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Jane Kim

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SUFFOCATE OR INNOVATE: AN OBSERVATION OF CALIFORNIA'S REGULATORY FRAMEWORK FOR CRYPTOCURRENCY

Jane Kim*

Transactions involving cryptocurrency are rapidly gaining traction in the United States, prompting the need for regulation. Hence, California legislators proposed the cryptocurrency regulation Assembly Bill 1123. However, based upon the outcome of a virtually identical regulation in New York, this proposed bill is theoretically projected to stifle business growth and potential innovation. This Article focuses on one approach to remedy this by advocating for reform at the federal level and recommending the utilization of the regulatory sandbox as a framework for future regulation.

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I. INTRODUCTION

In today's generation of instant gratification, the central mission is often to discover the most convenient method of performing routine activities. One means to this end is cutting out the time and expense of the middleman to carry out our tasks, and instead re-establishing direct control. Concurrently, this would eliminate the need to blindly invest trust into a third party. In the midst of this ideology and the ever-developing world of technology, cryptocurrency (virtual currency) emerged into the limelight.

From its very inception, cryptocurrency was designed to cut out the middleman by delivering an exceedingly secure exchange of internet-based virtual currency without an intermediary such as the bank or government.[1] However, with unchecked power comes abuse of authority. The freedom posed by unregulated virtual currency transactions soon prompted iniquitous schemes, such as the buying and selling of illegal commodities, enabled through the use of cryptocurrency on the dark web.[2] The lack of a middleman presented challenges as more criminal activities involving a cryptocurrency called Bitcoin[3] began to proliferate, compelling the nationwide debate over the necessity of cryptocurrency regulation.

This Article will examine Assembly Bill 1123 ("A.B. 1123"), California's proposed legislation surrounding virtual currency in the state. The Article argues that although cryptocurrency should be regulated, A.B. 1123, which requires businesses to obtain a license to engage in a virtual currency business activity, is much too restrictive. The California legislators should instead advocate for regulation at the federal level, utilizing the regulatory sandbox, which allows innovators to test their business models on actual consumers in a live environment without the risk of regulation enforcement action, as a

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1. Omri Marian, *A Conceptual Framework for the Regulation of Cryptocurrencies*, 82 U. CHI. L. REV. DIALOGUE 53, 55 (2015); *see also* Sarah Meiklejohn et al., *A Fistful of Bitcoins: Characterizing Payments Among Men with No Names, in* IMC '13 PROCEEDINGS OF THE 2013 CONFERENCE ON INTERNET MEASUREMENT CONFERENCE (2013).

2. Carmine DiPiero, *Deciphering Cryptocurrency: Shining a Light on the Deep Dark Web*, 2017 U. ILL. L. REV. 1267, 1275 (2017); *see, e.g.*, 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/.

3. Bitcoin Project 2009–2018, BITCOIN, https://bitcoin.org/en/ (last visited Oct. 27, 2018).

model of implementation.[4] Though there are certain limitations designed to protect consumers and ensure smooth operation of the sandbox, this controlled environment gives businesses the latitude that they need to fully develop their innovative product or service.[5]

This Article proceeds as follows. Part II will discuss what cryptocurrencies are, specifically Bitcoin and Ethereum, and the innovative features that establish their marketability. Part III then focuses on the regulatory framework of virtual currencies in the United States, addressing general money transmittal laws as well as New York's virtual currency law, known as the "BitLicense,"[6] which California's A.B. 1123 is modeled after. Part IV proposes a recommended course of action for California and explains how a transition to regulation at the federal level is conceivable.

The Conclusion further addresses the listed suggestions for California's next steps in guiding the future development of regulation and invites legislators to be cognizant of the systems of regulation used globally, particularly in regard to the regulatory sandbox.

II. CRYPTOCURRENCY

Cryptocurrency is a digital or virtual currency that is similar to traditional paper money: they are both a medium of exchange that are used in the transaction of goods and services.[7] However, unlike traditional currency, cryptocurrency is "untethered to, and independent from, national borders, central banks, sovereigns, or fiats."[8] The use and transmission of cryptocurrency occurs among members of the online community, and ownership of a unit of value is legitimized and encrypted through cryptography, which protects against tampering by third parties.[9]

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4. Charlotte Hill, *Inside the FCA's Regulatory Sandbox*, LAW360 (Sept. 20, 2016, 10:07 AM), https://www.law360.com/articles/839557/inside-the-fca-s-regulatory-sandbox.

5. Pavel Shoust, *Regulators and Fintech: Influence Is Mutual?*, ELEC. MONEY, http://pubdocs.worldbank.org/en/770171476811898530/Session-4-Pavel-Shoust-Regulatory-Sandboxes-21-09-2016.pdf (last visited Oct. 27, 2018).

6. Karen Freifeld & Gertrude Chavez-Dreyfuss, *New York Regulator Issues Final Virtual Currency Rules*, REUTERS (June 3, 2015, 8:45 AM), https://www.reuters.com/article/us-bitcoin-regulation-new-york/new-york-regulator-issues-final-virtual-currency-rules-idUSKBN0OJ23X20150603.

7. Vivian Maese et al., *Cryptocurrency: A Primer,* 133 BANKING L.J. 468 (2016).

8. *Id.*

9. Sarah Jane Hughes & Stephen T. Middlebrook, *Advancing a Framework for Regulating Cryptocurrency Payments Intermediaries*, 32 YALE J. ON REG. 495, 504 (2015); *see also* A.

A. Bitcoin

Currently, the most prominent cryptocurrency is the Bitcoin.[10] To conceptualize the expeditious price surge of Bitcoin, the initial price, set in 2010, was less than one cent; by 2017, it exceeded $16,000.[11] This digital currency first developed in January 2009, and is an open-source, peer-to-peer, decentralized system.[12] Each unit of the virtual currency is essentially just an entry on a digital ledger.[13] Every part of the transaction is ultimately controlled by the system users, each of whose identities are encrypted, effectively removing the necessity of a third-party intermediary.[14] Though the users' personal identities are encrypted, the transactions themselves are not fully anonymous.[15] All transactions are accounted for and recorded onto a decentralized public ledger, called the blockchain.[16]

In a basic transaction, the future owner of the desired Bitcoins must send his or her public "key" in the form of an algorithm to the original owner.[17] After receiving this algorithm, the original owner digitally signs the transaction using cryptographic credentials and transfers the Bitcoins to the future owner.[18] These transactions are then

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Michael Froomkin, *The Metaphor Is the Key: Cryptography, the Clipper Chip, and the Constitution*, 143 U. PA. L. REV. 709, 713–14 (1995).

10. Josiah Wilmoth, *The 3 Most Popular Cryptocurrencies,* STRATEGIC COIN, http://strategiccoin.com/3-popular-cryptocurrencies/ (last visited Oct. 27, 2018).

11. Olga Kharif, *All You Need to Know About Bitcoin's Rise, From $0.01 to $15,000*, BLOOMBERG BUSINESSWEEK (Dec. 7, 2017, 9:04 AM), https://www.bloomberg.com/news/articles/2017-12-01/understanding-bitcoin-s-rise-0-01-to-11-000-quicktake-q-a.

12. EDWARD V. MURPHY ET AL., CONG. RESEARCH SERV., BITCOIN: QUESTIONS, ANSWERS AND ANALYSIS OF LEGAL ISSUES (2015) ("[Bitcoin is an] open-source (its controlling computer code is open to public view), peer-to-peer (transactions do not require a third-party intermediary such as PayPal or Visa), digital currency (being electronic with no physical manifestation)."); *see also* Julia Finch, *From Silk Road to ATMs: The History of Bitcoin*, GUARDIAN (Sept. 14, 2017, 2:21 PM), https://www.theguardian.com/technology/2017/sep/13/from-silk-road-to-atms-the-history-of-bitcoin.

13. Nathaniel Popper, *Bitcoin Basics*, N.Y. TIMES (Nov. 4, 2015), https://www.nytimes.com/2015/11/05/business/bitcoin-basics.html.

14. MURPHY ET AL., *supra* note 12, at Summary.

15. *Id.*

16. *Id.* at 1; *cf.* Andy Greenberg, *Your Sloppy Bitcoin Drug Deals Will Haunt You for Years*, WIRED (Jan. 26, 2018, 6:00 AM), https://www.wired.com/story/bitcoin-drug-deals-silk-road-blockchain/ (contending that in numerous cases, researchers can connect someone's Bitcoin purchase of a contraband on the dark web to that person's public account).

17. EUR. CENT. BANK, VIRTUAL CURRENCY SCHEMES 23 (2012), https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf.

18. *Id.*

sent to "miners"[19] via the network, who validate the transactions to prevent fraudulent activity.[20] Virtually anybody can be a miner, as long as he or she has the computing power to unlock transaction data that is encrypted by a formula, which can only be solved through trial-and-error guessing on an extensive scale.[21] Being the first to validate a transaction results in a reward for the miner: a newly issued Bitcoin.[22] This incentive compels individuals to join, support, and accurately update the network.[23] New Bitcoins will be disseminated in such fashion until there are twenty-one million in circulation around the world.[24]

Once a miner validates the transaction and it is verified by fellow miners, the data becomes part of the blockchain code,[25] the "universal ledger of bitcoin transactions."[26] This forms an encrypted chain of ownership that is exceedingly difficult to alter or corrupt, ensuring the trustworthiness of the system.[27] Since every block in the chain of ownership contains communally maintained data that are linked to earlier blocks, defrauding the system would entail revising countless links in the chain and evading miners that constantly work to verify each transaction.[28]

B. Ethereum

The burgeoning success of the Bitcoin initiated a rapidly evolving movement in cryptocurrency and inspired the creation of similar technology—one noteworthy decentralized platform being

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19. BITCOIN MINING, https://www.bitcoinmining.com/ (last visited Oct. 27, 2018) ("Mining is . . . the mechanism used to introduce Bitcoins into the system: Miners are paid any transaction fees as well as a 'subsidy' of newly created coins.").

20. *Id.*

21. Kharif, *supra* note 11.

22. *Id.*

23. Popper, *supra* note 13; *see also* Daniel Krawisz, *The Proof-of-Work Concept*, SATOSHI NAKAMOTO INST. (June 24, 2013), http://nakamotoinstitute.org/mempool/the-proof-of-work-concept/.

24. Popper, *supra* note 13.

25. Kharif, *supra* note 11.

26. Francois Velde, *Bitcoin: A Primer*, CHI FED LETTER, Dec. 2013, https://www.chicagofed.org/publications/chicago-fed-letter/2013/december-317.

27. EUR. CENT. BANK, *supra* note 17, at 23–24.

28. Kharif, *supra* note 11.

Ethereum.[29] Just as the Bitcoin is its own virtual currency, the "Ether" is a form of payment that fuels Ethereum, a distributed application platform, using blockchain technology.[30]

The distinguishing characteristic of Ethereum is in its application: the users are provided the possibility to create "smart contracts"—self-executing protocols that essentially are agreements built into a computer code, and consequently stored on a blockchain.[31] This enables developers to "create markets, store registries of debts or promises, move funds in accordance with instructions given long in the past (like a will or a futures contract)" without the use of a middleman or the risk that the counterparty might not uphold their end of the agreement.[32] Smart contracts execute automatically according to the clauses in the contract when the agreed-upon conditions are met.[33] Additionally, with the imminently extinctive need for attorneys or notaries, the obligation to wait for papers to be filed or to pay fees to those that would customarily oversee the transaction also becomes obsolete.[34] Streamlining the process releases consumers from the constraints of business formalities and reinvents the name of efficiency.

Ether's purpose is to facilitate computation of a smart contract on Ethereum's platform, while Bitcoin's function is to serve as a currency or asset.[35] With these new capabilities in the realm of virtual currency, the discussion of how to regulate such activity becomes increasingly important.

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29.   ETHEREUM, https://ethereum.org (last visited Oct. 27, 2018) ("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.").

30.   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, 354 (2017).

31.   *Id.*; Jeremy M. Sklaroff, *Smart Contracts and the Cost of Inflexibility*, 166 U. PA. L. REV. 263, 263 (2017).

32.   ETHEREUM, *supra* note 29.

33.   *What Is Ethereum? How Does It Work?*, THE ECON. TIMES (Dec. 20, 2017, 1:53 PM), https://economictimes.indiatimes.com/markets/stocks/news/what-is-ethereum-how-does-it-work/articleshow/62169759.cms.

34.   Jon Martindale, *What Is Ethereum?*, DIGITAL TRENDS (July 9, 2018, 12:00 PM), https://www.digitaltrends.com/computing/what-is-ethereum/.

35.   *ETHER   The   Crypto-fuel   for   the   Ethereum   Network*,   ETHEREUM, https://ethereum.org/ether (last visited Jan. 29, 2018).

III. SURVEY OF THE UNITED STATES REGULATORY FRAMEWORK RELATED TO VIRTUAL CURRENCY

Article I of the United States Constitution grants Congress the authority to not only coin money, but also to regulate its value.[36] While federal regulators are carefully assessing ways to confront the increasingly emphatic presence of virtual currency, law enforcement agencies are pressured into promptly producing solutions in light of the abuses and criminal activity involving digital currencies.[37] In a June 26, 2015 speech at the American Bar Association's National Institute on Bitcoin and Other Digital Currencies, Assistant Attorney General Caldwell stated:

> [V]irtual currency facilitates a wide range of traditional criminal activities as well as sophisticated cybercrime schemes. Much of the illicit conduct involving virtual currency occurs through online black markets such as the now-shuttered Silk Road, which operated on an anonymized "dark web" network that masked users' physical locations, making them difficult to track. Similar online black markets continue to operate, offering on a global scale, a wide selection of illicit goods and services. While these have included more traditional crimes such as narcotics trafficking, stolen credit card information, and hit-men for hire, we have also seen a significant evolution in criminal activity . . . [such as] fund[ing] the production of child exploitation through online crowd-sourcing.[38]

This statement demonstrates the extent to which individuals will go in a world free from government regulation and oversight, while concurrently emphasizing the importance of regulation.

To expand on the illegalities that surround cryptocurrency, in 2011, Ross Ulbricht founded the most notorious digital black market,

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36. U.S. CONST. art. I, § 8, cl. 5.

37. *See* Jason Bloomberg, *Using Bitcoin or Other Cryptocurrency to Commit Crimes? Law Enforcement Is onto You,* FORBES (Dec. 28, 2017, 12:18 PM), https://www.forbes.com/sites/jasonbloomberg/2017/12/28/using-bitcoin-or-other-cryptocurrency-to-commit-crimes-law-enforcement-is-onto-you/#7dc9c16e3bdc.

38. Press Release, U.S. Department of Justice, Assistant Attorney General Leslie R. Caldwell Delivers Remarks at the ABA's National Institute on Bitcoin and Other Digital Currencies (June 26, 2015), https://www.justice.gov/opa/speech/assistant-attorney-general-leslie-r-caldwell-delivers-remarks-aba-s-national-institute.

termed the Silk Road, containing almost every conceivable contraband.[39] It utilized Bitcoins to facilitate the marketplace, which was a haven for drug dealers, arms dealers, and document forgers.[40] The Silk Road was designed to be a free market outside the scope of government control, enabling the users to purchase contraband relatively anonymously.[41] Although not completely untraceable because every transaction is recorded onto the blockchain, Bitcoin offered the level of anonymity that surpassed credit card transactions and other forms of currency, augmenting the Silk Road's appeal for consumers in the black market.[42] Within two and half years, the Silk Road became a hub for more than $1.2 billion worth of transactions, a substantial amount of which was used for heroin, cocaine, and lyseric acid diethylamide, more commonly known as LSD.[43] Eventually, in 2013, the Federal Bureau of Investigation tracked down Ulbricht and charged him for narcotics trafficking, computer hacking, and money laundering.[44] Instances such as these illustrate the significance of regulation and highlight legislators' need to take swift action.

The existing federal regulatory structure includes anti-money laundering statutes and money transmission laws.[45] The Bank Secrecy Act, which was the first major money laundering law in the United States, requires financial institutions, individuals, and banks to record information regarding particular customer transactions into Currency Transaction Reports.[46] The reports must include information regarding deposits, withdrawals, and currency exchanges for transactions

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39. Andrew Norry, *The History of Silk Road: A Tale of Drugs, Extortion & Bitcoin*, BLOCKONOMI (Nov. 20, 2018), https://blockonomi.com/history-of-silk-road/.

40. *Id.*

41. *Id.*; *see also* Greenberg, *supra* note 16.

42. Norry, *supra* note 39.

43. David Segal, *Eagle Scout. Idealist. Drug Trafficker?*, N.Y. TIMES (Jan. 18, 2014), https://www.nytimes.com/2014/01/19/business/eagle-scout-idealist-drug-trafficker.html.; *see also* Joseph Goldstein, *Arrest in U.S. Shuts Down a Black Market for Narcotics*, N.Y. TIMES (Oct. 2, 2013), http://www.nytimes.com/2013/10/03/nyregion/operator-of-online-market-for-illegal-drugs-is-charged-fbi-says.html?_r=0.

44. Tim Hume, *How FBI Caught Ross Ulbricht, Alleged Creator of Criminal Marketplace Silk Road*, CNN, https://www.cnn.com/2013/10/04/world/americas/silk-road-ross-ulbricht/index.html (last updated Oct. 5, 2013).

45. Kelsey L. Penrose, *Banking on Bitcoin: Applying Anti-Money Laundering and Money Transmitter Laws*, 18 N.C. BANKING INST. 529, 537 (2014).

46. 31 U.S.C. § 5311 (2012); *History of Anti-Money Laundering Laws*, DEP'T OF THE TREASURY FIN. CRIMES ENF'T NETWORK, https://www.fincen.gov/history-anti-money-laundering-laws (last visited Oct. 11, 2018).

amounting to more than $10,000.[47] By gathering information on the source, volume, and movement of currency, the reports allow law enforcement agencies to track large sums of money that could potentially be used for illicit activity.[48] Additionally, the Money Laundering Control Act of 1956 criminalizes, at the federal level, those involved in financial transactions that represent unlawful activity.[49]

In adopting this regulatory framework to the realm of cryptocurrency, the United States Treasury Department's Financial Crime Enforcement Network ("FinCEN") broadened the applicability of the federal Bank Secrecy Act to cover virtual currency transactions in 2013.[50] FinCEN defines a money transmission service as "acceptance of currency, funds, or other value that substitutes for currency from one person and the transmission of currency, funds or other value that substitutes currency to another location or person by any means."[51] This applies to persons or businesses that create, accept, distribute, exchange, or transmit virtual currencies.[52]

Additionally, the Bitcoin administrators and exchangers that, in fact, accept, transmit, buy, or sell virtual currency are considered money transmitters—persons that engage in the transfer of funds by accepting or transmitting anything of value, whether it be real currencies or virtual currencies—whom must comply with the Treasury Department's registration processes.[53] Beyond such guidance, "[f]ederal agencies moved cautiously with no plans to embark on a systematic regulatory scheme for cryptocurrencies."[54]

As the current money transmission and anti-money laundering statutes prove insufficient to placate the criminal threats posed by the existence of virtual currency, states proposed cryptocurrency-specific licensing requirements to heighten oversight. Each state has the

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47. Penrose, *supra* note 45, at 537.

48. *Id.*

49. *See* 18 U.S.C. § 1956(b) (2012).

50. *See* Memorandum from Dep't of the Treasury Fin. Crimes Enf't Network on Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies, (Mar. 18, 2013), http://www.fincen.gov/statutes_regs/guidance/pdf/FIN-2013-G001.pdf.

51. *Id.*

52. *See id.*

53. *Id.*

54. Hughes & Middlebrook, *supra* note 9, at 509.

discretion to create and interpret virtual currency laws;[55] this results in a divergence of whether licenses are required when engaging in virtual currency transactions between states. Among those that have commenced the push for licensure, New York and California are noteworthy states.

A. New York BitLicense

New York's Department of Financial Services (NYDFS) was the pioneer that pushed other states' inclination towards adopting their own respective cryptocurrency regulations. NYDFS promulgated the "BitLicense" for regulating virtual currency businesses on June 3, 2015.[56] These regulations were "intended to provide prudential licensing and regulations for cryptocurrency market participants and consumer protection . . . [from] cyber security issues surrounding the use of Bitcoin and other cryptocurrencies."[57] Although the final proposal contains provisions on an expansive breadth of subjects, including licensure, capital requirements, and cybersecurity program requirements, this analysis will only focus on the basic principal features.[58]

The BitLicense defines virtual currency as "any type of digital unit that is used as a medium of exchange or a form of digitally stored value."[59] Though it provides a broad latitude of interpretation, it does not include digital units that are handled exclusively on online gaming platforms, units that can be redeemed for goods or services, or used as gift cards.[60]

The central groundwork of the BitLicense requires anyone determined to engage in "virtual currency business activity" to not only obtain a license, but also to file financial reports, subject themselves to potential examination, manage their records, and satisfy specific capital requirements.[61] Those who obtain licenses are then

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55. James Gatto & Elsa S. Broeker, *Bitcoin and Beyond: Current and Future Regulation of Virtual Currencies*, 9 OHIO ST. ENTREPRENEURIAL BUS. L.J. 429, 452–53 (2015).

56. N.Y. COMP. CODES R. & REGS. tit. 23, § 200 (2015).

57. Hughes & Middlebrook, *supra* note 9, at 536.

58. Regulation of the Conduct of Virtual Currency Businesses, 37 N.Y. Reg. 7 (June 24, 2015) (to be codified at N.Y. Comp. Codes R. & Regs. tit. 23, pt. 200), http://docs.dos.ny.gov/info/register/2015/june24/pdf/rulemaking.pdf [https://perma.cc/VR2P-KCCU].

59. N.Y. COMP. CODES R. & REGS. tit. 23, § 200.2(p).

60. *Id.* § 200.2(p)(1), (p)(2).

61. Hughes & Middlebrook, *supra* note 9, at 537.

additionally required to safeguard their customers' interests by: (1) maintaining sufficient capital to ensure the financial integrity of the licensee;[62] (2) preserving a surety bond or trust account for the customer's benefit;[63] and (3) refraining from selling, transferring, or otherwise using assets on behalf of another unless at that person's direction.[64]

In clarifying the terms of a virtual currency business activity, NYDFS set the parameters for activities involving New York or a New York Resident to include:

> (1) receiving Virtual Currency for Transmission or Transmitting 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.[65]

These parameters constructed the model by which subsequent states would frame their virtual currency legislation.

B. California's Proposed Legislation for Virtual Currency

The first prototype of cryptocurrency regulation in California was Assembly Bill 1326 ("A.B. 1326"), introduced in February 2015.[66] After becoming an inactive file due to heavy opposition, it was re-activated in 2016 and, again, denied.[67] Assembly Member Matthew Dababneh's groundwork for this bill included the Money Transmissions Act and the New York BitLicense, used as model platforms.[68]

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62. N.Y. COMP. CODES R. & REGS. tit. 23, § 200.8(a).

63. *Id.* § 200.9(a), (b).

64. *Id*. § 200.9(c).

65. *Id*. § 200.2(q).

66. Assemb. B. 1326,   2015–2016   Leg.,   Reg.   Sess. (Cal.   2015), https://leginfo.legislature.ca.gov/faces/billHistoryClient.xhtml?bill_id=201520160AB1326.

67. *Id.*

68. *Id.*

A.B. 1326, which would have enacted the Digital Currency Business Enrollment Program, was devised based upon the Money Transmission Act's concept, requiring any person engaging in the business of money transmission to obtain a license from the Commissioner of Business Oversight ("Commissioner") by paying a fee and completing an application form.[69] The bill defined digital currency as a "digital representation of value that can be digitally traded and is used to facilitate the sale, purchase, and exchange of goods, or other digital representations of value."[70] It further defined a digital currency business as "offering or providing the service of storing, transmitting, exchanging, or issuing digital currency."[71] This not only would have applied to business entities, however organized, but also to individuals that engaged in such actions.[72] Essentially, those seeking enrollment were, among numerous other preconditions, required to pay a non-refundable fee of up to $5,000, along with an annual fee of $2,500, supply specified personal and business information in an application form, and provide fingerprints to be delivered to law enforcement.[73] Without enrolling in the program, a person would be prohibited from engaging in the digital currency business altogether.[74]

Furthermore, the bill constrained users in a number of ways. Namely, it prohibited an enrollee from advertising products or services without issuing a statement regarding the program and obtaining approval from a government agency.[75] The bill also required the enrollee to make a "variety of specified disclosures" to customers prior to each transaction, and then provide a receipt with particular information after such transaction.[76] As in the New York BitLicense, this bill would additionally require the enrollee and its agents to subject themselves to investigation, and if found to be in violation of the provisions of the program, the Commissioner would have the authority to issue cease and desist orders.[77]

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69. *Id.*
70. *Id.*
71. *Id.*
72. *Id.*
73. *Id.*
74. *Id.*
75. *Id.*
76. *Id.*
77. *Id.*

Faced with immediate resistance, principally from advocates of virtual currency, California was unsuccessful in implementing this regulation.[78] The Electronic Frontier Foundation, a prominent proponent for innovation in the digital world, cited numerous issues inherent in A.B. 1326.[79] These include that first, the bill is premature, since the digital currency industry is still in its developing stages.[80] Burdensome legislation could have unintentional, long-term consequences that potentially disadvantage consumers more than it benefits them.[81] Second, the bill's definition of "virtual currency business" is vague, deterring potential innovative businesses from launching.[82] Third, the application requires extensive data from the applicant that is largely irrelevant to the targeted ideals of protecting consumers and facilitating the smooth application of virtual currency.[83] And finally, the bill's imposition of distinctive regulations per state could create confusion for consumers and leave them in a myriad of legal uncertainties, particularly because the fundamental characteristic of virtual currency is that it transcends state borders.[84] However, with the burgeoning presence of virtual currency coupled with the increasingly pressing need to regulate, Assembly Member Dababneh was persistent in proposing a "lasting regulatory framework that protects consumers and allows this industry to thrive," inspiring Assembly Bill 1123.[85]

Despite the heavy opposition to the original bill, the new California BitLicense bill renders the same requirements and philosophy as the previous proposals.[86] A.B. 1123 would enact the

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78. Joseph Young, *EFF Opposes California's Impractical Bitcoin Regulation BitLicense*, COIN TEL. (May 4, 2017), https://cointelegraph.com/news/eff-opposes-californias-impractical-bitcoin-regulation-bitlicense.

79. Rainey Reitman, *A License to Kill Innovation: Why A.B. 1326—California's Bitcoin License—Is Bad for Business, Innovation, and Privacy*, ELEC. FRONTIER FOUND. (Aug. 7, 2015), https://www.eff.org/deeplinks/2015/08/license-kill-innovation-why-ab-1326-californias-bitcoin-license-bad-business.

80. *Id.*

81. *Id.*

82. *Id.*

83. *Id.*

84. *Id.*

85. Matthew Dababneh, *Assemblymember Dababneh Issues Statement on the Regulation of Virtual Currency,* ASSEMBLYMEMBER MATTHEW DABABNEH (Aug. 15, 2016), https://a45.asmdc.org/press-release/assemblymember-dababneh-issues-statement-regulation-virtual-currency [http://perma.cc/LFJ3-XQKF].

86. Young, *supra* note 78.

Virtual Currency Act, which still requires a license from the Commissioner for those that desire to engage in the virtual currency business.[87]

The bill establishes a new definition for the term virtual currency, which is "any type of digital unit that is used as a medium of exchange or a form of digitally stored value."[88] This is identical to the definition written in the New York BitLicense.[89] Further, "virtual currency business" is now represented as "maintaining full custody or control of virtual currency in this state on behalf of others."[90]

Aside from these differences, the foundational structure remains virtually the same as A.B. 1326 with only slight modifications.[91] Applicants for licensure must pay a nonrefundable application fee and complete an application form that requires additional information beyond those listed in A.B. 1326.[92] These include data regarding prior virtual currency services, a sample form of receipt for future transactions involving money received in virtual currency, a description of the applicant's source of credit and money used to provide virtual currency services, and financial statements.[93]

Further, in addition to annual fees remaining in place, licensees are required to make supplementary payments for the Commissioner's expenses in administering the regulatory provisions of the bill.[94] This includes periodic examinations of businesses to ascertain whether the owner is lawfully conducting his or her business and is maintaining proper records of all virtual currency activity.[95]

In addressing further provisions purported to protect consumers, this version of the bill mimics the New York BitLicense:

> This bill would require each licensee to maintain at all times such capital as the commissioner determines, subject to specified factors, is sufficient to ensure the safety and

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87. Assemb. B. 1123, 2017–2018 Leg., Reg. Sess. (Cal. 2017), https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB1123.

88. *Id.*

89. *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.2(p) (2015).

90. Assemb. B. 1123, 2017–2018 Leg., Reg. Sess. (Cal. 2017), https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB1123.

91. *Id.*

92. *Id.*

93. *Id.*

94. *Id.*

95. *Id.*

soundness of the licensee, its ongoing operations, and maintain consumer protection. The bill would require each licensee to maintain a bond or trust account in United States dollars for the benefit of its consumers in the form and amount as specified by the commissioner.[96]

To determine the minimum amount of capital that must be maintained, the Commissioner considers factors such as the composition of the licensee's total assets and liabilities, the expected volume of the particular virtual business activity, the amount of leverage employed, and the liquidity position of the licensee.[97]

The provisions addressing random investigation by the Commissioner to ascertain whether the business complies with all laws, the Commissioner's authority to impose penalties, including suspending or revoking licenses, and reports of specified disclosures to its consumers, remain almost identical to A.B. 1326.[98]

C. Effects of the New York BitLicense

Because California's proposed legislation modeled itself after the New York BitLicense, it is important to examine the advent and implementation of the New York BitLicense in 2015. The "prudential licensing" that New York lawmakers vowed to implement has, contrary to its intention, staunched business growth of cryptocurrency, leading to what is being referred to as the "bitcoin exodus."[99] The appeal of the BitLicense's clear regulatory framework for cryptocurrency quickly diminished due to the sluggish licensing process as well as the rigidly restrictive requirements, which began driving companies away.[100]

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96. *Id.*

97. *Id.*

98. *Id.*; *see also* JP Buntinx, *California's Version of BitLicense Returns as Legal Proposal*, NEWSBTC (Apr. 25, 2017, 11:00 AM), https://www.newsbtc.com/2017/04/25/californias-version-bitlicense-returns-legislative-proposal-ab-1123/.

99. Michael del Castillo, *The Next 'BitLicense' Will Impact All of Wall Street*, N.Y. BUS. J. (Jan. 26, 2016, 10:09 AM), https://www.bizjournals.com/newyork/news/2016/01/26/the-next-bitlicense-will-impact-all-of-wall-street.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/.

100. Suzanne Barlyn, *New York's Bitcoin Hub Dreams Fade with Licensing Backlog*, REUTERS (Oct. 30, 2016, 10:20 PM), http://www.reuters.com/article/us-bitcoin-regulations-dfs/new-yorks-bitcoin-hub-dreams-fade-with-licensing-backlog-idUSKBN12V0CM.

Key members of the NYDFS, such as then-head of the department Benjamin Lawksy, who were responsible for the very development and design of the New York BitLicense, left the regulatory agency soon after the BitLicense's implementation.[101] Without the drafters' guidance, the already stagnant license approval process was exacerbated by uncertainty on how the regulation should be enforced.[102]

This uncertainty diverted companies from seeking approval or from even launching, consequently impeding the momentum of business innovation.[103] More than a year since the implementation of the BitLicense, only two BitLicenses were issued, with fifteen applications pending, four withdrawn, and four denied.[104] Companies already operating at the time the law came into effect continued to conduct their businesses while waiting for a license, but the risks imposed by the BitLicense inevitably thwarted efforts to raise capital or expand, especially for start-up companies.[105]

The application process also proved exceptionally onerous for smaller companies lacking in resources.[106] As intimated in Part III.A, the BitLicense costs $5,000 just to apply. The application can easily exceed five hundred pages, requiring copies of fingerprints, business models, ownership and personal information, and other documents often difficult to obtain.[107] In large part due to the licensing backlog and the monetary and time-consuming burdens posed by the application, many companies announced their departure from New York, including Kraken, GoCoin, LocalBitcoins, and Genesis Mining.[108] Genesis Mining, a cloud mining company, issued a statement that explicitly denounced the BitLicense:

> [The BitLicense is] complex, expensive, and comes with a set of guidelines that make it nearly impossible for any startup to comply with . . . . Genesis Mining will not be able

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101. *Id.*

102. *See id.*

103. *See id.*

104. *Id.*

105. *See id.*

106. *See id.*

107. *Id.*; *see also* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.8(a) (2015).

108. Grace Caffyn, *Genesis Mining Leaves New York Following BitLicense Deadline*, COINDESK (Oct. 23, 2015, 5:24 PM), https://www.coindesk.com/genesis-mining-leaves-new-york-following-bitlicense-deadline/.

to comply with the regulations set forth by the proposed BitLicense and as such, we will no longer be able to accept customers from the state of New York. All current customers will be able to continue their services, but going forward, no one with an IP address from the state of New York will be able to purchase hashpower contracts with us.[109]

Kraken, a bitcoin exchange company, also commented before withdrawing its services from New York, stating that the BitLicense's tolls exceeded the market opportunity of providing its business to New York residents.[110]

IV. PROPOSAL FOR CALIFORNIA'S NEXT STEP

Because California's Assembly Bill 1123 is nearly identical to the New York BitLicense,[111] even mirroring much of the same language, the probability that A.B. 1123 will follow the same trajectory is considerably high. The same overbearing regulations and application costs will likely cause yet another "bitcoin exodus." As state regulations follow a misconceived path, with New York spearheading the regulation efforts, the cryptocurrency industry's future projections are ominous. As happened in New York, companies will potentially relocate to different states until they find a regulation that is agreeable with their own terms.[112]

Moreover, allowing states to draft their own respective regulations has "resulted in a veritable patchwork of crypto-ambivalent, crypto-friendly, crypto-hostile, and crypto-indifferent

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109. *Bitlicense: Red Flag Acts of Our Era*, GENESIS MINING (Dec. 8, 2015), http://blog.genesis-mining.com/bitlicense-red-flag-acts-of-our-era; *see generally* GENESIS MINING, https://www.genesis-mining.com/ (last visited Jan. 31, 2018).

110. Charlie McCombie, *Eight Months Since BitLicense's Inception, Only One License Has Been Granted*, COIN TEL. (Mar. 25, 2016), https://cointelegraph.com/news/eight-months-since-bitlicenses-inception-only-one-license-has-been-granted; *see generally* KRAKEN BITCOIN EXCH., *https://www.kraken.com/* (last visited Jan. 31, 2018).

111. Michael Scott, *How Five States Are Approaching Bitcoin Regulation*, BITCOIN MAG. (May 15, 2015, 9:52 PM), https://bitcoinmagazine.com/articles/how-five-states-are-approaching-bitcoin-regulation/. *Compare* Assemb. B. 1326, 2015–2016 Leg., Reg. Sess. (Cal. 2015), https://leginfo.legislature.ca.gov/faces/billHistoryClient.xhtml?bill_id=201520160AB1326, *with* N.Y. COMP. CODES R. & REGS. TIT. 23, § 200.8(a) (2015).

112*. See generally* Caffyn, *supra* note 108.

[states]."[113] This lack of a uniform legal framework in the United States has not only deterred cryptocurrency businesses from establishing their roots in a single state, but it has also exacerbated problems of theft and fraud.[114] As deference is currently given to each state, the U.S. government has a limited ability to protect users.[115] A uniformity in rules would consequently allay blockchain companies' concerns of erratic and oppressive policy changes, and provide for easier administrability of regulations put in place as safeguards from theft.[116]

In light of the predictably unpromising effects of the proposed regulations, California legislators need to consider options that are more beneficial to the collective financial technology industry in the United States. Accordingly, California should reject the proposed legislation, and instead, the state legislators and commentators should advocate for reform at the federal level, in consonance with what other countries have done.

In numerous countries, federal agencies play a significant role in administering the financial technology industry, many of which utilize an effective tool for regulation called the regulatory sandbox.[117] The regulatory sandbox is a compelling example of the way the United States could implement regulation at the federal level. With this, not only would all states follow the same standard, but the regulatory sandbox would also promote innovation, rather than create regulatory barriers.

A. Regulatory Sandbox

The regulatory sandbox is a "safe space" where firms can test their services, products, and business models on real consumers without being subjected to the standard burden of regulation and its

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113. Rachel McIntosh, *The Good, the Bad, and the Ugly: Crypto Regulation in the USA*, FIN. MAGNATES (Sept 1, 2018, 9:14 AM), https://www.financemagnates.com/cryptocurrency/news/good-bad-ugly-crypto-regulation-usa/.

114. *Id.*; *see, e.g.*, Aziz Abdel-Qader, *Tether, Bitstamp Most Likely Hacked by the Same Person*, FIN. MAGNATES (Nov. 21, 2017, 9:38 PM), https://www.financemagnates.com/cryptocurrency/news/tether-bitstamp-huobi-likely-hacked-person/.

115. *See* McIntosh, *supra* note 113.

116. *Id.*

117. *See* FIN. CONDUCT AUTH., REGULATORY SANDBOX NOVEMBER 2015, 5–6 (2015), https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf.

consequences.[118] The term "sandbox" originates from the software development sphere: it is a "tool that allows developers to test a technological proof of concept prior to a full-scale public release."[119] This gives the developers an opportunity to make amendments to their product based on consumer feedback before any foreseeable circumstance invalidates their product.[120] The sandbox concept would be directly adopted by firms entering the financial services market, enabling them to test their ideas in a controlled environment without risking the current financial system or jeopardizing consumer protection.[121] Essentially, it is a vacuum for potential missteps and mismanagement for firms that are in the embryonic stages of launching.[122]

In addition to assessing "the impact of regulations on [each firm's] profitability and overall business model," this process provides assurance to potential risk-adverse investors that it is a tested and reliable model.[123] The sandbox delivers an ideal juxtaposition of increased investments and decreased compliance costs.[124] The insulated environment protects institutions from the risk of being heavily fined for financial misconduct and from lack of risk-management practices.[125] This not only facilitates support for start-up companies, but also encourages established firms to introduce innovative commodities that may not yet comply with existing regulations.[126] Consequently, the regulatory sandbox will foster innovation by ensuring a protected sphere for those that are hesitant to unveil their product or service due to regulatory uncertainty.[127]

Regulators, however, do need to take certain precautions:

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118. Hill, *supra* note 4.

119*. FinTech and Regulatory Sandboxes in the UK, Hong Kong and Singapore*, SIDLEY AUSTIN LLP (Sept. 6, 2017), https://www.sidley.com/en/insights/newsupdates/2017/09/fintech-and-regulatory-sandboxes.

120*. Id.*

121*. Id.*; VAIBHAV ANAND & SANJEEV SHAH, DELOITTE, *Regulatory Sandbox Making India a Global Fintech Hub* 16 (2017), https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-fintech-regulatory-sandbox-web.pdf.

122*. See FinTech and Regulatory Sandboxes in the UK, Hong Kong and Singapore*, *supra* note 119.

123. ANAND & SHAH, *supra* note 121, at 16.

124*. Id.* at 21.

125*. Id.*

126*. FinTech and Regulatory Sandboxes in the UK, Hong Kong and Singapore*, *supra* note 119.

127. FIN. CONDUCT AUTH., *supra* note 117, at 5.

> While there are good reasons to explore regulatory
> sandboxes, policy makers should be prepared to face
> challenges. Most importantly, operating a regulatory
> sandbox requires adequate human and financial resources to
> select proposals, provide guidance, oversee experiments and
> evaluate innovations. Regulators may lack these resources in
> many [emerging markets and developing economy]
> countries. Therefore, policy makers need to pay attention to
> details and carefully consider their options.[128]

In analyzing the application of a new regulatory scheme, countries
need to be wary of the weight of responsibility inherent in the sandbox.
As aforementioned, important factors to acknowledge when
examining the viability of implementing a regulatory sandbox include
the amount of financial resources, as well as the manpower it takes to
carry out the tasks that the sandbox requires.

1. How the Sandbox Operates

The basic operation of a regulatory sandbox is as follows: first,
the regulator develops broad guidelines and expectations—a tailored
regulatory framework—along with threshold eligibility requirements
for the firms that desire to participate.[129] These requirements generally
include the foundational guidelines of genuine and novel innovation,
direct consumer benefit, extensive scope of potential support to
consumers within the financial services industry, a legitimate need for
testing within the sandbox, and testing readiness from completed
research regarding risks and regulations.[130] A public notice is then
circulated, inviting firms to apply to participate in the regulatory
sandbox.[131] The regulatory agency then carefully evaluates the
applications based on their business model or product offering, and on
how well the firms conform to the above-mentioned eligibility
criteria.[132]

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128. Ivo Jenik, *Regulatory Sandboxes: Potential for Financial Inclusion?*, CGAP
(Aug. 17, 2017), http://www.cgap.org/blog/regulatory-sandboxes-potential-financial-inclusion.

129. FIN. CONDUCT AUTH., REGULATORY SANDBOX LESSONS LEARNED REPORT OCTOBER
2017 4 (2017), https://www.fca.org.uk/publication/research-and-data/regulatory-sandbox-lessons-
learned-report.pdf.; ANAND & SHAH, *supra* note 121.

130. ANAND & SHAH, *supra* note 121, at 16-20; *see, e.g.*, FIN. CONDUCT AUTH., *supra* note
129; *see also* Hill, *supra* note 4.

131. ANAND & SHAH, *supra* note 121.

132. *Id.*

From the applicant pool, a limited amount of companies are then selected to participate for a specified period of time, during which they test their product or service in a live environment and collaborate closely with the regulators to determine the salability of the commodity.[133] The regulators also work individually with the firm to explain how they would "interpret the requirements in the context of [the firm's] specific test."[134] Once a firm successfully exits the sandbox, they must submit a report addressing the outcomes of the testing; if they subsequently choose to deploy their product into the financial market, their product or service must then adhere to all the established regulations.[135]

a. Countries that have implemented the regulatory sandbox

Numerous countries have implemented a regulatory sandbox, of which the major players include the United Kingdom, Australia, Singapore, and Hong Kong.

i. United Kingdom

The United Kingdom Financial Conduct Authority (FCA), a regulatory body for the financial market, initiated the regulatory sandbox program as part of a broader initiative, Project Innovate, to "foster competition and growth in financial services by supporting both small and large businesses that are developing products and services that could genuinely improve consumers' experience and outcomes."[136] The FCA introduced the default parameters for regulatory sandbox testing.[137] These include:

(a) Duration: The appropriate duration for testing is three to six months.

(b) Number of Customers: Customer set considerations should balance the ability to obtain statistically relevant data with the possibility of risk to customers.

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133. *Id.*
134. *Sandbox Tools*, FIN. CONDUCT AUTH., https://www.fca.org.uk/firms/regulatory-sandbox/sandbox-tools (Dec. 15, 2017).
135. ANAND & SHAH, *supra* note 121; *see also* FIN. CONDUCT AUTH., *supra* note 117, at 1.
136. FIN. CONDUCT AUTH., *supra* note 117, at 1.
137. Hill, *supra* note 4.

(c) Customer Selection: The firms must source appropriate customers themselves, taking into account the type of service, the intended market, and the potential risks involved.

(d) Customer Safeguards: The customer safeguards are determined on a case-by-case basis—the FCA usually takes into consideration the type of customers, the technicalities of the trial, as well as the magnitude of risk.

(e) Disclosure: The firms offering informed consent should disclose information regarding the test and its compensation.

(f) Testing Plans: These should include the timeline of the test, their measures of success, the testing parameters, appropriate customer safeguards, risk assessment, and an exit strategy for the consumers.[138]

Furthermore, the FCA offers three risk-management tools to provide regulatory relief.[139] First, the regulators can provide individual guidance on the interpretation of the relevant rules, tailored to the firm and its operation.[140] If the firm conforms with the given instruction, "the FCA will proceed on the basis that they have complied with the relevant aspects of [the FCA's] rules to which the guidance relates."[141] Second, the FCA can utilize the power to waive or modify the rules. If the testing activities do not comply with the rules because they would be "unduly burdensome," the regulator can issue a waiver, as long as it does not adversely affect the progress of the FCA's objectives.[142] However, there is a limitation to the waiver: it cannot violate the bounds of the existing European Union legislation.[143] Changes to the United Kingdom's legislation are not made for the sandbox's operation.

Lastly, for cases in which the first two options are not viable, the FCA can issue a "no enforcement action letter," stating that "no FCA enforcement action will be taken against testing activities where [the

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138. *Default Standards for Sandbox Testing Parameters*, FIN. CONDUCT AUTH., https://www.fca.org.uk/publication/policy/default-standards-for-sandbox-testing-parameters.pdf (last visited Oct. 11, 2018).

139. FIN. CONDUCT AUTH., *supra* note 117, at 9.

140. *Id.*

141. Christopher Woolard, Dir. of Strategy & Competition, Fin. Conduct Auth., Speech at the Innovate Finance Global Summit (Apr. 11, 2016), https://www.fca.org.uk/news/speeches/innovate-finance-global-summit.

142. FIN. CONDUCT AUTH., *supra* note 117, at 9 n.8.

143. *Id.* at 9.

FCA is] reasonably satisfied that the activities do not breach [the FCA's] requirements or harm [the FCA's] objectives."[144] The assurance of no disciplinary action only applies for the duration of the sandbox testing period.[145]

Upon observation of the regulatory sandbox's legitimate application, in the first two cohorts, fifty applications of 146 were accepted, and forty-one were actually tested within the first year of the sandbox operation.[146] Distributed ledger technology, such as the blockchain, was the most prominently employed technology within the first two cohorts, with seventeen firms applying the technology in some fashion, usually in electronic money institutions.[147]

To illustrate, Billion, one of the selected companies, is an electronic money platform that uses blockchain technology to transfer and hold funds securely using a phone application, and BitX is a cryptocurrency transfer service and trading platform.[148] The FCA acknowledged the benefit of these services—faster transaction times and manageable exchange rates—but also made sure to protect the consumers participating in the sandbox process by requiring the firms to have full refunds readily available in the event that the currency was lost in transmission.[149]

Overall, from the first cohort, 75% of the firms successfully completed the testing, and 90% of those firms attempted to institute their business in the broader financial market.[150] Approximately one-third of the tested firms made substantial adjustments to their business models, such as more nuanced consumer protection safeguards, after utilizing knowledge procured from the sandbox process.[151] Though it is too premature in the process to make conclusive judgments regarding the regulatory sandbox's impact on the overall market, the

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144. *Id.*

145. *Id.*

146. FIN. CONDUCT AUTH., *supra* note 129, at 6; *see also* Dan Cummings, *FCA Testing Blockchain Technology in Pilot Program*, ETHNEWS (Feb. 16, 2017, 11:44 AM), https://www.ethnews.com/fca-testing-blockchain-technology-in-pilot-program (describing the number of applications and the companies selected for the FCA's first cohort).

147. FIN. CONDUCT AUTH., *supra* note 129, at 9; *see also* Cummings, *supra* note 146 (listing the nine blockchain-based companies that participated in the first cohort).

148. FIN. CONDUCT AUTH., REGULATORY SANDBOX – *Cohort 1*, https://www.fca.org.uk/firms/regulatory-sandbox/cohort-1 (June 15, 2017); Cummings, *supra* note 146.

149. FIN. CONDUCT AUTH., *supra* note 129, at 10–11.

150. *Id.* at 5.

151. *Id.* at 6.

FCA stated that the testing does indicate promising progress towards greater competition and a higher quality output of products and services.[152]

ii. Australia

Australia's regulatory sandbox framework is administered by the Australian Securities and Investments Commission's (ASIC) Innovation Hub.[153] ASIC is an independent commonwealth government body that regulates corporate, markets, financial services and consumer credit,[154] while their Innovation Hub was specifically created to aid financial technology companies in navigating the regulatory system.[155] ASIC provides mechanisms of relief in a format very similar to the FCA's regulatory sandbox.

Within the "fintech licensing exemption,"[156] offered only to specified products and services,[157] ASIC provides a waiver, allowing financial technology businesses to participate in the regulatory sandbox without any required license for a maximum of twelve months.[158] There is no application process—as long as the business meets the eligibility requirements and adheres to the conditions of the sandbox, the company is legally entitled to rely on this exemption.[159] These conditions do not veer far from the default standards set out in

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152. *Id.* at 10.

153. *Regulatory Sandbox*, AUSTL. SEC. & INV. COMM'N, http://asic.gov.au/for-business/your-business/innovation-hub/regulatory-sandbox/ (last visited Oct. 8, 2018).

154. *Our Role*, AUSTL. SEC. & INV. COMM'N, http://asic.gov.au/about-asic/what-we-do/our-role/ (last visited Nov. 18, 2018).

155. *Innovation Hub*, AUSTL. SEC. & INV. COMM'N, http://asic.gov.au/for-business/your-business/innovation-hub/ (last visited Nov. 18, 2018).

156. AUSTL. SEC. & INV. COMM'N., REGULATORY GUIDE 257: TESTING FINTECH PRODUCTS AND SERVICES WITHOUT HOLDING AN AFS OR CREDIT LICENSE 14 (2017), https://download.asic.gov.au/media/4420907/rg257-published-23-august-2017.pdf ("[W]e have made ASIC Corporations (Concept Validation Licensing Exemption) Instrument 2016/1175 and ASIC Credit (Concept Validation Licensing Exemption) Instrument 2016/1176, which allow eligible businesses to test certain products and services for 12 months without needing to obtain an AFS licence or credit licence, respectively. Collectively, we refer to these instruments as the 'fintech licensing exemption.'").

157. *Id.* at 17–19.

158. *Licensing Exemption for Fintech Testing*, AUSTL. SEC. & INV. COMM'N (Aug. 2017), https://download.asic.gov.au/media/4112096/licensing-exemption-for-fintech-testing-infographic.pdf; *Regulatory Sandbox*, *supra* note 153 (explaining that two other options for testing the product or service, include relying on existing statutory exemptions, or otherwise on individual relief from ASIC for other services).

159. *Innovation Hub*, *supra* note 156, at 14.

the United Kingdom's regulatory sandbox; they include a limit of one hundred retail clients, sufficient compensation arrangements in the case of loss, a dispute resolution system, exposure limits, and consumer protection measures.[160] The protection measures entail full disclosure to the clients if the business does not have a license, if the services provided are being tested under the fintech licensing exemption, or if the regular protections when dealing with services provided from a licensee do not apply.[161]

iii. Singapore

In implementing the regulatory sandbox, the Monetary Authority of Singapore's (MAS) target audience was financial technology firms, financial institutions, and professional service firms that endorsed such businesses.[162] The evaluation criteria used to assess each application is, again, very similar to those of the United Kingdom: the proposed financial service should involve innovative technology and aim to fix a problem or provide a benefit; the applicant should intend to deploy the service or product beyond the parameters of the sandbox; the testing scenarios, boundary conditions, and desired outcomes must be defined; the company must be cognizant of and consequently mitigate the potential risks; an exit strategy must be planned in case of discontinuation; and a transition strategy should be defined in case of conversion to the broader financial market.[163]

With this implementation, the Singaporean government made a clear statement that it was a proponent of financial technology innovation.[164] Although this statement encourages investments for innovation and attracts start-up companies to penetrate the Southeast Asian market, it comes at a cost.[165] The MAS stated that it would expend $166 million over five years towards the creation of innovation

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160. *Id.*

161. *Id.* at 23.

162. MONETARY AUTH. OF SING., *FINTECH REGULATORY SANDBOX GUIDELINES*, 4 (2016), https://www.mas.gov.sg/-/media/MAS/Smart-Financial-Centre/Sandbox/FinTech-Regulatory-Sandbox-Guidelines-19Feb2018.pdf?la=en&hash=1F4AA49087F9689249FB8816A11AEAA6CB3DE833

163. *Id.* at 5–6.

164. Don Weinland, *Hong Kong to Create Fintech 'Sandbox' Allowing Bank Experiments*, FIN. TIMES (Sept. 6, 2016), https://www.ft.com/content/38a662ee-740f-11e6-bf48-b372cdb1043a.

165. *Id.*

centers and technology projects, effectively spearheading its efforts into becoming a viable adversary of the technology revolution.[166]

iv. Hong Kong

Less than three months after Singapore introduced the regulatory sandbox, its "regional rival," Hong Kong, announced its participation in the same program to preserve its reputation as a relevant competitor in the financial technology sphere.[167] The Hong Kong Monetary Authority (HKMA) launched the Fintech Supervisory Sandbox, but departed from the typical layout.[168] The program is "only offered to established banks seeking to explore distributed ledger technology and fintech solutions."[169] Start-up companies are generally not accepted, unless they partner with an existing authorized banking service.[170]

The baseline safeguards of setting boundaries for the trial run, incorporating customer protection measures, being aware of and mitigating the risks, and readiness for testing are all still maintained.[171] Once the bank or company is a participant of the sandbox, the innovators have considerable regulatory room for modifying their product or service; the HKMA does not intend to impose an extensive list of supervisory requirements onto the participants.[172]

B. Federal Regulation in the United States

There are several United States federal regulatory agencies that are virtually equivalent to the FCA in the United Kingdom, ASIC in Australia, MAS in Singapore, and HKMA in Hong Kong, which can potentially operate the regulatory sandbox. Specifically, either the United States Securities and Exchange Commission (SEC) or the

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166. *Id.*

167. *Id.*

168. *See* Dan Cummings, *Regulatory Sandboxes: A Practice for Innovation that Is Trending Worldwide*, ETHNEWS (Feb. 28, 2017, 5:10 PM), https://www.ethnews.com/regulatory-sandboxes-a-practice-for-innovation-that-is-trending-worldwide.

169. *Id.*

170. *See id.*; *Fintech Supervisory SandBox (FSS)*, H.K. MONETARY AUTH., http://www.hkma.gov.hk/eng/key-functions/international-financial-centre/fintech-supervisory-sandbox.shtml (last updated Oct. 2, 2018); *see generally* Letter from Arthur Yuen, Deputy Chief Executive, Hong Kong Monetary Authority, to Chief Executive of all Authorized Institutions (Sept. 6, 2016), http://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2016/20160906e1.pdf.

171. *Fintech Supervisory SandBox (FSS)*, *supra* note 170.

172. Letter from Arthur Yuen, *supra* note 170.

United States Commodity Futures Trading Commission (CFTC) are feasible candidates.

The SEC's mission is to oversee the markets, facilitate capital information, and to protect investors.[173] In the midst of this, the SEC has recognized that cryptocurrency is gaining widespread recognition; however, the SEC "has not to date approved for listing and trading any exchange-traded products . . . holding cryptocurrencies or other assets related to cryptocurrencies."[174] This is not to say that cryptocurrency does not fall within the SEC's purview—the SEC issued an investigative report stating that the sale of digital assets by virtual organizations utilizing blockchain technology fall under the federal securities law.[175] SEC Chairman Jay Clayton has also made it clear that the SEC will keep "sharp focus" on how cryptocurrencies affect the securities markets.[176] This focus on the market has already lead the SEC to take action in a specific case, temporarily suspending trading in shares of The Crypto Company, a company that provides the public direct exposure to global blockchain development growth,[177] whose stock surged more than 2,700% in one month.[178]

As for the CFTC, its purpose is to cultivate financially stable and competitive markets while concurrently protecting consumers, the public, market users and their funds from any type of fraud or unlawful practice.[179] The CFTC monitors derivative markets for potential abuses and supervises a range of entities, including futures commission merchants and swap execution facilities.[180] To further the CFTC's qualification as a regulatory sandbox administrator, a United

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173. *About the SEC*, U.S. SEC. & EXCH. COMM'N, https://www.sec.gov/about.shtml (last modified May 21, 2018).

174. Jay Clayton, *Statement on Cryptocurrencies and Initial Coin Offerings*, U.S. SEC. & EXCH. COMM'N (Dec. 11, 2017), https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11.

175. Press Release, U.S. Sec. & Exch. Comm'n, SEC Issues Investigative Report Concluding DAO Tokens, a Digital Asset, Were Securities (July 25, 2017), https://www.sec.gov/news/press-release/2017-131.

176. Clayton, *supra* note 174.

177. *See* CRYPTO COMPANY, https://www.thecryptocompany.com/ (last visited Jan. 31, 2018).

178. Michael Sheetz, *The SEC's Crackdown on Cryptocurrencies Is About to Get Serious, Former Chairman Says*, CNBC (Dec. 21, 2017, 6:34 PM), https://www.cnbc.com/2017/12/21/sec-crackdown-on-cryptocurrencies-is-about-to-get-serious-ex-chairman.html.

179. *Mission & Responsibilities*, U.S. COMMODITY FUTURES TRADING COMM'N, http://www.cftc.gov/About/MissionResponsibilities/index.htm (last visited Nov. 18, 2018).

180. *Id.*

States district court judge in New York supported the CFTC's authority in regulating cryptocurrencies as commodities:

> Virtual currencies can be regulated by CFTC as a commodity. Virtual currencies are "goods" exchanged in a market for a uniform quality and value . . . . They fall well-within the common definition of "commodity" as well as the [Commodity Exchange Act's] definition of "commodities" as "all other goods and articles . . . [sic] in which contracts for future delivery are presently or in the future dealt in."[181]

With the CFTC gaining oversight over the futures market and the underlying trading platform, its regulatory powers currently function alongside, rather than in competition with, the SEC regulation discussed above.[182] The SEC does not have direct oversight of the transactions in commodities, but some cryptocurrencies contain attributions that characterize them as securities.[183] For example, the offer, sale, and trading aspects of these cryptocurrencies must adhere to securities laws.[184] Consequently, the SEC works to expose those who threaten the integrity of the securities laws by means of evading the registration, antifraud, and disclosure requirements.[185] Both the SEC and CFTC, along with other federal and state regulators and criminal authorities, work collectively to bring transparency to the markets and to deter fraud.[186]

Assuredly, this concept of federal oversight is already gaining traction. SEC Chairman Jay Clayton addressed the U.S. Senate Committee on Banking, Housing, and Urban Affairs at an open session on February 6, 2018 on the topic of the SEC and CFTC's oversight role of virtual currencies:

> It appears that many of the U.S.-based cryptocurrency trading platforms have elected to be regulated as money-

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181. Commodity Futures Trading Comm'n v. McDonnell, 287 F. Supp. 3d 213, 228 (E.D.N.Y. 2018); *see also* Wolfie Zhao, *Cryptos Are Commodities, Rules US Judge in CFTC Case*, COINDESK (Mar. 7, 2018, 10:40 AM), https://www.coindesk.com/us-judge-rules-cryptocurrencies-are-commodities-in-cftc-case/.

182. *See* Jay Clayton & J. Christopher Giancarlo, *Regulators Are Looking at Cryptocurrency*, WALL STREET J. (Jan. 24, 2018, 6:26 PM), https://www.wsj.com/articles/regulators-are-looking-at-cryptocurrency-1516836363.

183. *Id.*

184. *Id.*

185. *Id.*

186. *Id.*

transmission services. Traditionally, from an oversight perspective, these predominantly state-regulated payment services have not been subject to direct oversight by the SEC or the CFTC . . . . As Chairman Giancarlo, [the CFTC chairman] and I, [Chairman Clayton], stated recently, we are open to exploring with Congress, as well as with our federal and state colleagues, whether increased federal regulation of cryptocurrency trading platforms is necessary or appropriate. We are also supportive of regulatory and policy efforts to bring clarity and fairness to this space.[187]

U.S. regulators supported the SEC and CFTC chairmen's statement that Congress should consider federal oversight because "cryptocurrency trading has outgrown the state-based regulation that covers many platforms."[188] The chairmen acknowledged that the mere patchwork attempt at regulation and the lack of a comprehensive structure, provokes a necessary policy discussion.[189] Although no concrete changes came to fruition following the hearing, it sparked a meaningful dialogue with U.S. regulators on the ineffectual medley of state regulations and the possible step towards federal regulation.

The SEC and CFTC's oversight and guidance in the financial technology market is important and should be supplemented by efforts to create an adaptable regulatory environment. As the cryptocurrency market is quickly evolving, there is a pressing need for flexibility within the market.[190] Just as the United Kingdom, Australia, Singapore, and Hong Kong did, either the SEC or CFTC should institute a regulatory domain, such as the regulatory sandbox, that fosters innovation, while maintaining their original mission of protecting both the market and the consumers, and supporting the principles of the investor.

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187. *Virtual Currencies: The Oversight Role of the U.S. Securities and Exchange Commission and the U.S. Commodity Futures Trading Commission: Hearing Before the Comm. on Banking, Hous., & Urban Affairs,* 115th Cong. 3 (Feb. 6, 2018) (statement of Jay Clayton), https://www.banking.senate.gov/imo/media/doc/Clayton%20Testimony%202-6-18.pdf.

188. Dave Michaels & Gabriel T. Rubin, *Patchy Bitcoin Oversight Poses Hazards for Investors, Regulators Say*, WALL STREET J., https://www.wsj.com/articles/patchy-bitcoin-oversight-poses-hazards-for-investors-regulators-say-1517913001 (last updated Feb. 6, 2018, 11:38 AM).

189. *Id.*

190. *See* Clayton & Giancarlo, *supra* note 182.

V. CONCLUSION

California should reject the proposed cryptocurrency legislation, Assembly Bill 1123, that is modeled after New York's BitLicense, which has proven to be problematic and ineffective. Further, not only is the legislation itself restrictive, potentially driving out cryptocurrency businesses, but also the concept of each state having its own respective regulation is inadequate when managing consumer protection. The lack of a uniform legal framework deters entrepreneurs and investors from participating in the cryptocurrency realm, exacerbates problems of fraud and theft, and curtails consumers' confidence in the government's efforts to protect their economic interests.

The preferred path is for reform at the federal level. Several countries, including the United Kingdom, Australia, Singapore, and Hong Kong have developed regulatory sandboxes that can serve as a guide. In each of these countries, a federal regulatory body has retained responsibility for cryptocurrency oversight of the sandboxes: Financial Conduct Authority, Australian Securities and Investments Commission, Monetary Authority of Singapore, and Hong Kong Monetary Authority, respectively.

The United States consists of federal regulatory bodies that are more than capable of managing a regulatory sandbox, particularly either the Securities and Exchange Commission or the United States Commodity Futures Trading Commission. Both Commissions presently oversee the financial market, and are familiar with cryptocurrency regulation, as the almost instantaneous rise of virtual currency forcefully demanded their attention.

The concept of the regulatory sandbox is admittedly still at a nascent stage, but it is attracting innovation and investors. It enables firms entering the financial services market to test their proposals in a controlled environment without jeopardizing both the consumer and the broader financial market. Implementing the regulatory sandbox, or at least utilizing it as a framework for future regulation, can potentially increase the United States' marketability as a hub for innovation.