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COINSENSUS: The Need for Uniform National Virtual Currency Regulations

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COINSENSUS: The Need for Uniform National Virtual Currency Regulations

Anisha Reddy*

ABSTRACT

Google search volume for bitcoin and bitcoin-related keywords increased by as much as 1000 percent in 2017 from previous years. This increased interest comes hand-in-hand with increased regulatory and legislative scrutiny. Currently, there is disparate regulation for virtual currencies across national and state borders alike. States' promulgation of various and incongruous virtual currency regulations have forced service providers to withdraw from different states within the country. However, transactions are not contained within state lines, and disparate state-by-state regulation is impracticable.

The Uniform Law Commission recognized the need for uniform guidance for those entering the North American market and drafted the Uniform Regulation of Virtual Currency Businesses Act for each state to adopt in 2017. This Comment argues that every state should implement language identical or similar to the Uniform Law Commission's proposed regulation.

Implementing a uniform regulation applicable to clearly defined entities in this explosively growing field would provide harmony amongst the states and create an environment where both service providers and end-users have clear guidance on how to conform to the law. Further, regulatory clarity would provide consumers with much needed protection.

This Comment begins by examining the history and development of bitcoin and blockchain assets. Next, this Comment discusses the need for regulations in the United States. Then, this Comment provides an overview of the existing laws and regulations at both state and federal levels, and examines the simultaneous yet inconsistent legal characterizations imposed on virtual

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currencies. Virtual currencies can be: a piece of property, a security, a commodity, and of course, a currency. This Comment further analyzes the language and criticisms of the Uniform Law Commission's proposed Uniform Regulation of Virtual Currency Businesses Act. Finally, this Comment argues that the adoption of a uniform regulation is vital for the blockchain community's continued existence in America.

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I. INTRODUCTION

Congress enacted federal securities regulations after the failure of "blue sky" state securities laws to adequately address securities abuses that led to the Stock Market Crash and ensuing Great De-

pression.[1] Although blockchain-based economies are not nearly as widely relied upon as nation-based economies, regulators should not let history repeat itself.[2] Bitcoin, the most widely adopted virtual currency, is a functional currency in countries where the national currency is no longer feasible.[3] This increase in adoption comes hand-in-hand with increased reliance, which inevitably leads to consumer vulnerability.[4]

To address the issues that arise from increased reliance on virtual currencies properly, states have begun to regulate the virtual currency space.[5] Many state-enacted and proposed regulations are inconsistent; in some cases, they are in direct opposition.[6] Extremely prohibitive regulations in Hawaii have gone as far as forcing service providers to cease operations.[7] Additionally, federal regulators have begun to issue guidance and conduct enforcement actions.[8] However, uniform regulation is necessary because transactions travel across state lines.[9]

This Comment suggests that each state should adopt the language developed by the Uniform Law Commission in the Uniform Regulation of Virtual Currency Businesses Act.[10] The Uniform Regulation of Virtual Currency Businesses Act provides clear gui-

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1. Amanda M. Rose, *State Enforcement of National Policy: A Contextual Approach (with Evidence from the Securities Realm)*, 97 MINN. L. REV. 1343, 1376 (2013).

2. Kevin V. Tu & Michael W. Meredith, *Rethinking Virtual Currency Regulation in the Bitcoin Age*, 90 WASH. L. REV. 271, 344 (2015) ("[S]hould Bitcoin become a true competitor to government backed currencies . . . protections . . . need to be implemented.").

3. *See infra* note 50 (discussing Venezuela's increasing reliance on virtual currencies); *see also* Cady Voge, *Where Could Bitcoin Succeed as a Currency? In a Failed State*, WIRED (Mar. 22, 2018), http://bit.ly/2Dmwph6 (analyzing the severe inflation of the bolivar, forcing Venezuelans to "turn[ ] to bitcoin and other cryptocurrencies . . . precisely because their government has nothing to do with it.").

4. *See infra* Part II.D.

5. *See* Tu & Meredith *supra* note 2, at 304 ("[R]egulatory bodies, courts and state legislatures have acted independently resulting in a regulatory mishmash of guidance, clarification, extension and ongoing discussion.").

6. *See* Tu & Meredith *supra* note 2, at 234 ("[C]ontinuing on this path for developing virtual currency regulation may lead to a confusing and complex, or even incoherent regulatory environment . . . .").

7. *See* Stan Higgins, *Coinbase Just Stopped Serving Bitcoin Customers in Hawaii*, COINBASE (Feb. 27, 2017), http://bit.ly/2DhBWWe.

8. *See infra* Part II.E.2.

9. *See infra* Part II.C.

10. *See* UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT (NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS 2017).

dance and safeguards for end-users as well as proprietors of virtual currency businesses.[11]

This Comment begins with a historical and technical overview of blockchains, the foundational structure of virtual currencies.[12] Part II provides an overview of how these virtual currencies are prone to misuse.[13] Part II then provides an overview of select American laws and regulations at both the state and federal levels.[14]

Part III of this Comment describes the mission and drafting process of the Uniform Law Commission.[15] Part III further analyzes the uniform regulation, addresses criticisms to the regulation, and submits that state-by-state implementation of the regulation would create a feasible degree of virtual currency regulatory harmony across the country.[16]

II. BACKGROUND

A. *What Is a Blockchain?*

The mysterious Satoshi Nakamoto[17] introduced the revolutionary concept of a blockchain in his seminal white paper[18] detailing Bitcoin, a novel digital payment system stored on a blockchain.[19] A blockchain, also referred to as a distributed ledger, is a "chronological database of transactions recorded by a network of computers."[20]

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11. *See infra* Part II.C.
12. *See infra* Part II.A–B.
13. *See infra* Part II.D.
14. *See infra* Part II.E.
15. *See infra* Part III.A.
16. *See infra* Part III.B–C.
17. Alec Liu, *Who Is Satoshi Nakamoto, the Creator of Bitcoin?*, MOTHERBOARD (May 22, 2013), http://bit.ly/2xFjZuG. Nakamoto is said to be a pseudonym for a person or a group of people. *Id.* Although Nakamoto's online presence is scarce, various players in the digital currency space have either been accused of being Nakamoto or claimed to be him. *Id.*
18. A white paper is:

> [A]n article that states . . . a not-too-detailed technical explanation of an architecture, framework, or product technology. Typically, a white paper explains the results, conclusions, or construction resulting from some organized committee or research collaboration or design and development effort.

Margaret Rouse, *White Paper*, TECHTARGET, http://bit.ly/2zngg7f (last visited Sept. 7, 2018).

19. Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, BITCOIN.ORG (2008), https://bitcoin.org/bitcoin.pdf.
20. Aaron Wright & Primavera De Filippi, Decentralized Blockchain Technology and the Rise of *Lex Cryptographia* (Mar. 12, 2015) (unpublished manuscript), http://bit.ly/2zmRjJa; *see also* Marco Iansiti & Karim R. Lakhani, *The Truth About Blockchain*, HARV. BUS. REV., Jan.–Feb. 2017, at 118, 118 (describing a

Although the typical conceptualization of a ledger[21] is a record of financial transactions, the uses of blockchain technology can extend well beyond financial implementations.[22]

The network of computers that record information on a blockchain is a peer-to-peer (P2P) network, and each computer on the network is a node.[23] A P2P network, also referred to as a distributed network, sets the blockchain infrastructure apart from a classical database because the P2P network ensures no singular entity controls the blockchain.[24] The idea of "decentralized trust" is a key component to blockchain technology, and ensures that no third party can "serv[e] as a gatekeeper[ ] of the internet."[25]

B. The Bitcoin Blockchain

Through the development of Bitcoin,[26] Nakamoto envisioned a "digital analog to old-fashioned gold: a new kind of universal money that could be owned by everyone and spent anywhere."[27] Instead of a central authority like a nation or a bank controlling the currency, the currency Nakamoto proposed would function within a decentralized P2P network on the Internet.[28] Instead of a central administrator, nodes maintain the Bitcoin network by connecting their computers directly to the network.[29]

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blockchain as "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.").

21. *See Ledger*, BLACK'S LAW DICTIONARY (10th ed. 2014).

22. *See* SA Mathieson, *Blockchain Starts to Prove Its Value Outside of Finance*, COMPUTERWEEKLY.COM (Mar. 2017), http://bit.ly/2MSgmHm (describing various implementations and proposed implementations of blockchains to store information, for example, tracking medicine temperature during transportation and diamond and fine wine certifications).

23. *See* Rob Marvin, *Blockchain: The Invisible Technology That's Changing the World*, PCMAG (Aug. 29, 2017, 1:38 PM), http://bit.ly/2QQQUoN.

24. *See* PEDRO FRANCO, UNDERSTANDING BITCOIN: CRYPTOGRAPHY, ENGINEERING AND ECONOMICS 3–4 (2015).

25. Marvin, *supra* note 23.

26. The rationale behind the nomenclature used when referring to the Bitcoin protocol and bitcoin as a currency functions as follows:

> Bitcoin with a capital "B" is typically associated with Bitcoin the protocol and payment network. The uppercase form, "Bitcoin," is also often used to refer to as the ecosystem as a whole. . . . Bitcoin with a lowercase "b" written as "bitcoin" is usually associated specifically with bitcoin as the currency.

Blockchain Team, *Drawing the Distinction Between the Uppercase "B" and Lowercase "b" in Bitcoin*, BLOCKCHAIN BLOG (Dec. 29, 2014), http://bit.ly/2xwmqR8.

27. NATHANIEL POPPER, DIGITAL GOLD: BITCOIN AND THE INSIDE STORY OF THE MISFITS AND MILLIONAIRES TRYING TO REINVENT MONEY at X (2015).

28. *See* Nakamoto, *supra* note 19, at 1.

29. *Id.*

1. *How Does Bitcoin Work?*

When a user initiates a transaction, nodes from across the P2P network collectively verify its integrity.[30] Nodes run the Bitcoin software and "keep [B]itcoin running by participating in the relay of information."[31] Nodes review the entire Bitcoin network to ensure that the user initiating the transaction has the funds to spend and is not trying to concurrently spend them elsewhere.[32] Once verified, miners, a special type of node, collect a series of pending transactions "and turn them into a mathematical puzzle" known as a block of transactions.[33] The first miner to solve the puzzle distributes their solution to the other miners on the network.[34] The transaction is valid after a certain number of miners solve the problem and achieve the same result.[35]

Once validated, the "block[s] [are] cryptographically added to the ledger and the miners move on to the next set of transactions."[36] This validation process is a "proof-of-work" consensus mechanism.[37] Miners use their computing powers to verify transactions because the act of verifying a transaction "mines" new bitcoins, which are then rewarded to the miners.[38]

Each block in a chain contains information linking the new block to the block preceding it.[39] Because the newly added block contains the information from the block before it, the blockchain is immutable and each transaction is irreversible.[40] A block is fully

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30. *See* Rebecca Grant, *Bitcoin for Idiots: An Introductory Guide*, VENTUREBEAT (Feb. 17, 2014), http://bit.ly/2xH55Ep.

31. Noelle Acheson, *How Bitcoin Mining Works*, COINDESK (Jan. 29, 2018), http://bit.ly/2I8V1Ja.

32. *Id.*

33. *See* L.S., *How Bitcoin Mining Works*, ECONOMIST (Jan. 20, 2015), https://econ.st/2O3pJZo; *see also id.* (noting that some nodes are miners).

34. *Id.*

35. *See* Joseph Bonneau, *How Long Does It Take for a Bitcoin Transaction To Be Confirmed?*, COINCENTER (Nov. 3, 2015), http://bit.ly/2I73Gf1.

36. L.S., *supra* note 33.

37. ADAM BACK ET AL., ENABLING BLOCKCHAIN INNOVATIONS THROUGH PEGGED SIDECHAINS 3 (2014), http://www.blockstream.com/sidechains.pdf.

38. Nakamoto, *supra* note 19, at 4.

39. The information on the block is also known as a hash value, which includes information relaying the contents of the block, a timestamp, and the hash value of the preceding block. Nakamoto, *supra* note 19, at 7; *see also How Do Bitcoin Transactions Work?*, COINDESK, http://bit.ly/2xwo0T4 (last updated Jan. 28, 2018) ("[A] hash is produced by a 'hash function,' which is a complex math equation that reduces any amount of text or data to 64-character string").

40. *See* Paul Coletti, *Bitcoin's Baby: Blockchain's 'Tamper-Proof' Revolution*, BBC (May 20, 2015), https://bbc.in/2O0OJk9.

confirmed once miners add six additional blocks to the original.[41] In theory, miners will continue to verify transactions on the longest chain because the most processing power and verifications would have gone into building the longest chain; it is the chain least likely to contain falsely verified transactions.[42]

Although one of the main attractions of Bitcoin is its anonymity, sophisticated users are still able to trace transactions, albeit with some difficulty, through the "public key" that labels each transaction.[43] Users concerned with this pseudo-anonymity have addressed the issue by creating "coin mixing" tools which allow multiple users to mix their coins together on one transaction block, rendering specific addresses relatively indiscernible.[44]

2. *The Benefits of Bitcoin as a Currency*

In his white paper, Nakamoto criticized a major failing within the traditional banking framework of relying on third parties, typically financial institutions, to electronically process transactions.[45] Transacting electronically through an intermediary, instead of directly P2P, requires both the consumer and the intermediary to trust the third-party institution.[46] As Nakamoto posited:

> A certain percentage of fraud is accepted as unavoidable. These costs and payment uncertainties can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party. What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party.[47]

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41. *See* Joseph Bonneau, *How Long Does It Take for a Bitcoin Transaction to Be Confirmed?*, CoinCenter (Nov. 3, 2015), http://bit.ly/2I73Gf1. A transaction is considered confirmed after six blocks have been added to its block, because if blocks are added after the original block, the immutable quality of the ledger further confirms that the user sending the funds cannot double-spend the funds from the original transaction. *Id.*

42. Nakamoto, *supra* note 19, at 3. An attacker seeking to tamper with the information on a block would have to re-do the proof of work on that block and then change subsequent blocks to succeed unnoticed. *Id.*

43. Grant, *supra* note 30.

44. Kyle Torpey, *Path Towards Better Privacy in Bitcoin Becomes Clearer, But Will Still Take Time*, CoinJournal (Nov. 18, 2017), http://bit.ly/2xCUGJO.

45. Nakamoto, *supra* note 19, at 1 (criticizing reversible and trust-based payment systems perpetuated by financial institutions and emphasizing the need for irreversible payment systems that eliminate the chance of fraud).

46. *Id.*

47. *Id.*

Nakamoto theorized that P2P bitcoin transactions would not require trust because they are irreversible once recorded.[48] Additionally, users would not be vulnerable to a third-party financial institution retaining their payment information.[49] The untethered aspect of bitcoin as a currency is especially "attractive to people in countries[ ] like China and Zimbabwe, where the government has a history of seizing bank accounts and assets."[50]

C. The Evolution of the Blockchain

1. Use of Bitcoin

Over 100,000 merchants currently accept bitcoin as a form of payment, including Overstock.com, Microsoft, and Apple's Application Store.[51] Hedge funds have incorporated virtual currencies into their service offerings.[52] Tenants can now pay rent with various virtual currencies.[53] Parents can pay for their children's elite preschool education with bitcoin.[54] Payment services companies have also embraced the new form of currency.[55] As bitcoin becomes an

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48. *See Why Use Bitcoin?*, COINDESK (Feb. 20, 2014), http://bit.ly/2DmQwfc; Coletti, *supra* note 40 and accompanying text.

49. *Id.* Users would be less vulnerable to identity theft if there was no need to provide sensitive information to external service providers such as merchants and financial institutions.

50. Nathaniel Popper, *As Bitcoin Scrapes $10,000, an Investment Boom Like No Other*, N.Y. TIMES (Nov. 22, 2017), https://nyti.ms/2QKpJfo. In some regions, use of bitcoin has become a necessity:

> [As] Venezuela's national currency loses value at a catastrophic rate, thousands have begun turning to . . . cryptocurrency to salvage what little value remains from their increasingly worthless bolivars . . . [f]ollowing the debt crisis in Greece, hyperinflation in Zimbabwe[,] and unrest in Ukraine, rising numbers of distressed citizens [are] utiliz[ing] bitcoin.

Id.; *see also* Christine Armario, *Venezuelans Seeing Bitcoin Boom as Survival, Not Speculation*, ASSOCIATED PRESS (Dec. 13, 2017).

51. *See* Ethan Wolff-Mann, *Big Bitcoin–Friendly Companies like Microsoft and Expedia Hedge Their Bet*, YAHOO FIN. (Sept. 20, 2017), https://yhoo.it/2DaLouB; Anthony Cuthbertson, *Cryptocurrency News Round-Up: Apple Accepts Bitcoin for Apps & Cryptocurrency Divorces*, INT'L BUS. TIMES (June 3, 2014), http://bit.ly/2OMSZB2.

52. *See* Nathaniel Popper, *Hedge Funds Push the Price of Bitcoin to New Highs*, N.Y. TIMES (Nov. 6, 2017), https://nyti.ms/2MTrDr9.

53. *See* Nikhilesh De, *Paying Rent with Crypto? App for Tenants Adds BTC, LTC, ETH*, COINDESK (Dec. 1, 2017), http://bit.ly/2xJfwaC.

54. *See Bitcoin Accepted at New York Pre-School*, BBC (June 30, 2017), https://bbc.in/2NvPJgv.

55. *E.g.*, Lily Katz, *Square Is Letting You Buy Bitcoin on Your Phone*, BLOOMBERG (Nov. 15, 2017), https://bloom.bg/2I3mTy4.

increasingly widespread form of payment throughout the world, blockchain technology will continue to develop.[56]

2. *The Birth of Alt-Coins*

Since the creation of the bitcoin, over 1,800 alternative virtual currencies (commonly referred to as "alt-coins") have emerged.[57] Although critics deride many alt-coins as money-making schemes,[58] some have gained large followings.[59] The Managing Director of the International Monetary Fund acknowledges that even if virtual currencies are volatile, it would be unwise to dismiss them altogether.[60] Cryptocurrency protocols with comparable user-bases to Bitcoin include Ethereum, Ripple, Litecoin, Dogecoin, and Monero.[61] The various ways that alt-coins diverge from Bitcoin include consensus mechanisms,[62] methods of distribution,[63] and transaction verification speeds.[64]

Experts consider Ethereum the most viable "rival" to Bitcoin.[65] Ethereum is a blockchain protocol that enables users to execute smart contracts and even has its own digital asset, ether.[66] Smart contracts on Ethereum are applications that run without an intermediary; for example, Apple is an intermediary that controls

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56. *See Where Can I Spend Bitcoin?*, COINBASE (Dec. 18, 2017), http://bit.ly/2xu9P0T; *see also Map of Bitcoin Accepting Venues*, COINMAP, https://coinmap.org/ (last visited Sept. 8, 2018).

57. *See CryptoCurrency Market Capitalizations*, COINMARKETCAP, https://coinmarketcap.com/ (last visited Aug. 10, 2018) (listing every cryptocurrency currently on the market by current fiat value, volume of trade, and supply in use).

58. *See, e.g.*, Joon Ian Wong, *Eager Cryptocurrency Investors Have Sunk Thousands of Dollars into Joke Tokens,* QUARTZ (July 7, 2017), https://qz.com/1023501.

59. *See* Josiah Wilmoth, *What Is an Altcoin?*, CRYPTOCOINSNEWS (Dec. 9, 2014), http://bit.ly/2puwx4m.

60. *See* Christine Lagarde, Managing Director, Int'l Monetary Fund, Central Banking and Fintech—A Brave New World?, Address at Bank of England Conference, *in* INT'L MONETARY FUND (Sept. 29, 2017), http://bit.ly/2I5j0c7.

61. *See* COINMARKETCAP, *supra* note 57.

62. *See* Gleb Kostarev, *Review of Blockchain Consensus Mechanisms*, WAVES PLATFORM (July 31, 2017), http://bit.ly/2xDrvGx (explaining the various mechanisms blockchain protocols implement for miners to agree to the validity of any given transaction).

63. *See* Vitalik Buterin, *On Long-Term Cryptocurrency Distribution Models*, ETHEREUM BLOG (May 24, 2014), http://bit.ly/2Dnky2n (explaining the various ways cryptocurrency protocols can be structured to distribute coins to users).

64. Wilmoth, *supra* note 59.

65. *See* Lily Katz, *Bitcoin Is at Risk of No Longer Being the Biggest Digital Currency*, BLOOMBERG (May 31, 2017), https://bloom.bg/2QQNXF4.

66. Alyssa Hertig, *How Do Ethereum Smart Contracts Work?*, COINDESK, http://bit.ly/2psci7B (last visited Sept. 8, 2018) ("[S]mart contracts are programs that execute exactly as they are set up by their creators.").

which applications it offers on the Application Store.[67] Interestingly, the advent of Ethereum has led to an increased rate of blockchain-asset crowdfunding, referred to as an I.C.O. (initial coin offering).[68] Some attribute this rise in I.C.O.s to Ethereum's pliability, which makes it simple to create a new virtual currency on the Ethereum blockchain.[69]

Some alt-coins forgo providing payment services altogether.[70] For example, Numerai created a coin that functions as an offshoot of the Ethereum blockchain.[71] Data scientists compete for numeraire, Numerai's coin, by creating trading algorithms.[72]

3. *Other Uses of Blockchain Technology*

Governments throughout the world have invested considerable resources into researching how to integrate blockchain technology into various services.[73] Dubai, in particular, launched an initiative aimed at making it the first "city built on blockchain."[74] In fact, in October 2017, the Dubai Land Department announced that it would be the first governmental agency to conduct all land transactions using a blockchain.[75]

Similarly, the state of Illinois is currently exploring how blockchain technology is ripe for implementation within the government.[76] In August 2017, the Illinois Blockchain Initiative, a consortium of state and county agencies, announced a pilot digital

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67. *Id.*; Linda Xie, *A Beginner's Guide to Ethereum Tokens*, COINBASE BLOG (May 22, 2017), http://bit.ly/2xu8Zkr.

68. Jason Rowley, *How Ethereum Became the Platform of Choice for ICO'd Digital Assets*, TECHCRUNCH (June 8, 2017), http://tcrn.ch/2sHUMwm.

69. Xie, *supra* note 67.

70. *Id.*

71. NUMERAI, HTTPS://NUMER.AI/ (LAST VISITED Sept. 8, 2018); *see also Numerai*, CRUNCHBASE, http://bit.ly/2O6t8Xk (last visited Sept. 8, 2018) (describing Numerai as a platform used to compare multiple financial models, where data scientists are ranked and rewarded according to their work on any given project).

72. Cade Metz, *An AI Hedge Fund Created a New Currency to Make Wall Street Work Like Open Source*, WIRED (Feb. 21, 2017), http://bit.ly/2MRWKTW (describing how Numeraire works).

73. *See* Steve Cheng et al., *Using Blockchain to Improve Data Management in the Public Sector*, MCKINSEY & COMPANY (Feb. 2017), http://bit.ly/2xFj64T (discussing proposed and implemented blockchain use by the governments of Estonia, Sweden, the Republic of Georgia, Delaware, and more).

74. *See* Nikhil Lohade, *Dubai Aims to Be a City Built on Blockchain*, WALL ST. J. (Apr. 4, 2017), https://on.wsj.com/2I3VVX5 (discussing the Dubai government's goal to migrate government services onto blockchain-based systems).

75. Press Release, Gov't of Dubai, Dubai Land Department Becomes World's First Government Entity to Conduct All Transactions Through Blockchain Network (Oct. 7, 2017), http://bit.ly/2O6ubXg.

76. *About*, ILL. BLOCKCHAIN INITIATIVE, https://illinoisblockchain.tech/about (last visited Sept. 8, 2018).

identity registration program which utilizes blockchain technology to store and seal identity attributes such as date of birth and blood type.[77]

Over 11,500 patent filings use the term "blockchain."[78] The diversity of filings include uses like tamper-free voting[79] and energy sharing across a smart power grid.[80] Additionally, financial service giants like Goldman Sachs, J.P. Morgan, and Fidelity are moving toward integrating blockchain technology into their service offerings.[81] Several of the world's largest banks recognize the importance of virtual currency and are working collaboratively to create uniform standards for blockchain technology.[82]

Non-profit organizations also recognize the unique uses of blockchain technology.[83] For example, Bail Bloc, a collaborative initiative between two non-profit organizations, aims to utilize excess computer processing power to mine Monero, an alt-coin.[84] Once the Bail Bloc user mines Monero, Bail Bloc converts Monero into U.S. dollars which the Bronx Freedom Fund uses to fund bail for low-income New York residents accused of misdemeanors.[85] Another non-profit organization, the Sovrin Foundation, aims to use a blockchain protocol to create a "self-sovereign identity network."[86] Sovrin implements a public blockchain that empowers

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77. Press Release, Ill. Blockchain Initiative, Illinois Partners with Evernym to Launch Birth Registration Pilot (Aug. 31, 2017), http://bit.ly/2QQwPiI; *see also Blockchain in Illinois*, ILL. DEP'T INNOVATION & TECH., http://bit.ly/2xJ0nWw (last visited Sept. 8, 2018) (describing the Illinois Blockchain Initiative).

78. *PATENTSCOPE*, WORLD INTELL. PROP. ORG., http://bit.ly/2xIdBmj (last visited Sept. 8, 2018) (search: "ALLTXT:(blockchain OR bitcoin OR "block chain")"). The number of patent filings continues to rise; this count was last updated on August 10, 2018.

79. U.S. Patent No. 9,836,908 (filed Aug. 6, 2015).

80. U.S. Patent Application No. 15/292,783, Publication No. US 2017/0103468 A1 (published Apr. 13, 2017) (TransActive Grid Inc., applicant).

81. *See* Dakin Campbell, *Goldman Sachs to Explore Starting Bitcoin Trading Venture*, BLOOMBERG (Oct. 2, 2017), https://bloom.bg/2znlXlB; Hadley Stern, *Together We Can Define the Future of Blockchain Technology*, FIDELITYLABS (May 25, 2017), http://bit.ly/2NvNLwS; *Is Distributed Ledger Technology (DLT) A Banking Fad or Fixture?*, J.P. MORGAN, http://bit.ly/2pushli (last visited Sept. 8, 2018).

82. *See The R3 Story*, R3, https://www.r3.com/about/ (last visited Sept. 8, 2018).

83. *See* Paul Lamb, *Transforming the Social Sector: Bitcoin and Blockchain for Good*, HUFFINGTON POST (Sept. 19, 2017), http://bit.ly/2puGHlH (describing how charities are creating coins for I.C.O.s to raise funds, implementing blockchains to track aid, and creating infrastructures to secure voting).

84. *About*, BAIL BLOC, http://bit.ly/2pqZjD2 (last visited Sept. 8, 2018).

85. *Id.*

86. SOVRIN, HTTPS://SOVRIN.ORG/ABOUT/ (LAST VISITED Sept. 8, 2017) (the "self-sovereign identity network" created by Sovrin seeks to eliminate the need for

both individual users and entities to create protected identities and regain control over their identifying information.[87] Since the 2017 Equifax data breach, using a blockchain for identity management has been a timely topic of discussion throughout the information security community.[88]

D. *Misuse of Blockchain Technology*

Bitcoin is prone to misuse due to its lack of centralized administration, its pseudonymous nature, and its transaction speed.[89] Such misuses underscore the need for regulation of virtual currency businesses.

"The Silk Road," one of most nefarious possible applications of virtual currency, was an online black market that propelled virtual currency into the public vernacular.[90] The Silk Road, a "digital marketplace for illicit trade," used a combination of "an anonymous interface with traceless payments in the digital currency bitcoin . . . [to] allow[ ] thousands of drug dealers and nearly 1 million eager worldwide customers to find each other—and their drugs of choice—in the familiar realm of ecommerce."[91] Although disruption of the Silk Road stymied the use of bitcoin as a currency for illegal drugs,[92] virtual currencies remain a payment mechanism used to procure illicit materials and fund human trafficking, mostly

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a "patchwork" of identity validation mechanisms, such as government issued identification papers and usernames, and instead create a blockchain-based credential verifying system).

87. *Id.*

88. Ron Miller, *The Promise of Managing Identity on the Blockchain*, TECHCRUNCH (Sept. 10, 2017), https://tcrn.ch/2NZKl4L (discussing the use and viability of implementing self-sovereign identities on a blockchain).

89. Matt Schiavenza, *Without Drugs, What's the Point of Bitcoin?*, ATLANTIC (Jan. 17, 2015), http://bit.ly/2I4rhgu ("Unlike modern fiat currencies like the U.S. dollar, Bitcoin has no supervising authority, no regulation, and no central bank. . . . As an unregulated currency, Bitcoin appeared to be a natural fit for the illicit drug market.").

90. Grace Caffyn, *Bitcoin on the Dark Web: The Facts*, COINDESK (Sept. 23, 2015), http://bit.ly/2OIeBOS ("Bitcoin has been the de facto currency of the Dark Web—the 'hidden' Internet accessible only by Tor—since the pioneering marketplace Silk Road, the 'eBay of drugs', arrived in 2011."); *see also* Marco Santori, *Silk Road Goes Dark: Bitcoin Survives Its Biggest Market's Demise*, COINDESK (May 5, 2017), http://bit.ly/2MXTF4Q ("As the Silk Road grew in popularity, so did recognition that bitcoin could be used for illicit activity, and so did the government's interest in it.").

91. Joshuah Bearman & Tomer Hanuka, *The Rise and Fall of Silk Road, Pt. 1*, WIRED, http://bit.ly/2O1K2Gz (last visited Sept. 8, 2018).

92. *Id.*

due to the ease at which users can transmit funds without providing sensitive personal information to service providers.[93]

Although instances are few and far between, some individuals and entities fund terrorist groups through use of virtual currency.[94] Terrorist organizations such as ISIS have used virtual currency in Indonesia[95] and the United States.[96] Organizations like the Blockchain Alliance combat such uses of bitcoin by educating and providing "technical assistance" to law enforcement agencies.[97] Notwithstanding such efforts, partnerships of this sort are the exception to the norm.[98]

The decentralized, pseudonymous, and speedy nature of transactions also fosters the use of virtual currencies for money laundering.[99] In the 2017 National Drug Threat Assessment, the Drug Enforcement Agency (DEA) recognized that virtual currencies have become an emerging threat allowing illicit enterprises to launder proceeds from illegal ventures and transfer the funds internationally.[100]

Bitcoin has also been the currency of choice for many recent ransomware attacks.[101] Ransomware is a low-cost, simple method for hackers to infect computers and demand bitcoin while exposing themselves to little risk.[102] Hackers take advantage of the anonymity provided by bitcoin and coin-mixers when holding information gleaned from hacks at ransom until paid off.[103]

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93. Popper, *supra* note 50; *see also* Danny Bradbury, *Bitcoin Foundation Plays Down Silk Road Connection at Senate Hearing*, CoinDesk (Nov. 18, 2013), http://bit.ly/2Dn0bCn.

94. Zachary K. Goldman et al., *Terrorist Use of Virtual Currencies*, CNAS (May 3, 2017), http://bit.ly/2xFKIrc.

95. *See* Resty Woro Yuniar, *Bitcoin, PayPal Used to Finance Terrorism, Indonesian Agency Says,* Wall St. J. (Jan. 10, 2017), https://on.wsj.com/2xvhJXy.

96. *See ISIS Fundraising in US via Bitcoin,* RT (Jan. 30, 2015), http://bit.ly/2xxsCIq.

97. Blockchain Alliance, http://blockchainalliance.org/ (last visited Sept. 8, 2018).

98. *See* Yaya Fanusie, *The New Frontier in Terror Fundraising: Bitcoin,* Cipher Brief (Aug. 24, 2016), http://bit.ly/2zmIn6n.

99. Nicholas J. Ajello, *Fitting a Square Peg in a Round Hole: Bitcoin, Money Laundering, and the Fifth Amendment Privilege Against Self-Incrimination*, 80 Brook. L. Rev. 435, 446–47 (2015).

100. U.S. Dep't of Justice, Drug Enf't Admin., 2017 National Drug Threat Assessment 130 (2017), http://bit.ly/2DmSYlU.

101. Joseph Cox, *Kidnappers Around the World Want Their Ransoms Paid in Bitcoin,* Motherboard (July 4, 2017), http://bit.ly/2PVJsHH; *see* Robert Moir, *Defining Malware: FAQ*, Microsoft TechNet (Oct. 1, 2003), http://bit.ly/2QQaVMs.

102. *See* sources cited *supra* note 101.

103. *See* sources cited *supra* note 101.

Additionally, consumers are vulnerable when transacting in bitcoin.[104] Thefts have plagued Bitcoin service providers since 2011.[105] Experienced and inexperienced investors alike are prone to being taken advantage of by nefarious actors in the virtual currency community.[106] Recently, a virtual currency exchange platform experienced a loss of more than one million dollars due to hacks, begging the question of whether an exchange has the money it claims to hold.[107] Consumer vulnerability is also a significant concern for I.C.O.s. In 2018, tech-giants Google,[108] Facebook,[109] and Twitter[110] went as far as implementing bans against virtual currency advertisements on their websites.[111]

E. Current Blockchain-Asset Regulations in America

In the global economy, blockchain-asset regulation has taken various forms; different jurisdictions impose a spectrum of regulations which encompass indifference,[112] permissiveness,[113] and hos-

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104. *See* Alex Hern, *A History of Bitcoin Hacks*, GUARDIAN (Mar. 18, 2014), http://bit.ly/2PVJOy1.

105. *Id.*

106. *See* Laura Shin, *Hackers Have Stolen Millions of Dollars in Bitcoin—Using Only Phone Numbers*, FORBES (Dec. 20, 2016), http://bit.ly/2tgc9ss ("[B]itcoin scams . . . have hit everyone from everyday people to hospitals . . . .").

107. Nathaniel Popper, *Warning Signs About Another Giant Bitcoin Exchange*, N.Y. TIMES (Nov. 21, 2017), https://nyti.ms/2ptVlK3.

108. *Financial Services: New Restricted Financial Products Policy (June 2018)*, GOOGLE (Mar. 2018), http://bit.ly/2O88V3L.

109. Rob Leathern, *New Ads Policy: Improving Integrity and Security of Financial Product and Services Ads*, FACEBOOK BUS. (Jan. 30, 2018), http://bit.ly/2xDs6YN.

110. Tommy Wilkes & Fanny Potkin, *Twitter to Ban Cryptocurrency Ads from Tuesday as Online Crackdown Widens*, REUTERS (Mar. 26, 2018), https://reut.rs/2NsN4UQ. Interestingly, although Twitter will ban advertisements of I.C.O.s and token sales, Twitter's chief executive and co-founder is also founder and C.E.O. of Square, a mobile payments company that has expanded its offerings to include bitcoin trading. *See Getting Started with Bitcoin in Cash App*, SQUAREUP, https://squ.re/2pscNhZ (last visited Sept. 8, 2018). This move to ban other trading platforms from advertising on Twitter may be more self-serving than beneficial to consumers. *See About Us*, SQUAREUP, https://squareup.com/about (last visited Sept. 8, 2018).

111. Lily Hay Newman, *Why It's So Easy to Hack Cryptocurrency Startup Fundraisers*, WIRED (Sept. 7, 2017), http://bit.ly/2PWZkKa ("[C]riminals have been carrying off most of the scams around ICOs through . . . phishing campaigns and social media manipulation . . . masquerade[ing] as legitimate administrators of ICOs so they can disseminate fake information to potential investors . . . about where to send money . . . .").

112. LAW LIBRARY OF CONG., GLOB. LEGAL RESEARCH CTR., REGULATION OF BITCOIN IN SELECTED JURISDICTIONS 22 (2014), http://bit.ly/2xty4MI ("No formal regulations on the bitcoin exist in Turkey.").

113. *Id.* at 20 ("Slovenia issued a formal opinion about the status of the bitcoin . . . [stating that] bitcoin is not a monetary means under Slovenian law and

tility.[114] Even within many jurisdictions of the United States, regulations take differing and sometimes divergent shapes.[115] The current state of financial regulations and policies are aptly referred to as "Franken-finance" because the laws are "full of absurd contradictions [and] incongruities."[116] The fact that there has been "no clean transition from one technology to the next" further exacerbates the incongruities in financial regulations across the country.[117] Both state and federal regulatory agencies struggle to address cryptocurrencies in a uniform manner.

1. Statewide Regulation of Virtual Currency

Disparate state regulations frustrate both proprietors and end-users because any given state may (1) not recognize virtual currencies as fiat currency, (2) outlaw I.C.O.s, (3) recognize virtual currencies as fiat currency, (4) permit blockchain use in trading, (5) impose strict licensing requirements, or (6) deny all attempts to become licensed.[118]

Texas regulators do not consider virtual currency a fiat currency and thus do not subject virtual currency businesses to money transmitter regulations.[119] The definition of virtual currency in Texas is "an electronic medium of exchange typically used to purchase goods and services from certain merchants or to exchange for other currencies, either virtual or [fiat]."[120] However, if an intermediary becomes involved and facilitates the interaction of virtual currencies with a fiat currency, that intermediary may be subject to financial regulations in Texas.[121] Similarly, in 2014, Kan-

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not a financial instrument . . . [but warned that the] taxation of bitcoin income still warrants review on an individual basis.").

114. *See* Kai Sedgewick, *Five Countries Where Bitcoin Is Illegal*, BITCOIN.COM (Nov. 17, 2017), http://bit.ly/2xye9fr/; BITCOIN.COM, HTTP://MAP.BITLEGAL.IO/ (LAST VISITED SEPT. 8, 2018) (describing Bitcoin regulations by country with an interactive map); s*ee also* BITLEGAL, HTTP://BITLEGAL.IO/LIST.PHP (LAST VISITED SEPT. 8, 2018) (listing descriptions of Bitcoin regulatory schemes as permissive, contentious, or hostile).

115. *See* Tu & Meredith, *supra* note 2, at 304.

116. *See* DON TAPSCOTT & ALEX TAPSCOTT, BLOCKCHAIN REVOLUTION: HOW THE TECHNOLOGY BEHIND BITCOIN AND OTHER CRYPTOCURRENCIES IS CHANGING THE WORLD 56 (2018).

117. *Id.*

118. *See* Tu & Meredith, *supra* note 2, at 313.

119. *See generally* Memorandum from Charles G. Cooper, Tex. Banking Comm'r, to All Virtual Currency Companies Operating or Desiring to Operate in Texas (Apr. 3, 2014), http://bit.ly/2puHa7r.

120. *Id.* at 1.

121. *Id.* at 3.

sas announced that virtual currencies do not have monetary value in the state.[122]

However, Texas regulators have taken a stronger stance against I.C.O.s.[123] Specifically, on January 11, 2017, the Texas State Securities Board filed an emergency cease and desist order against BitConnect,[124] a virtual currency company offering securities in the form of tokens through agents recruited to advertise such sales in Texas.[125] The order concluded that BitConnect registered neither their offering nor their company with the proper regulators.[126]

Additionally, the order alleges that BitConnect fraudulently promised profits to investors while failing to disclose material information and making misleading statements in violation of Texas's securities law.[127] By acting in this manner, Texas has likened I.C.O.s to traditional securities offerings, even though virtual currencies are not currency. Similarly, in early 2018, the Massachusetts Securities Division (Securities Division) issued five consent orders against companies purporting to offer I.C.O.s, which the Securities Division categorized as "unregistered or non-exempt securities."[128] Each consent order prohibits the offer or sale of any offering unless the company registers with the Securities Division or establishes that the offering is exempt from securities registration and requires the company to provide notice to the requisite state authority.[129]

In an action potentially providing clarification to service providers and consumers, Wyoming's House of Representatives unanimously passed two House bills exempting virtual currency from Wyoming's Money Transmitter Act and exempting specific coin sales from blue sky securities regulations, provided that the token

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122. KAN. OFFICE OF THE STATE BANK COMM'R, REGULATORY TREATMENT OF VIRTUAL CURRENCIES UNDER THE KANSAS MONEY TRANSMITTER ACT 3 (June 6, 2014), http://bit.ly/2zlUbpq.

123. *See* BitConnect, ENF-18-CDO-1754, 8 (Tex. State Sec. Bd. Jan. 4, 2018) [hereinafter BitConnect Cease and Desist] (emergency cease and desist order).

124. *What Is BitConnect?*, BITCONNECT, http://bit.ly/2DmCj1K (last visited Sept. 8, 2018) ("BitConnect is an open source all in one bitcoin and crypto community platform designed to provide multiple investment opportunities with cryptocurrency education . . . .").

125. *Id.*; Nikhilesh De, *Texas Regulator Orders BitConnect to Call Off Token Sale*, COINDESK (Jan. 5, 2018), http://bit.ly/2xFba3X.

126. BitConnect Cease and Desist, *supra* note 123, at 5–6.

127. *Id.* at 6–8.

128. *See* Sparkco, Inc., E-2018-0017, 6 (Mass. State Sec. Sec. Div. Mar. 27, 2018); PinkRibbon ICO, E-2018-029, 5 (Mass. State Sec. Sec. Div. Mar. 27, 2018); Mattervest, Inc., E-2018-0011, 5 (Mass. State Sec. Sec. Div. Mar. 27, 2018); Across Platforms Inc., E-2018-0016, 5 (Mass. State Sec. Div. Mar. 27, 2018); 18Moons, Inc., E-2018-0010, 5 (Mass. State Sec. Div. Mar. 27, 2018).

129. *See* sources cited *supra* note 128.

sold is exchangeable for some good or service.[130] Both House bills are now under review by the State Senate.

Delaware legislators tackled regulation of blockchain assets from a different angle. Delaware's General Corporation Code now authorizes the use of "distributed electronic networks or databases" to store corporate records.[131] The effect of this change is that traders may use blockchain technology as a trading platform.[132]

On the opposite end of the spectrum, a New York regulatory agency issued strict requirements for virtual currency businesses within the state.[133] The New York Department of Financial Services was the first state regulatory body in America to impose regulations on virtual currencies.[134] The regulation, called the BitLicense, defines virtual currency business activity and requires qualifying service providers to obtain a license in order to conduct business in the state lawfully.[135] Critics deride the BitLicense for providing vague definitions, overtaking federal anti-money laundering regulation jurisdiction, and issuing exorbitant compliance costs which preclude innovation.[136]

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130. H.B. 19, 64th Leg., 2018 Budget Sess. (Wyo. 2018) (exempting virtual currency from the Wyoming Money Transmitter Act); H.B. 70, 64th Leg., 2018 Budget Sess. (Wyo. 2018) (exempting specific I.C.O.s from securities regulations).

131. *See* S.B. 69, 149th Gen. Assemb., §§ 1, 2, 5, 6, 7, 11, 151(f), 202(a), 219(a), 219(c), 224, 232(c), 364 (Del. 2017).

132. *See* Jeff John Roberts, *Companies Can Put Shareholders on a Blockchain Starting Today*, FORTUNE (Aug. 1, 2017), https://for.tn/2MRnG6h.

133. *See* Pete Rizzo, *Final BitLicense Proves Divisive Milestone in US Bitcoin Regulation*, COINDESK (June 3, 2015), http://bit.ly/2NwIHrO ("[T]he law imposes a higher threshold for compliance on bitcoin startups than those in traditional financial services."); N.Y. Comp. Codes R. & Regs. tit. 23, §§ 200.14–16 (2017).

134. Brian Knight, *Federalism and Federalization on the Fintech Frontier*, 20 VAND. J. ENT. & TECH. L. 129, 166 (2017).

135. N.Y. COMP. CODES R. & REGS. tit. 23, § 200.2(q) (2017). The regulation defines Virtual Currency Business Activity as:

> [T]he 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.

136. N.Y. COMP. CODES R. & REGS. tit. 23, §§ 200.14–16 (2017) (requiring registered companies to comply with strict disclosure and auditing requirements); Andrea Castillo, *Hey, New York: Bitcoin Doesn't Need a BitLicense*, FOUND. FOR ECON. EDUC. (Aug. 15, 2015), http://bit.ly/2puHC5I; Peter Van Valkenburgh, *Our*

Similarly, Washington State permits virtual currency transmitters to operate in the state upon licensure.[137] Service providers must retain a minimum amount of funds to cover consumer claims,[138] and virtual currency receives the same treatment as fiat currency.[139] The definition of "virtual currency" excludes "the software or protocols governing the transfer of the [virtual currency] or other uses of . . . distributed ledger systems to verify ownership or authenticity . . . when the virtual currency is not used as a medium of exchange."[140]

Hawaii went a step further than both New York and Washington and banned virtual currency transmitters from receiving a money transmitter license, a necessary component for conducting money transmitting business in the state.[141] As a result of Hawaii's directive, major service providers that had established services in the state, like Coinbase, had no other option but to cease operations in Hawaii.[142]

2. *Federal Treatment of Blockchain-Assets*

Several federal agencies have issued notices and engaged in enforcement proceedings regarding virtual currencies and blockchain-based assets.[143] In July 2017, the Securities Exchange Commission (SEC) announced that I.C.O.s are subject to federal securities regulations.[144] The SEC also announced that celebrity endorsements of I.C.O.s[145] could expose celebrities to liability for violating federal securities laws, further underscoring SEC treatment of I.C.O.s as

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Thoughts on the BitLicense: California Is Winning, COINCENTER (June 3, 2015), http://bit.ly/2xOKdLB.

137. WASH. REV. CODE § 19.230.030 (2017) (explaining when a Virtual Currency license is required).

138. WASH. REV. CODE § 19.230.050 (2017).

139. *See* WASH. REV. ADMIN. CODE § 19.230.010(18) (2017). The Act defines money transmission to include "receiving money or its equivalent value," which can include virtual currency. *Id.*

140. *Id.* at § 19.230.010(30).

141. *See* Press Release, Haw. Dep't of Commerce & Consumer Affairs, News Release: State Warns Consumers on Potential Bitcoin Issues (Feb. 26, 2014), http://bit.ly/2QPiJ0Q.

142. *See* Higgins, *supra* note 7.

143. *See* Maria Terekhova, *More Bitcoin Regulations Are Coming*, BUS. INSIDER (July 10, 2017), https://read.bi/2O6Yrla.

144. Press Release, Sec. Exch. Comm'n, SEC Issues Investigative Report Concluding DAO Tokens, a Digital Asset, Were Securities (July 25, 2017), http://bit.ly/2MSxUmL (describing which tokens would be securities, but stopping short of declaring all tokens subject to securities regulations).

145. *Id.*

securities.[146] In an effort to further educate investors about fraudulent offerings, the SEC created a parody website advertising a coin offering called "HoweyCoins," which exhibits multiple characteristics cited by the SEC as signs of fraudulent offerings.[147] In late 2017, a former SEC commissioner condemned the SEC's lack of action, and he "contact[ed] current commission officials and staff to urge them to bring cases, and fast."[148]

Seemingly in response to this call to action, in 2018 the SEC announced two settlements with a broker-dealer and a hedge fund charged with securities violations.[149] These actions are the first of their kind, and were only announced post-resolution.[150] Interestingly, both decisions characterize the offerings in question (referred to as "certain digital assets"[151] or "certain digital tokens"[152]) as securities and fail to name which specific virtual currencies were involved. By shielding which exact currencies were determined to be securities by the commission, the settlement announcements provide little insight into the SEC's determination process.

In a 2015 ruling, the U.S. Commodity Futures Trading Commission (CFTC) determined that "[b]itcoin and other virtual currencies are . . . properly defined as commodities."[153] Interestingly, the CFTC further found that virtual currencies are "distinct" from nation-based "legal tender."[154] As a result of this ruling, the CFTC brought an enforcement action against Bitfinex, a virtual currency

146. Public Statement, Sec. Exch. Comm'n, SEC Statement Urging Caution Around Celebrity Backed ICOs (Nov. 1, 2017), http://bit.ly/2xxtm0a.

147. *See ICO – Howeycoins*, INVESTOR.GOV, http://bit.ly/2MSymkX (last visited Sept. 18, 2018) (listing I.C.O. red flags such as claims of high returns, celebrity endorsements, claims of compliance with regulatory bodies including the SEC, credit card compatibility, and more).

148. Nathaniel Popper, *Initial Coin Offerings Horrify a Former S.E.C. Regulator*, N.Y. TIMES (Nov. 26, 2017), https://nyti.ms/2QS8kBo.

149. *See In re* Crypto Asset Mgmt., LP, Exchange Act Release No. 10,544, 2018 WL 4329663 (Sept. 11, 2018); *In re* TokenLot LLC, Exchange Act Release No. 84075, 2018 WL 4329662 (Sept. 11, 2018); *see also* Press Release, Sec. Exch. Comm'n, SEC Charges Digital Asset Hedge Fund Manager with Misrepresentations and Registration Failures (Sept. 11, 2018), http://bit.ly/2zn3kON; Press Release, Sec. Exch. Comm'n, SEC Charges ICO Superstore and Owners with Operating as Unregistered Broker-Dealers (Sept. 11, 2018), http://bit.ly/2OFIPBV.

150. *See* Press Release, Sec. Exch. Comm'n, SEC Charges Digital Asset Hedge Fund Manager with Misrepresentations and Registration Failures (Sept. 11, 2018), http://bit.ly/2zn3kON; Press Release, Sec. Exch. Comm'n, SEC Charges ICO Superstore and Owners with Operating as Unregistered Broker-Dealers (Sept. 11, 2018), http://bit.ly/2OFIPBV.

151. *In re Crypto Asset Management, LP.*, 2018 WL 4329663, at *2.

152. *In re TokenLot LLC*, 2018 WL 4329662, at *3.

153. *In re* Coinflip, CFTC No. 15-29, 2016 WL 3137612, at *2 (Sept. 17, 2015).

154. *Id.* at n.2.

trading platform.[155] The CFTC ruling found that Bitfinex violated the Commodity Exchange Act because they did not "actually deliver" the bitcoin purchased through their service offerings.[156] Defining "actual delivery" has become a contentious subject, but the CFTC proposes an interpretation specific to margin trading[157] on virtual currency exchanges which is currently in the notice-and-comment period.[158]

In 2018, the SEC and CFTC issued a joint statement that their respective enforcements focus on prohibiting fraudulent activity.[159] Both agencies vowed to "look beyond form, examine the substance of the activity[,] and prosecute violations of the federal securities and commodities laws."[160] Additionally, the commissioners of both the CFTC and SEC testified before the U.S. Senate Committee on Banking, Housing, and Urban Affairs concerning each commission's respective regulatory focuses.[161] Both commissioners emphasized their commitment to providing "clarity and fairness to [the virtual currency] space."[162] As such, the SEC and CFTC demonstrate a commitment to harmonizing regulatory initiatives with one another, and have shown an understanding that compartmentalizing regulations through the specific use of virtual currency would provide interested parties with much needed clarity.

In contrast, the Internal Revenue Service (IRS) noted that property tax principles apply to virtual currencies.[163] If property

155. *In re* BFXNA Inc., CFTC No. 16-19, 2016 WL 3137612, at *4–5 (June 2, 2016).

156. *Id.* at 2.

157. *Margin Trading*, NASDAQ, http://bit.ly/2xvkLuZ (last visited Sept. 8, 2018) ("Buying securities, in part, with borrowed money.").

158. Retail Commodity Transactions Involving Virtual Currency, 82 Fed. Reg. 60335 (proposed Dec. 20, 2017) (to be codified at 17 C.F.R.) [hereinafter CFTC] (interpreting actual delivery as used in the Commodity Exchange Act to include examples of virtual currency transactions).

159. Public Statement, Stephanie Avakian and Steven Peikin, Co-Enforcement Dirs., Sec. Exch. Comm'n, and James McDonald, Enforcement Dir., Commodity Futures Trading Comm'n, Joint Statement by SEC and CFTC Enforcement Directors Regarding Virtual Currency Enforcement Actions (Jan. 19, 2018), http://bit.ly/2MPXmJv.

160. *Id.*

161. *Virtual Currencies: The Oversight Role of the U.S. Securities and Exchange Commission and the U.S. Commodity Futures Trading Commission*, S. Comm. on Banking, Housing, and Urban Affairs, 115th Cong. (2018) (statement of Jay Clayton, Chairman, Sec. Exch. Comm'n).

162. *Id.*

163. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, http://bit.ly/2xwh8Fd; *see also* Mark Edwin Burge, *Apple Pay, Bitcoin, and Consumers: The ABCs of Future Public Payments Law*, 67 HASTINGS L.J. 1493, 1532 (2016) ("[S]ale of goods or services in exchange for [b]itcoins is a barter transaction, at least for American tax pur-

tax principles applied to virtual currencies, any profit incurred from the sale or exchange of virtual currency would be taxed as a capital gain, instead of as income.[164] Members of Congress who have formed a caucus called the "Blockchain Caucus"[165] proposed a bill, later not adopted in the 2017 tax reform bill, called the "Cryptocurrency Tax Fairness Act" to address issues stemming from the IRS determination.[166]

The United States Department of Treasury's Financial Crimes Enforcement Network (FinCEN), issued a notice stating virtual currency exchange administrators qualify as money transmitters and must register as Money Services Businesses.[167] In line with this notice, FinCEN imposed a fine of over $110,000,000 against BTC-e, a virtual currency exchange transacting both in fiat and virtual currencies in 2017.[168] FinCEN found that BTC-e violated anti-money laundering laws and facilitated fraudulent and illegal transactions, including those involved in drug trafficking and ransomware.[169]

In late 2018, the Financial Industry Regulatory Authority (FinRA)[170] issued its first disciplinary action involving virtual currency against a Massachusetts broker. FinRA characterized the prohibited activity in the action as "creating, offering, and selling unregistered cryptocurrency securities."[171]

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poses. While the IRS approach is not innately hostile to virtual currency, it could make life difficult for end-users who, . . . use it as a currency for daily purchases.").

164. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938, http://bit.ly/2xwh8Fd.

165. Cong. Blockchain Caucus, https://www.congressionalblockchaincaucus.com/ (last visited Sept. 8, 2018) (supporting a laxer regulatory approach that allows the blockchain technology landscape to develop before regulators step in).

166. Matthew De Silva, *Cryptocurrency Tax Fairness Amendment Not Adopted by House Tax Reform Bill*, EthNews (Nov. 15, 2017), http://bit.ly/2zn3DZX ("[T]he act would create a *de minimis* exemption for any cryptocurrency transactions below $600, relieving consumers of 'burdensome reporting requirements'. . . requiring the Treasury Department to issue guidelines for . . . reporting on cryptocurrency transactions for which capital gains is due . . . .").

167. Dep't of the Treasury, Fin. Crimes Enf't Network, FIN-2013-G001, Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies 3 (2013).

168. *In re* BTC-E, FinCEN No. 2017-03, 1–3 (July 26, 2017).

169. Id. at 2.

170. Although FinRA is a non-profit organization, it is congressionally authorized under the Securities Exchange Act as a registered, self-regulatory securities organization for the broker-dealer industry. *See* Alan Lawhead, *Useful Limits to the Fifth Amendment: Examining the Benefits That Flow from a Private Regulator's Ability to Demand Answers to Its Questions During an Investigation*, 2009 Colum. Bus. L. Rev. 210, 218–23 (describing the organizational structure and history of FinRA as well as the relationship between FinRA and the SEC).

171. Complaint at 1, Dep't of Enf't v. Timothy Tilton Ayre, Disciplinary Proc. No. 2016049307801 (Fin. Indus. Regulatory Authority Office of Hearing Officers Sept. 11, 2018).

Although these federal bodies certainly influence the industry, the question remains: how much weight, if any, will the federal courts assign to their actions? In *United States v. Zaslavskiy*,[172] the Eastern District of New York held that two specific I.C.O.s may constitute securities offerings under federal criminal law.[173] In 2017, Maksim Zaslavskiy was charged with three counts of securities fraud related to two I.C.O.s: REcoin Group Foundation ("REcoin") and Diamond Reserve Club ("DRC").[174]

The Department of Justice claimed that Zaslavskiy misled investors by fraudulently claiming both REcoin and DRC were backed by real estate smart contracts[175] and diamonds,[176] respectively. In its order denying Zaslavskiy's motion to dismiss, the Eastern District held that it is for the factfinder to determine whether both I.C.O.s constitute securities offerings under the tell-all *Howey* test,[177] but a reasonable jury would be able to do so based on both *Howey* and section 10(b) of the Exchange Act.[178]

This decision did not definitively state whether the specific I.C.O.s involved or, in the broader scheme, all I.C.O.s are securities, but found that the charges were sufficient to continue to trial.[179] Interestingly, although the *Zaskavskiy* reasoning is in line with the SEC's previous statements on I.C.O.s, the *Zaslavskiy* court referred to the SEC's actions as secondary authority on the matter, relying heavily on the application of *Howey*.[180] The *Zaslavskiy* de-

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172. United States v. Zaslavskiy, No. 17CR647(RJD), 2018 U.S. Dist. LEXIS 156574 (E.D.N.Y. Sept. 11, 2018).

173. *Id.* at *2.

174. *Id.* at *1.

175. *Id.* at *4.

176. *Id.* at *6.

177. *SEC v. W.J. Howey Co.* was a landmark case decided by the Supreme Court in 1946. *See* Sec. & Exch. Comm'n v. W. J. Howey Co., 328 U.S. 293 (1946). The *Howey* court developed a test to determine whether an investment contract constitutes a security within the meaning of the Securities Act:

> [A]n investment contract for purposes of the Securities Act means a contract, transaction or scheme whereby a person invests [their] money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party, it being immaterial whether the shares in the enterprise are evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise.

Id. at 298.

178. *Zaslavskiy*, 2018 U.S. Dist. LEXIS 156574, at *2.

179. *Id.* at *6.

180. *Compare supra* note 144 and accompanying text, *with Zaslavskiy*, 2018 U.S. Dist. LEXIS 156574, at *29 n.10 ("Whether and when the SEC chooses to engage in formal rulemaking regarding the regulation of digital assets is of no moment here.").

cision was predicated on securities case law applying *Howey* rather than regulatory guidance specific to virtual currencies.

III. Analysis

With no uniform guidance in the United States, "regulatory bodies, courts[,] and state legislatures have acted independently resulting in a regulatory mishmash of guidance, clarification, extension[,] and ongoing discussion."[181] There is a distinct need to give service providers and consumers clear and uniform guidance, as evidenced by the inability of companies to offer services in regions that are unfriendly, the varying state and federal[182] definitions of virtual currency, and the many consumer harms[183] that result from disparate regulation.[184]

A. The Uniform Law Commission

The Uniform Law Commission (ULC), a non-profit entity, "provides states with non-partisan, well-conceived and well-drafted legislation that brings clarity and stability to critical areas of state statutory law."[185] ULC commissioners include legislators, judges, and attorneys.[186]

To begin drafting a proposed uniform act, the ULC's Scope and Program Committee first investigates the underlying area of law and makes a determination as to whether a uniform law is feasible.[187] After the initial investigation, the Executive Committee de-

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181. Tu & Meredith, *supra* note 2, at 305.

182. *Supra* Part II.E.

183. *Supra* Part II.E.

184. Elizabeth Sarah Ross, Note, *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, 381 (2017). This note claims that without strong uniform regulatory language, America will create an unfriendly environment for innovation and fail to sufficiently protect consumers:

> The absence of a national charter . . . jeopardizes American institutions' relevance in the development of the future global financial system by creating an environment that is inhospitable to innovators. Given the absence of any incentives for banks to collaborate with FinTechs, it is arguable that there will be an increase in cybersecurity threats posed to financial institutions who do not update their cyber risk protocol. Thus, financial stability will not be attained under current virtual currency regulations and in turn, threatens the privacy of financial and personal identifiable information.

Id.

185. *About the ULC*, Uniform L. Commission, http://bit.ly/2xBwBmC (last visited Sept. 8, 2018).

186. *Id.*

187. *ULC Drafting Process*, Uniform L. Commission, http://bit.ly/2I5H5zD (last visited Sept. 8, 2018).

termines whether to approve or reject the proposal for a uniform law.[188] If approved, the Executive Committee appoints a "drafting committee of commissioners" to draft a uniform law.[189] Once the drafting committee reaches a consensus, drafts go to the entire ULC for an initial debate before the Committee of the Whole.[190]

Once the Committee of the Whole approves a proposed draft, a quorum composed of a majority of the states must approve the proposed law before "officially adopt[ing]" it.[191] After approving the uniform law, the ULC publishes the proposed law for review by individual states.[192] Commissioners then advocate for adoption of the uniform law's language in their respective states.[193]

On July 19, 2016, the ULC completed the drafting process of the "Uniform Regulation of Virtual Currency Businesses Act" ("proposed regulation"), a proposed model regulation for the regulation of virtual currency businesses.[194] Nebraska is the first state that has proposed to adopt a version of the Act, and Hawaii and Connecticut have followed suit.[195]

B. What Is Proposed by the "Uniform Regulation of Virtual Currency Businesses Act"?

The proposed regulation provides a clear definition of virtual currency.[196] In addition to clearly defining virtual currency, the

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188. *Id.*
189. *Id.*
190. *Id.*
191. *Id.*
192. *Id.*
193. *Id.*
194. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT (NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS 2017).
195. L.B. 987, 115th Leg., 2d Sess. (Neb. 2018); Raised Bill 5496, Gen. Assemb., Feb. Sess. (Conn. 2018); S.B. 2129, 29th Leg. (Haw. 2018).
196. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT § 102(23). The proposed regulation provides that a virtual currency:

> (A) [is] a digital representation of value that:
>
> (1) is used as a medium of exchange, unit of account, or store of value; and
>
> (2) is not legal tender, whether or not denominated in legal tender; and
>
> (B) does not include:
>
> (1) a transaction in which a merchant grants value as part of an affinity or rewards program, which value cannot be taken from or exchanged with the merchant for legal tender, bank credit, or virtual currency; or
>
> (2) a digital representation of value issued by or on behalf of the publisher and used within an online game, game platform, or family of games sold by the same publisher or offered on the same game platform.

Id.

Uniform Law provides a concise and constrained definition of what virtual currency business activity is.[197] By using definitive language for these two key terms, the proposed regulation creates a defined zone of liability that, if implemented uniformly at the state level, would provide a much-needed foundational standard for service providers across the country.

1. Criticisms of the Proposed Regulation

Critics of the proposed regulation consider the ULC's undertaking premature and find that the language stifles innovation.[198] Further, critics may argue that this solution can create disparate implementation of the uniform law, the problem it seeks to mend.[199] If states are given the latitude to implement the proposed regulation in whatever manner they see fit, disparate application of the proposed uniform law may still obstruct harmonization.[200]

a. The Prematurity of Regulating an Emerging Industry

It is simple to say that adoption of a uniform regulatory scheme for virtual currency businesses is premature because blockchain technology is quickly developing and difficult to fit into

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197. *Id.* § 102(25). The proposed regulation defines virtual-currency business activity as:

> (A) exchanging, transferring, or storing virtual currency or engaging in virtual-currency administration, whether directly or through an agreement with a virtual-currency control-services vendor;
>
> (B) holding electronic precious metals or electronic certificates representing interests in precious metals on behalf of another person or issuing shares or electronic certificates representing interests in precious metals; or
>
> (C) exchanging one or more digital representations of value used within one or more online games, game platforms, or family of games for:
>
> > (i) virtual currency offered by or on behalf of the same publisher from which the original digital representation of value was received; or
> >
> > (ii) legal tender or bank credit outside the online game, game platform, or family of games offered by or on behalf of the same publisher from which the original digital representation of value was received.

Id.

198. Dan Cummings, *ULC's Uniform Regulation of Virtual Currency Businesses Act Creates Divide*, EthNews (July 19, 2017), http://bit.ly/2xGqQ7d.

199. *See* Knight, *supra* note 134, at 168 ("Although these efforts seek to harmonize (at least to a degree) the regulation of virtual currencies at the state level, states seem to be moving in their own directions, albeit in fits and starts.").

200. *See* Knight, *supra* note 134, at 186–87 ("Even if states all agree to a uniform law and the law remains uniform as enacted, there is always the risk that some states will change their laws or their statutory and regulatory interpretations.").

one category.[201] However, adopting a uniform regulation for specific known implementations addresses existing applications without precluding innovation.[202] Evidenced by the precise definitions used in the proposed regulation, the ULC limits regulation to specific, clearly defined activities.[203]

Since blockchain technology is quickly developing, language that restricts regulation to known existing implementations would prevent overbroad applicability while still allowing the space to grow. The CFTC has also acknowledged this conundrum, stating that it "does not intend to create a bright line definition [of virtual or digital currency] given the evolving nature of the commodity and . . . its underlying public distributed ledger technology."[204]

States will begin to regulate virtual currency whether or not a uniform regulation exists, which underscores the need for unified language and action.[205] Although financial regulations historically utilize "a combination of ex ante and ex post regulation to mitigate systemic risk in the financial system,"[206] virtual currencies are a burgeoning and pervasive technology; waiting ex post to create uniform language would dig a regulatory hole too big to climb out from.[207] If regulators delay establishing a uniform standard, the dangers to consumers will only increase as bitcoin and virtual currency adoption becomes more and more widespread.[208]

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201. Trevor I. Kiviat, Note, *Beyond Bitcoin: Issues in Regulating Blockchain Transactions*, 65 DUKE L.J. 569, 574 (2016) ("[F]inancial regulators must develop a better understanding of blockchain technology's impact potential as they continue to engage in its pragmatic regulation."); Llew Classen, *The Foul Smell of State Cryptocurrency Legislation*, MEDIUM (July 14, 2017), http://bit.ly/2QNnUhT ("ULC legislation is . . . regulating a nascent industry prematurely.").

202. *What Are Uniform Laws?*, LEGAL INFO. INST., http://bit.ly/2pr0YIM (last visited Sept. 8, 2018) ("As interstate business and individual movement have increased in the U.S. the felt need for greater uniformity of law on particular subjects has grown.").

203. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT § 102(25) (NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS 2017) (listing exchanging, storing, or transferring virtual currency as the only regulated activities).

204. CFTC, *supra* note 158, at 60338.

205. *Supra* Part II.E.

206. Carla L. Reyes, *Moving Beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal*, 61 VILL. L. REV. 191, 211 (2016) (arguing that self-regulation embedded within the technology is the most practical method of implementing uniform regulations of blockchain technology).

207. Ross, *supra* note 184, at 380–81 ("By falling behind in the global financial technological revolution, overly broad regulations and vague administrative guidance that do not directly address blockchain technology stifle innovation, and economic growth will decrease financial institutional capabilities to combat cybersecurity threats.").

208. *Supra* Part II.D.

b. The Viability of Implementing a Uniform Regulation State-by-State

The proposed regulation creates a statutory structure unique to virtual currencies instead of trying to fit virtual currencies into existing regulatory frameworks.[209] Using the ULC's standard conventions as a foundation, state regulators can work to adopt regulations that apply to different uses of the technology as the industry continues to grow.[210] It can be argued that allowing states to implement different versions of the proposed regulation fails to adequately address the problem the regulation seeks to resolve.

Although adoption of the proposed regulation would not necessarily provide state-by-state uniformity, the proposed language includes allowances for businesses "licensed to conduct virtual currency business activity by a state with which this state has a reciprocity agreement."[211] If implemented in this manner, interoperability across the country would not be a barrier to businesses licensed in one state.

Additionally, it is prudent to consider the procedure behind passing laws. One commentator noted:

> Obtaining passage of legislation in Congress is a difficult proposition in most cases, and speed is a rarity, particularly in the absence of a national emergency. For even the most admirable work of the [ULC], the enactment goal is multiplied times fifty states—plus U.S. territories. Such deliberative processes are a benefit and result in greater stakeholder inclusion.[212]

In the case of virtual currencies, the benefit of implementing a uniform state regulation unique to virtual currency businesses would outweigh the costs to the state as well as the industry. Some costs include the considerable time and resources spent attempting to fit virtual currencies into different existing regulatory frameworks and the ambiguity this disparate regulation provides users and service providers.[213] The ULC has done a majority of the

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209. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT § 201(2) (NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS 2017).

210. *ULC Drafting Process*, *supra* note 187 ("Model Acts are designed to serve as guideline legislation, which states can borrow from or adapt to suit their individual needs and conditions.").

211. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT § 201(2).

212. Mark Edwin Burge, *Apple Pay, Bitcoin, and Consumers: The ABCs of Future Public Payments Law*, 67 HASTINGS L.J. 1493, 1537 (2016).

213. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT, prefatory note at 1; Tu & Meredith, *supra* note 2, at 347 ("[T]he mere extension of laws crafted to respond to the risks presented by established payment systems, financial services,

legwork by bringing together an interdisciplinary group of industry leaders and jurists to craft the language of the proposed regulation.[214]

The simplest solution to ameliorate the problems posed by existing state regulatory efforts is the enactment of a federal regulatory scheme.[215] However, as evidenced by various agencies' intersecting interests in regulating blockchain assets in the various forms they take, urging a federal regulatory scheme for the regulation of blockchain assets is a larger behemoth to conquer than comparable state efforts.[216]

c. Regulation as a Threat to Innovation

Critics of the proposed regulation believe it is too similar to the BitLicense in New York, and that such similarities stifle possible innovation within the virtual currency industry.[217] After implementation of the BitLicense, "a slew of bitcoin startups" left New York

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and investment vehicles tend to be insufficient to control the same dangers when they are transferred to the online world of virtual currency.").

214. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT, prefatory note at 11 ("The essence of creating a uniform state law is to obtain a sufficient consensus as a result of striking a balance among the interests of the various constituencies that will be affected by the act when enacted into law by the state legislatures.").

215. *Supra* Part II.E.1.

216. Federal regulatory bodies that have issued blockchain related enforcement actions or guidance have targeted blockchain based assets from different viewpoints—as a security, commodity, or property. *See supra* Part II.E.2. In order to create regulatory harmonization across federal agencies, agencies should consider creating a forum similar to the Federal Interagency Committee on Emergency Medical Services, where multiple federal agencies that regulate similar issues come together to create interoperable regulatory schemes. *See* Michael J. Denning, *Code Blue! Ambulance Manufacturing Specifications May Pre-Empt State Common Law Claims*, 22 N. ILL. U. L. REV. 85, 103 n.107 (2001) ("FICEMS[ ] serves as a forum to establish and facilitate effective communication and coordination between and among Federal departments and agencies involved in activities related to EMS."). An alternative solution to state-by-state money transmitter licensing for virtual currency businesses engaged in banking was proposed by the United States' Comptroller of the Currency, who announced that the Office of the Comptroller of the Currency will consider "national bank charter applications from [financial technology]." *See* Joseph Otting, *OCC's Otting: Why Do State Regulators Want to Limit Consumer Choice?*, AM. BANKER (Sept. 18, 2018), http://bit.ly/2E2cX9T. A national banking charter would be a welcome solution for financial companies engaged in banking, but the question facing many virtual currency businesses is whether they are required to apply for licensing, which is not clearly answered by enveloping virtual currency businesses into existing federal frameworks. Although a federal solution to regulatory uncertainty is outside of the scope of this Comment, it will be interesting to see how the federal government continues to find solutions to the problems posed by this uncertainty.

217. Letter from Llew Claasen, Exec. Dir., Bitcoin Foundation, to the National Conference of Commissioners on Uniform State Laws (July 14, 2017), http://bit.ly/2I6Imq2.

due to the burdensome and costly licensing process.[218] In a nascent field, high compliance costs could cut the knees from beneath a startup company.[219] Innovators will likely leave unfriendly, costly jurisdictions for more hospitable ones.[220]

However, the proposed regulation applies only to custodial service providers, which are businesses that maintain control and custody over user funds.[221] Additionally, the proposed regulation carves out several exemptions for emerging industry players to test out their products, as long as the volume of currency in question is less than $5,000.[222] New companies would fall under an exemption mandating compliance under a "'lite' regulatory scheme," which provides for a limited implementation of mandatory practices.[223] The exemption provided by the proposed regulation allows fledgling virtual currency businesses an opportunity to grow without stringent compliance costs, unlike those regulated by the BitLicense.[224]

If regulators craft regulations with innovation in mind, such laws will not stifle the growth and development of the industry.[225] Clear and uniform regulatory language limited to specific businesses and instances of conduct would foster a more hospitable virtual currency community in the United States.

C. Every State Should Adopt the Proposed Regulation

The remaining states should follow Nebraska and Hawaii by introducing the proposed regulation for enactment.[226] Reciprocity

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218. Daniel Roberts, *Behind the "Exodus" of Bitcoin Startups from New York*, FORTUNE (Aug. 14, 2015), https://for.tn/2OIckDn.

219. *Id.* ("[T]he [bit]license comes at a price that exceeds the market opportunity of servicing New York residents. Therefore, we have no option but to withdraw our service from the state.") (quotations omitted).

220. *Id.*

221. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT § 103 (NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS 2017). It is worth noting that legislation exempting non-custodial service providers from obtaining licensure as a money transmitter, money services business, or financial institution has been introduced to Congress. *See* Blockchain Regulatory Certainty Act, H.R. 6974, 115th Cong. (2018).

222. *Id.* § 103(b)(8).

223. *Id.* cmt. 2.

224. Roberts, *supra* note 218.

225. Kevin D. Werbach, *Trust, But Verify: Why the Blockchain Needs the Law*, BERKELEY TECH. L.J. (forthcoming 2018) ("Regulation is often posed as the antithesis of innovation . . . [but] [r]egulation of the internet was actually an important step in its widespread adoption.").

226. UNIF. REGULATION OF VIRTUAL CURRENCY BUS. ACT; L.B. 987, 115th Leg., 2d Sess. (Neb. 2018); Raised Bill 5496, Gen. Assemb., Feb. Sess. (Conn. 2018); S.B. 2129, 29th Leg. (Haw. 2018).

between states, as provided by the proposed regulation, would mitigate several issues presented by disparate regulation of virtual currency businesses.[227] Further, compliance costs to service providers would be less burdensome once each state has identical or at least harmonized requirements, and exemptions would foster innovation in the field.

IV. CONCLUSION

Virtual currency service providers in America must navigate murky legislative and regulatory waters with no uniform virtual currency guidance.[228] As interest in and adoption of virtual currencies increase, so too does the risk of misuse and consumer harms.[229] State and federal regulators have separately attempted to address and opine on these concerns, but have done so disparately.[230]

Instead of enlarging pre-existing regulatory schemes to cover virtual currency, the ULC has crafted a licensing framework with both the industry and public welfare in mind.[231] Adoption of the proposed regulation within every state is a critical step toward providing virtual currency businesses with clarity and consumers with a degree of safety in transacting.[232]

The ULC's approach clearly defines virtual currency terminology and outlines which activities and businesses require licenses to operate.[233] States should implement a carefully crafted approach to regulating specific implementations of blockchain technologies, and the ULC provides the necessary framework for such implementation. Exploring the vastly expanding world of virtual currencies and blockchain technologies through a regulatory lens does not have to be at the expense of innovation.

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227. *ULC Drafting Process*, *supra* note 187 ("Model Acts are designed to serve as guideline legislation, which states can borrow from or adapt to suit their individual needs and conditions.").

228. Shahla Hazratjee, *Bitcoin: The Trade of Digital Signatures*, 41 T. MARSHALL L. REV. 55, 83–84 (2015) ("Given the different approaches to regulation, and the uncertainty in how the regulatory framework of any one state may apply to Bitcoin businesses, 'misunderstandings' . . . are not surprising . . . [and] the potential growth of the Bitcoin related start-up businesses are, at the very least, being discouraged.").

229. *Supra* notes 104–11 and accompanying text (discussing the various consumer liabilities that arise from the lack of regulatory clarity guiding virtual currency transactions).

230. *See* Tu & Meredith, *supra* note 2, at 304 ("[R]egulatory bodies, courts and state legislatures have acted independently resulting in a regulatory mishmash of guidance, clarification, extension and ongoing discussion.").

231. *Supra* Part III.B.

232. *Supra* Part III.B.

233. *Supra* Part III.B.