EIGHT-YEARS-YOUNG: HOW THE NEW YORK BITLICENSE STIFLES
BITCOIN INNOVATION AND EXPANSION WITH ITS PREMATURE
ATTEMPT TO REGULATE THE VIRTUAL CURRENCY INDUSTRY

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"The insolence of authority is endeavoring to substitute money for ideas."[1]

I. Introduction

Technological advancements and regulatory short-sightedness are a dream come true for criminals seeking to exploit virtual currencies.[2] The recent development of Bitcoin – a form of virtual currency that operates separately from a centralized bank – in conjunction with authorities' ineffective attempts to regulate the virtual currency industry, allow criminals to exploit the market and conduct illegal activities, such as launder money and illicit the financing of drug trade and terrorism.[3] According to recent cases, transactions involving

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[1] *See* Franklin Ramsoomair & Ross Howey, *General Issues in Management: The Hard Realities of Soft Skills*, 4 PROBS. & PERSP. IN MGMT. 231, 231 (2004) (quoting Frank Lloyd Wright).

[2] *See* Nick Burkill & Deirdre Lyons, *Virtual Currency: A New Challenge for International AML Enforcement*, THE ANTI-FRAUD NETWORK (June 2, 2015), *archived at* http://perma.cc/H4JF-E4LM (instituting the use of virtual currencies to engage in illicit activity).

[3] *See* Johnathan Lane, *Bitcoin, Silk Road, and the Need for a New Approach to Virtual Currency Regulation*, 8 CHARLESTON L. REV. 511, 515 (2014) (outlining Bitcoin characteristics). Bitcoin "is not backed by any government, corporation, or

Bitcoin resulted in the laundering of hundreds of millions of dollars from illegal transactions.[4]

Bitcoin is the first virtual currency formed on a decentralized banking system with guaranteed anonymity for users.[5] Bitcoin users can exchange virtual currency for real money without detection, quickly and easily around the world.[6] The fast-paced nature and complex infrastructure of virtual currency-exchanges poses a challenge for anti-money laundering ("AML") and compliance regulators as the responsibility of supervision and enforcement remains unclear for this emerging market.[7]

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other asset, and has no officially recognized specie, such as bills, coins, or other tangible form." *Id.* The value of Bitcoin fluctuates like gold and can be used as payment wherever it is accepted. *Id. See* Financial Action Task Force, *Virtual Currencies Key Definitions and Potential AML/CFT Risks*, FINCEN 1, 4 (June 2014) (defining virtual currencies). "Virtual currency is a digital representation of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal tender status in any jurisdiction." *Id. See* Burkill & Lyons, *supra* note 2 (suggesting virtual currency is a vehicle for laundering money and a grey area for regulators that must be promptly addressed)*; see also* Financial Crimes Enforcement Network, *SAR Stats Technical Bulletin*, FINCEN 1, 15 (July 2014) (expounding on the potential for crypto-currencies to finance illicit activities).

[4] *See* Financial Action Task Force, *supra* note 3, at 11 (recognizing the numerical figures associated with laundered funds in virtual currency cases).

[5] *See* Daniela Sonderegger, *A Regulatory and Economic Perplexity: Bitcoin Needs Just a Bit of Regulation*, 47 WASH. U. J. L. & POL'Y 175, 185 (2015) (recognizing that the anonymity of Bitcoin is both an advantage for criminals as well as a challenge for mainstream acceptance)*; see also* Financial Action Task Force, *supra* note 3, at 5 (introducing decentralized virtual currencies). Decentralized Virtual Currencies "are distributed, open-course, math-based peer-to-peer virtual currencies that have no central administering authority, and no central monitoring or oversight." *Id.* A decentralized banking system means the monetary structure has no centralized regulatory entity, such as the Federal Reserve Bank in the United States. *Id.* Digital currency refers to "a digital representation of either virtual currency (non-fiat) or e-money (fiat) and thus is often used interchangeably with the term 'virtual currency.'" *Id.* at 4.

[6] *See* Burkill & Lyons, *supra* note 2 (explaining how money is laundered using Bitcoin)*; Frequently Asked Questions: What Determines Bitcoin Price*, BITCOIN (last visited Feb. 16, 2016), *archived at* https://perma.cc/9PDZ-KZJK (explaining how bitcoin can be obtained or exchanged for other currencies). The value of bitcoin is determined by supply and demand and can be used to purchase goods and services internationally, wherever the currency is accepted. *Id.*

[7] *See* Financial Action Task Force, *supra* note 3, at 9-10 (introducing issues thus far pertaining to the regulation of virtual currencies).

The New York Department of Financial Services ("NYDFS") responded to growing concerns relating to Bitcoin and virtual-currency industries with a first attempt at regulation.[8] The NYDFS issued a rule proposal for "BitLicense" in 2014 and finalized the virtual currency rule in June 2015.[9] Although BitLicense addresses many of these concerns, the rule lacks reach, as it is only applicable to exchanges based in New York.[10] The inadequacies of BitLicense call into question whether this rule adequately regulates the industry to ward off illicit activity, or if the rule merely hinders the expansion of the technology, preventing growth in U.S. financial markets.[11]

This Note analyzes New York's Final BitLicense Rule and evaluates the effectiveness of this regulatory regime as a potential example for other state governments, the federal government, and even foreign countries.[12] Part II provides a brief history of Bitcoin, including how the technology works, benefits and issues with the virtual currency, and a glimpse at the current regulatory environment.[13] Part III examines BitLicense and its application to the New York Bitcoin economy.[14] Part IV discusses whether BitLicense effectively regulates Bitcoin, and argues that it ultimately does not.[15] More specifically, Part IV identifies specific inadequacies with BitLicense that

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[8] *See Mission & Leadership*, THE NEW YORK DEPARTMENT OF FINANCIAL SERVICES (last visited Apr. 5, 2016), *archived at* https://perma.cc/HD3S-MSVZ (introducing the New York Department of Financial Services mission statement). By the power invested in the Superintendent, the NYDFS was established "to reform the regulation of financial services in New York to keep pace with the rapid and dynamic evolution of these industries, to guard against financial crises and to protect consumers and markets from fraud." *Id. See* Davis Polk, *New York's Final "BitLicense" Rule: Overview and Changes from July 2014 Proposal*, DAVIS POLK & WARDWELL LLP 1-2 (June 5, 2015), *archived at* https://perma.cc/R3Y6-4ZQ6 (introducing the BitLicense). The BitLicense is a New York regulation and is the first of its kind, designed to regulate business activities involving virtual currencies. *Id.* at 3, 9.

[9] *See* Polk, *supra* note 8, at 2 (setting forth the timeline of BitLicense Rule, including the initial Proposal, two comment periods and the final regulation).

[10] *See* Polk, *supra* note 8, at 2 (recognizing the authority of the NYDFS over New York State).

[11] *See* Sonderegger, *supra* note 5, at 208-09 (acknowledging the opportunity for criminals using bitcoin, but cautioning against regulation).

[12] *See infra* Part III-IV.

[13] *See infra* Part II.

[14] *See infra* Part III.

[15] *See infra* Part IV.

pose more of a threat to the technology than assist with its regula-
tion.[16] In Part V, this Note concludes BitLicense is not an ideal
model for other state and federal governments to follow, and instead
recommends New York reconsider its current regulation before dam-
aging the United States cryptocurrency economy.[17]

II. History

On October 31, 2008, members of the cryptography commu-
nity received an email from an unfamiliar sender, by the name of
Satoshi Nakamoto ("Nakamoto").[18] Nakamoto introduced "a new
electronic cash system that's fully peer-to-peer, with no trusted third
party."[19] He subsequently attached a white paper which outlined the
currency system he created: Bitcoin.[20] Nakamoto acknowledged
Bitcoin as a non-traditional currency and cautioned that it would
likely not be understood by mainstream financial markets or market

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[16] *See infra* Part IV.

[17] *See infra* Part IV.

[18] *See* PAUL VIGNA & MICHAEL J. CASEY, THE AGE OF CRYPTOCURRENCY: HOW
BITCOIN AND DIGITAL MONEY ARE CHALLENGING THE GLOBAL ECONOMIC ORDER
1, 41 (St. Martin's Press, 2015) (marking the inception of Bitcoin). The true iden-
tity of Nakamoto is unknown and is a well-kept secret; however, many believe
Nakamoto is not a single individual, but rather a group of developers. *Id.* There is
speculation that Nakamoto is a collective pseudonym for more than one person. *Id.*
See History of Bitcoin: The world's first decentralized currency, BITCOIN WEB
HOSTING (2014), *archived at* https://perma.cc/LT7S-WL7R (acknowledging the
identity of Bitcoin's creator).

[19]*See* VIGNA & CASEY, *supra* note 18, at 41 (repeating the content of the email that
was sent to the cryptography experts through an obscure mailing list).

[20] *See* VIGNA & CASEY, *supra* note 18, at 41-42 (expanding on the content of the
email sent by Nakamoto). The white paper directed readers to a fairly new Web
site describing Bitcoin. *Id.* at 41. *See also History of Bitcoin: The world's first de-
centralized currency*, *supra* note 18 (establishing the inception of Bitcoin). The
bitcoin notion originated in Japan in 2007 and patents for the encryption were
anonymously filed in 2008. *Id.*

players.[21] In fact, Bitcoin was so innovative that even the cryptography community dismissed Nakamoto's first attempt.[22] Nakamoto remained persistent with his invention because he knew Bitcoin contained two major breakthroughs that differentiated the system from previous cryptocurrency attempts: the universal ledger and a unique monetary incentive to maintain the ledger.[23]

A. Bitcoin

In 2009, the first Bitcoin industry transaction took place by a cryptographic activist and the first real-world transaction took place in 2010 when a programmer paid 10,000 bitcoins for a pizza.[24] Similar to the exchange rates of other currencies, the monetary value of a bitcoin is determined by the open market.[25] As Bitcoin increases in popularity and is used more frequently to transact, the value of a single bitcoin goes up.[26] Bitcoin exchange rates against the United

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[21] *See* VIGNA & CASEY, *supra* note 18, at 41 (recognizing the innovation and complexity of Bitcoin). The Financial Crimes Enforcement Network has acknowledged virtual currencies are the wave of the future as a form of payment; however, simultaneously a powerful means by which criminals and terrorists can fund illicit activity. *Id.* at 255. *See also* Financial Action Task Force, *supra* note 3, at 3 (acknowledging the contrasting views of the new technology embodied by Bitcoin).

[22] *See* VIGNA & CASEY, *supra* note 18, at 42 (recognizing the dismissal of Nakamoto's first attempt to release Bitcoin). Upon initial review of Bitcoin, the cryptography community rejected Nakamoto's creation because it was similar to previous crypto-currency systems that had failed. *Id.* Bitcoin used public-key encryption, which allowed a transfer when a person used their private key to authenticate a currency transaction. *Id.* at 43. Previous crypto-currency attempts also formed a decentralized computer network in order to maintain the integrity of the monetary system. *Id.*

[23] *See* VIGNA & CASEY, *supra* note 18, at 43-44 (establishing the reasons behind why Bitcoin has worked and will continue to operate as a functioning decentralized monetary system)*; see also* Financial Action Task Force, *supra* note 3, at 5 (defining cryptocurrency). "Cryptocurrency refers to a math-based, decentralized convertible virtual currency that is protected by cryptography." *Id.*

[24] *See History of Bitcoin: The world's first decentralized currency*, *supra* note 18 (identifying the first instances of bitcoin transactions).

[25] *See* JERRY BRITO & ANDREA CASTILLO, BITCOIN: A PRIMER FOR POLICYMAKERS 6 (Mercatus Center George Mason University, 2016) (instituting how bitcoins are valued).

[26] *See* Susan A. Berson, *Virtual Money: Some Basic Rules for Using 'Bitcoin'*, 99 A.B.A. J. 32, 32 (July 2013) (highlighting the upward trend of bitcoin popularity and subsequent increased pricing); *Frequently Asked Questions: Why Do Bitcoins Have Value?*, BITCOIN (last visited Feb. 16, 2016), *archived at*

States Dollar ("USD") have fluctuated from $13 per bitcoin in January 2013 to more than $1,200 at its peak in November 2013.[27] Since mid-2015, bitcoin exchange rates against the USD remain around $260.[28] The current market capitalization of the Bitcoin industry is over $18 billion and is expected to continue growing as more and more businesses begin to integrate into the Bitcoin platform.[29] The concept of virtual currency was unimaginable prior Bitcoin; however, the bitcoin economy is greater than some of the world's smaller countries.[30]

B. Centralized v. Decentralized Banking Systems

Even in the developing stages of cryptocurrency, Nakamoto enforced an "electronic payment system based on cryptographic proof instead of trust."[31] Thus, his invention of Bitcoin is the world's first completely decentralized virtual currency and operates on a completely public, distributed ledger.[32] The groundbreaking technology carries the potential to integrate the global economy by radically changing the way we conduct banking and commerce.[33]

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https://perma.cc/9PDZ-KZJK (noting the increase in popularity and demand for bitcoin, which has subsequently increased the currency's value). Bitcoin has a growing base of users, primarily amongst merchants and startups. *Id.* Similar to all forms of currency, trust and adoption are the only attributes needed to denote value. *Id.* As more people are willing to accept bitcoin as payment, the demand, and subsequently value of the currency, will increase. *Id.*

[27] *See* Meghan E. Griffiths, *Virtual Currency Businesses: An Analysis of the Evolving Regulatory Landscape*, 16 TEX. TECH. ADMIN. L.J. 303, 304 (2015) (examining the fluctuation of Bitcoin value beginning in 2013); *see also* BRITO & CASTILLO, *supra* note 25, at 1 (providing the range of bitcoin values).

[28] *See* Griffiths, supra note 27, at 304 (providing the value of bitcoins in 2015).

[29] *See Bitcoin - Market Capitalization*, COINDESK (last visited Feb. 22, 2017), *archived at* https://perma.cc/T6YP-J2WS (showcasing the upward trend of Bitcoin market capitalization up to $18 billion in February 2017); *see also* BRITO & CASTILLO, *supra* note 25, at 1 (stating Bitcoins market capitalization was $6.4 billion in 2016).

[30] *See* BRITO & CASTILLO, *supra* note 25, at 1 (stressing the magnitude of the breakthrough Bitcoin represents).

[31] *See* VIGNA & CASEY, *supra* note 18, at 41 (acknowledging Nakamoto's early recognition of a needed change in the existing commerce system).

[32] *See* BRITO & CASTILLO, *supra* note 25, at 5, 7 (defining Bitcoin).

[33] *See* VIGNA & CASEY, *supra* note 18, at 4 (addressing the benefits and positive impact Bitcoin will have on the entire economy).

Monetary systems were traditionally built on a centralized system whereby the ledger was maintained by an agency, such as a bank.[34] Individuals entrusted their funds to banks in exchange for the bank's promise that transactions would be protected.[35] Although this centralized model is widely followed, it is critiqued due to the significant power and profits the banks are automatically granted as the centralized record-keepers.[36]

C. *The Blockchain*

The invention of the blockchain is Nakamoto's signature achievement and the sole reason Bitcoin is able to effectively function as a decentralized, electronic form of currency.[37] The underlying concept behind the blockchain removes centralized record-keepers as middlemen and replaces them with an unbiased, automated ledger that records all cryptocurrency transactions.[38] Through the creation of Bitcoin and the blockchain, Nakamoto resolved two issues: (1) creating a system which purports to facilitate the purchase and sale of goods and services without allowing the system manager to gain too much power or abuse investor trust[39] and (2) detecting whether the Bitcoin sender has already sent a copy of the virtual currency to another user.[40] In other words, the blockchain solved the concept of

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[34] *See* VIGNA & CASEY, *supra* note 18, at 120 (recognizing the common banking system amongst global financial markets); *see also* BRITO & CASTILLO, *supra* note 25, at vii (defining a centralized banking system).

[35] *See* VIGNA & CASEY, *supra* note 18, at 120-21 (describing the relationship between centralized banks and consumers); *see also* BRITO & CASTILLO, *supra* note 25, at vii (explaining the traditional exchange between investors and banks).

[36] *See* VIGNA & CASEY, *supra* note 18, at 121 (acknowledging the criticism that sparked the invention of a decentralized banking system).

[37] *See* VIGNA & CASEY, *supra* note 18, at 120 (emphasizing the importance of the blockchain to the overall invention of Bitcoin); *see also* Lane, *supra* note 3, at 519 (defining the blockchain used in the Bitcoin system).

[38] *See* VIGNA & CASEY, *supra* note 18, at 5 (highlighting the purpose of the blockchain); *see also* BRITO & CASTILLO, *supra* note 25, at 5 (ensuring peer-to-peer transactions are still plausible, despite removal of the middleman).

[39] *See* VIGNA & CASEY, *supra* note 18, at 39 (identifying the larger, overarching issue addressed by Bitcoin).

[40] *See* BRITO & CASTILLO, *supra* note 25, at 6 (describing blockchain as a measure to prevent double spending of bitcoins).

"double spending," which was previously an issue with other forms of virtual currencies.[41]

Blockchain technology is possible because of the Internet, which provided the opportunity for instant communication across different networks, industries and time zones.[42] Nakamoto's objective to resolve the double spending issue and to remove centralized agencies was achieved through the public distribution of all bitcoin transactions via the ledger.[43] Nakamoto ensured an incentive for individuals who contribute time and computing power to update and maintain the integrity of the public ledger.[44] Bitcoin's software is preprogrammed to issue bitcoins or fractions of bitcoins as a reward to individuals – known in the industry as "miners" – who dedicate their computing resources to confirming Bitcoin transactions and ensuring the ledger reflects the transactions accordingly.[45]

The inner-workings of the blockchain keep track of everyone's "virtual wallet" balance at any given time, including the number of bitcoins – or fractions of bitcoins – spent or received by the user.[46] Bitcoin's blockchain is a series of grouped transactions that occur within a similar timeframe.[47] Each transaction is time-stamped and receives a receipt to confer legitimacy as far back as the oldest transactions.[48] Both the sender and the recipient of bitcoin(s) have a unique address attached to their individual virtual wallets and anyone with Internet access can create a virtual wallet from the comfort of

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[41] *See* VIGNA & CASEY, *supra* note 18, at 120 (identifying the micro-level issue related specifically to virtual currencies).

[42] *See* VIGNA & CASEY, *supra* note 18, at 122 (laying the foundation for the inner workings of the blockchain).

[43] *See* VIGNA & CASEY, *supra* note 18, at 122 (clarifying the goal of the blockchain as the main difference between Bitcoin and other attempts at virtual currencies).

[44] *See* VIGNA & CASEY, *supra* note 18, at 122 (recognizing the motivation for individuals to participate in the blockchain as bitcoin miners).

[45] *See* VIGNA & CASEY, *supra* note 18, at 122 (introducing the concept of mining bitcoins).

[46] *See* Financial Action Task Force, *supra* note 3, at 7-8 (defining virtual wallet, including the information for each specific transaction that is recorded in the blockchain). A "virtual currency wallet is a means for holding, storing and transferring bitcoins or other virtual currency." *Id.*

[47] *See* VIGNA & CASEY, *supra* note 18, at 123 (simplifying the existence of the blockchain as is applies to Bitcoin).

[48] *See* VIGNA & CASEY, *supra* note 18, at 123 (explaining how the blockchain maintains record of each transaction).

their own home, with no personally identifiable information re-
quired.[49] When the sender makes a purchase using bitcoin, the net-
work, blockchain, will be notified of the requested transaction.[50]
Once miners arrange transaction groups and insert the transaction
into the blockchain, the transaction is completed and permanently
recorded in the ledger.[51] However, the blockchain is not concerned
with what was purchased or by whom, but rather only the value of the
particular purchase.[52]

      The crux of the blockchain's advantage is that the addresses
of the confirmed transactions are entirely public; however, no person-
ally identifiable information is revealed.[53] Rather, these addresses
are composed of twenty-four to thirty-six alphanumeric codes – re-
ferred to as the "public key" – and embedded within each address are
"private keys" that instruct Bitcoin transfers between blockchain ad-
dresses.[54] Public addresses allow users to make deposits into other
users' virtual wallets, but only the owner of each blockchain address

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[49] *See* VIGNA & CASEY, *supra* note 18, at 2 (acknowledging who may open a virtual
wallet and begin making cryptocurrency transactions).

[50] *See* VIGNA & CASEY, *supra* note 18, at 123 (identifying the point in time after the
transaction is made by the user that the blockchain is notified and the mining be-
gins).

[51] *See* VIGNA & CASEY, *supra* note 18, at 123 (outlining the role miners contribute
to the overall process).

[52] *See* VIGNA & CASEY, *supra* note 18, at 123 (reiterating the focal point of the
blockchain and the purpose for which it was created, excluding the non-concerns,
such as personally identifiable information).

[53] *See* VIGNA & CASEY, *supra* note 18, at 125 (recognizing the main reason Bitcoin
is an attractive form of payment for users). One of the reasons Bitcoin is so attrac-
tive to some users is because the blockchain addresses do not have personally iden-
tifiable information connected to them. *Id.* at 127. This allows Bitcoin users to
conduct embarrassing or illegal transactions without alerting the general public, as-
suming the users have not shared their address information with others. *Id.*

[54] *See* VIGNA & CASEY, *supra* note 18, at 125 (identifying the extent to which ad-
dresses are actually public). Think of the public key as an email address that is
shared with the general public and allows the user to receive emails. *Id.* at 126.
Think of the private key as the password to that email address that allows only the
owner of the email address to send emails to the general public. *Id.*

can make withdrawals.[55] Ultimately, the blockchain serves as a superior method of transacting, as users can share necessary information, but withhold their personal information and identity.[56]

D. The Current Regulatory Landscape

Despite its advantages, financial industry regulators are concerned about Bitcoin tendencies that inadvertently support illegal transactions and allow illicit users to circumvent regulation.[57] Concerns about money laundering stem primarily from the anonymity provided by Bitcoin.[58] The currency and underlying technology is "built on code" and "lives in the cloud," which has hindered law enforcement's ability to regulate and subsequently investigate criminal activity related to Bitcoin.[59] With these challenges in mind, the goal is a proactive approach through regulation that will empower law enforcement to adequately prevent illicit use of the currency.[60]

While regulators simply try to understand this new technology, advocates of Bitcoin and open-source technology push back against the potential of regulation.[61] The biggest issue for regulators is determining exactly how to regulate this form of currency because it is unchartered and differs drastically from the traditional forms of currency regulated today.[62] Working groups around the globe have

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[55] *See* VIGNA & CASEY, *supra* note 18, at 125 (explaining how the blockchain seeks to maintain the anonymity of users).

[56] *See* VIGNA & CASEY, *supra* note 18, at 125 (confirming the anonymous nature of the blockchain).

[57] *See* William J. Luther, *Is Bitcoin Only Valuable to Crooks and Tax Cheats?,* CATO INSTITUTE (Nov. 14, 2015), *archived at* https://perma.cc/7JY9-84BK (reiterating the major criticism surrounding Bitcoin and the incentive for financial industry regulators to take action).

[58] *See* Burkill & Lyons, *supra* note 2 (identifying how Bitcoin can be used to launder money). Essentially, criminals can use bitcoins to move funds into and out of accounts, in an attempt to launder money, without leaving a footprint. *Id.*

[59] *See* Sonderegger, *supra* note 5, at 175 (recognizing the challenge faced by regulators).

[60] *See* Lane, *supra* note 3, at 513 (posing regulation as the solution to law enforcement's issue surrounding criminal activity related to Bitcoin).

[61] *See* Lane, *supra* note 3, at 513 (introducing the current state of regulation for Bitcoin and other virtual currencies).

[62] *See* Lane, *supra* note 3, at 513 (addressing the issue for regulators).

formed in an attempt to collaborate on regulatory ideas and approaches.[63] The United States government first attempt to regulate Bitcoin came through existing anti-money laundering statues, which effectively jammed the "modern square peg [of Bitcoin] . . . into round regulatory holes meant for ancient business models."[64] Some countries, such as Russia and China, recommend limiting the use of virtual currency, while other regulation suggestions include requiring proof of identity to open a virtual wallet or creating per purchase spending limits.[65]

Advocates against regulation entirely view Bitcoin as an inherently self-regulated system and, thus, believe government intervention would only stymie the very purpose of the alternative currency.[66] Furthermore, given the globalized Bitcoin economy, regulation in the United States would only serve to hinder the domestic economy in terms of the greater Bitcoin community.[67] Given the

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[63] *See* Luke Parker, *53 Commonwealth States Urged To Explore Benefits and Regulate Bitcoin & Blockchain Technology*, BRAVE NEW COIN (Aug. 31, 2015), *archived at* https://perma.cc/S693-9FT7 (observing a global movement to regulate the virtual currency industry). The Commonwealth Virtual Currencies Working Group is an intergovernmental organization designed to analyze the regulatory environment and formulate appropriate legislation to control virtual currencies. *Id.* The working group is comprised of fifty-three nations that are or used to be part of the extended British Empire; however, the United States is not typically in attendance. *Id.*

[64] *See* Marco Santori*, Bitcoin Law: What US Businesses Need to Know*, COINDESK (Aug. 17, 2013), *archived at* https://perma.cc/WGV7-GVGR (alliterating the struggles of overseeing Bitcoin with current regulations)*; see also* 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, 448 (2015) (recalling past attempts to regulate Bitcoin)*; see also* Sonderegger, *supra* note 5, at 175-76 (insinuating a new form of regulation is needed). Bitcoin cannot be regulated in the same way as the stock market, government currencies, insurance, or other financial sectors. *Id.*

[65] *See* Burkill & Lyons, *supra* note 2 (pointing out a possible solution to regulating Bitcoin). Limiting the use of virtual currencies pertains to limits on where and on what Bitcoin will be accepted as a form of payment. *Id.* Requiring proof of identity would ensure a legitimate person controls the account, but would take away from the anonymity of Bitcoin and place some control back into the hands of a centralized body. *Id.*

[66] *See* Sonderegger, *supra* note 5, at 205 (proposing Bitcoin does not need outside regulation). Bitcoin thrives on an increase in users and computing power and any changes to the open-source must be mathematically approved. *Id.*

[67] *See* Sonderegger, *supra* note 5, at 206 (recognizing how the United States economy would be affected should the government choose to regulate Bitcoin).

chance and the time to fully develop and gain a larger following, Bitcoin can adapt and become secure enough to prevent fraud or illegal activity through code.[68]

The anonymity of Bitcoin transactions make it difficult for regulators to focus on those involved.[69] Similarly, the regulation of miners would be ineffective for two main reasons: (i) they do not consider the legality of the Bitcoin transactions they records and (ii) a focus on this group could deter participation, which would undercut the very functionality of Bitcoin and the blockchain.[70] Finally, it is nearly impossible to regulate the Bitcoin development team itself because Bitcoin is built on an open-source, active community and is public for inspection.[71]

The Financial Crimes Enforcement Network ("FinCEN") has recognized the myriad benefits of Bitcoin, which is why advocating for light regulation is more suitable.[72] In an effort to strike a balance between the anonymity benefits and simultaneously address the money laundering problems, many in the industry suggest regulation that specifically targets Bitcoin exchanges.[73] Several Bitcoin exchanges are easily identifiable institutions that qualify as exchangers

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[68] *See* Sonderegger, *supra* note 5, at 207 (suggesting Bitcoin needs more time to develop before regulators interfere).

[69] *See* Danton Bryans, *Bitcoin and Money Laundering: Mining for an Effective Solution*, 89 IND. L.J. 441, 469-70 (2014) (suggesting a possible Bitcoin entity to regulate). Bitcoin does not require users to divulge personally identifiable information, which prevents law enforcement from tracing or regulating senders and launderers. *Id.* Removing the anonymity of Bitcoin would be to remove the sole reason for which the technology was built and continues to be a success. *Id.*

[70] *See id.* at 470 (disregarding miners as a Bitcoin entity to regulate). In fact, regulating miners may be detrimental to Bitcoin as it may deter individuals from contributing resources in the form of computer power (the sole source of Bitcoin's operating power). *Id.*

[71] *See id.* at 471 (rejecting the Bitcoin Development Team as an entity for regulation). The Bitcoin development team is extremely widespread because it essentially includes anyone who wants to participate and contribute code. *Id.*

[72] *See* Kavid Singh, *The New Wild West: Preventing Money Laundering in the Bitcoin Network*, 13 NW. J. TECH. & INTELL. PROP. 37, 48-49 (Feb. 2015) (considering the options for regulating Bitcoin)*; see also Mission*, UNITED STATES DEPARTMENT OF THE TREASURY FINANCIAL CRIMES ENFORCEMENT NETWORK (last visited Feb. 14, 2016), *archived at* https://perma.cc/K3AV-SYY5 (introducing FinCEN). Through the use of financial authorities, FinCEN aims to protect the financial industry and investors from fraud and illicit activity. *Id.*

[73] *See* Singh, *supra* note 72, at 49 (targeting a specific player to regulate within Bitcoin).

under the FinCEN Guidance.[74] Since these currency exchanges have
access to the virtual wallets and in some cases identifying infor-
mation, regulating the exchanges would grant the government access
to the information needed to pursue individuals suspected of launder-
ing money or illicit activity.[75] Regardless of the preferred regulation
method, recent regulators have prioritized finding a solution to virtual
currency short-sightedness.[76] Several bitcoin operations, and subse-
quently court cases, involving the misuse of virtual currencies to
launder money or engage in illicit activity have surfaced in recent
years.[77]

    United States v. Budovsky ("Liberty Reserve") is the largest
online money-laundering case in history.[78] Liberty Reserve origi-
nated in 2006 as a Costa Rica-based money transmitting business and
was designed to help criminals launder money, while avoiding regu-
lators and law enforcement.[79] The transmitter operated using "Lib-
erty Dollars" which were ultimately exchanged for fiat currency and
account owners were allowed to remain anonymous.[80] In May 2013,

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[74] *See* Singh, *supra* note 72, at 58-59 (reasoning why Bitcoin exchanges should be
targeted). Bitcoin exchanges, such as BitStamp, CoinCafe, and Coinbase have de-
tectible headquarters and are publically in the business of exchanges bitcoins for
other fiat currency. *Id.*

[75] *See* Singh, *supra* note 72, at 59 (concluding the reason regulation of Bitcoin ex-
changes is beneficial to law enforcement). Most criminals ultimately want to ex-
change bitcoins for USD because of its widespread use, which is why the institu-
tions exchanging the currencies are prime targets for regulators. *Id.*

[76] *See* Singh, *supra* note 72, at 49 (recognizing the trend regulators are moving to-
wards regarding virtual currencies and specifically, Bitcoin).

[77] *See* Financial Action Task Force, *supra* note 3, at 10 (recognizing recent law en-
forcement involvement with virtual currencies, absent a regulatory framework).

[78] *See* United States v. Budovsky, No. 13cr368 (DLC), 2015 U.S. Dist. LEXIS
127717, at *1 (S.D.N.Y. Sep. 23, 2015) (providing recent case law regarding the
use of bitcoin to launder money through a money transmitting business). Budovsky
was charged on three counts with (1) conspiracy to commit money laundering; (2)
conspiracy to operate an unlicensed money transmission business; and (3) opera-
tion of an unlicensed money transmission business. *Id.* at *2-3. Budovsky's mo-
tion to dismiss on all three charges was denied. *Id.* at *39-40. *See also* Financial
Action Task Force, *supra* note 3, at 10 (introducing a recent case involving virtual
currencies).

[79] *See* Financial Action Task Force, *supra* note 3, at 10 (describing the purpose of
Liberty Reserve). Liberty Reserve would help criminals launder the proceeds from
fraud, computer hacking, drug trafficking and child pornography by enabling them
to conduct anonymous and untraceable transactions using virtual currencies. *Id.*

[80] *See* Financial Action Task Force, *supra* note 3, at 10 (recognizing the virtual cur-
rency used). Liberty Reserve had more than a million users across the world and

the United States Department of Justice charged Liberty Reserve with operating an unregistered money transmitter business and facilitating the movement of more than six billion USD in illegally laundered funds.[81]

One of the most notorious cases regarding the misuse of virtual currencies, and specifically Bitcoin, is *United States v. Ulbricht* ("Silk Road").[82] Silk Road was launched in 2011 and operated as a cyber-black market for the purchase and sale of drugs, weapons, stolen identify information and unlawful goods.[83] Users and account holders were able to maintain anonymity because the website operated solely through the use of Bitcoin.[84] In September 2013, the United States Department of Justice charged Silk Road with narcotics trafficking, computer hacking and money laundering, in addition to seizing more than $33.6 million from computer hardware.[85]

Organizations, such as Western Express International, are particularly threatening to regulators because they are not contained

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conducted approximately fifty-five million illegal transactions. *Id.* Although Liberty Reserve required personally identifiable information, identities were not validated. *Id.* Furthermore, the transmitter required users to make deposits and withdrawals through third party exchangers with minimal regulatory oversight. *Id.*

[81] *See* Financial Action Task Force, *supra* note 3, at 10 (stating the charges against Liberty Reserve). Liberty Reserve was effectively banned from the United States financial system. *Id.*

[82] *See* United States v. Ulbricht, 31 F.Supp.3d 540, 546 (S.D.N.Y. 2014) (providing case law where Bitcoin anonymity has been at issue for law enforcement). Ulbricht was charged on four counts with (1) participation in narcotics trafficking conspiracy; (2) a continuing criminal enterprise; (3) a computer hacking conspiracy; and (4) a money laundering conspiracy*; see id.* The Court finds, "Bitcoins carry value – that is their purpose and function – and act as a medium of exchange." *Id.* at 548. Ulbricht's motion to dismiss on all four charges was denied. *Id.* at 570*; see also* Financial Action Task Force, *supra* note 3, at 11 (introducing another Silk Road case).

[83] *See* Financial Action Task Force, *supra* note 3, at 11 (describing Silk Road). Silk Road allegedly generated a total revenue of $1.2 billion and commissions of more than $80 million. *Id.* In addition, hundreds of millions of dollars were laundered in order to fund the illegal transactions conducted on behalf of Silk Road. *Id.*

[84] *See* Financial Action Task Force, *supra* note 3, at 11 (acknowledging Bitcoin as the form of payment for Silk Road account holders). Silk Road required users to set up a Bitcoin account to conduct transactions. *Id.* Account holders had at least one, if not several, Bitcoin accounts that allowed users to transact anonymously. *Id.*

[85] *See* Financial Action Task Force, *supra* note 3, at 11 (stating the charges against Silk Road). The owner and operator of Silk Road has been indicted but the investigation into the operation is still ongoing. *Id.*

within a single organization, but rather span across several coun-
tries.[86] Western Express International was an internet based cyber-
crime group designed to sell stolen credit card and personally identify
information, which buyers would then use to purchase expensive
merchandise.[87] Transactions were made using virtual currencies,
such as e-Gold and WebMoney.[88] After an eight-year investigation
conducted by the Secret Service and the Manhattan District Attor-
ney's Office, Western Express International was charged in 2013 of
money laundering, fraud and conspiracy offenses.[89]

    According to the court in *Unites States v. Faiella*, Bitcoin is
money, the operation of a Bitcoin exchange constitutes transmitting
money and the exchange operator qualifies as a money transmitter.[90]
Thus, the defendant in the case was found in violation of 18 U.S.C. §
1960[91] and charged with operating an unlicensed money-transmitting
business.[92] The Defendant moved to dismiss the charges on three
grounds under the statute: (1) Bitcoin is not considered "money"; (2)

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[86] *See* Financial Action Task Force, *supra* note 3, at 12 (introducing the Western
Express International case). Vendors, buyers and service providers related to West-
ern Express International were located in numerous countries ranging from
Ukraine, Eastern Europe and the United States. *Id.*

[87] *See* Financial Action Task Force, *supra* note 3, at 12 (describing Western Ex-
press International). The cyber-crime service providers sold over 100,000 stolen
credit cards and generated about $5 million USD in credit card fraud proceeds. *Id.*
Western Express International is estimated to have laundered $35 million USD
through various accounts. *Id.*

[88] *See* Financial Action Task Force, *supra* note 3, at 12 (identifying the virtual cur-
rencies used in this case). Western Express International was one of the largest vir-
tual currency transmitters in the United States and exchanged a total of $20 million
e-Gold and $15 million USD in WebMoney for the cybercrime group. *Id.* The vir-
tual currencies used in these transactions differ from bitcoin, because they do not
operate on a blockchain-like system and, therefore, can potentially be used for more
than one transaction (i.e. double spending). *Id.* at 5.

[89] *See* Financial Action Task Force, *supra* note 3, at 12 (stating the charges against
Western Express International).

[90] *See* United States v. Faiella, 39 F.Supp.3d 544, 545 (S.D.N.Y. 2014) (stating the
holding of the case).

[91] *See* Prohibition of Unlicensed Money Transmitting Businesses, 18 U.S.C. § 1960
(2006); *Faiella*, 39 F.Supp.3d at 545 (stating the allegations and introducing the
relevant statute). The statute was originally passed to prevent laundered funds from
being used in connection with drug trade or dealing. *Id.*

[92] *See Faiella,* 39 F.Supp.3d at 545 (stating the charges against the Defendant in the
case); *see also*, 18 U.S.C. § 1960 (setting forth that a defendant will be considered
guilty of an offense where he "knowingly conducts, controls, manages, supervises,
directs, or owns all or part of an unlicensed money transmitting business").

the operation of a Bitcoin exchange is not considered "transmitting" money; and (3) that the Defendant himself is not considered a "transmitter" of the money.[93] The Court reasoned that Bitcoin is considered currency given the plain meaning of the term: something that can be exchanged for ordinary currency, denotes value, and is used to conduct financial transactions.[94] Furthermore, the court deemed the operation a transmission because the defendant received cash from clients, converted it to bitcoins and accordingly transferred the bitcoins into client accounts.[95] Finally, the third prong of the statute was met pursuant to FinCEN Guidance concludes, which indicates that individuals engaged in virtual currency exchanges are transmitters.[96]

III. Premise

> We have a responsibility to regulate new financial products in order to help protect consumers and root out illicit activity. This is the bread and butter job of a financial regulator. However, by the same token, we should not react so harshly that we doom promising new technologies before they get out of the cradle. Getting that balance right is hard, but key.[97]

The NYDFS, led by outgoing chief financial regulator Benjamin Lawsky ("Lawsky"), acknowledged that virtual currencies are here to stay and ultimately released "BitLicense" to protect consumers and diminish unlawful activity.[98] Just a few years ago, Bitcoin

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[93] *See Faiella*, 39 F.Supp.3d at 545 (highlighting the key arguments used by the Defendant).

[94] *See id.* (providing the Court's reasoning for holding Bitcoin as money).

[95] *See id.* at 546 (establishing the Court's reasoning for holding the Bitcoin exchange as a transmission).

[96] *See id.* (highlighting the Court's reasoning for holding the Defendant as a transmitter).

[97] *See* Polk, *supra* note 8, at 2 (quoting New York State's first Superintendent of Financial Services, Benjamin M. Lawsky, speech announcing final BitLicense).

[98] *See* Jessie Willms, *Final BitLicense Rules for New York State Released Today by NYDFS Superintendent Ben Lawsky*, BITCOIN MAGAZINE (June 3, 2015), *archived at* https://perma.cc/9AZA-JLNZ (acknowledging the continuing increase of virtual currencies into the financial markets); *see also* Owen Davis, *Bitcoin Rules Divide Wall Street's Digital Currency Community*, INTERNATIONAL BUSINESS TIMES (May

was booming with a currency exchange rate of $1,000 USD per Bitcoin.[99] However, as Bitcoin merged into the financial mainstream, scandals raised concerns regarding cyber-attacks, fraud, currency devaluation and money-laundering.[100] In an effort to strike a balance between consumer protection and encouragement of virtual finance innovation, NYDFS started the draft of BitLicense in August 2013.[101] Prior to the drafting, in July 2014, the NYDFS released proposed rules and regulations to be required for Bitcoin businesses and allowed a three-month public comment period, which was then subsequently extended to February 2015.[102]

The long anticipated final BitLicense rule for "Virtual Currency Business Activity" was released in June 2015.[103] BitLicense requires New York businesses or residents that (1) receive or transmit virtual currency; (2) store, hold or maintain virtual currency for customers; (3) buy and sell virtual currency as a customer business; (4) perform currency exchange services; or (5) control, administer or issue virtual currencies are required to register and comply with the rules and regulations.[104] All persons after June 2015 must obtain a license from the NYDFS superintendent or are prohibited from conducting or engaging in Virtual Currency Business Activity.[105] Following the release of BitLicense, existing bitcoin businesses had forty-five days to apply for a license and would receive preliminary

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28, 2015), *archived at* https://perma.cc/3V65-9E5E (considering the motives behind New York's BitLicense).

[99] *See* Davis, *supra* note 98 (recalling the initial boom of Bitcoin).

[100] *See* Griffiths, *supra* note 27, at 304-05 (revealing some of the threats and concerns that have accompanied the expansion of Bitcoin).

[101] *See* Davis, *supra* note 98 (identifying the beginning of BitLicense timeframe); *see also* Willms, *supra* note 98 (providing the balancing concepts of BitLicense as a base for the forthcoming framework of the overall license).

[102] *See* Polk, *supra* note 8, at 6 (laying out the timeline leading up to the release of the final BitLicense).

[103] *See* Griffiths, *supra* note 27, at 321 (focusing on the industry that is affected by BitLicense); *see also* Polk, *supra* note 8, at 2 (acknowledging the release of the final BitLicense).

[104] *See* Virtual Currencies, N.Y. COMP. CODES R. & REGS. tit. 23, § 200.2 (2015) (defining "Virtual Currency Business Activity"); *see also* Griffiths, *supra* note 27, at 321 (breaking down the definition of "Virtual Currency Business Activity"); Stan Higgins, *New York Reveals BitLicense Framework for Bitcoin Businesses*, COINDESK (July 17, 2014), *archived at* http://perma.cc/NK48-NSB8 (summarizing the definition of "Virtual Currency Business Activity").

[105] *See* Virtual Currencies, N.Y. COMP. CODES R. & REGS. tit. 23, § 200.3(a) (2015) (stating licensing requirements).

approval until their application was formally approved or denied by the NYDFS.[106] The superintendent will approve or deny every application for licensure within ninety (90) days from the filing of the application and if denied, businesses are required to cease operation in the state of New York immediately.[107]

At the discretion of the superintendent, the NYDFS may grant a "conditional license" to applicants that do not initially satisfy all of the regulatory requirements.[108] However, a conditional license lasts no more than up to two years, unless extended by the superintendent.[109] The possibility of a conditional license is particularly favorable to small businesses and bitcoin start-ups because it provides a

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[106] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.3 (stating that a license is required to engage in any Virtual Currency Business Activity). In addition, each applicant or affiliate must provide a background report prepared by an independent agency, a completed set of fingerprints, processing fees if applicable and passport style photographs of the individual. *Id.* at § 200.4. Amongst several required records, the document-heavy application includes organization charts, current financial statements, banking agreements, written policies, documentation of tax obligations and insurance policies. *Id.* Lastly, BitLicense reserves the right to request "such other additional information as the superintendent may require." *Id.* In order to obtain licensing, each applicant must submit a five thousand dollar non-refundable application fee. *Id.* at § 200.5. The fee will cover the application processing, the review of application documentation, and the investigation of the financial condition and responsibility of each applicant. *Id. See also* Higgins, *supra* note 104 (identifying the waiting period following the application for a license).

[107] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.6 (addressing the approval and denial process for a BitLicense application); *see also* Higgins, *supra* note 104 (highlighting the impact on existing businesses in the industry).

[108] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.4 (introducing the concept of a conditional license, which provides more flexibility in actually obtaining the license but may require heighted review once the license has been granted). The conditional license option was inspired by the feedback received during the comment period following the release of the Proposed BitLicense in 2014. *Id.*

[109] *See id.* (clarifying the difference between the length of time granted for a conditional license compared to a traditional license).

more flexible regulatory framework, while still allowing examinations and compliance reviews to be conducted.[110] While the conditional license is an option for Virtual Currency Businesses, it will only be granted to those that qualify under the relevant factors.[111]

 In line with the BitLicense goal of consumer protection, each Licensee shall disclose "all material risks associated with its products, services, and activities and Virtual Currency generally" to each of its clients.[112] Each Licensee must have written policies and procedures for resolving consumer complaints and report any changes to the policies and procedures to the NYDFS within seven days.[113] Licensed businesses are required to take reasonable steps towards preventing fraud and as such, are required to implement written anti-fraud policies.[114] Written approval by the superintendent is required for the introduction of materially new products, services or activities and subsequently will require all applicable disclosures to consumers by the Licensee.[115]

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[110] *See* Pete Rizzo, *Lawsky: NYDFS Considering Transitional BitLicense for Small Startups*, COINDESK (Nov. 3, 2014), *archived at* http://perma.cc/2SW5-WCRJ (recognizing the benefit of a conditional license). In considering the option for a conditional license, the NYDFS addressed the concern of the unattainable high compliance costs for start-ups. *Id.*

[111] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.4(C) (restricting the ability to be granted a conditional license).

[112] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.19 (highlighting the minimum requirement for disclosure to consumers by licensed bitcoin businesses). Each Licensee is also required to disclose and define general terms and conditions including but not limited to, customer liability for unauthorized transactions, Licensee right to disclosure information about customer's account, periodic statement information, and transaction receipts. *Id. See* Polk, *supra* note 8, at 27 (listing some of the minimum requirements for disclosure). Prior to each transaction, written disclosure is required for the transaction amount, transaction fees, the nature of the transaction and warning that transaction may not be undone. *Id.*

[113] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.20 (addressing the complaint reporting requirement for Licensees).

[114] *See* Polk, *supra* note 8, at 42 (addressing the fraud reporting and prevention requirement for Licensees). Anti-fraud policies are required to include (i) the identification of a fraud-related risk area; (ii) procedures and controls to combat each risk; (iii) allocation for risk responsibility; (iv) periodic monitoring and revision of anti-fraud procedures. *Id.*

[115] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.10 (addressing the material change requirement for Licensees). The requirement for written approval and disclosure to consumers also applies to material changes to an already existing product, service or activity involving New York state or New York residents. *Id.*

For the purpose of safeguarding assets, each Licensee is required to maintain sufficient capital levels assessed by the specific risks of each licensee and determined by the superintendent.[116] More specifically, to safeguard risks associated with money laundering, each Licensee is required to design an anti-money laundering program consisting of "internal controls, policies, and procedures" related to the compliance of current anti-money laundering laws and regulations.[117] To preserve availability and functionality of the Virtual Currency Businesses electronic systems, Licensees are required to implement an effective cyber security program.[118] Each Licensee is required to make, keep and preserve all of the books and records applicable to the Virtual Currency Business for at least seven years in order for the superintendent to examine and ensure compliance with the license.[119] The superintendent will examine each Virtual Currency Business every two years or more often as needed to review the

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[116] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.8 (protecting consumer assets by backing the Virtual Currency Business with USD); Polk, *supra* note 8, at 30 (addressing the capital levels requirement for Licensees). Acceptable forms of capital include cash, virtual currencies, or highly-liquid investment grade assets. *Id.* In determining the level of risk and capital level requirement for each licensee, the superintendent may consider the Licensee's assets, liabilities, risk exposure, licensure under New York Banking Law, and financial protection available to consumers. *Id.* In addition, each Licensee is required to maintain a bond or trust account in USD and with a trusted custodian for the protection of consumers. *Id.*

[117] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.15 (introducing the anti-money laundering standards applicable to Virtual Currency Businesses). For all virtual currency transactions, each Licensee is required to maintain (i) the identity and physical address of all parties involved in the transaction; (ii) the value of the transaction, including the currency conversion; (iii) the payment method; (iv) transaction dates; and (v) an explanation of the transaction. *Id.*

[118] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.16 (highlighting the importance of a cybersecurity program, specifically in an industry so heavily reliant on technology and computers). The cyber security must be created to perform the following five functions at a minimum: (i) identify any and all cyber risks; (ii) protect the information and infrastructure of the Licensee's electronic systems; (iii) detect unauthorized use or data breaches; (iv) respond to detected system intrusions; and (v) recover and restore normal operation. *Id. See* Polk, *supra* note 8, at 34 (pointing the overlap and relationship between the SEC and the NYDFS). The Securities and Exchange Commission ("SEC") has issued cyber security guidance, which the NYDFS may incorporate into the examination process. *Id.*

[119] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.12 (noting the obligation for Licensees to maintain good books and records). The books and records maintained must include (i) detailed transaction information; (ii) a general ledger of assets and liabilities; (iii) bank statements and reconciliations statements; (iv) statements or

financial condition of the Licensee and compliance with all proce-
dures set out in the license.[120]

     The initial reaction by the industry has been overwhelmingly
negative as many fear BitLicense hinders innovation and technologi-
cal expansion; however, others believe that a clear set of rules and
regulations will be advantageous for New York businesses engaged
in virtual currencies.[121] Just weeks after New York released the final
version of BitLicense, several major Bitcoin businesses left the state,
vowing to conduct business only in other states and countries that do
not obstruct the technology.[122] Companies that have complied with
the license and continued doing business in New York, attributed Bit-
License with the ability to "offer a fully complying trading platform"

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valuations sent or received by consumers; (v) board meeting minutes; (vi) records
pertaining to anti-fraud and anti-money laundering compliance; (vii) customer
complaints and subsequent investigations; (viii) any other records that may be re-
quired to be maintained; and (ix) any other documentation the superintendent may
require. *Id.*

[120] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.13 (addressing the follow up to
maintaining good books and records to provide to the superintendent and the exam-
iners during routine exams). In addition, the examination may review any of the li-
censee's activities outside of New York that the superintendent feels may affect the
status of the Licensee's business in the state. *Id. See* Polk, *supra* note 8, at 46
(pointing out that the NYDFS reserves the rights to examine all business activity
related to a Virtual Currency Business licensed in the state of New York, even if
the business activity does not, on its face, concern New York businesses or resi-
dents).

[121] *See* Davis, *supra* note 98 (acknowledging the divided reaction amongst busi-
nesses in the virtual currency industry).

[122] *See* Evander Smart, *California's Version of New York's Infamous 'BitLicense'
Defeated in State Legislature*, THE COINTELEGRAPH (Sept. 16, 2015), *archived at*
http://perma.cc/SR6W-59PH (observing the immediate reaction from the commu-
nity following the final BitLicense announcement); Owen Davis, *Months After
Bitcoin Consumer Protection Laws Enacted, Digital Currency Businesses Have
Fled New York Market*, INTERNATIONAL BUSINESS TIMES (Nov. 5, 2015), *archived
at* https://perma.cc/E3N4-565H (providing statistical data related to the aftermath
of BitLicense). Within three months of BitLicense announcement, roughly twenty
firms have stopped doing business in the Empire State. *Id.* The twenty firms who
left New York are out of approximately fifty firms in the state, counted by an in-
dustry organization. *Id.* There is a correlation between the move to treat bitcoin
businesses more like ordinary financial services and the agitation in the Bitcoin
community. *Id.*

and "a broader range of financial tools" for consumers.[123] Other regulators are not necessarily in favor or opposed to BitLicense, but simply think it is too soon to regulate a technologically advanced industry that is so new.[124] Bitcoin is a financial and technological breakthrough that still remains to be understood by many and as such, requires more time to determine a form of regulation.[125]

While regulation may limit innovation in the Bitcoin community, some rules are necessary to ward off catastrophic cybercrime.[126] The question then remains whether BitLicense will create protection for consumers more than it undercuts innovation.[127] The NYDFS hopes that the innovative Bitcoin community will commit to

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[123] *See* Yessi Bello Perez, *The Real Cost of Applying for a New York BitLicense*, COINDESK (Aug. 13, 2015), *archived at* http://perma.cc/5KBM-TMPL (highlighting some of the benefits of licensure under BitLicense as seen by some New York companies). For the companies who have complied with BitLicense and paid the non-refundable application fee, many still feel the process is difficult and expensive. *Id.*

[124] *See* Giulio Prisco, *It's Much Too Soon to Regulate Bitcoin, Says Deloitte Exec*, BITCOIN MAGAZINE (Oct. 30, 2015), *archived at* https://perma.cc/B62K-4PT3 (stating an alternative reaction by the industry). Although Bitcoin has recently gained traction and publicity, it is neither fully developed nor widely used to "warrant panic regulatory interventions." *Id. See also* Jon Watts, et al., *Bitcoin at the crossroads*, DELOITTE CENTER FOR REGULATORY STRATEGIES 1-2 (2015), *archived at* https://perma.cc/N2WG-K6BM (suggesting it takes time for the true value of new technologies to emerge).

[125] *See* Prisco, *supra* note 124 (providing reasoning to the view that the Virtual Currency Business industry needs more time to develop before implementing regulation). Bitcoin was only recently able to solve an unsolvable problem ("how to ensure that a digital transaction happens only once"), so regulating the industry prematurely limits the pace of innovation. *Id. See also* Kevin V. Tu & Michael W. Meredith, *Rethinking Virtual Currency Regulation in the Bitcoin Age*, 90 WASH. L. REV. 271, 346 (2015) (acknowledging that regulation is often delayed following new technologies, which allows for early entrants to enjoy low regulation while regulators restructure the regulatory regime)*;* Luke Parker, *Deloitte to regulators: Wait Until Mainstream Adoption to Consider Bitcoin Regulation*, BRAVE NEW COIN (Oct. 22, 2015), *archived at* https://perma.cc/327X-BUBG (suggesting uncertainty for the future use or value of Bitcoin).

[126] *See* Brian Fung, *Why Bitcoin Advocates Might Like New York's New Proposed Rules for Virtual Currency*, WASH. POST (Dec. 18, 2014), *archived at* https://perma.cc/WYD6-Z7WX (acknowledging that some regulation may be necessary to enhance Bitcoin legitimacy).

[127] *See id.* (questioning whether BitLicense provides a legitimate regulatory framework for others to follow without hindering virtual financial innovation).

"doing things the right way" and do a lot of business in one of the financial capitals of the world.[128] Although other states and regulatory frameworks have attempted to regulate the virtual currency industry, the New York BitLicense was the first to do so and has proven to be a frontrunner for other state and federal governments to model.[129]

IV. Analysis

BitLicense has hindered cryptocurrency innovation and expansion for the State of New York and therefore does not serve as a wholesome model for other states, governments or countries to follow.[130] In an attempt to regulate Bitcoin and the cryptocurrency industry, BitLicense fails to embody new regulation tactics that adequately address the concerns of the evolving monetary system.[131] As society advances and there is an increase in the demand for technologically advanced systems, Bitcoin's innovative and progressive nature give financial markets an edge that should be fostered and further developed by regulatory guidelines designed specifically for cryptocurrency.[132] In this sense, regulation must not disrupt or interfere with the anonymous nature of Bitcoin as it is vital to the integrity of the system.[133]

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[128] *See* Rizzo, *supra* note 110 (highlighting the ultimate goal for bitcoin businesses licensed under the NYDFS, including start-up businesses in the industry).

[129] *See* Griffiths, *supra* note 27, at 322 (addressing the impact BitLicense has already had in the community and the model example it has set for other states to follow).

[130] *See* Davis, *supra* note 98 (suggesting BitLicense is "bad for bitcoin"); *see also* Higgins, *supra* note 104 (highlighting the impact on existing businesses in the industry); Smart, *supra* note 122 (observing the immediate reaction from the community following the final BitLicense announcement).

[131] *See* Prisco, *supra* note 124 (suggesting it is too soon to regulate Bitcoin)*; see also* Watts, *supra* note 124, at 2 (advising policy makers to step back and allow bitcoin to fully develop before regulating, despite the disruption it may cause in the meantime).

[132] *See* Ajello, *supra* note 64, at 438 (suggesting other forms of regulation for Bitcoin than the previous regulations used for fiat currency); s*ee also* Fung, *supra* note 126 (acknowledging that some regulation may be necessary to enhance Bitcoin legitimacy).

[133] *See* Lane, *supra* note 3, at 520 (recognizing the role of anonymity in the future regulation of Bitcoin).

A. *BitLicense Does Not Foster a Decentralized Banking System*

BitLicense regulation requirements, in terms of what and how things are monitored, are better suited for financial markets based on a centralized banking system.[134] BitLicense requires a surety bond or trust account in the United States to back and protect customer assets, which is very similar to fiat currency in a centralized system.[135] Bitcoin was designed to mimic the extraction of gold by limiting the number of bitcoins that can ever be mined.[136] The arbitrary number of bitcoins is 21 million and is projected to be fully mined in year 2140.[137] BitLicense fails to understand the technology through which Bitcoin is backed and incorrectly requires the virtual currency to be backed by some type of fiat currency.[138] BitLicense hinders the progression of Bitcoin by tying it back to traditional centralized banking systems, which is why it is not an exemplary model for other states or governments to follow.[139]

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[134] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.8 (highlighting how Virtual Currencies were designed based on the current financial system).

[135] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.8 (recognizing BitLicense requirements).

[136] *See* BRITO & CASTILLO, *supra* note 25, at 6, 8 (identifying how bitcoins are backed).

[137] *See* BRITO & CASTILLO, *supra* note 25, at 9 (capping the number of bitcoins that can be mined).

[138] *See* VIGNA & CASEY, *supra* note 18, at 39 (differentiating between fiat currency backed by gold and Bitcoin backed by its own technology and mining ability). Nakamoto knew that as more miners entered the hunt, increased computing power would incentivize competition. *Id.* at 133. In order to maintain the consistent release of bitcoins into the system, Nakamoto mathematically programed the system to increase the difficulty level of solving the blocks in the Blockchain as computing power increases. *Id. See also* BRITO & CASTILLO, *supra* note 25, at 10 (suggesting miners are far from discovering the last bitcoin and the currency will continue to flow into the market at an evenly distributed rate). Once the total mining power becomes great enough, it will be extremely difficult to solve the last mathematical formula to harvest the last percentage of a bitcoin. *Id.*

[139] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.8 (recognizing BitLicense requirements); *see also* Davis, *supra* note 98 (suggesting the burdens placed on Bitcoin companies are greater than normal money transfer companies).

Additionally, BitLicense requires licensees to disclose personally identifiable information, which contradicts the anonymous design of Bitcoin.[140] Although the criminal activity surrounding Bitcoin stems from its anonymous nature, the currency would not be the preferred alternative method of payment it is today without its anonymous feature.[141] Contrary to the opinion or regulators, bitcoin is primarily used by law-abiding citizens and barely used by criminals.[142] The United States Treasury Department has found no evidence of Bitcoin use to fund terrorism and only 0.03% of all bitcoin transactions were related to Silk Road.[143] Requiring disclosure of personally identifiable information would primarily provide law enforcement with information related to legal bitcoin transactions and entirely defeat the attempt to trace criminal activity back to its originator.[144]

B. BitLicense Hinders Expansion of Bitcoin Businesses

Even if a New York Bitcoin business were to apply and be approved for a BitLicense, the license itself hinders the expansion of the business, because the license restricts with whom the Bitcoin business can transact with by limiting business to licensed consumers and businesses.[145] Licensed NY Bitcoin Businesses are only permitted to transact with other licensed businesses, which means the businesses

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[140] *See* Bryans, *supra* note 69, at 469-70 (noting anonymity is solely a feature of a decentralized banking system, whereas a centralized banking system will require banks and financial institutions to request extensive identifiable information from customers).

[141] *See* Bryans, *supra* note 69, at 469-70 (enforcing the importance of the anonymity feature).

[142] *See* Luther, *supra* note 57 (differentiating Bitcoin users).

[143] *See* Luther, *supra* note 57 (providing statistical evidence that bitcoins are used in legal transactions far more often than illegal transactions). Silk Road was the largest bitcoin and drug exchange between 2011 and 2013, averaging $4.7 million in transactions per month. *Id.* During that same time period, the total monthly transactions in the entre bitcoin system were roughly $16 billion. *Id.* These numbers suggest that of the consumers transacting in bitcoin, very few were buying and selling on Silk Road. *Id.*

[144] *See* Luther, *supra* note 57 (explain that criminal use of Bitcoin is minimal in comparison to ordinary users).

[145] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.3 (addressing with whom licensed businesses can transact with).

must be in NY State.[146] Since so many Bitcoin businesses have left the state after BitLicense release, businesses are very limited in terms of their transactions.[147] At least in NY, the size of the virtual currency industry is shrinking.[148]

The NYDFS hopes that the legitimacy of doing business on Wall Street is enough to encourage Bitcoin businesses to commit to "doing things the right way" and comply with the stringent regulations.[149] However, there have been a growing number of Bitcoin companies that are willing to forgo New York profits than comply with the strict regulations purposed by BitLicense.[150] If there are already a number of businesses willing to leave the financial capital of the country, it is likely more Bitcoin businesses will be willing to leave the United States as a whole should over-regulation persist.[151]

If other states or the federal government were to adopt a license similar to BitLicense, it could be detrimental to the United States economy.[152] Assuming Bitcoin and other forms of virtual currency are the wave of the future in terms of payment options, over-regulation of the technology will deter states and countries from transacting in the United States.[153] In its current state, BitLicense encourages Bitcoin businesses to move elsewhere to more accepting jurisdictions.[154] Essentially, the rest of the world can disregard United States imposed Bitcoin regulations and subsequently cut off the United States from the Bitcoin economy.[155]

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[146] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.3 (identifying the restriction to transact business for licensed companies).

[147] *See* Davis, *supra* note 122 (recognizing the amount of Bitcoin businesses that have left the state of New York following the release of BitLicense).

[148] *See* Davis, *supra* note 122 (analyzing the trend of Bitcoin businesses in the state of New York).

[149] *See* Rizzo, *supra* note 110 (quoting Lawsky); s*ee also* Davis, *supra* note 122 (suggesting BitLicense could lend legitimacy to Bitcoin and the cryptocurrency industry).

[150] *See* Davis, *supra* note 122 (highlighting the tensions between the virtual currency community and existing banking-sector consumer standards).

[151] *See* Davis, *supra* note 122 (cautioning the implications if the trend of businesses leaving New York continues).

[152] *See* Sonderegger, *supra* note 5, at 206 (recognizing how the United States economy would be affected should the government choose to regulate Bitcoin).

[153] *See* Sonderegger, *supra* note 5, at 206 (expanding on how the United States economy will be affected by over-regulation of Bitcoin).

[154] *See* Willms, *supra* note 98 (criticizing BitLicense).

[155] *See* Sonderegger, *supra* note 5, at 206 (suggesting a spiral affect would ensue following nationwide regulation of Bitcoin).

C. BitLicense Is Time-Consuming and Expensive

The application process is too time-consuming and expensive and therefore, is not financially realistic for some Bitcoin businesses to obtain.[156] Each license application costs $5,000 at a minimum and there are significant additional fees for attorneys and compliance departments to research, develop and complete the application.[157] The costs associated with BitLicense application serves more as a deterrence than an incentive for Bitcoin businesses.[158] This is particularly true for start-ups that do not have the cash-flow needed to fund a Compliance or Legal department to compile and file the application.[159]

The time and the cost businesses are required to spend on the application for a BitLicense far outweigh the benefits businesses would receive after obtaining the license.[160] Since BitLicense only pertains to the state of New York, businesses do not gain a significant advantage by obtaining a BitLicense.[161] There are several, more attractive location options for transacting Bitcoin that do not require substantial "start-up fees."[162] Bitcoin businesses will arguably disregard New York as a place to transact Bitcoin and focus on other major cities domestically and abroad.[163]

States, such as California, have acknowledged the damage in New York surrounding BitLicense and have halted efforts to regulate

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[156] *See* Perez, *supra* note 123 (recognizing that the high cost of the application is unattainable for some companies).

[157] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.5 (highlighting the cost of the application fee); *see also* Perez, *supra* note 123 (suggesting the additional costs necessary to obtain a BitLicense).

[158] *See* Perez, *supra* note 123 (acknowledging the negative effect the cost of applying for a BitLicense has had on Bitcoin businesses).

[159] *See* Perez, *supra* note 123 (identifying why the high cost of application is an issue for many Bitcoin businesses). Since Bitcoin businesses are still so new, many of them are start-ups. *Id.*

[160] *See* Rizzo, *supra* note 110 (indicating Bitcoin business start-ups will have a difficult time affording BitLicense).

[161] *See* Perez, *supra* note 123 (insinuating there is not a significant value to obtaining a BitLicense).

[162] *See* Smart, *supra* note 122 (surveying options for transacting Bitcoin elsewhere).

[163] *See* Willms, *supra* note 107 (suggesting Bitcoin businesses will move to more accepting jurisdictions with fewer regulations).

Bitcoin in their own state.[164] After so many Bitcoin businesses were either forced or chose to leave New York, the state experienced countless lost jobs and revenue.[165] Should other states or countries adopt similar regulations to BitLicense, there will be an even wider spread of job and revenue loss.[166] In addition to the impending damage on the United States economy caused by over-regulation of Bitcoin, the possibility of job and revenue loss will further damage the traditional fiat currency ecosystem.[167] Ultimately, the costs associated with a regulation system, such as BitLicense, would generate a downward spiral affect for the entire economy should the United States adopt a nation-wide regulation.[168]

D. BitLicense Is Ambiguous

BitLicense Regulation is saturated with ambiguity, which generates confusion and uneasiness for Bitcoin consumers and businesses.[169] BitLicense authorizes the Superintendent to act with discretion to request information and records or permit a license at any time.[170] The decision-making power entrusted to the Superintendent reverts back to the untrustworthy centralized banking ideologies.[171]

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[164] *See* Smart, *supra* note 122 (observing the reaction of other states to BitLicense). As an economic leader, New York set a poor precedent with difficult and intrusive compliance requirements embodied by BitLicense. *Id.* The damage in the aftermath of BitLicense release was enough to defeat a similar proposal in California's legislature. *Id.*

[165] See Smart, *supra* note 122 (reflecting on the negative aftermath of BitLicense).

[166] See Smart, *supra* note 122 (suggesting a similar negative reaction amongst other states should they adopt a similar regulation).

[167] *See* Sonderegger, *supra* note 5, at 209 (cautioning against over regulation of Bitcoin out of concern that Bitcoin users will head overseas). If the United States is blocked from the Bitcoin community, regulation will be even more difficult. *Id.* *See also* Smart, *supra* note 122 (predicting the impact on the entire global financial economy, in addition to the cryptocurrency industry).

[168] *See* Sonderegger, *supra* note 5, at 209 (suggesting Bitcoin users will go overseas if the United States is not careful in its attempt to regulate the technology).

[169] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.4 (suggesting the Superintendent has too much discretionary power under the license).

[170] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.6 (examining what the Superintendent is permitted to do under BitLicense).

[171] *See* VIGNA & CASEY, *supra* note 18, at 121 (acknowledging the criticism of a centralized banking system that sparked the invention of a decentralized banking system).

Not only does BitLicense fail to ensure licensees that the Superintendent will not abuse his power, but the Superintendent himself is not regulated in making these ambiguous decisions.[172] Ultimately, there is no incentive for Bitcoin businesses to apply for a BitLicense because the Superintendent has the sole power to revoke the license for any reason he deems to be reasonable.[173]

More specifically, the conditional licenses permitted under BitLicense are issued at the sole discretion of the Superintendent and are valid for an unspecified amount of time with an unclear range of power.[174] It would be unwise for Bitcoin businesses to operate under a conditional license because there are no clear guidelines regarding what the business is permitted to do.[175] A Bitcoin business operating under a conditional license, is immediately obligated to comply with the Superintendent's orders, which may include disclosing requested information.[176] The disclosure of personally identifiable information is a threat to the entire virtual system and the reason for which Bitcoin has succeeded.[177] BitLicense affords too much discretionary power to the Superintendent and ultimately poses a threat to BitLicense applicants and licensees.[178]

E. Too Soon to Regulate Bitcoin

This note does not advocate for an alternative regulatory regime to BitLicense, but merely finds BitLicense insufficient.[179] Rather, this note suggests that it is much too soon to regulate Bitcoin and policymakers need to reevaluate the current approach to regula-

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[172] *See* Higgins, *supra* note 104 (criticizing New York's attempt to claim jurisdiction for enforcement of the regulation).

[173] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.6 (acknowledging the Superintendent's role in the approval and denial process for a BitLicense application)

[174] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.4 (criticizing the conditional licenses permitted under BitLicense).

[175] *See* Higgins, *supra* note 104 (acknowledging the gray areas of BitLicense).

[176] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.4 (recognizing the conflicting requirements of BitLicense to disclose information with the attraction of Bitcoin to keep identities anonymous).

[177] *See* VIGNA & CASEY, *supra* note 18, at 125 (maintaining anonymity as the "holy grail" of Bitcoin).

[178] *See* N.Y. COMP. CODES R. & REGS. tit. 23, § 200.4 (suggesting the Superintendent should not have the sole final approval of an application).

[179] *See* Davis, *supra* note 122 (finding BitLicense is "bad for bitcoin").

tion to allow for a more comprehensive and workable regulatory regime specific to virtual currencies.[180] Undoubtedly, the goals of financial regulation aimed at combating illicit activities justifies regulation for similar concerns related to cryptocurrencies; however, the focus on existing regulatory regimes has created a deficiency in the attempt to regulate a technology that is still new and underdeveloped.[181] Bitcoin is a breakthrough technology with the potential to transform the entire financial economy by establishing trust between transacting parties without bank presence.[182] However, Bitcoin is still in its early days and some of the potential capabilities are not yet developed or discovered.[183]

　　　Traditionally, regulation lags behind the innovation of new technologies and often encourages reassessment of the current regulatory regime.[184] In fact, other technologies that transformed our society had more time to develop before being regulated.[185] Mobile phones were first invented in 1965 and were left unregulated for twenty-four years.[186] Airplanes were invented in 1903 and were not regulated for thirty-seven years.[187] Most recently, the Internet has been heavily regulated over the last couple years, but was invented

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[180] *See* Tu & Meredith, *supra* note 125, at 347 (admitting that some regulatory intervention is necessary, but more appropriate at a later date); Prisco, *supra* note 124 (arguing that policymakers should give Bitcoin more time to develop before regulating)*;* Parker, *supra* note 125 (recounting the negative effects of early regulation). Failure to ensure the proper regulatory environment results in an exodus of companies unable to comply with the regulations. *Id.* This is evidenced by the numerous Bitcoin companies that left New York following the release of BitLicense. *Id.*

[181] *See* Tu & Meredith, *supra* note 125, at 276-77 (advocating for regulation entirely separate from currency financial regulations for centralized banking systems).

[182] *See* Watts, *supra* note 124, at 5 (reiterating the success and importance of Bitcoin in the financial economy).

[183] *See* Watts, *supra* note 124, at 5 (recognizing the young age of the technology); *see also* Parker, *supra* note 125 (suggesting there is no way to know what the maturity of Bitcoin will look like or how its development will work into the greater financial economy).

[184] *See* Tu & Meredith, *supra* note 125, at 346 (tracking the historical trend of regulation).

[185] *See* Watts, *supra* note 124, at 4 (establishing similar historical instances in regulating innovative technologies).

[186] *See* Watts, *supra* note 124, at 4 (providing an example of delayed technological regulation).

[187] *See* Watts, *supra* note 124, at 4 (exemplifying delayed technological regulation within the aerospace industry).

forty-six years ago in 1969.[188] Thus begs the question, *will adoption of Bitcoin drive the regulatory landscape or will premature regulation assist in the expansion of the technology*?[189] In the case of mobile phones, airplanes and the Internet, technology was significantly advanced because regulation did not intervene until the innovations reached maturity.[190]

Bitcoin is an entirely new medium of exchange that has existed for a mere six years and is insignificant compared to traditional currency systems.[191] For perspective, the total value of Bitcoin is less than $4 billion globally, compared to the $1.36 trillion USD currently in circulation today.[192] In addition, the daily dollar volume for Bitcoin is less than one-percent of the daily transaction volume for credit card platforms.[193] Compared to other pertinent technologies that were given decades to advance before regulatory intervention, Bitcoin is still very young and too premature to regulate.[194]

Pursuing a limited approach to regulation based on existing financial regulation could result in a regulatory short-fall, should regulators prevent Bitcoin from reaching maturity.[195] In the meantime, regulators stand to further research and understand this technology that is so fundamentally different from all that has come before.[196] Regulators may use the delay in regulation to identify aspects unique

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[188] *See* Watts, *supra* note 124, at 4 (pointing to regulation of the Internet lagging behind the technology).

[189] *See* Watts, *supra* note 124, at 6 (challenging the timing of regulation as an advancement or a hindrance to the expansion and development of Bitcoin).

[190] *See* Watts, *supra* note 124, at 4 (outlining the pattern of technological development before regulations).

[191] *See* Tu & Meredith, *supra* note 125, at 347 (recognizing Bitcoin not only as an extremely new technology, but also fresh to the entire financial system); *see also* Watts, *supra* note 124, at 4 (restating the young age of Bitcoin).

[192] *See* Watts, *supra* note 124, at 3 (substantiating the size of Bitcoin statistically compared to the USD in the entire economy on a daily basis).

[193] *See* Watts, *supra* note 124, at 3 (reiterating the minor existence of Bitcoin within the overall financial market).

[194] *See* Watts, *supra* note 124, at 4 (highlighting the time between innovation and regulation for several technologies).

[195] *See* Tu & Meredith, *supra* note 125, at 347 (cautioning regulators against premature regulation).

[196] *See* Tu & Meredith, *supra* note 125, at 347 (suggesting regulators obtain a better understanding of Bitcoin before attempting to regulate it); *see also* Watts, *supra* note 124, at 6 (reasoning that Bitcoin is technologically different than other financial markets and therefore stands to have a different regulatory framework).

to Bitcoin and subsequently develop appropriate regulations to address actual and specific risks.[197] Regulators should slow the pace of regulatory intervention of bitcoin and instead allow the technology to further develop, because "the market itself may provide the best guidance in regards to the question of when and how regulators should intervene."[198]

V. Conclusion

There seems to be a lack of communication and collaboration amongst regulators and the cryptography industry. It is not likely the Bitcoin community is looking to encourage regulation; however, regulators appear to be very uneducated in terms of how the technology functions on a technical level and why current approaches to regulation are not effective. The inability of regulators to understand the Blockchain at its core is contributing ineffective regulation. Not only is it too soon to regulate the virtual currency, but regulators have failed to see that Bitcoin is self-regulating and will continue to gain regulation strength as computing power increases and the equations become more difficult to solve.

BitLicense is a failed attempt to regulate Bitcoin because it was incorrectly based on centralized banking ideologies and has proven to be expensive and time consuming. In addition, BitLicense remains ambiguous for applicants and hinders Bitcoin business expansion or growth. Regulation of Bitcoin will only succeed if regulators are able to develop a system that fosters the innovative open-source method through which virtual currencies thrive. Until then, BitLicense will force more businesses to leave the state of New York

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[197] *See* Tu & Meredith, *supra* note 125, at 347 (addressing the work of regulators in the meantime, prior to solidifying some form of regulation).

[198] *See* Watts, *supra* note 124, at 3 (stating that the market is the best indicator for regulator intervention); *see also* Parker, *supra* note 63 (recalling the global movement to assess the regulatory environment for virtual currencies). The Commonwealth Virtual Currencies Working Group concluded virtual currencies (i.e. Bitcoin) have "a potential to benefit the Member States and to drive development." *Id.* Although there may be an eventual need for regulation in the industry, the group advocated for educating law enforcement, regulatory authorities and the financial sector about virtual currencies. *Id.* Obtaining awareness and education is pertinent so that virtues of Bitcoin, such as helping the unbanked, fee reductions and common global currency, are considered prior to adapting or enacting legislation to regulate virtual currencies. *Id.*

as Bitcoin continues to innovate and continue as the currency of the future. Ultimately, in order to remain one of the financial capitals of the world, New York must salvage the damage created by BitLicense before other states and countries seek this futuristic opportunity to regulate the decentralized banking system and capitalize on virtual currencies.