies in the cryptocurrency industry.

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INTRODUCTION

What do Floyd Mayweather, Paris Hilton, and DJ Khaled each have in common? They have each helped endorse a new method of raising capital called an initial coin offering (ICO).[1] The rise in value of cryptocurrencies, like Bitcoin, has led to billions being raised by emerging technology companies through ICOs. This Comment provides a primer on blockchain technology, assesses the risks of investing in an ICO, and proposes a new regulatory framework based on the existing structure for Special Purpose Acquisition Companies that protects retail investors from fraud without stifling innovation in the blockchain and cryptocurrency industry.

A cryptocurrency is a digital currency that uses encryption techniques to verify transactions and make them more secure. The innovation that allows cryptocurrencies to exist is called blockchain technology.[2] A blockchain is a decentralized digital ledger that keeps track of all the transactions using a peer-to-peer verification system. An ICO occurs when developers sell "tokens" of a new cryptocurrency that allow exclusive future network access in return for capital to fund the network's development.[3] Some bad actors have used ICOs in an attempt to issue securities without complying with regulations; however, most genuinely believe in the utility of the token as its defining feature. Unlike investors in initial public offerings (IPOs), investors in ICOs do not receive economic or voting rights, and these tokens are not listed on stock exchanges or registered with a government entity. However, if a product becomes successful, investors may be able to sell their tokens to others who want access for a profit.

Developers usually hold an ICO after publicizing a technical white paper just a few pages long explaining their idea for a product. Investors are willing to part with their money due to speculation that the tokens they receive will

1. Nathaniel Popper, *How Floyd Mayweather Helped Two Young Guys From Miami Get Rich*, N.Y. TIMES (Oct. 27, 2017), https://www.nytimes.com/2017/10/27/technology/how-floyd-mayweather-helped-two-young-guys-from-miami-get-rich.html. For the SEC's response to celebrity initial coin offering (ICO) endorsements, see Nathaniel Popper, *S.E.C. Warns Celebrities Endorsing Virtual Money*, N.Y. TIMES (Nov. 1, 2017), https://www.nytimes.com/2017/11/01/business/sec-warns-celebrities-endorsing-virtual-money.html.
2. For one of the first books to explain why blockchain technology will fundamentally change the internet, what it does, and how we use it, see generally DON TAPSCOTT & ALEX TAPSCOTT, BLOCKCHAIN REVOLUTION: HOW THE TECHNOLOGY BEHIND BITCOIN IS CHANGING MONEY, BUSINESS, AND THE WORLD (2016).
3. Mike Orcutt, *What the Hell Is an Initial Coin Offering?*, MIT TECH. REV. (Sept. 6, 2017), https://www.technologyreview.com/s/608799/what-the-hell-is-an-initial-coin-offering [https://perma.cc/AZ7V-2YCH].

increase in value over time, which they can sell in secondary markets. In 2017, over 900 ICOs raised a total of over $5.6 billion and the market grew nearly a hundredfold.[4] In the first quarter of 2018, the ICO market surpassed its entire 2017 record by raising $6.3 billion by the end of the first quarter.[5]

Some ICOs have become successful by funding useful and novel products that result in investors making extraordinary profits. However, there has also been significant fraud by parties conducting these offerings. Without any of the required disclosures or restrictions on conditioning markets that are imposed on traditional securities, ICO scammers have been able to disappear with hundreds of millions of dollars from investors who were promised the opportunity to invest in the next big startup project. Ernst & Young has reported that over 10 percent of all funds raised by ICOs have been stolen, or about $1.5 million stolen per month, after analyzing 372 ICOs.[6] Scammers exploit this new industry by publicizing products that are impossible to develop (even with blockchain technology), or that they have no intention of ever actually developing. In addition to their potential to defraud retail investors, cryptocurrencies also pose the risk of a price crash if investors suddenly lose confidence.[7]

The sheer amount of money involved has raised a key question for venture capitalists, retail investors, and regulators alike, which this Comment explores: Is an ICO a security offering? Determining whether a token is a security offering requires application of the *Howey* test. The final element of the test requires profits to be derived solely from the efforts of others.[8] Although some tokens are

4. Oscar Williams-Grut, *Only 48% of ICOs Were Successful Last Year—But Startups Still Managed to Raise $5.6 Billion*, BUS. INSIDER (Jan. 31, 2018, 1:44 AM), http://www.businessinsider.com/how-much-raised-icos-2017-tokendata-2017-2018-1 [https://perma.cc/TJ66-3NSD]; Holden Page, *2017's ICO Market Grew Nearly 100x From Q1 to Q4*, CRUNCHBASE (Jan. 11, 2018), https://news.crunchbase.com/news/2017s-ico-market-grew-nearly-100x-q1-q4 [https://perma.cc/FZC7-KXGM].

5. David Floyd, *$6.3 Billion: 2018 ICO Funding Has Passed 2017's Total*, COINDESK (Apr. 19, 2018, 10:23 AM), https://www.coindesk.com/6-3-billion-2018-ico-funding-already-outpaced-2017 [https://perma.cc/6SWY-NLY3]; *see also* Allen Scott, *ICOs Raised Over $1 Billion in 2018, and It's Only February*, BITCOINIST (Feb. 26, 2018, 5:30 PM), http://bitcoinist.com/icos-raised-1-billion-2018-february [https://perma.cc/7YAH-GNQ8].

6. Anna Irrera, *More Than 10 Percent of $3.7 Billion Raised in ICOs Has Been Stolen: Ernst & Young*, REUTERS (Jan. 22, 2018, 5:05 AM), https://www.reuters.com/article/us-ico-ernst-young/more-than-10-percent-of-3-7-billion-raised-in-icos-has-been-stolen-ernst-young-idUSKBN1FB1MZ [https://perma.cc/8VCW-EPBB].

7. The Deutsche Bank listed a cryptocurrency crash among its worries for global financial markets in 2018. Kevin McCoy, *'Bitcoin Crash' Among 2018 Worries for Financial Markets, Deutsche Bank Warns*, USA TODAY (Dec. 8, 2017, 2:07 PM), https://www.usatoday.com/story/money/2017/12/08/bitcoin-crash-among-2018-worries-financial-markets-deutsche-bank-warns/934364001[https://perma.cc/L3QY-C4KF].

8. SEC v. W. J. Howey Co., 328 U.S. 293, 298–99 (1946).

clearly securities, most are argued to be "utility tokens." Proponents of ICOs argue that the value of these tokens is derived from its utility of allowing the owner to use the network, rather than from the efforts of others.

On July 25, 2017, the Securities and Exchange Commission (SEC) announced that a particular ICO was in fact a security offering, but it declined to apply this determination to all past and future ICOs.[9] Instead, the commission will review such "offerings" on an ad hoc basis for securities violations. This decision has not stopped most companies from publicizing their new token ideas and offering them to the public without any legally binding obligations. The decision only confirmed that tokens with features identical to a security were in fact securities. It did not clear the confusion regarding "utility tokens," the tokens that allow exclusive access to a network. The difficulty in applying the *Howey* test to ICOs has resulted in the SEC forming a new cyber unit to investigate ICOs on an ad hoc basis.[10]

This Comment presents a new regulatory framework for ICOs that is based on the model of Special Purpose Acquisition Companies (SPACs) and will protect retail investors without stifling innovation. Part I serves as a detailed primer on blockchain technology, smart contracts, and ICOs to give the reader the background knowledge required to assess the legal landscape. Part II summarizes current U.S. law on cryptocurrencies. Part II also summarizes the position of foreign jurisdictions, analyzes ICOs under the *Howey* test, and discusses the Simple Agreement for Future Tokens (SAFT). Finally, Part III proposes a new framework for utility tokens based on current regulations for Special Purpose Acquisition Companies (SPACs), which are public corporations formed to seek public funding for a merger or acquisition. This framework will allow retail investors access to investment opportunities while implementing measures to protect them from fraud. Since companies that hold ICOs are generally newly founded and lack capital, this new framework scraps the expensive auditing and underwriting requirements but retains SEC disclosures and preapproval to protect investors from fraud.

9. SEC, REPORT OF INVESTIGATION PURSUANT TO SECTION 21(A) OF THE SECURITIES EXCHANGE ACT OF 1934: THE DAO (2017), https://www.sec.gov/litigation/investreport/34-81207.pdf.

10. *See* Press Release, SEC, SEC Announces Enforcement Initiatives to Combat Cyber-Based Threats and Protect Retail Investors (Sept. 25, 2017), https://www.sec.gov/news/press-release/2017-176 [https://perma.cc/8L76-22VK].

I. WHAT IS BLOCKCHAIN TECHNOLOGY?

The technological foundation that enables Bitcoin and other cryptocurrencies is called blockchain. With another technology called "smart contracts," blockchain allows for the creation and sale of new virtual coins or "tokens." Smart contracts allow for automated transactions once parties meet the terms specific to their agreement. Understanding blockchain and smart contracts is essential to fully grasping the procedure behind an Initial Coin Offering (ICO). In this part, I summarize the history of Bitcoin and explain blockchain technology. Then, I describe smart contracts and how they gave rise to the creation of new tokens and eventually to ICOs. Finally, I explain ICOs and how they link blockchain and smart contract technology to enable emerging technology companies to sell new tokens to retail investors and thereby fund the development of new products.

A. Blockchain Technology and Bitcoin

The birth of blockchain technology came with the creation of Bitcoin (or BTC).[11] In October 2008, an anonymous author or anonymous group, using the pseudonym Satoshi Nakamoto,[12] published a white paper online describing the Bitcoin network, an electronic cash system that verifies transactions through a peer-to-peer network.[13] Bitcoin allows consumers to replicate the characteristics of an in-person cash transaction while making a purchase over the internet. The buyer and seller are anonymous and the transfer of payment is instant, immutable, and does not rely on verification from a central bank.[14] There are many theories as to what motivated Nakamoto to create Bitcoin, but the most accepted theory is that Bitcoin's creation was a response to the 2008 financial

11. *See* Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN (2008), https://bitcoin.org/bitcoin.pdf; *see also An Abridged History of Bitcoin*, N.Y. TIMES (Nov. 19, 2013), http://www.nytimes.com/interactive/technology/bitcoin-timeline.html?mcubz=0#/#time284_8156.
12. Until this day, it is unclear who Satoshi Nakamoto is and whether he/she/they is still alive after the disappearance in April of 2011. For an in-depth look at the mystery of Satoshi Nakamoto, see *Banking on Bitcoin*, NETFLIX (2016); Martin O'Leary, *The Mysterious Disappearance of Satoshi Nakamoto, Founder & Creator of Bitcoin*, HUFFINGTON POST (May 8, 2015, 3:48 PM), https://www.huffingtonpost.com/martin-oaleary/the-mysterious-disappeara_2_b_7217206.html [https://perma.cc/JKN6-ZC6R]; Nathaniel Popper, *Decoding the Enigma of Satoshi Nakamoto and the Birth of Bitcoin*, N.Y. TIMES (May 15, 2015), https://www.nytimes.com/2015/05/17/business/decoding-the-enigma-of-satoshi-nakamoto-and-the-birth-of-bitcoin.html?mcubz=0.
13. Nakomoto, *supra* note 11, at 1.
14. *Id.* at 4.

crisis.[15] This theory suggests that Nakamoto was part of the cypherpunks,[16] a group with libertarian values frustrated by invasions of privacy by the federal government, fraudulent acts of bankers,[17] and opaque decisionmaking processes of the Federal Reserve.[18]

Blockchain technology proponents claim that it will be a driving force of the Fourth Industrial Revolution—changing the financial system the way that the internet changed how we access media and information.[19] Nevertheless,

15. *See An Abridged History of Bitcoin*, *supra* note 11; Maria Bustillos, *The Bitcoin Boom*, NEW YORKER (Apr. 1, 2013), https://www.newyorker.com/tech/elements/the-bitcoin-boom [https://perma.cc/YJ3E-MZKN] ("Nakamoto was very clearly motivated in this effort by the fallout from the 2008 financial crisis.").

16. *See* Adrian Chen, *We Need to Know Who Satoshi Nakamoto Is*, NEW YORKER (May 9, 2016), https://www.newyorker.com/business/currency/we-need-to-know-who-satoshi-nakamoto-is [https://perma.cc/ST3V-K9NQ] ("Beginning in the early nineteen-nineties, Cypherpunks promoted an extreme form of libertarianism, in which all forms of commerce—in anything imaginable—existed beyond state control. This would be enabled by advances in cryptographic software that could utterly obscure users' identities . . . ."); Jameson Lopp, *Bitcoin and the Rise of the Cypherpunks*, COINDESK (Apr. 12, 2016, 5:43 AM), https://www.coindesk.com/the-rise-of-the-cypherpunks [https://perma.cc/Y4QL-E4WM].

17. *See* Chris Isidore, *35 Bankers Were Sent to Prison for Financial Crisis Crimes*, CNN: MONEY (Apr. 28, 2016, 6:53 AM), http://money.cnn.com/2016/04/28/news/ companies/bankers-prison/index.html [https://perma.cc/S3TD-4JHG]; *cf.* William D. Cohan, *How Wall Street's Bankers Stayed Out of Jail*, ATLANTIC (Sept. 2015), https://www.theatlantic.com/magazine/archive/2015/09/how-wall-streets-bankers-stayed-out-of-jail/399368 [https://perma.cc/TT74-G6EN].

18. *See* Andy Greenberg, *Crypto Currency*, FORBES: SECURITY (Apr. 20, 2011, 6:00 PM), https://www.forbes.com/forbes/2011/0509/technology-psilocybin-bitcoins-gavin-andresen-crypto-currency.html [https://perma.cc/W9JR-GHNC] ("[Bitcoin] isn't subject to the inflationary whim of whatever Federal Reserve chief decides to print more money . . . . Nakamoto has compared Bitcoin to the systems of anonymous financial transactions sought by the anarchist cypherpunk movement in the 1990s, whose adherents saw cryptography as a way to shift power from institutions to individuals."); *see also* Stan Higgins & Wolfie Zhao, *'Buy Bitcoin' Sign Raised as Fed Chair Janet Yellen Testifies Before Congress*, COINDESK (July 12, 2017, 6:29 PM), https://www.coindesk.com/buy-bitcoin-sign-raised-feds-janet-yellen-testifies-congress [https://perma.cc/S8MF-4XBD] (describing how, in a show of disapproval, an attendee encouraged viewers of Federal Reserve Chair Yellen's testimony to buy Bitcoin).

19. *See* BHANU BAWEJA ET AL., UBS, EXTREME AUTOMATION AND CONNECTIVITY: THE GLOBAL, REGIONAL, AND INVESTMENT IMPLICATIONS OF THE FOURTH INDUSTRIAL REVOLUTION (World Econ. Forum, 2016), https://www.ubs.com/global/en/about_ubs/follow_ubs/highlights/davos-2016/_jcr_content/par/columncontrol/col1/actionbutton.1562449048.file/bGluay9wYXRoPS9jb250ZW50L2RhbS91YnMvZ2xvYmFsL2Fib3V0X3Vicy9mb2xsb3ctdWJzL3dlZi13aGl0ZS1wYXBlci0yMDE2LnBkZg==/wef-white-paper-2016.pdf; Vinay Gupta, *A Brief History of Blockchain*, HARV. BUS. REV. (Feb. 28, 2017), https://hbr.org/2017/02/a-brief-history-of-blockchain [https://perma.cc/DX5U-LM98] ("Almost every financial institution in the world is doing blockchain research at the moment, and 15% of banks are expected to be using blockchain in 2017."); Joichi Ito, Neha Narula & Robleh Ali, *The Blockchain Will Do to the Financial System What the Internet Did*

blockchain technology may be one of the least understood technologies available today.[20] This is likely because of the intimidating features of blockchain, like the complex cryptographic mathematics involved in keeping transactions anonymous, secure, and verified.[21] However, understanding these complexities is unnecessary to grasp blockchain is: a decentralized digital ledger.[22]

A ledger is a database, much like an Excel spreadsheet, that can store various information. Currently, most of our transactions are verified by a trusted third party that records the transactions on a centralized ledger. The ledger is centralized because it is stored and protected by a single entity. For most transactions in the United States, this entity is one of the major banks, which are regulated by the Federal Reserve.[23] The Federal Reserve keeps track of all transfers of money between member banks, a requirement for member banks to meet their membership requirements and to identify where money is kept.[24] When a person makes an in-person purchase using cash, they avoid the need to provide additional information or for an intermediary to validate the transaction because the exchange of goods is immediate and physically present. Assuming its validity, people know the value of a dollar when they see it. However, since the creation of the internet, there had not been a way to replicate this experience online, for one cannot exchange physical bills. For example, in order to make a

to Media, HARV. BUS. REV. (Mar. 9, 2017), https://hbr.org/2017/03/the-blockchain-will-do-to-banks-and-law-firms-what-the-internet-did-to-media [https://perma.cc/S7GR-MVJN]; Oscar Williams-Grut, *Goldman Sachs: 'The Blockchain Can Change . . . Well Everything'*, BUS. INSIDER (Dec 2, 2015, 10:58 AM), http://www.businessinsider.com/goldman-sachs-the-blockchain-can-change-well-everything-2015-12?r=UK&IR=T [https://perma.cc/PQ4Z-8YSL].

20. SHAWN S. AMUIAL, JOSIAS N. DEWEY & JEFFREY R. SEUL, THE BLOCKCHAIN: A GUIDE FOR BUSINESS & BUSINESS PROFESSIONALS § 1:2 (2016).
21. *Id.*
22. *Id.* In an attempt to encourage others to learn about blockchain, some authors have taken to the task of explaining Bitcoin in terms that a young child would understand. *See* Nik Custodio, *Explain Bitcoin Like I'm Five* (Dec. 12, 2013), https://medium.freecodecamp.org/explain-bitcoin-like-im-five-73b4257ac833 [https://perma.cc/7N45-6NYW]; Tony Diepenbrock IV, *How to Explain Bitcoin to a 7-Year-Old,* MEDIUM (May 4, 2013), https://medium.com/bitcoins-digital-currency/how-to-explain-bitcoin-to-a-7-year-old-a9a8c094feaf [https://perma.cc/F2RV-5DVM].
23. *See How Currency Gets Into Circulation*, FED. RES. BANK N.Y. https://www.newyorkfed.org/aboutthefed/fedpoint/fed01.html [https://perma.cc/YA38-W7V7] (explaining some of the regulations imposed on banks and the circulation of currency).
24. *See Annual Report—2017: Supervision and Regulation*, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM (last updated July 19, 2018). *But see* Mark Koba, *The Federal Reserve: CNBC Explains*, CNBC (July 28, 2011, 12:43 PM), https://www.cnbc.com/id/43752521 [https://perma.cc/8ZHQ-CX36] ("[M]ost people have little idea how the Fed works, what it actually does and why its decisions have so much impact.").

purchase on Amazon, he or she has to input credit card or bank account information, along with name, address, and other data required to verify the transaction and mitigate fraudulent conduct.[25]

Blockchain technology allows for two parties to conduct a transaction online without the need of a trusted third party, like the Federal Reserve, to verify the exchange.[26] The ledger is stored in blocks of information on thousands of computers on the network and is public for everyone to examine; this is what makes it decentralized.[27] The computers on the network, called nodes, are connected via the internet, and the owners of the nodes are called miners.[28] The nodes are completely decentralized because they are not connected to a single server but rather each store a copy of the ledger.[29] Together, these nodes work to maintain the network and verify transactions.[30] Each cryptocurrency has its own independent blockchain network with its own ledger and nodes.

The digital ledger is a chronological record of transactions verified by the nodes active on the Bitcoin network. Each transaction is a block on the chain and is timestamped and verified by a consensus, an agreement between the majority of the nodes.[31] To verify a transaction, the nodes exercise the sum of their computer processing power to solve a complex mathematical problem using information provided by each party in the transaction.[32] Once validated, the transaction becomes a permanent part of the updated ledger.[33] This process is

25. For best practices on shopping online securely, see *Shopping Online*, FED. TRADE COMMISSION: CONSUMER INFORMATION, https://www.consumer.ftc.gov/articles/0020-shopping-online [https://perma.cc/SAC9-XEE9]; *Internet Shopping: How to Buy Online*, DIGITAL UNITE, https://www.digitalunite.com/guides/shopping-banking/online-shopping/internet-shopping-how-buy-online [https://perma.cc/2U77-NUXT].
26. *See* AMUIAL ET AL., *supra* note 20; Nakamoto, *supra* note 11, at 1.
27. *See* Sloane Brakeville & Bhargav Perepa, *Blockchain Basics: Introduction to Distributed Ledgers*, IBM DEVELOPER (Mar. 18, 2018), https://www.ibm.com/developerworks/cloud/library/cl-blockchain-basics-intro-bluemix-trs/index.html [https://perma.cc/7YV8-RQ6Y].
28. *See* Daniel Cawrey, *What Are Bitcoin Nodes and Why Do We Need Them?*, COINDESK (May 9, 2014, 11:12 AM), https://www.coindesk.com/bitcoin-nodes-need [https://perma.cc/2HUQ-BCB2] (explaining that "miners" and "mining" are colloquial terms that reference nodes, essentially meaning the same thing).
29. *See* Jonathan Chester, *The Battle for Bitcoin: What You Need to Know About Bitcoin and Bitcoin Cash*, FORBES (Nov. 27, 2017, 7:04 AM), https://www.forbes.com/sites/jonathanchester/2017/11/27/the-battle-for-bitcoin-what-you-need-to-know-about-bitcoin-and-bitcoin-cash/#1b443f4d331f [https://perma.cc/RZ42-XR4H].
30. *See id.*
31. This process generally applies to most cryptocurrency networks. *See* Scott J. Shackelford & Steve Myers, *Block-by-Block: Leveraging the Power of Blockchain Technology to Build Trust and Promote Cyber Peace*, 19 YALE J.L. & TECH. 334, 340 (2017).
32. *See* Nakamoto, *supra* note 11, at 3.
33. *See* AMUIAL ET AL., *supra* note 20, § 1:5.

called mining because miners are compensated for each verified transaction in the form of newly minted Bitcoin,[34] which was Nakamoto's way of incentivizing participation on the network.[35] For Bitcoin, the more nodes that join the network, the more complex the mathematical equation becomes to ensure that a minority of the nodes cannot double-spend the funds being transferred—in other words, falsify a transaction—by solving the problem before the consensus.[36] This has proven extremely effective since there is no record of hackers successfully redirecting funds in Bitcoin.[37] Since the ledger is stored on each node and available to the public, it is impossible for an entity to add counterfeit Bitcoin to their holdings. Miners may continue to earn newly minted Bitcoin until the number in circulation reaches twenty-one million, which is the cap originally set by Nakamoto, and it is predicted that the network will reach the cap in the year 2140.[38] At that point, miners will be rewarded solely by transaction fees paid by users spending Bitcoin.[39] Nakamoto supposedly capped the supply because of their antipathy to the inflationary practices of government-backed currencies;[40] however, it is uncertain why they chose twenty-one million as the cap.[41]

Bitcoin is fungible worldwide, and its attractive features as a currency, deflationary store-of-value, and limited supply have resulted in such a high

34. *See* Noelle Acheson, *How Bitcoin Mining Works*, COINDESK (Jan. 29, 2018), https://www.coindesk.com/information/how-bitcoin-mining-works [https://perma.cc/82LU-MV3P]; *see also* Nakamoto, *supra* note 11, at 4.
35. *See* Nakamoto, *supra* note 11, at 4.
36. *Id.* at 3 ("To compensate for increasing hardware speed and varying interest in running nodes over time, the proof-of-work difficulty is determined by a moving average targeting an average number of blocks per hour. If they're generated too fast, the difficulty increases.").
37. *See* AMUIAL ET AL., *supra* note 20, § 3:3.
38. *See* Mark Abell, Simon Fielder & Mumuksha Singh, *Bitcoin and International Franchising*, 12 INT'L J. FRANCHISING L. 33, 35 (2014); Ali Raza, *Bitcoin's Price Continues to Rise—Analyst Says It'll Reach $100,000 in Next 10 Years*, MERKLE (June 14, 2017), https://themerkle.com/bitcoin-price-continues-to-rise [https://perma.cc/6V2R-CMHF]; *see also* R.A., *Bitcoin: New Money*, ECONOMIST: FREE EXCHANGE (Mar. 17, 2014), https://www.economist.com/blogs/freeexchange/2014/03/bitcoin [https://perma.cc/TPW2-WQGE].
39. Nakamoto, *supra* note 11, at 4 ("Once a predetermined number of coins have entered circulation, the incentive can transition entirely to transaction fees and be completely inflation free.").
40. *See* Stephen Small, Comment, *Bitcoin: The Napster of Currency*, 37 HOUS. J. INT'L L. 581, 590 (2015) ("[S]imilar to gold and silver, Bitcoin has an internal check against inflation that most current globally recognized currencies do not have." (citation omitted)).
41. *See* Philip Raymond, *Why Is Bitcoin Capped at 21M Units?*, LINKEDIN: PULSE (July 13, 2016), https://www.linkedin.com/pulse/why-bitcoin-capped-21m-units-phil-raymond [https://perma.cc/7BSE-JQ9Z].

value. Since Bitcoin is not backed by the trust of a central authority, its value is derived solely by market forces.[42] Demand for Bitcoin stems from its security, speed, anonymity, and convenience.[43] Currently, credit card providers charge merchants expensive transaction fees in order to offset the inevitable losses caused by fraudulent and other nonreversible transactions.[44] The peer-to-peer verification and distributed feature of Bitcoin allows users to send payments across the globe instantly with lower transaction fees because it eliminates the threat of fraud.[45] Bitcoin's fungibility allows for users to also bypass fees associated with currency exchange. For example, a Bitcoin owner in the United States can send Bitcoin to a person in Japan, where over 260,000 merchants accept Bitcoin,[46] and the recipient can make purchases without paying to convert it into Yen. The first purchase made with Bitcoin was for a 2010 pizza delivery in Jacksonville, Florida costing 10,000 Bitcoin.[47] Today, Microsoft, Dell, and Overstock.com are leading the way by accepting Bitcoin as a form of payment. In the United States, some political candidates are accepting Bitcoin as campaign donations.[48] Globally, several cities and even some U.S. states are accepting Bitcoin for payment of tax liabilities or rent.[49] As of October 16, 2018, Bitcoin's

42. Compared to the value of the dollar being determined partly due to trust in the United States Federal Government.

43. *See generally* Jason Bloomberg, *What Is Bitcoin's Elusive Intrinsic Value?*, FORBES (June 26, 2017, 5:22 PM), https://www.forbes.com/sites/jasonbloomberg/2017/06/26/what-is-bitcoins-elusive-intrinsic-value [https://perma.cc/L6WA-J8WB] (explaining the features of bitcoin that provide its intrinsic value); Joe Weisenthal, *Here's the Answer to Paul Krugman's Difficult Question About Bitcoin*, BUS. INSIDER (Dec. 20, 2013, 12:04 PM), http://www.businessinsider.com/why-bitcoin-has-value-2013-12 [https://perma.cc/H8WZ-JB8G].

44. *See* Nakamoto, *supra* note 11, at 1.

45. ANDRUS ISTOMIN, BITCOIN: EVERYTHING YOU NEED TO KNOW ABOUT BITCOIN, HOW TO MINE BITCOIN, HOW TO BUY BTC AND HOW TO MAKE MONEY WITH BITCOIN 29 (2017).

46. Business Insider Intelligence, *Bitcoin Acceptance Growing in Japan*, BUS. INSIDER (Apr. 7, 2017, 10:11 AM), http://www.businessinsider.com/bitcoin-acceptance-growing-in-japan-2017-4 [https://perma.cc/JF4S-PAZ6].

47. As of November 27, 2017, those two pizzas are now worth almost $100,000,000. Rob Price, *Someone in 2010 Bought 2 Pizzas With 10,000 Bitcoins—Which Today Would Be Worth $100 Million*, BUS. INSIDER (Nov. 28, 2017, 3:04 PM), https://www.businessinsider.com/bitcoin-pizza-10000-100-million-2017-11?r=UK&IR=T [https://perma.cc/KY4M-CZXQ]; Alyssa Newcomb, *'Bitcoin Pizza Day': Why 2 Pies Are Now Worth $5 Million*, ABC NEWS (May 22, 2014), http://abcnews.go.com/Technology/bitcoin-pizza-day-pies-now-worth-million/story?id=23824128 [https://perma.cc/VJZ6-SYXR].

48. *See* Stan Higgins, *Congressional Candidate Now Accepting Bitcoin Donations for 2018 Election*, COINDESK (Aug. 23, 2017, 8:49 AM), https://www.coindesk.com/congressional-candidate-now-accepting-bitcoin-donations-2018-election [https://perma.cc/S2SS-ZXLE].

49. *See, e.g.*, *Bitcoin Rent Payment Coming to Dubai's City Walk*, TIME OUT: DUBAI, (Sept. 17, 2017, 1:19 PM) http://www.timeoutdubai.com/aroundtown/news/79009-bitcoin-rent-payment-coming-to-dubais-city-walk?utm_content=bufferfbb1a&utm_medium=

market capitalization is valued at over $114 billion and each Bitcoin is worth over $6500.[50]

Acquiring, sending, and receiving Bitcoin on the network is simple. Bitcoin can be purchased on an exchange, like Coinbase, by transferring funds from a bank account or with a credit card. The purchased Bitcoin can be stored on that exchange, a digital wallet (software that secures Bitcoin on a device), or an external hard drive. Each wallet has two keys: a public key and a private key. The public key identifies the address of the wallet (akin to an email address), while the private key acts as a password to allow access to the wallet and a signature to authorize transactions.[51] To send Bitcoin, the wallet owner specifies the amount of Bitcoin being sent, enters the public key it is being sent to, and authorizes the transaction by entering her private key. The transaction is instant, immutable, and, because the public keys hold no identification information, completely anonymous.[52]

social&utm_source=twitter.com&utm_campaign=buffer [https://perma.cc/NT6G-J27E]; Stan Higgins, *Arizona's Bitcoin Tax Bill Just Got a Big Vote of Confidence*, COINDESK (Mar. 8, 2018, 9:20 AM), https://www.coindesk.com/arizona-bitcoin-tax-bill-vote-of-confidence [https://perma.cc/HB66-GFPQ]; David Meyer, *This Place Lets You Pay Your Taxes in Bitcoin*, FORTUNE: THE LEDGER (Sept. 12, 2017), http://fortune.com/2017/09/12/switzerland-chiasso-bitcoin-tax-zug [https://perma.cc/FA8M-CSGJ].

50. Calculating the actual value of Bitcoin has brought polarizing opinions. Some compare it to the Dutch Tulip Bubble of the 1600s. *See, e.g.*, J. Scott Colesanti, *Trotting out the White Horse: How the S.E.C. Can Handle Bitcoin's Threat to American Investors*, 65 SYRACUSE L. REV. 1, 8 (2014). Jamie Dimon, CEO of JPMorgan, infamously called Bitcoin a fraud and claimed he would fire any JPMorgan trader trading Bitcoin because "it's against [their] rules and they are stupid." Fred Imbert, *JPMorgan CEO Jamie Dimon Says Bitcoin Is a 'Fraud' That Will Eventually Blow Up*, CNBC (Sept. 12, 2017, 1:27 PM), https://www.cnbc.com/2017/09/12/jpmorgan-ceo-jamie-dimon-raises-flag-on-trading-revenue-sees-20-percent-fall-for-the-third-quarter.html [https://perma.cc/CW8S-MSAG]. John McAfee made a vulgar bet online that each Bitcoin will be worth $500,000 by 2020. Shawn Langlois, *Cybersecurity Legend Bets His Manhood Bitcoin Reaches $500,000 Within Three Years*, MARKETWATCH (July 18, 2017, 3:42 PM), https://www.marketwatch.com/story/cybersecurity-legend-bets-his-manhood-that-bitcoin-reaches-500000-mark-with-three-years-2017-07-18; *see also* Tanzeel Akhtar, *Bitcoin Will Reach $400,000, Says Investor Mark Yusko*, THESTREET (Nov. 12, 2017, 6:42 AM), https://www.thestreet.com/story/14387100/1/bitcoin-will-reach-400-000-says-investor-mark-yusko.html [https://perma.cc/XN5U-AECT].

51. Alice Huang, *Reaching Within Silk Road: The Need for a New Subpoena Power That Targets Illegal Bitcoin Transactions*, 56 B.C. L. REV. 2093, 2101 (2015).

52. Nakamoto, *supra* note 11, at 6; *see also* Adam Ludwin, *How Anonymous Is Bitcoin?*, COIN CTR. (Jan. 20, 2015) (explaining that Bitcoin is anonymous but not private), https://coincenter.org/entry/how-anonymous-is-bitcoin [https://perma.cc/Y73N-W9XP].

The Bitcoin network has inspired the development of other blockchain networks, like Ethereum (or ETH), the most prominent implementation of smart contracts.[53]

B. Smart Contracts and Ethereum

The term "smart contracts" was coined in the mid–1990s by Nick Szabo, the developer of a failed electronic payment system called BitGold.[54] Although there is no universal definition for smart contracts, they have been described as "self-executing electronic instructions drafted in computer code."[55] Joe Dewey and Shawn Amuial, respectively a partner and an associate at the mega-firm Holland & Knight, define smart contracts with three elements: "i) the transaction must involve more than the mere transfer of a virtual currency from one person to another (i.e., a payment transfer), ii) the transaction involves two or more parties (as every contract must), and iii) the implementation of the contract requires no direct human involvement after the smart contract has been made a part of the blockchain."[56]

In practice, smart contracts allow for automated execution of an agreement once the predetermined conditions are met by the agreement's parties.[57] The terms of the contract are written into the code of blockchain and once a triggering event, like an expiration date or receipt of shipment, occurs, the contract executes itself per the encoded terms.[58] Although the code may not be

53. *See* Alyssa Hertig, *How Ethereum Works*, COINDESK, https://www.coindesk.com/information/how-ethereum-works [http://perma.cc/HB95-LJSX].

54. Elizabeth Sara Ross, *Nobody Puts Blockchain in a Corner: The Disruptive Role of Blockchain Technology in the Financial Services Industry and Current Regulatory Issues*, 25 CATH. U. J.L. & TECH 353, 365 (2017).

55. Reggie O'Shields, *Smart Contracts: Legal Agreements for the Blockchain*, 21 N.C. BANKING INST. 177, 179 (2017).

56. Joe Dewey & Shawn Amuial, *What Is a Smart Contract?*, BIG L. BUS. (Sept. 24, 2015), https://biglawbusiness.com/what-is-a-smart-contract [https://perma.cc/96ZE-87N3].

57. Nikhita Suria et al., *Clifford Chance Discusses Smart Contracts*, COLUM. L. SCH.: THE CLS BLUE SKY BLOG (July 19, 2017), http://clsbluesky.law.columbia.edu/2017/07/19/clifford-chance-discusses-smart-contracts [https://perma.cc/LJS5-MCND] ("[A] smart contract is not only executed (in the sense of signed, agreed, or made binding) electronically but also performed electronically—i.e., the fulfilling of the obligations of the parties is not undertaken only by human agents reading and interpreting their obligations under the contract, but at least in part by machines running software code specifically designed to give effect to the contract."); *see also* AMUIAL ET AL., *supra* note 20, § 2:2.

58. *See Smart Contracts: The Blockchain Technology That Will Replace Lawyers*, BLOCKGEEKS, https://blockgeeks.com/guides/smart-contracts [https://perma.cc/6G4Y-PGT2] (predicting that lawyers will begin producing standardized smart contract templates, instead of traditional written contracts).

legally binding, its enforcement is unavoidable.[59] For example, if a landlord agrees to rent out an apartment, the tenant sends payment and receives a digital receipt stating a move-in date. If the landlord does not send a digital key by the move-in date, the payment is reversed and the tenant is automatically refunded instantly. Just like Bitcoin, the transaction is immediate, secure, and if desired, can keep all parties anonymous. The autonomous enforcement and execution of contract terms eliminates the need for a trusted intermediary to conduct the transaction.[60] Autonomous enforcement of the contract also implies automated enforcement remedies, thereby lessening the burden on courts to resolve some contract disputes arising out of nonperformance.[61] This has led proponents of smart contracts to mark the innovation as the beginning of the end for attorneys,[62] but this technology might still be far from replacing the industry.[63]

The idea of smart contracts became reality via blockchain technology when a 21-year-old Canadian-Russian developer named Vitalik Buterin created Ethereum in 2015.[64] In 2014, Buterin and seven other developers held an initial coin offering to raise capital to fund the development of Ethereum.[65] The team raised $18 million and launched Ethereum one year later.[66] Ethereum is "a decentralized platform that runs smart contracts: applications that run exactly as programmed without any possibility of downtime, censorship, fraud or third party interference."[67] Ethereum allows for smart contracts to be encoded into its

59. The term "contract" may mislead the lay person into believing a smart contract is a legally binding document. For an in-depth analysis on the issues around legally binding smart contracts, see SEAN MURPHY & CHARLEY COOPER, CAN SMART CONTRACTS BE LEGALLY BINDING CONTRACTS?: AN R3 AND NORTON ROSE FULBRIGHT WHITE PAPER (2016), http://www.nortonrosefulbright.com/files/r3-and-norton-rose-fulbright-white-paper-full-report-144581.pdf.
60. *See* Carla L. Reyes, Nizan Geslevich Packin & Benjamin P. Edwards, *Distributed Governance*, 59 WM. & MARY L. REV. ONLINE 1, 14 (2017).
61. *See* Shawn Bayern, *Dynamic Common Law and Technological Change: The Classification of Bitcoin*, 71 WASH. & LEE L. REV. ONLINE 22, 34 (2014).
62. *See* BLOCKGEEKS, *supra* note 58.
63. *See* Gary J. Ross, *Why Lawyers Won't Be Replaced by Smart Contracts*, ABOVE L. (Oct. 5, 2017), https://abovethelaw.com/2017/10/why-lawyers-wont-be-replaced-by-smart-contracts [https://perma.cc/N5UX-DWEJ] (arguing that smart contracts are not sophisticated enough to replace attorneys).
64. Alyssa Hertig, *Who Created Ethereum?*, COINDESK, https://www.coindesk.com/information/who-created-ethereum [https://perma.cc/MM9W-BYEB].
65. *See* Andrew Marshall, *Ethereum 101: From Idea to Release*, COINTELEGRAPH, https://cointelegraph.com/ethereum-for-beginners/a-brief-history-of-ethereum-from-vitalik-buterins-idea-to-release [https://perma.cc/H3CV-APTA].
66. *Id.*
67. *What Is Ethereum?*, ETHEREUM HOMESTEAD, http://www.ethdocs.org/en/latest/introduction/what-is-ethereum.html [https://perma.cc/YW4L-NZEX].

own blockchain network.[68] The digital coin for Ethereum is called Ether and its network runs independently from Bitcoin.[69] As of October 17, 2018, a single Ether is valued near $130 with a total market cap valued at over $13 billion.[70]

Companies like Microsoft, IBM, and JPMorgan Chase have dubbed Ethereum as Bitcoin 2.0.[71] The ability to implement smart contracts onto the Ethereum blockchain allows for other developers to build their own application "on-top" of Ethereum, as shown in Figure 1.[72] At first, Microsoft and JPMorgan Chase developed methods to implement Ethereum for use in their databases. However, now the bank has created its own version of Ethereum, called Quorum, and Microsoft has added it to the company's blockchain toolbox.[73]

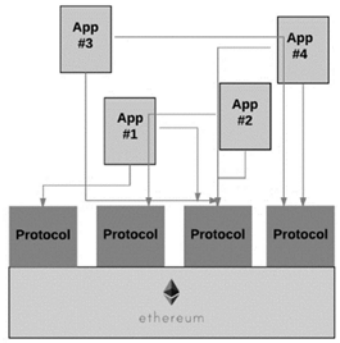

Figure 1: Applications Built on-top of Ethereum

68. *Id.*; *see also What Is Ethereum? A Step-by-Step Beginners Guide*, BLOCKGEEKS, https://blockgeeks.com/guides/ethereum [https://perma.cc/F3WU-CD8A].
69. BLOCKGEEKS, *supra* note 68.
70. According to the leading source for total market capitalization for cryptocurrencies. COINMARKETCAP, https://coinmarketcap.com [https://perma.cc/T59S-RYWK].
71. *See* Nathanial Popper, *Ethereum, a Virtual Currency, Enables Transactions That Rival Bitcoin's*, N.Y. TIMES (Mar. 27, 2016), https://www.nytimes.com/2016/03/28/business/dealbook/ethereum-a-virtual-currency-enables-transactions-that-rival-bitcoins.html.
72. *See* Peter Van Valkenburgh, W*hat Does It Mean to Issue a Token "on Top of" Ethereum?*, COIN CTR. (May 10, 2017), https://coincenter.org/entry/what-does-it-mean-to-issue-a-token-on-top-of-ethereum [https://perma.cc/F8NZ-3YKK] ("[W]hy create another new token?! The simple answer is that even in the real world we often use all sorts of items rather like we use cash. We use tickets, coupons, stock and bond certificates, vouchers, food stamps, deeds, and a variety of other bearer instruments because they entitle the holder to different things.").
73. Michael del Castillo, *Microsoft Adds JPMorgan's 'Quorum' Blockchain to Azure Platform*, COINDESK (Feb. 28, 2017, 4:41 PM), https://www.coindesk.com/microsoft-azure-jpmorgans-quorum-blockchain [http://perma.cc/7Z2Z-YBJS]; Emily Glazer, *JPMorgan Quietly Tests 'Blockchain' With 2,200 Clients*, WALL STREET J. (Feb. 22, 2016, 7:04 PM), https://www.wsj.com/articles/one-place-j-p-morgan-is-boosting-spending-fintech-1456172040?mg=prod/accounts-wsj.

Autonomous Research has estimated that implementing smart contracts can reduce the $54 billion banks spend on annual clearings and settlements by $16 billion.[74] The global financial industry is racing to cut costs by developing blockchain networks that implement smart contracts to automatically resolve their disputes.[75] IBM Global Financing has been able to reduce time spent on financial disputes by 75 percent by implementing blockchain and smart contract technology.[76] The City of Dubai plans on using blockchain and smart contracts to release 100 percent of its government documents (e.g., passports) by the year 2020.[77] Dubai estimates savings of $5.5 billion each year, along with faster and more secure document processing for immigration, citizenship, and other items.[78] In 2017, at least eight U.S. states have worked on bills to begin using blockchain technology and accept cryptocurrencies as a form of payment.[79]

The implementation of smart contracts is also useful for everyday consumers. People around the world will gain the ability to negotiate terms of contracts online using smart contracts.[80] In addition, there are prototypes of household machines that have smart contracts implemented into their design to provide convenience for consumers.[81] There are hundreds of other applications of smart contracts currently being developed by new companies that are funding their networks using a new capital raising method: ICOs.

74. Telis Demos, *Blockchain Startup Gets Big-Bank Backing*, WALL STREET J. (Jan. 21, 2016, 9:25 PM), https://www.wsj.com/articles/bitcoin-startup-gets-big-bank-backing-1453427906 ("Analysts at Autonomous Research estimate that within five years, blockchain could theoretically cut $16 billion from the $54 billion spent globally on clearing and settlement of trades.").
75. Robert Hackett, *Why Big Business Is Racing to Build Blockchains*, YAHOO! FIN. (Aug. 22, 2017), https://finance.yahoo.com/news/why-big-business-racing-build-103053112.html [https://perma.cc/X97C-6DH9]; Jemima Kelly & Anjuli Davies, *European Banks Risk Lagging Wall Street in Blockchain Race*, REUTERS (Oct. 19, 2016), https://www.reuters.com/article/us-banks-tech-blockchain/european-banks-risk-lagging-wall-street-in-blockchain-race-idUSKCN12J22L [https://perma.cc/F6BK-9P4D].
76. *IBM Blockchain Infographic*, IBM, https://www.ibm.com/blockchain/in-en/infographic/finance.html [https://perma.cc/L3JF-ZVWD].
77. Nikhil Lohadi, *Dubai Aims to Be a City Built on Blockchain*, WALL STREET J. (Apr. 24, 2017, 10:08 PM), https://www.wsj.com/articles/dubai-aims-to-be-a-city-built-on-blockchain-1493086080.
78. *Dubai Blockchain Strategy*, SMART DUBAI, https://smartdubai.ae/en/Initiatives/Pages/DubaiBlockchainStrategy.aspx [https://perma.cc/257W-U5GA].
79. Luke Parker, *US States Working on Blockchain Legislation in 2017*, BRAVE NEW COIN (Apr. 1, 2017, 12:28 AM), https://bravenewcoin.com/news/us-states-working-on-blockchain-legislation-in-2017 [https://perma.cc/7PPS-9SGM].
80. Bayern, *supra* note 61.
81. Take, for example, a laundry machine capable of ordering its own detergent using distributed ledger technology. *See* Carla L. Reyes, *Moving Beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal*, 61 VILL. L. REV. 191, 201 (2016).

C. Initial Coin Offerings: What Are They and How Do They Work?

While Bitcoin was developed solely as a payment transfer system, Ethereum was created to address a more general purpose, allowing others to run customized application codes on the network.[82] For example, a developer can encode the old Windows game "Minesweeper" onto the Ethereum blockchain.[83] The network will record all the actions taken in the game onto the ledger on the nodes of the network.[84] Each of these actions is treated as a transaction and requires a fee to be recorded in order to compensate the miners verifying the record.[85]

Using this same method, developers can encode an application (or smart contract) that disburses a new token in exchange for existing Ether.[86] The new token will grant access to a new product to be developed by the issuer, most likely an app that stores their data on a decentralized cloud network.[87] Developers have taken this a step further and used this method to raise capital via Ether to develop the networks themselves. It has become common for developers to conduct a presale, where these new coins are distributed at a discounted price in exchange for Ether before the proposed network is ready for use.[88] This is called an initial coin offering (ICO). An ICO is thus an unregulated method of crowdfunding a new blockchain network or project.[89]

82. Jacob Eliosoff, *Ethereum for the Overwhelmed Lay Man*, COINDESK (June 25, 2016, 1:00 PM), https://www.coindesk.com/ethereum-overwhelmed-layman [https://perma.cc/ZNY5-9V6B].
83. *See* Van Valkenburgh, *supra* note 72.
84. *Id.*
85. The blockchain and cryptocurrency community refer to this fee as "gas" because it powers the network like it would an engine. *See* Joseph Chow, *Ethereum, Gas, Fuel & Fees*, CONSENSYS (June 23, 2016), https://media.consensys.net/ethereum-gas-fuel-and-fees-3333e17fe1dc [https://perma.cc/NF8F-M578].
86. Although Ether is the most commonly accepted, developers can accept Bitcoin, NXT, or other coins that can support the network. This paper will limit references to Ether for simplicity.
87. *See, e.g.*, SIA, https://sia.tech [https://perma.cc/A3YZ-ER2Q]; STORJ, https://storj.io [https://perma.cc/M82W-G8CA].
88. Nathanial Popper, *An Explanation of Initial Coin Offerings*, N.Y. TIMES (Oct. 27, 2017), https://www.nytimes.com/2017/10/27/technology/what-is-an-initial-coin-offering.html ("[I]n almost every case the services that will supposedly make these coins valuable have not yet been finished.").
89. Alex Wilhelm, *WTF Is an ICO?*, TECHCRUNCH (May 23, 2017), https://techcrunch.com/2017/05/23/wtf-is-an-ico [https://perma.cc/29AW-HST2].

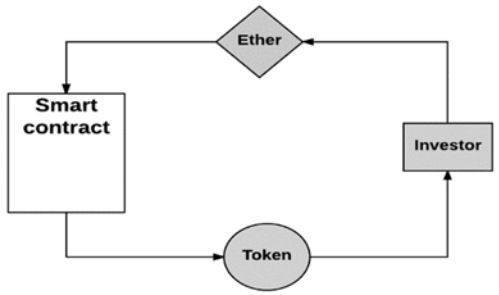

Figure 2: ICO Mechanics

Generally, the developers of the project publish a white paper online that describes the new blockchain project in hopes of enticing investors to participate in the ICO.[90] Although developers can hold an ICO at or after the launch of the network, ICOs almost always occur before the product is in working order. Since there is no working product yet, project teams focus on building confidence and rapport with serious investors to increase the likelihood of receiving funding. There are three ways that teams usually build this confidence: (1) The white paper includes the credentials and professional history of the developers and the rest of the team; (2) the team makes the code for the project publicly available to invite peer-review of their progress; and (3) the team provides a timeline of development and launch.[91]

Once the white paper is released and the project has garnered some interest with investors, the developers hold a presale. The presale is held for a specific period of time and invites investors to exchange their Ether for the project's brand-new token at a discounted price to use in the future. Much like the landlord-tenant example, an investor sends Ether to the developer's public key

90. Connie Loizos, *How to Stage an ICO*, TECHCRUNCH (May 24, 2017), https://techcrunch.com/2017/05/24/how-to-stage-an-ico-and-other-related-questions-you-might-like-answered [http://perma.cc/RL5Q-M7D5].

91. Cal Evans, *How to Develop White Paper for ICO: Do's and Don'ts*, COINTELEGRAPH (Aug. 21, 2017), https://cointelegraph.com/news/how-to-develop-white-paper-for-ico-dos-and-donts [http://perma.cc/5B5F-TYLC]; Alex Lashkov, *How to Write a Good White Paper for ICO: Tips and Examples*, HACKERNOON (Oct. 23, 2017), https://hackernoon.com/how-to-write-a-good-white-paper-for-ico-tips-and-examples-42d71c3fa4fe [https://perma.cc/JPS6-C23C]; Kai Morris, *What Are the Signs of a Great Roadmap?*, CRYPTODISRUPT (May 9, 2018), https://cryptodisrupt.com/what-are-the-signs-of-a-great-roadmap/?cn-reloaded=1 [https://perma.cc/5NCS-56NU].

address and the smart contract automatically sends back the new token in return. This token is exchangeable and usually has value on the secondary market. However, until the project is released, the token has no real use and its value is purely speculative. Moreover, the token is likely to remain illiquid for a significant time until one of the online exchanges decides to support the trading of the token.

It may seem that an ICO has similarities to current fundraising methods—Kickstarter campaigns, early-stage investing, or an initial public offering—but there are major differences. For an ICO, there is generally no face-to-face meeting between investors and developers.[92] Most of the discussions are held online on forums or chat rooms.[93] The tokens that are acquired in an ICO are immediately tradeable for other tokens, but an investor that holds the token does not get to vote on decisions made by developers, nor are investors entitled to assets should the developers decide to dissolve the company.[94] Moreover, there are no disclosures required by law before conducting an ICO. There is no binding promise that the developers will ever even attempt to develop the promised projects. Lastly, there is no explicit law limiting the presale to accredited investors, thus allowing anyone with a bank account or credit card to purchase Ether and participate in the ICO.

The first ICO was held by J.R. Willet for Mastercoin (now called Omni) in 2013 and successfully raised $5 million.[95] Since then, other projects, like Ethereum, have held successful ICOs and launched their networks.[96] However, it was not until 2016 that ICOs boomed in popularity. In 2016, there were 64 ICOs that raised over $100 million.[97] In 2017, there was an exponential increase

92. This has removed the benefit of locating the company in Silicon Valley, where traditional tech companies have rooted themselves to stay close to venture capitalists.

93. Some examples include Steemit, Discord, and Bitcoin.org. Crypotcurrency developers often discuss their whitepapers and attempt to build anticipation for their ICO.

94. Matt Chwierut, *Token Rights: Key Considerations in Crypto-Economic Design*, SMITH & CROWN (Mar. 30, 2017), https://www.smithandcrown.com/token-rights [https://perma.cc/RT8R-ZXCL].

95. Laura Shin, *Here's the Man Who Created ICOs and This Is the New Token He's Backing*, FORBES (Sept. 21, 2017), https://www.forbes.com/sites/laurashin/2017/09/21/heres-the-man-who-created-icos-and-this-is-the-new-token-hes-backing/#213df00e1183 [http://perma.cc/FT4D-PZKJ].

96. For examples, see SIA, https://sia.tech [https://perma.cc/A3YZ-ER2Q]; STORJ, https://storj.io [https://perma.cc/M82W-G8CA], RIPPLE, https://ripple.com [https://perma.cc/3XXS-QCBF], MONERO, https://getmonero.org [https://perma.cc/7GAH-W3EW]; and ZCASH, https://z.cash [https://perma.cc/UNM3-LUR2].

97. Not including DAO, a cryptocurrency project that raised $130 million but did not follow the traditional ICO model (more on this in Part II). Figures are calculated by converting total Ether, Bitcoin, etc. into American dollars. Matt Chwierut, *A Look Back the Major*

in the number of ICOs held and the amounts raised. Through September 2017, ICOs raised $2.27 billion in 2017.[98] Two examples of this boom in ICOs are Trezor and Filecoin. Each company was able to raise over $200 million through their ICOs in 2017. In July, Trezor raised a record $232 million in a matter of days with the help of its famed venture capitalist, Tim Draper.[99] About a month later, Filecoin held its ICO and shattered that record by raising $257 million within hours.[100] Since then, ICOs have continued to grow.

Although there have been a number of successful ICOs with happy investors, there has also been significant fraudulent activity. ICOs are largely unregulated and without best practices, thus giving scammers an opportunity to swindle retail investors into parting with their money without repercussions. One source claims that 46 percent of ICOs in 2017 have already failed "either due to taking the money and running, or slowly fading into obscurity."[101] According to Chainalysis, an investigatory and risk management firm specializing in virtual currencies, almost 10 percent of investments, or about $225 million, has been lost to cybercrime in the cryptocurrency space in the first eight months of 2017.[102] Since then, Ernst & Young has reported that, after analyzing 372 ICOs, over 10 percent of all funds raised by ICOs have been stolen, translating to about $1.5 million stolen per month.[103] After a review of 1450 cryptocurrency offerings, The Wall Street Journal has reported that 271 of the offerings had at

ICOs of 2016, SMITH & CROWN (Dec. 28, 2016), https://www.smithandcrown.com/look-back-icos-2016 [https://perma.cc/E7RB-MDKS].

98. Paul Vigna, *What's an Initial Coin Offering? ICOs Explained in 11 Questions*, WALL STREET J. (Oct. 2, 2017, 5:30 AM), https://www.wsj.com/articles/whats-an-initial-coin-offering-icos-explained-in-11-questions-1506936601.

99. Stan Higgins, *$232 Million: Tezos Blockchain Project Finishes Record-Setting Token Sale*, COINDESK (July 13, 2017, 10:36 AM), https://www.coindesk.com/232-million-tezos-blockchain-record-setting-token-sale [https://perma.cc/8YGF-KJ9S]. Some criticized Tezos for holding an uncapped ICO, raising as much as possible with the only limit being time. Stan Schroeder, *At $200 Million, Tezos ICO Is Already The Biggest Ever, and It's Still Going Strong*, MASHABLE (July 5, 2017), http://mashable.com/2017/07/05/tezos-ico-cryptocurrency-startup/#BJY4hbM.XZqm [https://perma.cc/P8X9-G4WG].

100. Stan Higgins, *$257 Million: Filecoin Breaks All-Time Record for ICO Funding*, COINDESK (Sept. 7, 2017, 8:45 PM), https://www.coindesk.com/257-million-filecoin-breaks-time-record-ico-funding [https://perma.cc/PL2M-RR2E].

101. Kai Sedgwick, *46% of Last Year's ICOs Have Failed Already*, BITCOIN.COM (Feb. 23, 2018), https://news.bitcoin.com/46-last-years-icos-failed-already [https://perma.cc/8F5Z-T6YY].

102. Camilla Hodgson, *Almost 10% of All Money Invested in Initial Coin Offerings Using Cryptocurrency Ethereum Has Been Stolen*, BUS. INSIDER (Aug. 29, 2017, 7:57 AM), http://www.businessinsider.com/ethereum-cyber-criminals-icos-threft-2017-2017-8 [https://perma.cc/NL7B-2Q3X].

103. Irrera, *supra* note 6.

least one red flag.[104] These red flags consist of plagiarized language, lack of a working website, no disclosures on team members, and guaranteed returns on investments.[105] These figures have garnered attention from regulators around the world, including the United States.

II. CRYPTOCURRENCY AND THE LAW: PAST AND PRESENT

Since the creation of Bitcoin in 2009, cryptocurrency has been used to conduct criminal activity. From money laundering to buying drugs and illegal weapons, the infancy of cryptocurrency was filled with criminal conduct. In the United States, several federal agencies have had to figure out ways to enforce laws upon a new industry that promotes security, privacy, and anonymity. With the rising popularity of ICOs worldwide, other countries have also devised methods to control crime and fraud associated with cryptocurrencies. As discussed below, U.S. federal agencies cannot agree on what cryptocurrency is: a security, a property, or a currency. This Part first summarizes the criminal history of Bitcoin, shows how cryptocurrency is still regulable, and identifies how burdensome regulations can chill innovation. Then it discusses legal determinations already made by federal agencies in the United States.

A. Examples of Cryptocurrency Crime and Regulation

The most publicized criminal activity using Bitcoin involved a website on the "dark web" called Silk Road. Accessing the website required going through an anonymizing network called Tor that made it impossible to trace the visitor's IP address.[106] Once on the site, users could exchange Bitcoin for drugs, sex workers, weapons, fake passports, and more. Bitcoin's anonymity appealed to the website's users. A 2011 article by Gawker publicized the website and news outlets began covering Silk Road extensively.[107] From 2011 to 2013, the site was

104. Shane Shifflett & Coulter Jones, *Buyer Beware: Hundreds of Bitcoin Wannabes Show Hallmarks of Fraud*, WALL STREET J. (May 17, 2018, 12:05 PM), https://www.wsj.com/articles/buyer-beware-hundreds-of-bitcoin-wannabes-show-hallmarks-of-fraud-1526573115.

105. *Id.*

106. This technology was originally developed by the U.S. Navy in order to protect military communications from being traced by hackers. *See* Gerry Smith, *Meet Tor, the Military-Made Privacy Network That Counts Edward Snowden as a Fan*, HUFFINGTON POST (July 18, 2013, 7:45 AM), https://www.huffingtonpost.com/2013/07/18/tor-snowden_n_3610370.html [https://perma.cc/XF4A-R84U].

107. *See* Adrian Chen, *The Underground Website Where You Can Buy Any Drug Imaginable*, GAWKER (June 11, 2011, 3:20 PM), http://gawker.com/the-underground-website-where-you-can-buy-any-drug-imag-30818160 [https://perma.cc/T8JZ-TA5G].

a wild success with $1.2 billion in sales and almost 1 million customers.[108] The FBI eventually shut Silk Road down by hacking into the site.[109] On October 1, 2013, the FBI arrested Ross Ulbricht, Silk Road's founder and operator. He was convicted of various charges including money laundering and conspiracy to traffic narcotics. In 2015, he was sentenced to life in prison without the possibility of parole.[110]

A similar incident was the collapse of Mt. Gox, one of the first major exchanges where users could trade traditional currency for Bitcoin. Mt. Gox was founded in 2010 and by 2013, it was processing 70 percent of all Bitcoin transactions worldwide.[111] In February 2014, Mt. Gox filed for bankruptcy protection after reporting that $460 million worth of Bitcoin was stolen by hackers.[112] Many Bitcoin owners lost their tokens and the price of Bitcoin plummeted. A group of Canadian users attempted to bring a $500 million suit against the exchange but ultimately dropped the claim due to the costs of litigation.[113] The CEO of the Tokyo-based exchange, Mark Karpeles, has been charged with embezzlement by Japanese authorities and is expected to stand trial later this year.[114] Earlier this year, Russian Alexander Vinnik, an administrator for

108. *See* Joshuah Bearman & Tomer Hanuka, *The Rise and Fall of Silk Road*, WIRED (May 2015), https://www.wired.com/2015/04/silk-road-1 [https://perma.cc/2V4X-ELCE]; Donna Leinwand Leger, *How FBI Brought Down Cyber-Underworld Site Silk Road*, USA TODAY (Oct. 21, 2013, 6:11 PM), https://www.usatoday.com/story/news/ nation/2013/10/21/fbi-cracks-silk-road/2984921 [https://perma.cc/TH3S-MKMW].

109. Leger, *supra* note 108.

110. Andy Greenberg, *Silk Road Creator Ross Ulbricht Loses His Life Sentence Appeal*, WIRED (May 31, 2017, 1:12 PM), https://www.wired.com/2017/05/silk-road-creator-ross-ulbricht-loses-life-sentence-appeal [https://perma.cc/7S5G-4B4M].

111. *The Troubling Holes in Mt. Gox's Account of How It Lost $600 Million in Bitcoins*, MIT TECH. REV. (Apr. 4, 2014), https://www.technologyreview.com/s/526161/the-troubling-holes-in-mtgoxs-account-of-how-it-lost-600-million-in-bitcoins [https://perma.cc/ML75-DH74]. Mt. Gox acted as an intermediary and bank for Bitcoin, where users could store, send, and receive digital currencies. Storing cryptocurrencies on a third-party exchange undercuts Bitcoin's security and leaves users vulnerable to cyberattacks. However, third-party exchanges make acquiring and spending cryptocurrencies more accessible and user-friendly. *See generally* COINBASE, https://coinbase.com [https://perma.cc/2RY3-VJKE].

112. Robert McMillan, *The Inside Story of Mt. Gox, Bitcoin's $460 Million Disaster*, WIRED (Mar. 3, 2014), https://www.wired.com/2014/03/bitcoin-exchange [https://perma.cc/ 6M5Z-QJ2L].

113. *See* Jordan Pearson, *Canada's $500M Mt. Gox Class Action Lawsuit Is Being Dismissed*, VICE: MOTHERBOARD (May 18, 2016, 2:55 PM), https://motherboard.vice.com/en_us/article/kb773z/canadas-500m-mt-gox-class-action-lawsuit-is-being-dismissed [https://perma.cc/YVG4-5HWR].

114. *As Mt. Gox Trial Opens in Tokyo, Head of Bankrupt Bitcoin Exchange Denies Embezzlement*, JAPAN TIMES (July 11, 2017), https://www.japantimes.co.jp/news/2017/07/11/national/crime-legal/mt-gox-trial-opens-tokyo-founder-bitcoin-exchange-denies-embezzlement [https://perma.cc/JA9N-3ZL4].

another major exchange, BTC-E, was arrested for a $4 billion money laundering scheme. The indictment alleges that Vinnik was also involved in laundering the Bitcoin that was stolen from Mt. Gox.[115]

These examples are troubling. But the example of New York State illustrates how burdensome regulations can stifle innovation in a new industry such as blockchain. New York's regulations were developed in response to the first brick and mortar exchange for Bitcoin.[116] In 2013, Nick Spanos and Andrew Martin founded Bitcoin Center NYC, located on Wall Street. The center acted as a physical exchange for Bitcoin trading and even had a physical ATM for the cryptocurrency.[117]

Out of fear of money laundering and other criminal activity, the New York State Department of Financial Services (NYDFS) issued regulations requiring all businesses handling virtual currency to apply for a "Bitlicense."[118] The announcement led to a "Bitcoin exodus" in which at least 10 cryptocurrency businesses decided to shut down after calculating the costs of acquiring a permit.[119] Currently, there are only a handful of companies with a Bitlicense while many more have been rejected.[120] An application for a Bitlicense costs

115. Press Release, Dep't of Justice, Russian National and Bitcoin Exchange Charged in 21-Count Indictment for Operating Alleged International Money Laundering Scheme and Allegedly Laundering Funds From Hack of Mt. Gox (July 26, 2017), https://www.justice.gov/usao-ndca/pr/russian-national-and-bitcoin-exchange-charged-21-count-indictment-operating-alleged [https://perma.cc/36TS-9ZBV].

116. *See* BANKING ON BITCOIN, *supra* note 12.

117. J.R. Willet is now supporting an ICO for a company that intends to install cryptocurrency ATMs across the United States. *See* Shin, *supra* note 95.

118. N.Y. FIN. SERV. LAW § 200.2(q) (LexisNexis 2015). The law states:

> Virtual Currency Business Activity means the conduct of any one of the following types of activities involving New York or a New York Resident: (1) receiving Virtual Currency for Transmission or Transmitting Virtual Currency, except where the transaction is undertaken for non-financial purposes and does not involve the transfer of more than a nominal amount of Virtual Currency; (2) storing, holding, or maintaining custody or control of Virtual Currency on behalf of others; (3) buying and selling Virtual Currency as a customer business; (4) performing Exchange Services as a customer business; or (5) controlling, administering, or issuing a Virtual Currency.

Id.

119. *See* Michael del Castillo, *The 'Great Bitcoin Exodus' Has Totally Changed New York's Bitcoin Ecosystem*, N.Y. BUS. J. (Aug. 12, 2015, 11:11 AM), https://www.bizjournals.com/newyork/news/2015/08/12/the-great-bitcoin-exodus-has-totally-changed-new.html; *see also* Daniel Roberts, *Behind the "Exodus" of Bitcoin Startups From New York*, FORTUNE (Aug. 14, 2015), http://fortune.com/2015/08/14/bitcoin-startups-leave-new-york-bitlicense [https://perma.cc/48YQ-X575].

120. *See* Suzanne Barlyn, *New York's Bitcoin Hub Dreams Fade With Licensing Backlog*, REUTERS (Oct. 30, 2016, 10:20 PM), https://www.reuters.com/article/us-bitcoin-regulations-

$5000 to file and can reach up to 500 pages of documentation.[121] Applications require extensive information, including compliance manuals and executives' fingerprints.[122]

Critics claim that the burdensome regulations have stifled New York City's potential as a cryptocurrency hub.[123] Erik Voorhees, CEO of the Swiss-based exchange Shapeshift and prominent figure in blockchain circles, compared the regulations to forcing a square peg in a round hole and called New York the "crypto backwater."[124] While the NYFDS regulations may not seem draconian at first glance, a deeper analysis shows that a Bitlicense does not foster a decentralized banking system, because the cost of complying hinders the expansion of Bitcoin businesses.[125]

As more regulators around the world announce new restrictions on cryptocurrency activity and ICOs, there is growing concern for the stifling of innovation. The NYFDS regulations have proven the difficulties of balancing the interests of deterring criminal activity and protecting retail investors while promoting the valuable innovations arising from blockchain technology.

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dfs/new-yorks-bitcoin-hub-dreams-fade-with-licensing-backlog-idUSKBN12V0CM [https://perma.cc/LM2T-5R52] ("DFS has issued just two BitLicenses. Another 15 applications are still pending, with four others withdrawn and four denied . . . ."); Sterlin Lujan, *New York Regulator Reports on Cryptocurrency Licensing, Inspects Businesses*, BITCOIN.COM (June 21, 2017), https://news.bitcoin.com/new-york-regulator-reports-on-cryptocurrency-licensing-examines-businesses [http://perma.cc/R8FV-3RZD] ("In total, 5 companies are registered with Bitlicense, and they are currently receiving periodic inspections and examinations via direct oversight from the agency.").

121. Barlyn, *supra* note 120.

122. *Id.*

123. For an in-depth critique of New York's regulations on cryptocurrency, see Samantha J. Syska, *Eight-Years-Young: How the New York BitLicense Stifles Bitcoin Innovation and Expansion With Its Premature Attempt to Regulate the Virtual Currency Industry*, 17 J. HIGH TECH. L. 313, 345 (2017). *Cf.* Michael del Castillo, *For Blockchain Startups, Switzerland's 'Crypto Valley' Is No New York*, COINDESK (Oct. 31, 2016, 12:55 PM), https://www.coindesk.com/blockchain-innovation-switzerland-crypto-valley-new-york [https://perma.cc/JQR3-RRUH] (describing how the Swiss government has embraced blockchain and how Switzerland has become a major center for the cryptocurrency industry).

124. Brian Patrick Eha, *'This Is How Money Should Be': Digital Asset Pioneer Erik Voorhees*, AM. BANKER (Aug. 16, 2017, 12:55 PM), https://www.americanbanker.com/news/this-is-how-money-should-be-digital-asset-pioneer-erik-voorhees [https://perma.cc/JD2W-5G9J]; Daniel Roberts, *Bitcoin Company Ditches New York, Blaming New Regulations*, FORTUNE (June 11, 2015), http://fortune.com/2015/06/11/bitcoin-shapeshift-new-york-bitlicense [https://perma.cc/66MG-FK7Z]; Kyle Torpey, *Erik Voorhees: Complying With BitLicense Would Have Made ShapeShift Hack Much Worse*, BITCOIN.COM (May 18, 2016, 11:58 AM), https://bitcoinmagazine.com/articles/erik-voorhees-complying-with-bitlicense-would-have-made-shapeshift-hack-much-worse-1463587103 [https://perma.cc/DL8J-WW6T].

125. *See* Syska, *supra* note 123, at 335–40.

B. The Current Positions of the FinCEN, IRS, and SEC

1. Financial Crimes Enforcement Network

The Financial Crimes Enforcement Network (FinCEN) is a U.S. Department of Treasury bureau with a "mission to safeguard the financial system from illicit use and combat money laundering and promote national security through the collection, analysis, and dissemination of financial intelligence and strategic use of financial authorities."[126] When an entity handling cryptocurrency fits FinCEN's definition of a "money services business" (MSB), FinCEN requires it to be registered and regulated.[127]

FinCEN's main concern is the use of cryptocurrency to launder money. On July 21, 2011, it issued a final rule amending and broadening the definition of an MSB under the Bank Secrecy Act (BSA) to include entities that engage in MSB activities in the United States even if the entity is located abroad.[128] The final rule arose due to technological advances, like the internet, that make it possible for foreign entities to engage in MSB activities in the United States.[129] This allows FinCEN to enforce domestic regulations upon foreign entities, thus potentially preventing cryptocurrency exchanges from conducting business in the United States.

On March 18, 2013, FinCEN issued a guidance letter regarding the application of regulations on "persons administering, exchanging, or using

126. *What We Do*, FIN. CRIMES ENFORCEMENT NETWORK, https://www.fincen.gov/what-we-do [https://perma.cc/N4C8-EETN].

127. *See* 31 C.F.R. § 1010.100(ff)(1)–(7) (2018), https://www.ecfr.gov/cgi-bin/text-idx?rgn=div5;node=31:3.1.6.1.2#se31.3.1010_1100 (providing full description of activities that qualify a business as an MSB); U.S. DEPT' OF THE TREASURY, FIN. CRIMES ENF'T NETWORK, FIN-2013-G001, APPLICATION OF FINCEN'S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES (2013), https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf; Letter From Robert Gerardi, Acting Assoc. Dir., Fin. Crimes Enf't Network, U.S. Dep't of the Treasury, to undisclosed recipient (Aug. 14, 2015), https://www.fincen.gov/sites/default/files/shared/FIN-2015-R001.pdf (discussing application of FinCEN's regulations to persons issuing physical or digital negotiable certificates of ownership of precious metals); Pete Rizzo, *FinCEN Rules Commodity-Backed Token Services Are Money Transmitters*, COINDESK (Aug. 14, 2015, 6:43 PM), https://www.coindesk.com/fincen-rules-commodity-backed-token-services-are-money-transmitters [https://perma.cc/37AE-ZU3E].

128. *See* U.S. DEPT' OF THE TREASURY, FIN. CRIMES ENF'T NETWORK, FIN-2012-A001, FOREIGN-LOCATED MONEY SERVICES BUSINESSES (2012), https://www.fincen.gov/sites/default/files/advisory/FIN-2012-A001.pdf.

129. "The Final Rule arose in part from the recognition that the Internet and other technological advances make it increasingly possible for persons to offer MSB services in the United States from foreign locations." *Id.*

virtual currencies."[130] This is the first time FinCEN has mentioned virtual currencies and defined it broadly to include all cryptocurrencies. Peter Van Valkenburgh, Director of Research at Coin Center,[131] explains how broad the definition really is:

> [A] token need not be designed to play a currency-like role in order to qualify; it need only (as per the definition of money transmission) be used as 'value' that 'substitutes for currency.' The fact that a token was invented to accomplish a highly technical non-currency result (e.g. tallying votes amongst computers in a decentralized consensus protocol) will not undo that token's eligibility for classification as a convertible virtual currency, if it is also used as a medium of exchange and can be a substitute for real currency.[132]

The guidance explicitly states that users of virtual currencies are not money transmitters. However, the letter does state that administrators and exchanges are in fact MSBs.[133] Since 2013, FinCEN has issued subsequent rulings declaring miners as users and, thus, not MSBs.[134] In 2014, it was decided that spending virtual currency that was mined by a company on goods or services does not make it a money transmitter either.[135] In 2015, a new ruling from the bureau held that any company that distributes, or buys and sells commodity-backed[136] tokens is a MSB and must register. The ruling boiled down the definition of a money transmitter to any company that issues a certificate of ownership and allows the unrestricted transfer of value.[137] Juan Llanos, a risk and compliance specialist, suggests that the ruling should be interpreted broadly to include

130. U.S. DEPT' OF THE TREASURY, FIN-2013-G001, *supra* note 128.
131. A cryptocurrency think tank that conducts research and analysis on regulations and rulings that apply to the industry. *Our Work*, COIN CTR., https://coincenter.org/our-work [https://perma.cc/5SQ8-Y6MT].
132. For an in-depth analysis on FinCEN rulings on cryptocurrency, see Peter Van Valkenburgh, *The Bank Secrecy Act, Cryptocurrencies, and New Tokens: What Is Known and What Remains Ambiguous*, COIN CTR. (May 20, 2017), https://coincenter.org/entry/aml-kyc-tokens [https://perma.cc/L6MW-CCND].
133. "An exchanger is a person engaged as a business in the exchange of virtual currency for real currency, funds, or other virtual currency. An administrator is a person engaged as a business in issuing . . . a virtual currency, and who has the authority to redeem . . . such virtual currency." DEPT' OF THE TREASURY, FIN-2013-G001, *supra* note 127.
134. U.S. DEPT' OF THE TREASURY, FIN. CRIMES ENF'T NETWORK, FIN-2014-R001, APPLICATION OF FINCEN'S REGULATIONS TO VIRTUAL CURRENCY MINING OPERATIONS (2014), https://www.fincen.gov/sites/default/files/shared/FIN-2014-R001.pdf [https://perma.cc/QCP3-WX98].
135. *Id.*
136. In this case, precious metals were backing the issued tokens from the unnamed company seeking guidance. *See* Letter From Robert Gerardi, *supra* note 127.
137. *Id.*

companies that develop digital wallets that users can transmit virtual tokens from.[138] The determining factor may be whether the developers themselves accept or distribute a token.[139] Lastly, the letter provides that an individual buyer interacting directly with a seller and vice versa would be an exception and will not qualify as an MSB.[140]

Most recently, FinCEN has released a letter addressed to Congress, claiming that developers distributing tokens through an ICO are MSBs and can face felony criminal charges if they have not registered and complied with Know Your Customer (KYC) or Anti-Money Laundering (AML) obligations.[141]

Today, FinCEN's website features an MSB Registrant search that allows the public to search the cryptocurrency exchange of their choice to ensure that it has been registered.[142] FinCEN has begun enforcing registration requirements against foreign entities that qualify as MSBs. On July 27, 2017, FinCEN announced an indictment of BTC-E, a Bulgarian-based exchange[143] and its administrator, Alexander Vinnik, for willfully violating MSB registration requirements and several other requirements under U.S. codes and regulations designed to prevent criminal conduct.[144] Vinnik, a Russian native, is currently being held in a Greek prison while the United States and Russia fight over extradition.[145] This arrest has put the cryptocurrency industry on notice that the

138. "The government could argue that a wallet service, by providing an 'account' or a representation of value via the software, is in fact 'issuing' a certificate of ownership or representing the ownership of value electronically." Rizzo, *supra* note 127.
139. Van Valkenburgh, *supra* note 132.
140. Letter From Robert Gerardi, *supra* note 127.
141. For an in-depth analysis, see Peter Van Valkenburgh, *FinCEN Raises Major Licensing Problem for ICOs in New Letter to Congress*, COIN CTR. (Mar. 6, 2018), https://coincenter.org/link/fincen-raises-major-licensing-problem-for-icos-in-new-letter-to-congress [https://perma.cc/4H9M-VKRA].
142. *See MSB Registrant Search*, FIN. CRIMES ENFORCEMENT NETWORK (June 14, 2018), https://www.fincen.gov/financial_institutions/msb/msbstateselector.html [https://perma.cc/L9CM-ULUQ].
143. *FinCEN Fines BTC-e Virtual Currency Exchange $110 Million for Facilitating Ransomware, Dark Net Drug Sales*, FIN. CRIMES ENFORCEMENT NETWORK (July 27, 2017), https://www.fincen.gov/news/news-releases/fincen-fines-btc-e-virtual-currency-exchange-110-million-facilitating-ransomware [https://perma.cc/MVA4-9HWK]; Izabella Kaminska, *The Huge Significance of the BTC-e Bust*, FIN. TIMES (July 27, 2017), https://ftalphaville.ft.com/2017/07/27/2191927/the-huge-significance-of-the-btc-e-bust.
144. *In re* BTC-E, No. 2017-03 (U.S. Dep't of the Treasury July 26, 2017), https://www.fincen.gov/sites/default/files/enforcement_action/2017-07-26/Assessment%20for%20BTCeVinnik%20FINAL%20SignDate%2007.26.17.pdf.
145. Both countries are hoping to discover Vinnik's methods of committing the alleged crimes for future prevention and blockchain development. *See* Dan Boylan, *U.S., Russia Fight Over 'Brain' of Bitcoin Crime Suspect Alexander Vinnik*, WASH. TIMES (Oct. 8, 2017), https://www.washingtontimes.com/news/2017/oct/8/alexander-vinnik-bitcoin-crime-suspect-at-center-o [https://perma.cc/5Y2P-FA2B].

United States is willing to go the distance to enforce FinCEN regulations.[146] FinCEN has announced that it has started providing extensive training to the Internal Revenue Service (IRS) on Bitcoin and other cryptocurrencies to begin applying federal tax laws to those conducting business using virtual currencies.[147]

2. Internal Revenue Service

Although Bitcoin and other cryptocurrencies were developed to act as an online cash payment transfer system, the IRS has determined that it will treat them as property.[148] In 2014, the IRS published a notice describing how existing tax principles apply to virtual currencies. Under section 4 of this letter, the IRS labels all virtual currencies as property and "[ge]neral tax principles applicable to property transactions apply to transactions using virtual currency." The notice reaffirms this decision by explicitly denying cryptocurrencies as having legal tender status in the United States.[149] Essentially, transactions of Bitcoin and other cryptocurrencies will be treated the same as transactions involving stocks, bonds, and other investment properties. Additionally, any taxpayer that successfully mines a virtual currency will have to include the fair market value as gross income. Employees that receive virtual currencies in exchange for their services will be subject to federal payroll taxes. Consequently, startups that conduct initial coin offerings will have to report the capital raised as capital gains and typically face a combined state and federal tax liability for 35–50 percent of the total.[150]

Critics claim that recognizing virtual currencies as property makes it difficult to use them in transactions. The notice implies that every time a transaction takes place using virtual currencies, the users must calculate their

146. INTERPOL was deployed to arrest Vinnik, who was living in a small town in Greece at the time of his arrest. *Id.*

147. *See* Stan Higgins, *FinCEN Developed Bitcoin Training for IRS Tax Examiners*, COINDESK (Nov. 16, 2015, 10:50 PM), https://www.coindesk.com/irs-examiners-bitcoin-training-fincen-experts [https://perma.cc/84HJ-L45Z].

148. INTERNAL REVENUE SERV., OFFICE OF THE ASSOC. CHIEF COUNSEL, NOTICE 2014-21, IRS Virtual Currency Guidance (2014), https://www.irs.gov/pub/irs-drop/n-14-21.pdf; Scott A. Wiseman, *Property or Currency: The Tax Dilemma Behind Bitcoin*, 2016 UTAH L. REV. 417, 418–19.

149. INTERNAL REVENUE SERV., *supra* note 148.

150. SAFT PROJECT, SIMPLE AGREEMENT FOR FUTURE TOKENS 14 (2017), https://saftproject.com/static/Form-of-SAFT-for-token-pre-sale.docx.

capital gain or loss.[151] The sheer amount of transactions taking place with Bitcoin and other cryptocurrencies arguably makes this inconvenient and impractical.[152]

To no one's surprise, the notice did not result in a significant increase of declarations by virtual currency users on their tax returns.[153] In 2015, the IRS reported that only 802 persons claimed virtual currency related gains or losses. In response, the IRS asked Coinbase, the most popular cryptocurrency exchange in the United States, to disclose the account information of its millions of users. Coinbase customers sued the IRS in response, charging the investigation as overreaching and intrusive. Magistrate Judge Jacqueline Corley called the investigation unprecedented, stating, "Under that reasoning the IRS could request bank records for every United States customer from every bank branch in the United States . . . . It is thus no surprise that the IRS cannot cite a single case that supports such broad discretion . . . ."[154] Corley thus limited the scope of the investigation to accounts involving transactions involving $20,000 or more.[155]

On May 7, 2014, U.S. Representative Steve Stockman[156] introduced the Virtual Currency Tax Reform Act,[157] which proposed changing the tax status of virtual currencies from property to foreign currency and imposes a 5-year moratorium on any capital gains tax on virtual currencies. The reform would allow users to pay sales tax on transactions using virtual currencies rather than

151. This includes trading cryptocurrencies since financial instruments are not exempt under the like-kind exchanges provision in the Internal Revenue Code. 26 U.S.C. § 1031 (2018).

152. For a summary of tax implications resulting from cryptocurrency trading, see Adam Bergman, *Counting Cryptocurrency Gains And Losses Without Running Afoul Of IRS Rules*, FORBES (Jan. 12, 2018, 1:12 PM), https://www.forbes.com/sites/greatspeculations/2018/01/12/counting-cryptocurrency-gains-and-losses-without-running-afoul-of-irs-rules [https://perma.cc/LK9J-GPD9]. *See also* Perianne Boring, *BREAKING: Rep. Stockman to Introduce First Bitcoin Bill*, FORBES (Apr. 8, 2014, 11:47 AM), https://www.forbes.com/sites/perianneboring/2014/04/08/breaking-rep-stockman-to-introduce-first-bitcoin-bill/#bebe10572794 [https://perma.cc/KK6Z-5LQA].

153. *See* Jeff John Roberts, *Only 802 People Told the IRS About Bitcoin—Lawsuit*, FORTUNE (Mar. 19, 2017), http://fortune.com/2017/03/19/irs-bitcoin-lawsuit [https://perma.cc/ TSR5-QLVK].

154. United States v. Coinbase, No. 3:17-cv-01431-JSC, 2017 WL 3035164, at *1 (N.D. Cal. July 18, 2017); Jeff John Roberts, *Judge Blasts IRS Over Bitcoin Probe, Lets Coinbase Customer Fight Summons*, FORTUNE (July 20, 2017), http://fortune.com/2017/07/20/judge-blasts-irs-over-bitcoin-probe-lets-coinbase-customer-fight-summons [https://perma.cc/6WPD-ZB9X].

155. *See Coinbase*, 2017 WL 3035164, *at 1; *see also* Laura Saunders, *Do You Own Bitcoin? The IRS Is Coming for You*, WALL STREET J. (Mar. 16, 2018), https://www.wsj.com/articles/do-you-own-bitcoin-the-irs-is-coming-for-you-1521192601.

156. Representative for the 36th District of Texas from 2013–2015.

157. Virtual Currency Tax Reform Act, H.R. 4602, 113th Cong. § 1 (2014); *see also* Boring, *supra* note 152.

including them on their yearly tax filings. The bill did not survive Congress but the proposal has been recently reintroduced.

On September 7, 2017, Representatives Jared Polis and David Schweikert introduced the Cryptocurrency Tax Fairness Act of 2017.[158] The act is similar to Stockman's by treating virtual currencies as a foreign currency rather than property. The act would exempt transactions valued under $600 from being taxed. This time around, the proposed legislation is being heralded by some of the industry's most influential members: Jerry Brito, Executive Director of Coin Center, applauded the representatives for introducing the bill and believes it will promote innovation through blockchain and cryptocurrency technology.[159] The act was proposed as an amendment to the tax reform bill introduced by the Trump administration, but was ultimately not adopted by the House.[160]

3. Securities and Exchange Commission

Until 2017, the Securities and Exchange Commission (SEC) had remained relatively quiet regarding the issuance and use of cryptocurrencies. The SEC's mission is "to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation."[161] The Commission's jurisdiction is limited to items deemed securities. Although the exact test for determining the SEC's extraterritorial reach is still unclear, it is widely accepted that foreign entities can face charges for selling securities within the United States.[162] If a token is deemed an unregistered security, issuers are subject to civil penalties and may be required to return funds to investors.

On July 25, 2017, the SEC issued an investigative report on the application of federal securities regulations to the Decentralized Autonomous Organization

158. Press Release, U.S. Representative Jared Polis, Creating Tax Parity for Cryptocurrencies (Sept. 7, 2017), https://polis.house.gov/news/documentsingle.aspx?DocumentID=398438 [https://perma.cc/GFQ2-9F9V].

159. *Id.*

160. Jerry Brito, *The Cryptocurrency Tax Fairness Act Was Offered as Amendment to the House Tax Reform Bill Last Night in Congress*, COIN CTR. (Nov. 15, 2017), https://coincenter.org/link/the-cryptocurrency-tax-fairness-act-was-offered-as-amendment-to-the-house-tax-reform-bill-last-night-in-congress [https://perma.cc/8REJ-4WX8].

161. *See What We Do*, SEC, https://www.sec.gov/Article/whatwedo.html [https://perma.cc/GQ8P-MJKR].

162. *See* Morrison v. Nat'l Austl. Bank Ltd., 561 U.S. 247 (2010); SEC v. Traffic Monsoon, LLC, 245 F. Supp. 3d 1275 (D. Utah 2017); *cf.* Dodd-Frank Wall Street Reform and Consumer Protection (Dodd-Frank) Act § 929P(b), 15 U.S.C. § 78aa (2018); Jonathan E. Richman, *Proskauer Rose Discusses the SEC's Extraterritorial Reach*, COLUM. L. SCH.: THE CLS BLUE SKY BLOG (Apr. 11, 2017), http://clsbluesky.law.columbia.edu/2017/04/11/proskauer-rose-discusses-the-secs-extraterritorial-reach [https://perma.cc/J8R4-7KJ2].

(DAO) and the cryptocurrency that was distributed during its ICO (DAO token).[163] The DAO token was offered in April 2016 and raised about $150 million in Ether through its initial coin offering, the most popular ICO to date. Unlike previous ICOs, the DAO acted similarly to a venture fund. DAO tokens gave the holder voting rights to help pick and choose projects to invest in using the $100 million that was raised: essentially a decentralized venture capital company. Voting rights, in addition to a right to return, made the token similar to more familiar form of securities: stocks. On June 17, 2016, the DAO network was hacked, and over $50 million in Ether was stolen.[164] The hacker(s) exploited a vulnerability in the smart contract coding. At the time, the DAO was holding nearly 15 percent of all Ether in circulation, and news of the hack dropped the price from $20 to $13 per token.[165]

The investigative report from the SEC applied federal securities law to tokens that acted as securities. To determine whether a blockchain token investment was indeed a security, the SEC applied the *Howey* test, discussed further below.[166] The report did not go so far as to say that all tokens are securities. Rather, the report stated the SEC would investigate ICOs on an ad hoc basis to consider all the facts and circumstances of each token issued. The report reiterated that foreign entities are subject to U.S. securities laws, especially if the token is sold to persons in the United States. The SEC did not file a complaint against the DAO, likely because the hack led developers to refund investors the remaining Ether.

Since the investigative report, some companies have received "the call" from the SEC and subsequently cancelled their scheduled ICO. On September 29, 2017, the SEC filed a complaint against two companies for defrauding investors in a pair of ICOs that had issued tokens backed by diamonds and real estate.[167] The issuers claimed that the token value would be derived from profitable investments using diamonds and real estate. The investigation concluded that the information provided to investors was falsified. The SEC

163. SEC, *supra* note 9.

164. Nathanial Popper, *A Hacking of More Than $50 Million Dashes Hopes in the World of Virtual Currency*, N.Y. TIMES (June 17, 2016), https://www.nytimes.com/2016/06/18/business/dealbook/hacker-may-have-removed-more-than-50-million-from-experimental-cybercurrency-project.html.

165. *Id.*; Kyle Torpey, *The Wisdom (Or Lack Thereof) of the DAO*, AM. BANKER: BANKTHINK (June 1, 2016, 4:10 PM), https://www.americanbanker.com/opinion/the-wisdom-or-lack-thereof-of-the-dao [https://perma.cc/6NJ4-9JQP].

166. *See infra* Subpart II.D for in-depth analysis of the Howey Test.

167. David Z. Morris, *The SEC Filed Fraud Charges Against 2 'Initial Coin Offerings'*, FORTUNE (Oct. 1, 2017), http://fortune.com/2017/10/01/sec-ico-fraud-charges [https://perma.cc/4D38-K6LS].

successfully froze both companies' assets, and the complaint seeks a permanent injunction, disgorgement, plus penalties and interest.

Jay Clayton, the chairman of the Commission, has been vocal about his disapproval of unregistered ICOs, claiming, "[E]very ICO I've seen is a security," at a U.S. Senate hearing in February.[168] Moreover, Clayton warned attorneys helping conduct and promote ICOs are violating their professional duties and implied that they face disciplinary action for doing so.[169]

In 2018, the SEC has significantly ramped up its enforcement against ICOs. With the new SEC Cyber Unit, there has a been a focus on cracking down on unregistered offerings. The SEC has subpoenaed individuals from as many as eighty companies in an attempt to reign in these offerings.[170] On January 30, 2018, the SEC halted an ICO being touted as the first decentralized bank after it raised $600 million in just two months.[171] The executives of this offering failed to disclose their criminal history and falsely claimed that they had acquired an FDIC bank.[172] The SEC is seeking "injunctions, disgorgement of ill-gotten gains plus interest and penalties," and has barred the executives "from serving as officers or directors of a public company or offering digital securities again . . . ."[173] As result, more companies contemplating ICOs are first consulting attorneys who specialize in securities law.

ICOs for the sale of "securities tokens" must be distinguished from the more common "utility tokens." Securities tokens are similar to traditional investment vehicles like stocks, bonds, and limited partnership interests. The DAO token was similar to a limited partnership interest because investors holding the token were able to vote on managerial decisions and were entitled to the resulting returns. Although these features are not determinative in deciding whether an item is a security, it is similar to stocks, which are in fact securities. However, since investors do not have the right to inspect, like in traditional capital markets, there is high potential for fraudulent activity with no available

168. Stan Higgins, *SEC Chief Clayton: 'Every ICO I've Seen Is a Security'*, COINDESK (Feb. 6, 2018, 7:30 PM), https://www.coindesk.com/sec-chief-clayton-every-ico-ive-seen-security [https://perma.cc/7QVM-6MGZ].

169. Jeff John Roberts, *SEC Chair Blasts Lawyers Over 'Disturbing' ICOs*, FORTUNE (Jan. 23, 2018), http://fortune.com/2018/01/23/sec-ico-cryptocurrency [https://perma.cc/RBZ4-SWBV].

170. Nathanial Popper, *Subpoenas Signal S.E.C. Crackdown on Initial Coin Offerings*, N.Y. TIMES (Feb. 28, 2018), https://www.nytimes.com/2018/02/28/technology/initial-coin-offerings-sec.html.

171. Press Release, SEC, SEC Halts Alleged Coin Offering Scam (Jan. 30, 2018), https://www.sec.gov/news/press-release/2018-8 [https://perma.cc/8SH4-P2WY].

172. *See id.*

173. *Id.*

recourse. Securities tokens are properly beginning to be regulated under the current framework for public offerings.

On the other hand, utility tokens act as a currency that powers a decentralized and distributed network. Companies can limit access to the network by designating these tokens as the exclusive form of payment for the network's goods or services. Some have analogized utility tokens to more traditional forms of payment like gift cards, tickets, and coupons. Unlike a securities token, utility tokens do not confer ownership rights, like voting, dividends, or right to assets. Although not securities per se, new regulations are required to protect investors from fraudulent offerings.

Most companies hold their token sale very early in the life-cycle of the company to raise capital for the development of their network. However, companies can hold an ICO at four different stages: (1) predevelopment; (2) during development (3) at launch; and (4) postlaunch. Thus far, the SEC has been silent on utility tokens and on whether the timing of the sale is a determinative factor. This has not stopped several major law firms from racing to provide potential clients with guidance on maneuvering and conducting an ICO without violating U.S. securities laws. Most notably, Marco Santori, partner at Cooley LLP in New York, teamed up with Protocol Labs, the parent company for Filecoin, to issue a proposal called the Simple Agreement for Future Tokens (SAFT).

Developers have relatively free rein over ICOs of tokens, owing to the lack of definitive regulations in this area. Investors in utility tokens therefore face substantial risk. Unregulated, scammers can promote fraudulent offerings and then disappear without a trace. And even if developers act in good faith and are committed to project development, without rules, major issues can arise. For example, Tezos attempted to circumvent U.S. securities regulations with the help of a Swiss banker by structuring their offering as a "donation" to their "foundation" in Switzerland.[174] However, this led to a power struggle when the

174. This is commonly known as the "Zug Defense," named after Zug, a Swiss town and "global cryptocurrency centre." Under Swiss law, "Foundations separate the funds from the people running the organisations, a way of making sure donations are not syphoned off into the wrong pockets. Independent officers manage the funds according to the organisation's charter and not at the whim of individuals," thus avoiding scrutiny from Swiss regulators. *See* Matthew Allen, *Switzerland: Crypto Piggybank Foundations Proliferate in Zug*, EURASIA REV. (Sept. 8, 2017), http://www.eurasiareview.com/08092017-switzerland-crypto-piggybank-foundations-proliferate-in-zug [https://perma.cc/5XST-TFMX]; *see also* Joon Ian Wong, *A Cryptocurrency Raised $400 Million to Avoid Bitcoin's "Civil War" and Now Has Its Own*, QUARTZ (Oct. 19, 2017), https://qz.com/1106594/tezos-dispute-puts-400-million-raised-in-the-ico-at-risk [https://perma.cc/5XST-TFMX] ("The *stiftung* structure

founders of Tezos accused the banker of "self-dealing, self-promotion and conflicts of interest."[175] This infighting could jeopardize the entire project and leave investors with worthless tokens.

On the other hand, a regulatory framework that forces new companies to abide by the same requirements as large corporations preparing for an IPO would deter innovation since new founders do not have the resources to comply. According to PricewaterhouseCoopers (PwC), an accounting firm, firms incur one-time costs of $1 million and annual recurring costs of over $1.5 million on average when going public.[176] Although the JOBS Act was passed into law in 2012 to ease the requirements for startups that plan on going public, it would still not be plausible for a small company that has yet to begin development of their product to comply.[177] In 1997, there were over 9100 public companies trading on the market. There were less than 6000 by the end of 2016.[178] Many attribute the reduction in IPOs to the costs of complying with Sarbanes-Oxley and other regulations.[179] Companies like Uber and Airbnb have been reluctant to go public because they can raise capital by selling equity or debt to accredited investors through the private placement exemption under Regulation D of the Securities Act of 1933.[180]

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has gained favor among ICO issuers in particular, and the practice has been christened by some observers 'the Zug defense.'").

175. *See* Johann Gevers, LINKEDIN, https://www.linkedin.com/in/johanngevers; *see also* Anna Irrera, Steve Stecklow & Brenna Hughes Neghaiwi, *Startup Tezos Raised $232 Million Issuing a New Digital Currency—Now Key Players Are Fighting*, BUS. INSIDER (Oct. 19, 2017), http://www.businessinsider.com/r-special-report-backroom-battle-imperils-230-million-cryptocurrency-venture-2017-10 [https://perma.cc/44M9-7VVT].

176. *Considering an IPO to Fuel Your Company's Future?*, PWC, https://www.strategyand.pwc.com/media/file/Strategyand_Considering-an-IPO.pdf.

177. John C. Coffee, Jr., *Gone With the Wind: Small IPOs, the JOBS Act, and Reality*, COLUM. L. SCH.: THE CLS BLUE SKY BLOG (Feb. 1, 2013), http://clsbluesky.law.columbia.edu/2013/02/01/gone-with-the-wind-small-ipos-the-jobs-act-and-reality [https://perma.cc/99ZH-ZG6G].

178. Jonathan Macey, *As IPOs Decline, the Market Is Becoming More Elitist*, L.A. TIMES (Jan. 10, 2017), http://www.latimes.com/opinion/op-ed/la-oe-macey-ipo-democracy-20170110-story.html [https://perma.cc/4XZN-H8B5].

179. *See* Brian Howaniec & John Niemeyer, *The IPO Crisis: Title I of the JOBS Act and Why It Does Not Go Far Enough*, 42 PEPP. L. REV. 845, 846–47 (2015); Charlotte Chilton, *NYSE Sounds Warning About Regulations Choking Off American IPOs*, BLOOMBERG (July 18, 2017, 7:16 AM), https://www.bloomberg.com/news/articles/2017-07-18/nyse-sounds-warning-about-regulations-choking-off-american-ipos [https://perma.cc/L4MV-NSYG]; Scott Kupor, *How to End the IPO Drought*, BLOOMBERG (June 19, 2017, 11:35 AM), https://www.bloomberg.com/view/articles/2017-06-19/how-to-end-the-ipo-drought [https://perma.cc/7FKD-82XL].

180. *See* Nicole Bullock, *Technology 'Unicorns' Stay Shy of IPOs*, FIN. TIMES (Feb. 9, 2016), https://www.ft.com/content/85bd0034-cb2b-11e5-a8ef-ea66e967dd44; Gwynn Guilford, *US Startups Don't Want to Go Public Anymore. That's Bad News for Americans*, QUARTZ

C. The Position of Foreign Countries

This Subpart briefly summarizes how other countries that regulate ICOs approach this issue. Subpart II.D then applies the Howey test to utility tokens to determine whether they are in fact securities, and Subpart II.E discusses how the Simple Agreement for Future Tokens (SAFT) envisions a compliant ICO offering.

1. China and South Korea

The position of the regulatory bodies in China and South Korea is clear: ICOs are banned. On September 4, 2017, China's Central Bank became the first to outlaw ICOs completely. The Chinese Committee stated that ICOs are financial scams and pyramid schemes.[181] Even though it is banned, ICO funding has seriously disrupted the economic and financial order. State media firm Xinhua reported in July that Chinese companies had raised $383 million from 105,000 investors during the first half of the year.[182] The Committee shut down all cryptocurrency exchanges operating in the country.

On September 29, South Korea followed suit and banned ICOs as well. According to a Korean national news agency, South Korean Financial Services Commission (FSC) vice chairman Kim Yong-Beom described ICOs as "a situation where money has been flooded into an unproductive and speculative direction" and constitute a "violation of capital market law."[183] The statement from the FSC claims several arrests involving the marketing of fake cryptocurrencies that acquired $22 million from about 1000 investors.[184] Unlike China, South Korean regulators only banned margin trading on cryptocurrencies.

(Feb. 1, 2018), https://qz.com/1192972/us-startups-are-shunning-ipos-thats-bad-news-for-americans [https://perma.cc/F8KU-NZCP].

181. Jon Russell, *China Has Banned ICOs*, TECHCRUNCH (Sept. 4, 2017), https://techcrunch.com/2017/09/04/chinas-central-bank-has-banned-icos [https://perma.cc/M3XG-CRCV].

182. *Id.*

183. Rachel Rose O'Leary, *South Korean Regulator Issues ICO Ban*, COINDESK (Sept. 29, 2017, 10:30 AM), https://www.coindesk.com/south-korean-regulator-issues-ico-ban [https://perma.cc/9LZK-HGYV]; Jon Russell, *First China, Now South Korea Has Banned ICOs*, TECHCRUNCH (Sept. 28, 2017), https://techcrunch.com/2017/09/28/south-korea-has-banned-icos [https://perma.cc/6NVG-4H62].

184. O'Leary, *supra* note 183.

2. Russia

The Russian Federation has been more welcoming to cryptocurrencies and ICOs and is moving quickly compared to other states to regulate the industry. Earlier this year, Russian President Vladimir Putin endorsed Ethereum as a "potential tool to help Russia diversify its economy beyond gas and oil," but also called for a new regulatory framework for cryptocurrencies to address "serious risks."[185] Since then, the Russian Federation has become the first country to announce plans to issue its own cryptocurrency, the CryptoRuble.[186] To mitigate money laundering, the state will require those exchanging the cryptocurrency into Ruble to explain how they earned it to avoid a 13 percent tax.

On October 24, 2017, Putin issued orders for a new regulatory framework for ICOs to be completed by July 2018. The orders also introduced regulatory sandboxes for companies to test products and offerings before going public. The regulations would create a single payment hub for all members of the Eurasian Economic Union, which includes Armenia, Belarus, Kazakhstan, and Kyrgyzstan. Russia's First Deputy Prime Minister Igor Shuvalov promised not to let ICOs in Russia "die" because of regulations at a meeting in Sochi. At the same meeting, Putin concurred by stating that "[w]e need to be very careful about this so that people are not deceived so that rascals and lawbreakers do not use people's trust to simply shake money and create pyramids . . . but not to put obstacles in the way of new opportunities. ICO is a tremendous opportunity."[187]

3. Switzerland

Switzerland has emerged as an ICO hub for many companies due to its relaxed securities regulations. PwC has reported that 4 of the 10 largest ICOs were hosted in Switzerland.[188] Estimates indicate that a quarter of the total raised

185. Madhvi Mavadiya, *Putin and Ethereum: A Match Made in Fintech*, FORBES (Aug. 29, 2017, 11:36 AM), https://www.forbes.com/sites/madhvimavadiya/2017/08/29/putin-ethereum-fintech/#1e45474f6b5c [https://perma.cc/J77D-W2X3]; Ilya Arkhipov et al., *Putin Backs Cryptocurrency Rules and Warns of 'Serious Risks'*, BLOOMBERG (Oct. 10, 2017, 8:49 AM), https://www.bloomberg.com/news/articles/2017-10-10/putin-is-said-to-hold-first-meeting-on-cryptocurrency-rules [https://perma.cc/5JQ2-J9DE].

186. *Vladimir Putin Endorses Russia's New Cryptocurrency*, SPUTNIK (Oct. 16, 2017, 6:46 PM), https://sputniknews.com/science/201710161058281052-russia-cryptocurrency-cryptoruble-virtual [https://perma.cc/43HX-XM9Q].

187. Kevin Helms, *Russia Promises Regulation Will Not Kill ICOs*, BITCOIN.COM (Oct. 23, 2017), https://news.bitcoin.com/russia-regulation-icos [https://perma.cc/53RB-NQL4].

188. Ralph Atkins, *Switzerland Sets Up Working Group on ICOs, Blockchain*, FIN. TIMES (Jan. 18, 2018), https://www.ft.com/content/9c45353f-2cb0-359e-ade9-865e3fb68b2c.

this year through ICOs is sitting in Swiss foundations, more than any other country.[189] Nevertheless, Switzerland's regulating body, Finma, has begun cracking down on ICO fraud after it launched bankruptcy proceedings against three companies that issued a fake cryptocurrency. The body has issued a guidance letter announcing their investigation into procedures and warning investors of potential fraud.[190]

Thomas Linder of MME Legal, a Zug-based law firm that has advised many ICOs, stated that "Finma's approach has been reasonable rather than aggressive, and they state that they want to be technology neutral."[191] David Siegel of cryptocurrency startup the Pillar Project recommends that regulators "should focus on creating a new framework rather than trying to pack the new model into the old framework and put things back 20 or 30 years."[192]

D. The Howey Test

Under U.S. federal law, the 1946 case *SEC v. W.J. Howey Co.*[193] defined a security as an "investment contract"—a classification still followed today. An investment contract is a "contract, transaction or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party."[194] Since the decision, investment contracts are defined to have these four distinct elements: (1) the investment of money (2) in a common enterprise (3) with an expectation of profits (4) deriving solely from the efforts of others.[195] The SEC's July investigative report already determined that security tokens like the ones from DAO satisfy all four elements. However, the case of utility tokens is less clear.

189. Allen, *supra* note 174.
190. Press Release, Fin. Mkt. Supervisory Auth., FINMA Is Investigating ICO Procedures (Sept. 29, 2017), https://www.finma.ch/en/news/2017/09/20170929-mm-ico [http://perma.cc/H5EC-D396].
191. Matthew Allen, *Swiss Regulator Probes ICOs Following Fake Coin Scandal*, SWI: SWISSINFO.CH (Sept. 29, 2017, 4:46 PM), https://www.swissinfo.ch/eng/cryptocurrencies_swiss-regulator-probes-icos-following-fake-coin-scandal/43559552 [https://perma.cc/E55Y-H7KQ].
192. *Id.*
193. 328 U.S. 293, 297 (1946).
194. *Id.* at 298–99.
195. *Id.*; *see also* Kyle M. Globerman, *The Elusive and Changing Definition of a Security: One Test Fits All*, 51 FLA. L. REV. 271, 284–92 (1999).

1. Investment of Money

During an ICO, a participant typically sends Bitcoin or Ether to the issuer in order to receive tokens in exchange. As discussed, the IRS has determined that cryptocurrencies will be treated as property and are not legal tender in the United States. This may lead some to believe that investing cryptocurrencies would not satisfy this element. However, in a recent decision, a court has held that an investment of digital tokens can satisfy this element.[196] In fact, the word "money" in this context has been defined extremely broadly, enough to have it dropped from most applications of the test.[197] Thus, the first prong of this test has and will often be met by ICOs.

2. In a Common Enterprise

Circuit courts are split on how to determine whether there is a common enterprise. Some have focused on "horizontal commonality" while others have looked for broader "vertical commonality." The Fifth, Ninth, Tenth, and Eleventh, and D.C. Circuits have endorsed vertical commonality.[198] On the other hand, the Third, Sixth, and Seventh Circuits have applied horizontal commonality.[199]

a. Horizontal Commonality

Under horizontal commonality, multiple investors pool their investments and share profits and losses pro-rata. Like the first element, this would also be

196. SEC v. Shavers, No. 4:13-CV-416, 2013 WL 4028182, at *2 (E.D. Tex. Aug. 6, 2013).

197. *See, e.g.*, Int'l Bhd. of Teamsters v. Daniel, 439 U.S. 551, 560 n.12 (1979) ("This is not to say that a person's 'investment,' in order to meet the definition of an investment contract, must take the form of cash only, rather than of goods and services." (quoting United Hous. Found., Inc. v. Forman, 421 U.S. 837, 852 n.16 (1975)); *see also* Reves v. Ernst & Young, 494 U.S. 56, 61 (1990) (describing how the courts, in determining whether a transaction is an investment contract, "[A]re not bound by legal formalisms, but instead take account of the economics of the transaction under investigation"); *United Hous. Found., Inc.*, 421 U.S. at 852 n.16 (explaining that even limiting language in the test does not restrict the broad definition of an investment contracts and securities); *W.J. Howey Co.*, 328 U.S. at 299 ("[The test is] a flexible rather than a static principle, one that is capable of adaptation to meet the countless and variable schemes . . . ."); SEC v. Glenn W. Turner Enters., Inc., 474 F.2d 476, 482–83 (9th Cir. 1973) (holding an investment of labor satisfies the first element of the *Howey* test).

198. *See* Travis Stegemoller, Note, *Refocusing Commonality: An Economic Approach That Shares Something in Common With* Howey, 46 VAL. U. L. REV. 657, 676–77 (2012).

199. *See* Shawn Hill Crook, Comment, *What Is a Common Enterprise? Horizontal and Vertical Commonality in an Investment Contract Analysis*, 19 CUMB. L. REV. 323, 328 n.27 (1989).

satisfied by most ICOs. Generally, tokens are fungible, sold at an equal price to every investor, and the capital raised is pooled together to fund the development of the network. As the development of the network progresses and the end-product nears completion, all investors enjoy a profit as the tokens rise in value. Should the network never come to completion, the token value will be nonexistent and all investors will suffer the loss together. The amount gained or lost is pro-rata since it depends on the number of tokens each investor purchased during the ICO.

b. Vertical Commonality

Vertical commonality requires the profitability of the investment to be interwoven with the success of the issuer or promoter.[200] In the Ninth Circuit, the jurisdiction for a significant number of U.S. cryptocurrency companies,[201] there must be a direct connection either between the success of the third party and of the investor or between the failure of the third party and of the investor.[202] An investor's profits from tokens issued during an ICO does not depend on the developers making a profitable product. As described before, as the network nears completion, the token will inevitably raise in value since its initial value was sold at a presale discount. However, it is not inevitable that the rise in token value will result in a profit for developers. The value of a decentralized network is separate from the financial success of its developers.[203] Thus, it is unlikely that most ICOs would satisfy the second element under the vertical commonality.

3. With an Expectation of Profits

In *United Housing Foundation, Inc. v. Forman*, Justice Powell concisely defined the profits from a security transaction:

200. SEC v. Unique Fin. Concepts, Inc., 196 F.3d 1195, 1199–200 (11th Cir. 1999).

201. Although being in Silicon Valley does not provide the same advantage to ICOs as to traditional startups, its reputation has attracted several cryptocurrency and blockchain based companies.

202. This is called "vertical commonality." Brodt v. Bache & Co., 595 F.2d 459, 461 (9th Cir. 1978) ("The concept of vertical commonality requires that the investor and the promoter be involved in some common venture without mandating that other investors also be involved in that venture." (citing Hector v. Wiens, 533 F.2d 429, 433 (9th Cir. 1976))); *cf.* Long v. Shultz Cattle Co., 881 F.2d 129, 140 (5th Cir. 1989) ("Under this standard, the investors' fortunes must be tied to one another in order to constitute a common enterprise.").

203. SAFT PROJECT, *supra* note 150, at 7.

> [Profits from a security transaction are] either capital appreciation resulting from the development of the initial investment . . . or a participation in earnings resulting from the use of investors' funds . . . . [A] security transaction . . . is an investment where one parts with his money in the hope of receiving profits from the efforts of others, and not where he purchases a commodity for personal consumption or living quarters for personal use.[204]

Essentially, a purchaser of securities expects a portion of a larger profit. This contrasts with the expectation of a purchaser of a classic car or a house for everyday personal use. The purchaser of a security would not purchase the item if the purchaser expected to incur a loss when the item was eventually sold.

Most ICOs would satisfy this element because purchasers are predominately motivated to acquire the token in order to make a profit. The token has no use when it is purchased before the network is developed and can be purchased at a later time when the network is launched. Thus, the only plausible reason to purchase a token during an ICO is to sell it at a higher price in the future. Of course, there could be a minority who purchase the token with the purpose of accessing the network at its presale price, but with the risk that the network will never come to fruition, that purchase would be unjustified.

This element is where the timing of an ICO could be determinative as to whether the sale is a securities offering. If a token is issued after a network is developed, the purchasers are more likely interested in using the product rather than fixated on making a profit. The price of the token is not subject to speculation anymore. It is fully functional, and its value is determined by the actual value it provides. Thus, an ICO that takes place during or after the launch of a network is unlikely to satisfy the third element of the *Howey* test.

4. Derived Solely From the Efforts of Others

The final element of the *Howey* test states that the expected profits must come "solely" from the efforts of others. The word "solely" is not read literally. Rather, the question is "whether the efforts made by those other than the investor are the undeniably significant ones, those essential managerial efforts which affect the failure or success of the enterprise."[205] Courts have expressly stated that

204. United Hous. Found., Inc. v. Forman, 421 U.S. 837, 852, 858 (1975).
205. SEC v. Glenn W. Turner Enters., 474 F.2d 476, 482 (9th Cir. 1973).

securities contracts may exist even where investors only had minor roles or merely provided some effort to produce profits for themselves.[206]

On the surface, it would seem that ICOs would satisfy this element because investors depend on the issuers of the token to develop the network. On the other hand, most of the profits expected from ICOs come not from the efforts of developers, but rather from price rises and speculation on secondary markets. The D.C. Circuit has held that creating a secondary market for the resale of an asset, or even assisting in its resale for a profit, does not by itself satisfy this last element.[207] Other cases have determined that contracts for gold and silver futures are not securities because the investor relies on the fluctuations of the price for precious metals rather than the managerial efforts of the defendant.[208]

The main factor distinguishing these assets from tokens is that developers can significantly influence tokens' prices on the secondary market through their actions. As teams improve the network, release updates, and advertise through social media or otherwise, the markets react. Accordingly, markets also react to rumors or news that developers are failing to meet their promises, face an investigation from a regulatory body, or are threatened with a lawsuit.[209] Ultimately, the developers' influence appears sufficient to satisfy *Howey*.

Taking these elements together, utility tokens that are sold before the launch of the network are likely to satisfy the *Howey* test and be deemed a security. This accords with a different approach: the Simple Agreement for Future Tokens (SAFT).

206. *See* Youmans v. Simon, 791 F.2d 341, 346 (5th Cir. 1986) ("This change was born of the realization that investors may still need the protection of the federal securities laws even though they may have taken on minor duties as part of a common enterprise." (citing Williamson v. Tucker, 645 F.2d 404, 418 (5th Cir. 1981))); Crowley v. Montgomery Ward & Co., 570 F.2d 877, 880 (10th Cir. 1978).

207. *See* SEC v. Life Partners, Inc., 87 F.3d 536, 546 (D.C. Cir. 1996) ("LPI's promise of help in arranging for the resale of a policy is not an adequate basis upon which to conclude that the fortunes of the investors are tied to the efforts of the company, much less that their profits derive 'predominantly' from those efforts."); *see also* Gary Plastic Packaging Corp. v. Merrill Lynch, Pierce, Fenner & Smith, Inc., 756 F.2d 230, 240 (2d Cir. 1985) (holding plaintiffs' reliance on defendant's ongoing efforts in addition to the creation of a secondary market was sufficient.).

208. *See* SEC v. Belmont Reid & Co., 794 F.2d 1388, 1391 (9th Cir. 1986); Noa v. Key Futures, Inc., 638 F.2d 77, 79 (9th Cir. 1980).

209. Tezos's price dropped after reports of infighting. *See* Jeff John Roberts, *Is Tezos in Trouble? Crypto Firm Beset by Infighting After $232M ICO*, FORTUNE (Oct. 19, 2017), http://fortune.com/2017/10/19/tezos-ico [https://perma.cc/3VT5-VTSU].

E. SAFT

The Simple Agreement for Future Tokens is a proposed procedure for companies conducting ICOs written by Marco Santori, a partner at Cooley, and Protocol Labs, the developers behind the Filecoin ICO. The procedure is essentially a forward contract with accredited investors to deliver tokens upon the launch of the network. SAFT is based on SAFE, or Simple Agreement for Future Equity.[210]

There are many benefits to conducting an ICO this way. Since the offering is limited to accredited investors and tokens are not delivered until the network is completed (thus suspending trading of tokens), the offering can be compliant with the Regulation D exemption under the Securities Act of 1933. Also, it is likely that current tax laws will treat the capital raised as deferred revenue under the accrual basis of accounting. If so, tax liabilities would be deferred to the launch of the network and could actually become tax neutral should the developers incur losses during the period between raising funds and launching the network. Lastly, a definitive, compliant method of conducting ICOs might encourage developers to incorporate in the United States, which is beneficial to the economy. The procedure also protects retail investors from fraud (albeit by denying them access to ICOs).

However, there are several flaws with the SAFT that were not considered during its drafting. First, the SAFT assumes that the existing securities regulations drafted over the past 80 years are sufficient to regulate modern-day digital assets and capital raising methods. With the creation of the internet, information is more accessible than it has ever been. Retail investors are more capable of conducting their own due diligence when deciding to invest in risky instruments and are less reliant on the mere promises of promoters. This is arguably true for most securities today; however, cryptocurrencies represent an opportunity for a new asset class to break free from the existing mold.

Second, the SAFT disregards the libertarian ideals of the cryptocurrency community. Bitcoin and blockchain were created by developers with the goal of transferring power over wealth back to the individual person rather than in the hands of institutions and centralized governments. This procedure takes away this new opportunity from retail investors to act as angel investors and venture capitalists. New developers still hold these ideals almost 10 years after Bitcoin's creation and are not likely to rush back to develop their networks in a jurisdiction that is counterintuitive to those ideals. Cryptocurrencies almost represent a

210. THE SAFT PROJECT, https://saftproject.com/ [https://perma.cc/AK6Y-6MW5].

global movement towards equal opportunity, by allowing common people to be their own bank and have the opportunity to invest like one too.

Third, there is an implied assumption that there is an abundant supply of accredited investors that are willing to invest in every network that can create value. Also, with tokens being locked up until the network is developed, will accredited investors even be willing to invest in a token that cannot be immediately traded? It is unlikely that the Ethereum ICO, the token that made so many ICOs feasible, could have raised most of its funds from accredited investors and even less likely if it was not immediately available to trade. The cryptocurrency industry is likely mostly comprised of millennials that are betting on the industry's future, and only a few would qualify as accredited investors. SAFT creates the same environment that has slowed down IPOs and left retail investors out of markets they could use to diversify their portfolio. Blocking off access to capital markets to only accredited investors diminishes upward mobility and is plausibly another reason why the income gap in the United States is widening. A framework for ICOs should create incentives for developers to deliver what they have promised, rather than keeping investors out of the game entirely.

III. THE PROPOSED FRAMEWORK

With the decline of IPOs, a new regulatory framework for utility-token ICOs is vital to allow for a better balance between promoting innovation, protecting retail investors, and enabling their participation.

In many ways, ICOs resemble Special Purpose Acquisition Companies (SPACs), and the regulation of SPACs can serve as a model for the regulation of utility-token ICOs. The main differences between the two are the safeguards put in place by the SEC and exchanges to discourage fraudulent SPAC offerings and protect shareholders. This Comment argues for a similar framework for ICOs that includes these safeguards.

The analysis shows that SPACs and ICOs have much in common, and similar regulations are ideal to encourage compliant offerings. With the formation of the SEC's new Cyber Unit, enforcement will not require additional costs to the American taxpayers and should create a new avenue for economic growth. A clear framework will make the United States an attractive destination for new cryptocurrency and blockchain companies to incorporate, innovate, and create jobs. The trend towards private placements has deprived retail investors of opportunities to create their own wealth, thus increasing the income

gap. In accord with other SEC rules, this framework would be considered an exemption, called the Digital Utility Token Exemption, or "DUTE."

A. SPAC Structure

A SPAC is formed with "the purpose of effecting a merger, share exchange, asset acquisition, share purchase, reorganization or similar business combination with one or more businesses."[211] The promoters of a SPAC begin by forming a shell company with no assets. That company goes public with nothing but a promise to complete a profitable business combination. The management team of a SPAC has generally proven their ability to successfully manage a public corporation.[212] A SPAC attracts investors by touting its managers' experience and accomplishments, and often a SPAC is focused its managers have industry-specific experience. Once a business combination is completed, the managers of the SPAC then begin managing the new combined company.

The capital used to execute the business combination is raised through an IPO. The offering is just like any other IPO where shares are sold to the public on an exchange. The retail investor receives both a share of common stock and a warrant to purchase common stock of the newly formed company in the future.[213] Investors are allowed to sell that warrant immediately after the IPO, as compensation for investing their money.[214] The funds raised from the IPO are placed in a trust under the control of an independent third party acting as a trustee.[215] The SPAC's management will then work towards finding a potential business combination transaction that will result in positive returns for investors. Usually, the funds raised by the IPO equal 25 to 33 percent of the value of the company that results from the business combination.[216] Depending on the

211. Joel L. Rubinstein & Daniel E. Nussen, *SPACS: Overview*, PRACTICAL L. CAL. (Dec. 30, 2015), https://www.winston.com/en/thought-leadership/spacs-overview.html [https://perma.cc/KJ8V-K2UQ].
212. *Id.*
213. *See* Joseph R. Magnas, *A New SPAC Structure May Lead to Renewed Interest in SPAC Offerings*, BLOOMBERG: L. REP. (2011), https://media2.mofo.com/documents/110401-a-new-spac-structure-may-lead-to-renewed-interest-in-spac-offerings.pdf.
214. *New SPAC Rules Changes Approved by NASDAQ and NYSE AMEX and New Market Features Make SPACs a More Attractive Investment Vehicle in 2011*, SHEPPARD MULLIN: CORP. & SEC. L. BLOG (Mar. 21, 2011), https://www.corporatesecuritieslawblog.com/2011/03/spacs-2-0-new-spac-rules-changes-approved-by-nasdaq-and-nyse-amex-and-new-market-features-make-spacs-a-more-attractive-investment-vehicle-in-2011 [https://perma.cc/9GKG-RZLZ].
215. *See* Usha Rodrigues & Mike Stegemoller, *Exit, Voice, and Reputation: The Evolution of SPACs*, 37 DEL. J. CORP. L. 849, 871 (2013).
216. Rubinstein & Nussen, *supra* note 211, at 3.

exchange on which the SPAC is listed, management will have 24–36 months to complete the combining transaction, which involves a private company.[217] Once a viable transaction is found, the trustee releases the funds raised from the IPO to complete the transaction. About 20 percent of the common stock is apportioned to the management team of the SPAC once the transaction is completed.[218] This allocation is the only form of compensation that the management receives until the business combination is completed. Only out-of-pocket expenses related to identifying and executing the business combination are reimbursed. The new company will be publicly traded and subject to the usual quarterly and annual reporting requirements.[219] If a business combination is not completed within the timeframe required, the funds will be returned on a pro-rata basis to shareholders without the involvement of management, and the SPAC is dissolved.[220]

A SPAC is sometimes called a "poor man's private equity fund" because it gives individual investors an opportunity that was previously only allowed to accredited investors.[221] Individual investors have the opportunity to become early investors in a private company that would otherwise rely on private placements to raise capital. Like a private equity investment, there is significant informational asymmetry between the managers of a SPAC and the investors. Managers have a better idea, compared to investors, of their ability to find a viable combination, how well they can manage the new company, and the agency costs involved. However, two mechanisms ensure management stays on track with their plan. First, the management team's reputation is on the line. Much like private equity firms, investors are willing to hand over their money only to a team of people they can trust. A management team that breaches this trust is unlikely to ever have the same opportunity again. Second, the independent trustee ensures that management will not be compensated unless and until a combination is completed, within the specified timeframe. This creates a significant barrier of entry for the SPAC business model. Managers have to be confident in their ability to identify and execute a transaction, and build enough rapport with the public to raise the funds necessary to do so.

Applying the SPAC model to ICOs would achieve the interests of all the parties involved. The founders of new and innovative companies want an avenue to raise capital. Retail investors want the opportunity to invest early in

217. *Id.* at 5.
218. *See* Rodrigues & Stegemoller, *supra* note 215, at 855.
219. *See* Magnas, *supra* note 213.
220. Rubinstein & Nussen, *supra* note 211, at 7.
221. *See* Rodrigues & Stegemoller, *supra* note 215, at 851.

high-growth, innovative companies. Retail investors' access to ICOs can increase upward mobility and allow diversification of wealth through a new asset class. The SEC wants to increase transparency, reduce fraud, and protect unsophisticated investors from being taken advantage of by ill-willed entities. The SPAC framework would stop most bad actors, regulate disclosures to enforce honesty and transparency, and motivate developers to fulfill their promises by delivering a finished network in a reasonable time frame.

B. Digital Utility Token Exemption (DUTE)

A company conducting an ICO is similar to a SPAC in several ways. A company conducting an ICO is usually just like a shell company. The company is generally just starting out and has few assets. The company is formed by developers and a management team that believes they can eventually form a profitable and useful network. The white paper of an ICO company touts the experience, accomplishments, and vision of its management in hopes of receiving a sufficient investment to develop the network. In return for their investment, investors receive a token, a "warrant" to access the network once it is completed. That token is immediately tradable over-the-counter and other secondary markets as soon as it is listed. The pre–ICO disclosures are similar to disclosures required by the SEC from SPACs. Additional requirements proposed here are tailored to address the unique risks of investing in an ICO. As with a SPAC, funds will be held in a trust managed by an independent third-party, a time limit will be enforced on completing the network, and tokens will be treated like SPAC warrants that could be traded immediately after the offering.

1. Pre–ICO Disclosures

The company conducting an ICO would file a confidential draft registration statement with the SEC in a similar fashion to an Emerging Growth Company.[222] This registration statement would draw on the format of the white papers that are typically shared by cryptocurrency companies, to make it easier for non-legal developers or management to file. There would also be several additional requirements and restrictions that would improve transparency and

222. This benefit has recently been expanded to all security offerings. *See* Brian V. Breheny et al., *SEC to Permit All Issuers to Submit Confidential Draft Registration Statements*, SKADDEN: INSIGHTS (July 5, 2017), https://www.skadden.com/insights/publications/2017/07/sec-permit-issuers-submit-confidential.

honesty and create a uniform standard for ICO disclosures. These disclosures can mitigate the risk investors face by ensuring issuers of a utility token are working in good faith to develop their network and create value for investors holding the tokens. Companies would not be allowed to announce their ICO or solicit investors until these requirements are filed with the SEC. Developers would prepare and file these disclosures with the SEC's Cyber Unit. This pre–ICO registration statement would be the *only* communication allowed from the issuer of the token until the ICO was completed.

The statement would be required to contain:

(i) the identities of the issuers; this would include their dates of birth, social security numbers, addresses, criminal records, past employment, and any other information that could be reasonably desired by the SEC. This information would be redacted from the version of the statement available to investors;

(ii) basic information about the date of the sale (i.e., how long it will be held open, how much money will be raised);

(iii) financial projections on when and how the money will be spent and for what purposes;

(iv) identity of the third-party trustee that will oversee the raised funds;

(v) description of their network and how the token would interact with it (to ensure it is fully functional);

(vi) evidence that this network is technologically viable;

(vii) any existing or potential competitors;

(viii) the date on which they expect to complete the network, along with a tentative roadmap of checkpoints; and

(ix) a peer-reviewed smart contract code to facilitate the ICO.

The first five requirements are required by the SEC for almost all security offerings. The last four are tailored to address the unique risks of investing in an ICO. These disclosures reduce the risk of scammers by forcing developers to conduct some due diligence before deciding to hold an ICO. They also create binding obligations and expectations to complete the network as described. The Cyber Unit should be flexible enough to accommodate amendments to dates of completion and changes to the network development but vigilant to deny major changes that were not reasonably foreseeable from the original disclosures. The

financial projections shall estimate the amount that would need to be raised to complete the network and allocate that amount to the different costs and expenses involved. The financial projections should be prepared by qualified persons with experience in the cryptocurrency industry independent from the developers. The amount being raised would be capped at 10 percent above the amount projected as required in the disclosure, with the maximum amount being capped at $100 million. Uncapped ICOs are unreasonable and create an incentive for cash grabs by exploiting unsophisticated investors. This type of oversight and restriction ensures that there is less room for embezzlement and mitigates instances like what happened with Tezos or Filecoin where hundreds of millions of dollars are unnecessarily raised.

2. Post–ICO

During the ICO, new tokens are sold to the public for Ether, Bitcoin, or another existing cryptocurrency. Once the ICO is completed, 100 percent of the funds raised are placed in a trust with an independent third party who decides when to release the funds to the developers. The third party oversees the development of the project and releases funds as necessary to complete the network. The third party and the developers are allocated 25 percent of the funds as compensation once the network is completed. The new tokens are distributed after the ICO has ended. In prerelease, investors could trade their "warrants" for these tokens; after the release, investors are also able to trade these tokens immediately, allowing future access to the network to those who value the access highest. Once the network is completed, the tokens are traded to allow immediate access to the network.

Much as with a SPAC, the final network should be completed within 24–36 months of the ICO closing. This timeframe restriction ensures that the network supported by the ICO is technologically viable. Networks that require more time than this are likely riskier, and the managers of these type of networks should look to private placements with accredited investors and institutions instead.

SPACs are subject to costly periodic reporting and corporate governance requirements. For ICOs under this framework, these reporting and governance obligations will be postponed until the final network is completed. This gives the issuing company time to get off the ground and earn operating revenue sufficient to cover these obligations. There is no need to burden a newly formed company without any assets or liabilities with these expenses.

As more funds are disbursed by the independent third party to pay for the expenses of developing the network, the risk to investors increases. But in an

efficient market, this risk will be built into the price of the token: The price of a token whose development appears auspicious will increase, while the price of a token encountering development difficulties will decrease. This pressure to complete the network forces the management to create a feasible business plan early on in order to meet these obligations.

3. Enforcement and Penalties

Since the SEC Cyber Unit is already regulating some current ICOs, it would be this unit's responsibility to review and approve ICO registration statements that are filed with the SEC. Should the developers of a company fail to create their network within the time limit, shareholders are entitled to a pro-rata share of their investment that remains in the trust. This mechanism could be automated through the smart contract that disburses the tokens. Unlike in a SPAC, it is unlikely in this case that investors would be able to recover their entire investment. Thus, investors would be relying on the third-party trustee to release funds conservatively to ensure a reasonable amount is available for recovery in case of failure. Ideally, the confidence in this third party to do so would be built into the price of the token by the market. The Department of Justice also has jurisdiction to bring criminal sanctions against developers, management, and the third party should the funds be frivolously spent or embezzled.

The penalties for a material omission, fraudulent statement, gross negligence, or willful misconduct would be the same as they are now for publicly reporting companies. As an example, consider the fate of the founder of Theranos, Elizabeth Holmes.[223] Holmes was charged with massive fraud involving over $700 million. She settled for a $500,000 fine, relinquishing the shares acquired during the fraud, and a 10-year ban from serving as an officer or director of a public company.[224] Additional penalties would be under Section 5 of the Exchange Act forcing rescission of the tokens and criminal charges from the Department of Justice.[225] These severe sanctions are one more barrier to keep bad actors out of the business of conducting ICOs.

This regulatory framework ensures that developers are honest with retail investors and work in good faith to create a valuable network. It is lenient

223. Press Release, SEC, Theranos, CEO Holmes, and Former President Balwani Charged With Massive Fraud (Mar. 14, 2018), https://www.sec.gov/news/press-release/2018-41 [https://perma.cc/6RFW-FM3L].
224. *Id.*
225. *Id.*

enough to encourage cryptocurrency developers to incorporate in the United States, while requiring sufficient disclosures to inform retail investors of the risk involved in an ICO. The SEC should be viewed as a partner that promotes innovation in this new industry while protecting investors from fraud.

CONCLUSION

Initial coin offerings are a global phenomenon disrupting capital markets across several countries. As more offerings are held and more investors are enticed by promises of significant profits, a new regulatory framework becomes critical to promoting innovation without exploiting unsophisticated investors. The revolutionary technology behind Bitcoin and Ethereum has enabled retail investors to participate in opportunities that were ordinarily reserved for venture capitalists in Silicon Valley. This same technology's privacy features have challenged regulators from all over to rein in opportunistic scammers from exploiting innocent people. While existing legal analysis has fixated on squeezing initial coin offerings into existing securities regulations that would kill off the industry, this Comment has proposed a more efficient and inviting framework that promotes innovation and protects investors from fraud. A modified framework based on the regulations governing SPACs creates an attractive legal landscape in the United States and gives investors access to a potentially high-growth asset. Maybe DJ Khaled should not be allowed to be the face of the next cryptocurrency ICO, but we should not throw out the baby with the bathwater.