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Kickstarter My Heart: Extraordinary Popular Delusions and the Madness of Crowdfunding Constraints and Bitcoin Bubbles

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KICKSTARTER MY HEART: EXTRAORDINARY POPULAR DELUSIONS AND THE MADNESS OF CROWDFUNDING CONSTRAINTS AND BITCOIN BUBBLES

DAVID GROSHOFF*

ABSTRACT

This Article builds on my existing research program that (a) broadly seeks to analyze laws, regulations, instruments, and policy levers that inhibit a market's ability to recognize an asset's intrinsic value, whether in terms of financial, social, or human capital, and (b) explores and advances interdisciplinary corporate governance theories by employing a heterodox economic analytic to derive its proposal to the paradox of an unregulated virtual currency market (Bitcoins) and an overly regulated crowdfunding market (Kickstarter).

The Article functions not only as an homage to Charles MacKay's legendary 1841 book, Extraordinary Popular Delusions and the Madness of Crowds, which described the human, social, and economic psychology of financial bubbles—particularly the Dutch tulip bulb bubble—but also as an offering of problems and proposals that crowdfunded and Kickstarted entrepreneurial businesses, including those funded by Bitcoin currencies, present for a wide swath of societal stakeholders.

To describe the problem, this Article (i) describes behavioral finance, (ii) details the new entrepreneurial business possibilities that virtual currencies and crowdfunded entities can explore, (iii) describes how current rules and regulations represent unnecessary constraints to traditional

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equity-based funding models and concerning governance models of entrepreneurial enterprises, and (iv) questions why one form of capital deployment (currencies) may provide equity-like returns and unique governance, while the other form of investing (crowdfunding), provides only soft-dollar-like returns and no governance for middle-class investors. While both virtual currencies and crowdfunding represent risks, including economic bubble risk, this Article believes that a heterodox economic analysis demonstrates unnecessary constraints on entrepreneurial businesses imposed by extant regulation, regulators, law, and policymakers. To assuage these paradoxical problems for emerging business enterprises, this Article proposes a minarchist heterodox solution of modest statutory language that requires market-based solutions that employ needed risk reduction strategies while redeploying necessary capital to private startup business enterprises. This proposal thus benefits the middle class entrepreneurs, suppliers of capital, and job seekers harmed by the current regulatory regime, while permitting for an expansion of the U.S. and global economies.

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INTRODUCTION

*Money ... has often been a cause of the delusion of multitudes. Sober nations have all at once become desperate gamblers, and risked almost their existence upon the turn of a piece of paper.*¹

—Charles Mackay

Time magazine published an article in April 2013 indicating that many reasons explain why an online virtual currency “is a classic bubble” and that “[m]any compare it to tulip mania in 17th century Holland, where prices of rare tulip bulbs soared to absurd heights and then crashed,” destroying the lives of those who purchased tulip bulbs.² “But the Bitcoin phenomenon is more than a bubble[.]” the piece continued.³ “It says something important about the current and future state of the global economy.”⁴

Famously detailing both Holland’s tulip bubble, as well as the bubble’s underpinnings in human economic and socio-psychological behavior, eighteenth century author Charles Mackay penned the legendary book, *Extraordinary Popular Delusions and the Madness of Crowds*.⁵ The tome not only discussed hundreds of government-authorized economic bubbles that involved massive fraud, but also described the delusional behavior of human economic actors in the midst of economic bubbles.⁶ While financial instruments, markets, business structures, and regulatory regimes have changed materially since Mackay’s work in the 1840s, sadly, the irrational

¹ CHARLES MACKAY, MEMOIRS OF EXTRAORDINARY POPULAR DELUSIONS AND THE MADNESS OF CROWDS VIII (London, Robson, Levey, & Franklyn 2d ed. 1852).

² Michael Sivy, *The Real Significance of the Bitcoin Boom (and Bust)*, TIME (Apr. 12, 2013), <http://business.time.com/2013/04/12/the-real-significance-of-the-bitcoin-boom-and-bust/>.

³ *Id.*

⁴ *Id.*

⁵ MACKAY, *supra* note 1. A speculative bubble is “a spike in asset values” and is generally “caused by exaggerated expectation of future growth, price appreciation, or other events” This in turn causes increased trading as investors have a heightened expectation of value, “pushing prices above what an objective analysis of the intrinsic value would suggest.” *Speculative Bubble*, INVESTOPEDIA, <http://www.investopedia.com/terms/s/speculativebubble.asp> (last visited Feb. 24, 2014). Some of the more famous bubbles include Tulipmania (1634–38), the Mississippi Bubble (1719–20), the South Sea Bubble (1720), the Bull Market of the Roaring Twenties (1924–29), and the Japanese “Bubble Economy” (1984–89). *Famous Bubbles: from Tulipmania to Japan’s “Bubble Economy”*, FRONTLINE, <http://www.pbs.org/wgbh/pages/frontline/shows/dotcon/historical/bubbles.html> (last visited Feb. 24, 2014).

⁶ See generally MACKAY, *supra* note 1.

behavior of economic actors transacting on imperfect information has seemingly remained static.

Of Western economies' myriad government-involved economic bubbles, perhaps no other work besides *Extraordinary Popular Delusions and the Madness of Crowds* could serve as both the foundation and overlay to advance the analysis for this Article's thesis. That analysis lies at the nexus of two competing tensions relative to U.S. government regulation concerning economic bubbles. Specifically, this Article addresses the U.S. federal government's apparent contradictory—and perhaps even delusional—behavior when comparing the over-regulation (only partly assuaged in the 2012 JOBS Act)⁷ in nascent capital formation platforms—popularly known as crowdfunding—with a near-stunning regulatory absence over decentralized convertible virtual crypto-currencies, the most common of which is presently Bitcoin.⁸

The government should maintain consistency when regulating, right-regulating, deregulating—or *not* regulating—alleged statutory goals relating to investment and capital deployment. In 2013 many painful demonstrations of these inconsistencies occurred as illustrated by popular culture's increased focus on crowdfunding's largest current platform, Kickstarter, and e-currencies' largest player, Bitcoin.⁹ As the U.S. and

⁷ Jumpstart Our Business Startups (JOBS) Act of 2012, Pub. L. No. 112-106, 126 Stat. 306 (2012) (codified as amended in scattered sections of 15 U.S.C.).

⁸ See *infra*, Part I.

⁹ INOCENTE (Fine Films 2012). The film won an Oscar in 2013 for Best Documentary Short Subject. *'Inocente' Wins Oscar: Best 'Documentary Short Subject' Tells Story Of Young Undocumented Latina Artist*, HUFFINGTON POST (Feb. 24, 2013, 11:10 PM), http://www.huffingtonpost.com/2013/02/24/inocente-wins-oscar_n_2756514.html. Crowdfunding for the project on Kickstarter raised \$52,257, exceeding its goal of \$50,000. *Inocente: Homeless. Creative. Unstoppable*, KICKSTARTER, <https://www.kickstarter.com/projects/1131717127/inocente-homeless-creative-unstoppable> (last visited Feb. 24, 2014). Two other Kickstarter funded films were also nominated for awards: KINGS POINT (Sara Gilman 2012) and BUZKASHI BOYS (Afghan Film Project 2012). *2012 Nominations by Film*, AND THE OSCAR GOES TO ..., <http://atogt.com/askoscar/dnoms.php?yr=85> (last visited Feb. 24, 2014). See also Linda Holmes, *Pop Culture Happy Hour: Kickstarter TV and Comedy Contests*, NPR (Mar. 22, 2013, 11:02 AM), <http://www.npr.org/blogs/monkeysee/2013/03/22/175035168/pop-culture-happy-hour-kickstarter-tv-and-comedy-contests>; Alyson Shontell, *The 20 Most Successful Projects in Kickstarter History*, THE ATLANTIC (July 12, 2011, 7:39 AM), <http://www.theatlantic.com/technology/archive/2011/07/the-20-most-successful-projects-in-kickstarter-history/241789/#slide15> (“The most popular projects were documentaries and iPhone accessories.”); *Spike Lee Seeks \$1.25 Million on Kickstarter for Film about “Addiction to Blood”*, POP CULTURE BRAIN, <http://popculturebrain.com/post/56153908180/spike-lee-seeks-1-25-million-on-kickstarter-for-film> (last visited Feb. 24, 2014); Jon Matonis, *Top 10 Bitcoin Merchant Sites*, FORBES (May 24, 2013, 12:45 PM), <http://www.forbes.com/sites/jonmatonis/2013/05/24/top-10-bitcoin-merc>

global economies attempted to ascend from the Great Recession, despite the popular media and cultural coverage, U.S. federal agencies appeared oblivious about how to act in the face of the swiftly moving practical realities impacting global economic redevelopment.¹⁰

First, the Securities and Exchange Commission (SEC) seemingly moved at a snail's pace to provide particular delayed-yet-statutorily-required (and material) regulatory changes mandated under the JOBS Act,

hant-sites/; Kashmir Hill, *Living On Bitcoin For A Week: The Expense Report*, FORBES (May 17, 2013, 3:39 PM), <http://www.forbes.com/sites/kashmirhill/2013/05/17/living-on-bitcoin-for-a-week-the-expense-report/>.

¹⁰ This Article blends various analytics of development economics to support its thesis. Amplifying traditional economists (Adam Smith, David Ricardo, Piero Sraffa, Gunnar Myrdal, John Maynard Keynes, Friedrich Hayek, and Milton Friedman) to analyze how current laws, regulations, and policies may function in the context of a fragile global economy's (re)development, I included, among others, Duncan Kennedy, David Kennedy, Joseph Stiglitz, and Deepak Lal. Lal's influential work has been called a socio-economic blend of market failure policy analysis that Joseph Stiglitz later employed in Stiglitz's market failure policy analysis criticizing market signals in favor of political socio-cultural signals in economic development. See Deepak Lal, *The Dirigiste Dogma*, in THE POVERTY OF 'DEVELOPMENT ECONOMICS' 39 (1985); Joseph E. Stiglitz, *Participation and Development: Perspectives from The Comprehensive Development Paradigm*, 6 REV. OF DEV. ECON. 163 (2002); Joseph E. Stiglitz, Senior Vice President & Chief Economist, Keynote Address at the World Bank Annual Bank Conf. on Dev. Econ.: Whither Reform? Ten Years of the Transition 63–64 (Apr. 28–30, 1999), <http://siteresources.worldbank.org/INTABCDEWASHINGTON1999/Resources/stiglitz.pdf>. Heterodox international development law scholar David Kennedy asserted that “[a] great deal of law was required to translate the leading economic theories of development into policy[,] ... [which] demanded the creation of numerous public law institutions, established by statute and implemented by public law bureaucracies: exchange controls, credit licensing schemes, ... tax incentives ... national commodity monopolies,” that legislation needed to occur to achieve these ends, and “[a] vastly expanded administrative apparatus, with rule making, licensing, and other legal authority would need to be set up,” whether among Keynesian liberals, *dirigiste* leftists, centrists, or the neoliberal “Chicago School” devotees, and argued that all sides advocated legal intervention in an economic system to implement their respective political goals. David Kennedy, *The Rule of Law, Political Choices, and Development Common Sense*, in THE NEW LAW AND ECONOMIC DEVELOPMENT, A CRITICAL APPRAISAL 95, 102 (David M. Trubek & Alvaro Santos eds., 2006). See also *id.* at 151, 153 (synthesizing Lal and Stiglitz). Duncan Kennedy's critical legal studies view led to his assertion that social law coordinated classical legal thought stakeholders via “public agencies that were to make rules to instantiate relatively abstract and vague legislative pronouncements (for example, in the U.S. context, a federal statute banning ... ‘deceptive practices’ in securities law)” and left civil libertarians to “attack[] the institutions as denying individual rights and the administrators as arbitrary and implicitly authoritarian manipulators of vacuous general standards and empty expertise.” Duncan Kennedy, *Three Globalizations of Law and Legal Thought: 1850–2000*, in THE NEW LAW AND ECONOMIC DEVELOPMENT, A CRITICAL APPRAISAL 19, 84–85 (David M. Trubek & Alvaro Santos eds., 2006).

relative to how businesses may solicit investor capital.¹¹ In the Obama Administration's second term, beginning in 2009, President Obama appointed and received Senate confirmation for the first SEC director in U.S. history with experience as a former federal prosecutor.¹² Perhaps as an unsurprising result, rather than imbue a focus on implementing the rules and regulations required of the SEC within the timeline stated in the JOBS Act, which became law in 2012, during 2013, the SEC instead appeared to focus its admittedly limited resources on high-profile prosecutions of alleged perpetrators of insider trading, a victimless crime in an efficient market.¹³ The JOBS Act's hailed panacea appears to represent a net detriment to, rather than protection of, middle-class U.S. investors, entrepreneurs, and job-seekers, thereby harming national economic redevelopment under a statute unmistakably called the *JOBS Act*.

Second, in March 2013, the Financial Crimes Enforcement Network (FinCEN), applied the authority granted to it under the Bank Secrecy Act (BSA)¹⁴ and issued new interpretive guidelines¹⁵ under longstanding provisions

¹¹ See Ben Goad, *SEC Accused of Dawdling on JOBS Act Enabling Rules*, THE HILL (Apr. 4, 2013, 4:01 PM), <http://thehill.com/blogs/regwatch/finance/293415-gop-lawmaker-sec-moving-too-slow-on-jobs-act-rules>; Michelle Quinn, *Slow-moving SEC Blamed for Blocking JOBS Act*, POLITICO (Apr. 9, 2013, 4:43 AM), <http://www.politico.com/story/2013/04/slow-moving-sec-blamed-for-blocking-jobs-act-89769.html>; Robb Mandelbaum, *'Crowdfunding' Rules Are Unlikely to Meet Deadline*, N.Y. TIMES, Dec. 26, 2012, at B1.

¹² See Susan Crabtree & Tim Devaney, *Obama Picks Ex-prosecutor to Head SEC*, WASH. TIMES (Jan. 24, 2013), <http://www.washingtontimes.com/news/2013/jan/24/obama-picks-top-prosecutor-head-sec/?page=all>; Dina ElBoghdady, *Mary Jo White Confirmed as SEC Chief*, WASH. POST (Apr. 8, 2013), http://articles.washingtonpost.com/2013-04-08/business/38373590_1_mary-jo-white-al-franken-credit-rating-agency-industry.

¹³ Emily Flitter et al., *U.S. Charges SAC Capital with Insider Trading Crimes*, REUTERS (July 25, 2013, 7:49 PM), <http://www.reuters.com/article/2013/07/25/us-sac-fund-charges-idUSBRE96O0SD20130725>; Peter Lattman & William Alden, *2 Ex-Hedge Fund Traders Are Found Guilty in Insider Trading Case*, N.Y. TIMES, Dec. 18, 2012, at B1; LibertyPen, *John Stossel - The Case For Insider Trading*, YOUTUBE (Apr. 24, 2012), <http://www.youtube.com/watch?v=P68zqj13XaU> (quoting Milton Friedman who said in 2003: "You should want more insider trading, not less. You want to give the people the most likely to have the knowledge about deficiencies of the company an incentive to make the public aware of that."); see also *Basic Inc. v. Levinson*, 485 U.S. 224, 248–49, 253–55 (1988) (embracing the efficient market theory for equities, but concurrence warning of using this theory); STEPHEN M. BAINBRIDGE, *SECURITIES LAW: INSIDER TRADING* (Found. Press 1999).

¹⁴ See Treas. Order 180-01 (Mar. 24, 2003), available at <http://www.treasury.gov/about/role-of-treasury/orders-directives/Pages/to180-01.aspx>.

¹⁵ U.S. DEP'T OF TREAS. FIN. CRIMES ENFORCEMENT NETWORK, FIN-2013-G001, GUIDANCE: 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 (attempting to clarify "the applicability of

of the BSA¹⁶ and—*only two months later*, in May 2013—indicted and seized the assets of a decentralized convertible virtual currency exchange (yet again, in a high-profile manner for the mainstream media).¹⁷ The world of crypto-currencies serves as a sharp departure from a single federal government that logically ought to be striving to accomplish one related policy objective. The extant regulatory world represents a puzzlingly complex, divided, and therefore futile, administrative regime, inconsequential in its attempts to affect meaningful disincentives from any crowd madness that may fuel speculative economic bubbles in a still fragile economy.¹⁸ Perhaps some, or all, of these events led to a bipartisan Senate demand of the Obama administration on August 13, 2013, for “a holistic and whole-government approach to understand and provide a sensible regulatory framework,” which included, among other agencies, the Federal Reserve, the SEC, and the Commodities Futures Trading Commission (CFTC).¹⁹

Part I of this Article articulates the history and context of behavioral economics and finance that has underpinned human economic behavior from tulipmania through today. Part II analyzes new virtual currencies and payment systems unimagined by nearly any law or regulation currently existing. Part III describes the concept of crowdfunding and identifies many legal provisions that have hindered equity-based crowdfunding of legitimate

the regulations implementing the Bank Secrecy Act (‘BSA’) to persons creating, obtaining, distributing, exchanging, accepting, or transmitting virtual currencies. Such persons are referred to ... as ‘users,’ ‘administrators,’ and ‘exchangers,’” but “[a] user of a virtual currency is *not* an MSB [Money Service Business] under FinCEN’s regulations and therefore is not subject to MSB registration, reporting, and recordkeeping regulations.” Having said that, “an administrator or exchanger *is* an MSB under FinCEN’s regulations,” and “[a]n administrator or exchanger is not a ... dealer in foreign exchange, under FinCEN’s regulations.”). This matter is detailed, *supra* note 14 and accompanying text.

¹⁶ 31 U.S.C.A. § 5330(a)(1) (West 2014) (“Any person who owns or controls a money transmitting business shall register the business (whether or not the business is licensed as a money transmitting business in any State” with FinCEN)); *see also* Amendment to the Bank Secrecy Act Regulations-Definitions Relating to, and Registration of, Money Services Businesses, 64 Fed. Reg. § 45438 n.1 (Aug. 20, 1999) (to be codified at 31 C.F.R. §103); 31 C.F.R. § 1022.380 (2011).

¹⁷ *See, e.g., US Prosecutes ‘\$6bn Money-Laundering Hub’*, BBC NEWS TECH. (May 28, 2013), <http://www.bbc.co.uk/news/technology-22686777?print=true>; *see also* Redacted AUSA Application with Exhibits, Redacted Domain SW, Redacted Injunction Order, Redacted PIRO, Related Exchanger Website Domain Names Redacted Filed Complaint, Indictment-Redacted, United States v. Liberty Reserve, No. 13 Crim. 368 (S.D.N.Y. 2013), *available at* <http://www.justice.gov/usao/nys/pressreleases/May13/LibertyReserveetalDocuments.php>.

¹⁸ *See* discussion of Bitcoins and other electronic currencies, *supra* note 9.

¹⁹ Timothy B. Lee, *Congress Starts Investigating Bitcoin*, WASH. POST (Aug. 13, 2013, 12:26 PM), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/08/13/congress-starts-investigating-bitcoin/>.

businesses, thereby harming middle-class entrepreneurs, investors, job seekers, workers, and constraining economic production possibilities frontiers. Part IV synthesizes the ostensible cognitive dissonance between the government's crowdfunding restrictions and its refusal to regulate virtual currencies, such as Bitcoins. This Part presents a heterodox-inspired solution that borrows from what I believe to be the best of both regulated and unregulated policy in the U.S. to achieve maximum freedom with corresponding protection for the U.S. middle-class and broader economy. The Article concludes that specific re-regulatory schemes may provide workable solutions not only to stem the excessive volatility of Bitcoin bubbles but also to kickstart the heart of crowdfunding, thus advancing economic development via entrepreneurship, job creation, new internal governance ideas, and investment opportunities with traditional equity-like returns.

I. OVERVIEW OF BEHAVIORAL FINANCE AND ECONOMICS

A. *Descriptive and Comparative Analysis of Behavioral Finance*

Behavioral Finance and Economics (BFE) broadly refers to interdisciplinary academic discussion and model development of human psychology and financial markets.²⁰ BFE was developed after certain academic researchers, perhaps when climbing down the ladders from their ivory towers, noticed that economic actors do not necessarily act as neoclassical economics predicts. For instance, they act neither with perfect information nor in a perfectly rational manner.²¹ These anomalies did not exist in earlier modern economic and financial theories, including the efficient market theory,²² the utility theory,²³ or *homo economicus*.²⁴

²⁰ Robert J. Shiller, *From Efficient Markets Theory to Behavioral Finance*, 17 J. ECON. PERSP. 83, 90–91 (2003).

²¹ *Id.* at 96–97.

²² See, e.g., Eugene F. Fama, *Market Efficiency, Long-Term Returns, and Behavioral Finance*, 49 J. FIN. ECON. 283, 284 (1998) (stating that the efficient market theory's premise that prices fully reflect available information and noting errors including not considering information-processing biases that may cause an investor to overreact or underreact to an asset's market price in comparison to other investors' reactions to the same asset's market price).

²³ See, e.g., *Behavioral Finance vs. Traditional Finance Theory*, MARKET REALIST, <http://marketrealist.com/behavioral-finance-micro-bfmi-behavioral-finance-macro-bfma/> (last visited Feb. 24, 2014) (describing the utility theory's assumption that investors make economic decisions in a consistent and independent manner relative to other potentially useful choices, resulting in the investor exercising the same decisions, even when combining or weighing unfavorable outcomes with other, more favorable decisions).

²⁴ See Maurice E. Stucke, *Virtual Symposium Foreword: The Rise of Behavioral Law and Economics*, 13 TENN. J. BUS. L. 309, 309 (2012) (indicating that *homo economicus* assumes that a purported average investor acts rationally and only as a self-interested

In contrast, BFE advocates assert that theory must include not only economics and finance but also the psychological theories accounting for social norms, emotions, and myriad extraneous factors influencing individual economic decision-making.²⁵ Scholars including Daniel Kahneman, Terrance Odean, and Brad Barber, indicate that BFE theory “closely combines individual behavior and market phenomena and uses knowledge taken from both the psychological field and financial theory.”²⁶ As opposed to employing the neoclassical economic assumption that economic actors’ choices always result from rational decision-making, BFE scholars leverage novel data that help explain investor judgment to encourage behavioral modifications among investors to achieve a more rational and profit maximizing outcome.²⁷ Neoclassical theory asserts that irrational decisions represent judgments inexplicable under a “normative rationality” of profit maximization.²⁸

BFE contends, however, that investors cannot make decisions or process information without interjecting individual human biases or emotions.²⁹ Macro-level BFE research involves investors’ psychological biases that may cloud an economic decision,³⁰ while micro-level BFE metadata posit

profit-maximizer, with great willpower). Overall, scholars of modern finance including the late Herbert Simon, a political scientist and professor of psychology at Carnegie-Mellon University, argue that people are “boundedly rational ... [by] us[ing] their resources in sensible ways to adjust to the prevailing situational demands.” Tommy Gärling, et. al, *Psychology, Financial Decision Making, and Financial Crises*, 10 PSYCHOL. SCI. IN PUB. INT. 1, 6 (2010).

²⁵ *Why Behavioral Finance is Relevant to the Investor*, MARKET REALIST, <http://marketrealist.com/risks/behavioral-risks/why-behavioral-finance-is-relevant-to-the-individual-investor/> (last visited Feb. 24, 2014).

²⁶ Hubert Fromlet, *The Behavioral Finance-Theory and Practical Application: Systematic Analysis of Departure from the Homo Economicus Program Are Essential for Realistic Financial Research and Analysis*, 36 BUS. ECON. 63, 65 (2001).

²⁷ See *Why Behavioral Finance is Relevant to the Investor*, *supra* note 25.

²⁸ Roy Sembel & Irwan Trinugroho, *Overconfidence and Excessive Trading Behavior: An Experimental Study*, 6 INT’L J. BUS. & MGMT. 147, 147 (2011). Having said that, as controversial economist Amartya Sen indicated:

[It is simply not adequate to take as our basic objective just the maximization of income or wealth, which is, as Aristotle noted, ‘merely useful and for the sake of something else.’ For the same reason, economic growth cannot sensibly be treated as an end in itself [It must] be more concerned with enhancing the lives we lead and the freedoms we enjoy. Expanding the freedoms that we have reason to value not only makes our lives richer and more unfettered, but also allows us to be fuller social persons, exercising our own volitions and interacting with—and influencing—the world in which we live.

AMARTYA SEN, *DEVELOPMENT AS FREEDOM* 14–15 (1999).

²⁹ See *Why Behavioral Finance is Relevant to the Investor*, *supra* note 25.

³⁰ See Sembel, *supra* note 28.

several reasons to explain why investors make irrational economic decisions.³¹ Erik Gerding argued that these types of irrational investors are “unsophisticated investors [who] trade on ‘noise’—information not related to assessing the fundamental value of assets.”³² Gerding referred to irrational investors as “noise traders” who “evaluate whether to buy or sell assets based on price trends, emotions, or estimations about what other investors in the market will do.”³³

The existing research base relative to investors who make irrational decisions under neoclassical economic theory suggests the cause is a panoply of psychological biases: anchoring,³⁴ overconfidence,³⁵ hindsight,³⁶

³¹ See Christine Jolls, Cass R. Sunstein, & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1477–78 (1998); see also Steve Christ, *Behavioral Finance Theory: 11 Reasons Why What You Think Could Be Wrong*, WEALTH DAILY (Aug. 6, 2009), <http://www.wealthdaily.com/articles/behavioral-finance-theory/1929>.

³² Erik F. Gerding, *Laws Against Bubbles: An Experimental-Asset-Market Approach to Analyzing Financial Regulation*, 2007 WIS. L. REV. 977, 995 (2007).

³³ *Id.* Having worked on an institutional investor trading floor for over a decade, I occasionally witnessed hugely successful professional investors make economic decisions based on emotional factors, price trends, and ideas of what competitors could be doing. Yet I would never refer to my former colleagues as anything remotely approaching “irrational” investors, “noise traders,” or unsophisticated economic actors because of making such decisions from time to time, and their track record evidences superior asset management. See *Mutual Fund Quote: JPMorgan High Yield Select*, MORNING STAR, <http://quotes.morningstar.com/fund/OHYFX/f?t=OHYFX> (last visited Feb. 24, 2014).

³⁴ See, e.g., Justin D. Levinson, *SuperBias: The Collision of Behavioral Economics and Implicit Social Cognition*, 45 AKRON L. REV. 591, 602 (2012) (indicating that anchoring occurs when uninformative numbers influence economic actors, and “[a]nchoring effects are caused by the increased accessibility of information related to an anchor. When people see an anchor, they first quickly evaluate whether it might be the correct response. As part of this process, people rely on their memories to recall instances that might confirm the truth (or prove the untruth) of the anchor. Thus, investors anchor on the latest information or events as to what a particular [asset] may be worth.” The rationale is that investors are uninformed, not because of insufficient information, but rather because of too much information, which irrationally affects their economic decision making). See also David John Marotta, *Behavioral Finance: Anchoring*, MAROTTA WEALTH MGMT. (July 21, 2008), <http://www.emarotta.com/behavioral-finance-anchoring-2/>.

³⁵ In BFE, “overconfidence” refers to “the tendency of decision makers to unwittingly give excessive weight to the assessment of knowledge and accuracy of information possessed and ignore the public information available.” Roy Sempel & Irwan Trinugroho, *Overconfidence and Excessive Trading Behavior: An Experimental Study*, 6 INT’L J. BUS. & MGMT. 147, 148 (July 2011). Thus, an investor’s overconfidence may lead that investor to mistakenly believe the investor can control a particular situation when doing so is impossible. See Fromlet, *supra* note 26, at 63, 66.

Simply put, “people think they know more than they do,” which leads to an irrational decision, ignorant of risk analysis. Fromlet, *supra* note 26, at 66 (internal quotation marks omitted). Overconfidence also may explain an investor’s large number of trades, and those large numbers’ correlation with poor investment performance. See Brad M. Barber &

representativeness,³⁷ and perhaps most apparent to popular observers of the economy and investment markets, herding effects.³⁸ These BFE biases

Terrance Odean, *Trading Is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors*, 55 J. OF FIN. 773, 773–74, (2000). Barber and Odean reasoned that “[o]verconfident investors will overestimate the value of their private information, causing them to trade too actively and, consequently, to earn below-average returns.” *Id.* at 800. Yet when investors receive below-average returns, the investors often blame the result on bad luck or other people. *The Perils for Investors of Human Nature People Tend to Take the Credit for Success and Blame Failure on Bad Luck. The Resulting Overconfidence Can Be Dangerous*, Warn Simon Gervais and Terrance Odean, FIN. TIMES, June 18, 2001, at 2.

Sex-based overconfidence bias exists, as well. Specifically, “men claim more ability [to invest] than do women.” Terry Odean, Address at Legg Mason Funds Management Investment Conference: What I Know About How You Invest (Nov. 2003). Yet studies evidence that “males not only sell their investments at the wrong time but also experience higher trading costs than their female counterparts.” Victor Ricciardi & Helen K. Simon, *What Is Behavioral Finance?*, 2 BUS., EDUC., & TECH. J., Fall 2000, at 4. Additional research indicated that “over a six-year period, men on average traded 45% more than women,” and men were reducing their net returns by 1 percentage point more per year than women. Michael M. Pompian & John M. Longo, *A New Paradigm for Practical Application of Behavioral Finance: Creating Investment Programs Based on Personality Type and Gender to Produce Better Investment Outcomes*, 7 J. WEALTH MGMT., Fall 2004, at 10; see also Victor Reklaitis, *Investing Problems: Men, Overconfidence and Trading*, INVESTOR’S CORNER (2012), <http://education.investors.com/investors-corner/602404-men-often-overconfident-in-investing.htm> (last visited Feb. 24, 2014). An annual difference of one percent compounded over an investing lifetime represents a meaningful return differential.

³⁶ Hindsight bias suggests that when investors know how a particular situation may turn out, investors subsequently cannot disregard that information in future decision-making contexts, regardless of the probability or magnitude of the occurrence. To illustrate, researchers asked Washington, D.C. residents, two months after suffering a small earthquake in 2010, their thoughts concerning the likelihood of another earthquake in Washington, D.C. the following year. Even though the probability of another earthquake affecting those residents one year later was quite small, the earthquake’s personal impact resulted in residents over-estimating the likelihood. Levinson, *supra* note 34, at 595–600.

³⁷ Representativeness bias refers to “the tendency of individuals to classify things into discrete groups based on similar characteristics,” thereby focusing on similarities, rather than independent characteristic variables. Wesley S. Chan, Richard M. Frankel, & S.P. Kothari, *Testing Behavioral Finance Theories Using Trends and Sequences in Financial Performance* (Mass. Inst. of Tech. (“M.I.T.”) Sloan School of Mgmt., Working Paper No. 4375-02, June 2003). For example, investors may fail to incorporate matching quantitative or qualitative information in their predictions, and fail to realize extreme observations are unlikely to be repeated. *Id.* Investors subsequently become disappointed with the below-average returns they received because the investors “mentally misplace[d] firms into various groups based on the past performance,” regardless of the statistical significance of such past performance. *Id.* at 21.

³⁸ Perhaps the most frequently apparent BFE observation is “herd behavior.” Fromlet, *supra* note 26, at 63, 66. Herd behavior is best described as “*following the crowd.*”

often can represent superior explanations of market price changes compared to the ambiguously phrased “prices fully reflect available information.”³⁹ These various biases, particularly those that cause growth-based spiraling behaviors demonstrated in BFE research may help to contextualize both the causes and the effects of economic bubbles in which investors may find themselves.

B. Linkage Between Psychological Biases and Financial Bubble Definitions

While psychological biases explain the phenomena of financial bubbles, financial bubbles—sometimes referred to as speculative or market bubbles—occur when “a broad-based, surging euphoria or wave of optimism carries asset prices well beyond supportable value.”⁴⁰ Erik Gerding provided one explanation of how bubbles form by using two actors: noise traders,⁴¹ as referenced above, and so-called “smart money”:

First, a “displacement”—either an external macroeconomic or political event or good news about a specific industry—causes corporate profits to rise. Investors with superior information make conspicuous gains as share prices rise. Noise traders, attracted by rising prices, enter the market and bid prices even higher, adopting positive-feedback investment strategies. Informed investors and arbitrageurs (known as “smart money”) anticipate noise-trader demand and bid-up prices in advance of noise traders, further stimulating demand. When smart money senses

Andreas Park & Hamid Sabourian, *Herding and Contrarian Behavior in Financial Markets*, 79 *ECONOMETRICA* 973, 974 (2011). In these situations, investors may have substantial information on a particular event or situation, yet the information is “swamped” when they observe others acting contrary to the information retained by the investor. *Id.* Herding bias goes against the assumption of a rational investor because the realistic investor will irrationally choose to ignore information that may better predict the result of possible innovations and waste investment capital theorizing that so many others are going to do it. *See* Gerding, *supra* note 32, at 996–97. Herding thus creates a vicious cycle, “[i]f prices of an asset rise, investors who pursue these strategies bid prices higher as they base their analysis on the asset-price trend. The resulting rise in prices further increases demand among ... [other irrational investors], and a [positive] feedback loop develops.” Gerding, *supra* note 32, at 997. In the end, the market crashes and everyone is disappointed in their below average return, justifying their failures by the fact that everyone else was negatively affected by the drop in price. *Cf.* MACKAY, *supra* note 1 and accompanying text (explaining the Tulip bulb bubble).

³⁹ Eugene F. Fama, *Market Efficiency, Long-Term Returns, and Behavioral Finance*, 49 *J. FIN. ECON.* 283, 284 (1998).

⁴⁰ Adam Nash, *Behavioral Finance Explains Bubbles*, TECHCRUNCH (Apr. 20, 2013), <http://techcrunch.com/2013/04/20/what-can-behavioral-finance-can-teach-us-about-bubbles/>.

⁴¹ *See supra* notes 32–33.

the market overheating, it sells. Ultimately, noise traders follow and, once a tipping point is reached, prices crash.⁴²

Regardless of precisely how bubbles form, evidence strongly suggests that “[b]ubbles...have an emotional component”⁴³ A bubble’s emotional components can be explained by applying some of the psychological biases described above:

- First, applying anchoring bias, an investor becomes aware of a random number about a new financial innovation and gravitates in that direction when investing in the new fad.⁴⁴
- Second, an investor displays overconfidence when investing in a developing economic bubble by overestimating self-intelligence and relative investing capabilities.⁴⁵
- Third, an investor applies hindsight bias and over-emphasizes a past investing experience to the present or future predictability, even if the investor’s predictions are nearly impossible.⁴⁶
- Fourth, basing investment decisions on representativeness bias, the investor would be unlikely to consider sufficiently the relevant risks because the investor would fail to predict accurately the odds of success in a new investment prior to deploying sufficiently large amounts of capital.⁴⁷
- Fifth, and perhaps most noticeable, the investor likely would mimic the actions of what “everyone else” was doing and would engage in the herd behavior that often results in “self-reinforcing cycles of aggregate behavior,” even when quantitative and qualitative data demonstrates that the new fad about to separate economic actors from their invested capital is likely to fail.⁴⁸

Extraordinary Popular Delusions and the Madness of Crowds contains several chapters describing historical events evidencing the confluence of herd behavior and financial bubbles.⁴⁹ One example discussed the famous “Mississippi Scheme,” in which French investors created an economic

⁴² Gerding, *supra* note 32, at 999.

⁴³ Nash, *supra* note 40.

⁴⁴ *See id.*

⁴⁵ *See id.*

⁴⁶ *See id.*

⁴⁷ *See id.*

⁴⁸ *Id.*

⁴⁹ MACKAY, *supra* note 1.

bubble via buying ownership interests in a trade company engaged in resource development from the Mississippi area.⁵⁰ The French investors turned huge profits until the entire market for ownership interests in the venture collapsed. When the book turned to the most famous financial bubble, Holland's "Tulip Mania," Mackay wrote, "in 1634, the rage among the Dutch to possess [tulips] was so great that the ordinary industry of the country was neglected, and the population, even to its lowest dregs, embarked on the tulip trade."⁵¹ Later in the same week that I submitted the formal summer research grant proposal to fund this Article's research, Benjamin Radford briefly compared tulip bulbs to Bitcoins and wrote that investors who saw the price of tulips exponentially increase.⁵² He believed they could achieve the same results by purchasing more and more tulips, thus creating a craze that attracted an increasing number of investors to tulips at increasing prices.⁵³ By 1637, however, the smart money sold their tulips, and within weeks the tulip bubble burst.⁵⁴ In describing tulip mania, Radford stated that after the bubble burst, "[m]any [investors] were financially ruined, and the whole fiasco became an infamous textbook case of investment speculation gone awry," leaving readers with the ominous conclusion that "the tulip mania craze holds important lessons for economists and sociologists—and maybe Bitcoin investors as well" as "[u]nlike [a] Bitcoin[’s virtual existence] ... [tulips] had the potential to actually exist."⁵⁵

II. CURRENCIES, VIRTUAL CURRENCIES, AND BITCOINS

To understand what constitute "virtual currencies,"⁵⁶ and what laws, rules, regulations, and agency may apply and oversee such currencies, I believe that the reader would benefit from an explanation of the complex interplay among (i) currencies,⁵⁷ which throughout history were often made with

⁵⁰ *Id.* at B.

⁵¹ *Id.*

⁵² Benjamin Radford, *Bitcoin Currency Inspires Tulip Mania Comparisons*, DISCOVERY NEWS (Apr. 16, 2013, 1:12 PM), <http://news.discovery.com/history/bitcoins-and-dutch-tulipmania-lessons-in-investor-madness-130416.html>.

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ FinCEN Guidance FIN-2013-G001, *supra* note 15 (comparing FinCEN's description of a "real" currency possessing legal tender status as per 31 C.F.R. § 1010.100(m) with a "virtual" currency serving as an exchange medium lacking legal tender status in any jurisdiction).

⁵⁷ A currency has traditionally represented what a specific nationality employed as its monopolistic legal tender. *See, e.g.*, FRIEDRICH A. HAYEK, DENATIONALISATION OF MONEY 48, 90, 106 (Inst. of Econ. Affairs 3d ed. 1990); *see also* Andrew K. Rose, *One Money, One Market: Estimating the Effect of Common Currencies on Trade*, Seminar

gold; (ii) commodities,⁵⁸ of which gold is one example; and (iii) money, which was backed by gold in the U.S. until the Bretton Woods collapse and removal of the U.S. dollar from the gold standard in the early 1970s.⁵⁹

A recent high profile and temperamental exchange between House Subcommittee on Monetary Policy Chairman Ron Paul and Federal Reserve Chairman Ben Bernanke—both Republicans—contextualizes the

Paper No. 678, 2–3 (Inst. for Int’l Econ. Studies 1999), *available at* <http://su.diva-portal.org/smash/get/diva2:328473/FULLTEXT01>. In addition to the “real” and “virtual” currencies described *supra* note 56, one may divide real currencies further by distinguishing between “public” currencies, subject to government monopolies, and “private” currencies, with private currencies being considered “concurrent” currencies. HAYEK at 26.

⁵⁸ See Commodity Exchange Act, 7 U.S.C.A. § 1a (West 2014) (defining commodities as: “wheat, cotton, rice, corn, oats, barley, rye, flaxseed, grain sorghums, mill feeds, butter, eggs, *Solanum tuberosum* (Irish potatoes), wool, wool tops, fats and oils (including lard, tallow, cottonseed oil, peanut oil, soybean oil, and all other fats and oils), cottonseed meal, cottonseed, peanuts, soybeans, soybean meal, livestock, livestock products, and frozen concentrated orange juice ... and all services, rights, and interests ... in which contracts for future delivery are presently or in the future dealt in.”).

The film, *Trading Places*, arguably defined commodities simpler than the statute (“[W]hat are commodities? Commodities are agricultural products ... like coffee, that you had for breakfast ... wheat, which is used to make bread ... pork bellies, which is used to make bacon, which you might find in a ‘bacon, lettuce and tomato’ sandwich. And then there are other commodities like, frozen orange juice ... and GOLD. Though, of course, gold doesn’t grow on trees like oranges.”). TRADING PLACES (Paramount Pictures 1983). In addition, the film served as the basis for the CFTC to change risk-based regulation of commodities. See *Hearing to Review Implementation of Changes to the Commodity Exchange Act Contained in the 2008 Farm Bill before the Subcommittee on General Farm Commodities and Risk Management of the Committee of Agriculture*, 111th Cong. 2d. Sess. (statement of Hon. Gary Gensler, Chairman, U.S. Commodity Futures Trading Commission), *available at* <http://www.gpo.gov/fdsys/pkg/CHRG-111hhrg55459/html/CHRG-111hhrg55459.htm>. Gensler stated that:

[w]e have recommended banning using misappropriated government information to trade in the commodity markets. In the movie “Trading Places,” starring Eddie Murphy, the Duke brothers intended to profit from trades in frozen concentrated orange juice futures contracts using an illicitly obtained and not yet public Department of Agriculture orange crop report. Characters played by Eddie Murphy and Dan Aykroyd intercept the misappropriated report and trade on it to profit and ruin the Duke brothers. In real life, using such misappropriated government information actually is not illegal under our statute. To protect our markets, we have recommended what we call the “Eddie Murphy” rule to ban insider trading using nonpublic information misappropriated from a government source.

Id.

⁵⁹ See, e.g., BARRY EICHENGREEN, *THE BRETTON WOODS SYSTEM: PARADISE LOST?*, IN *THE GOLD STANDARD IN THEORY AND HISTORY* 313, 315–21 (Routledge, 2d ed. 1997).

confusion among these terms, even among the highest ranking fiscal and monetary policymakers in the U.S.:

Paul: Do you think gold is money?

Bernanke: [long pause] No.

....

Paul: Even if it has been money for 6,000 years, somebody reversed that and eliminated that economic law?

....

Paul: Why do central banks hold it, if it's not money?

Bernanke: Well, it's a form of reserves.

Paul: Why don't they hold diamonds?

Bernanke: Well it's tradition—long-term tradition.⁶⁰

With this disorder as a backdrop, this Part attempts to analyze the threats—to economies, markets, governments, regulators, policymakers, investors, and speculators—associated with the advent of new and highly volatile forms of exchange mediums, of which Bitcoin currently represents the most visible.⁶¹

A. Background and History

1. Real, Virtual, and Fiat Currencies; Commodities; Money; and Inflation

In the mid-1970s, Friedrich von Hayek, an economics Nobel laureate, stated “[t]here is no reason to doubt that private enterprise would, if permitted, have been capable of providing as good and at least as trust-worthy coins,”⁶² as those imposed by government monopoly⁶³ on money.⁶⁴ Hayek continued:

⁶⁰ *Monetary Policy and the State of the Economy: Hearing Before the H. Comm. on Fin. Servs.*, 112th Cong. 46 (2011) (statement of Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Reserve Sys.), available at <http://www.youtube.com/watch?v=2NjL10vZ1Y> (last visited Feb. 24, 2014).

⁶¹ Rhys Bollen, *The Legal Status of Online Currencies: Are Bitcoins the Future?*, 24 J. BANKING & FIN. L. & PRACTICE 272, 272 (2013).

⁶² HAYEK, *supra* note 57, at 30; see also Robin Teigland, Zeynep Yetis, & Tomas Larsson, *Breaking Out of the Bank in Europe: Exploring Collective Emergent Institutional Entrepreneurship through Bitcoin* 2–3 (SNEE Conference 2013, Working Paper, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2263707&download=yes (indicating that the Bitcoin community's theoretical roots lay in the Hayekian Austrian School of economics, potentially threatening large financial institutions and global governments).

⁶³ Governmental regulatory enforcement mechanisms of monopolistic monetary policies have ranged apparently from China and France employing the death penalty to U.S. colonies treating repudiation of Continental notes as an enemy act. See, e.g.,

If the public understood what price in ... inflation and instability it pays for the convenience of having to deal with only one kind of money in ordinary transactions, and not have to ... contemplate the advantage of using money than the familiar kind, it would probably find it very excessive [yet] we know that there are all kinds of other possible sorts of money, not least paper, which government is even less competent to handle and even more prone to abuse than paper money.⁶⁵

First, a currency has traditionally represented a government monopoly's legal tender.⁶⁶ When the basis of currency pricing relies on something besides that government's precious metal reserves, that currency becomes known as a "'fiat currenc[y]' [, which] ha[s] value simply because their backing governments identified the currency as 'legal tender.'"⁶⁷ By printing or creating additional fiat currency units over time, the currency supply relative to its demand generally increases, thus "re-

ARTHUR NUSSBAUM, *MONEY IN LAW, NATIONAL AND INTERNATIONAL* 53 (Found. Press 1950); see also HAYEK, *supra* note 57, at 28 (stating "[g]overnments have at all times [preceding the 6th century B.C.E., he notes] had a strong interest in persuading the public that the right to issue money belongs exclusively to them."); see also *id.* at 30–31 (indicating, "[t]he significance of the gradual appearance of government paper money [as opposed to solid coinage minted from government-owned metal reserves], and soon of bank notes, is for our purposes complicated" by using paper claims on metal issued by government monopoly due to the use of paper claims. Hayek continued, "because for a long time the problem was not the appearance of new kinds of money with a different denomination [i.e., face amount], but the use as money of paper claims on the established kind of metallic money issued by government monopoly[,]” thereby shifting government's role from minter of stored metal to coinage to a backer of paper money by reserves of that metal to determining how much paper money may be printed, regardless of any metallic backing [called fiat money]. This series of events prompted Hayek to assert that "governments have become wholly inadequate for the task and, it can be said *without qualifications, have incessantly and everywhere abused their trust to defraud the people.*" (emphasis added)). Cf. Reuben Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 HASTINGS SCI. & TECH. L.J. 159, 182, 187 (2012) (citing U.S. CONST. art. I, § 8; *United States v. Gellman*, 44 F. Supp. 360, 365–66 (D. Minn. 1942)) (asserting that "[t]he Constitution has nothing to say about private parties creating money.... For example in *United States v. Gellman*, the court warned that early money-related laws providing criminal penalties should be cautiously applied to new technologies.”).

⁶⁴ See Bollen, *supra* note 61, at 272 (claiming that "[m]oney, payment and currency are simply social constructs. What people are willing to treat as payment are payments, same as money.”). Cf. OKLA. ST. ANN. Tit. 12A, § 1-201(24) (West 2013) (defining "money" as a "medium of exchange authorized or adopted by a domestic or foreign government and includes a monetary unit of account established by an intergovernmental organization or by agreement between two or more countries”).

⁶⁵ HAYEK, *supra* note 57, at 28.

⁶⁶ See HAYEK *supra* note 57, at 56, 58 (Hayek's definition of currency).

⁶⁷ Grinberg, *supra* note 63, at 173.

duc[ing] the value of the [previously existing] currency,” which “correspondingly increases [the] prices” of that economy’s goods and services, resulting in the classic definition of inflation.⁶⁸ As a result, people who fear inflation—which was a major cause of Hitler’s ascent to power in post–World War I Germany⁶⁹—are prone to distrust fiat currencies and the governmental central banks⁷⁰ that can cause inflation by printing additional units of its monopolistic currency, eviscerating the purchasing power of its society.

Second, given that the Director of the CFTC used the film *Trading Places* to explain commodities to congress, perhaps the best definition of commodities comes from the *Trading Places* scene.⁷¹

Third, as economics Professor L. Randall Wray stated, “[d]efining money,” regardless of its form, “is a continually vexing problem for monetary theorists,” in which two general approaches exist: (1) “defining money by its functions (the textbook approach)” and (2) “choosing [arbitrarily] some empirical definition (as Keynes did)”⁷² Simply put, an arbitrary exchange, such as money, is traditionally associated with three functions: medium of exchange, unit of account, and store of value.⁷³

⁶⁸ *Id.* Inflation acts like a tax and is the result of a reduction in a currency’s purchasing power. See EUGENE F. BRIGHAM & JOEL F. HOUSTON, *FUNDAMENTALS OF FINANCIAL MANAGEMENT* 184, 191, 283 (Cengage Learning, 13th ed. 2013).

⁶⁹ See, e.g., HENRY ASHBY TURNER, JR., *HITLER’S THIRTY DAYS TO POWER: JANUARY 1933* 2–3 (Basic Books 1996) (indicating that following the First World War, Germany suffered “a hyperinflation that destroyed the currency”); Melchior Palyi, *Economic Foundations of the German Totalitarian State*, 46 *AM. J. SOC.* 469, 469 (1991) (employing an “economic versus ideological interpretation of Nazism” to assert that “[t]he inflation of the early 1920’s delivered a moral [sic] blow at democracy as a form of government which shook the nation’s political loyalty by undermining its reliance upon security based on ‘saving’ [i]n their ‘despair’ a large sector of the German people were willing to follow Hitler”).

⁷⁰ See Alberto Alesina & Lawrence H. Summers, *Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence*, 25 *J. MONEY, CREDIT, & BANKING* 151, 154 (1993) (comparing the relative independence among central banks globally).

⁷¹ See *supra* note 58.

⁷² See Professor L. Randall Wray, Workshop Presentation at the Centre of Full Employment and Equity: Understanding Modern Money (Dec. 10 & 11, 2001) (citing JOHN MAYNARD KEYNES, *THE GENERAL THEORY* 167 (Harcourt-Brace-Jovanovich 1964)). Professor Wray also states that “a system based on a commodity money is not a ‘money economy’ as Keynes defined it. Rather, the commodity money is an (imagined) economy in which money serves as nothing more than a numeraire” *Id.* at 5. See also L. RANDALL WRAY, *UNDERSTANDING MONEY: THE KEY TO FULL EMPLOYMENT AND PRICE STABILITY* (Edward Elgar Publ’g 2006).

⁷³ See *Virtual Currency Schemes*, EUR. CENT. BANK 1, 10 (Oct. 2012), <http://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf> [hereinafter *ECB Report*].

Regardless of whether one views the U.S. dollar as currency, a commodity, or a unit of money, it remains a fiat medium of exchange since the separation from the gold standard in the early 1970s, leaving the U.S. dollar open to unlimited issuance by a central bank and inflationary pressures. But “[u]nlike fiat currencies, whose value is derived through regulation or law and underwritten by the state,”⁷⁴ virtual currencies are different for various reasons explored in the next section.

2. *Crypto Currencies, Virtual Currencies, and Other Appellations*

Several authors refer to cryptocurrencies,⁷⁵ which represent an idea existing since at least the mid-1980s.⁷⁶ One of the first cryptocurrencies, known as “DigiCash,” started in the early 1990s by an individual who “obtained ... digital currency patents in the 1980s related to ensuring anonymity using cryptography.”⁷⁷ Although DigiCash failed,⁷⁸ the idea of an anonymous and cryptographic currency developed over the course of the 1990s through the cypherpunk e-mail list that allegedly included individuals who “advocated the use of cryptography ... for the protection of private individuals, against each other and against the government.”⁷⁹

While one may scoff at the idea of a cryptocurrency or a cypherpunk e-mail group, the group’s members included currently relevant newsmakers, such as Julian Assange, known for his whistleblowing activities as the founder of WikiLeaks.⁸⁰ Some authors describe the cypherpunks as an e-mail list

⁷⁴ Nikolei M. Kaplanov, *Nerdy Money: Bitcoin, the Private Digital Currency, and the Case Against Its Regulation*, 25 LOY. CONSUMER L. REV. 111, 115 (2012).

⁷⁵ See, e.g., William J. Luther & Josiah Olson, *Bitcoin is Memory passim* (Inst. For Human Studies at Geo. Mason Univ., Working Paper, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2275730; William J. Luther, *Cryptocurrencies, Network Effects, and Switching Costs* (Mercatus Ctr., Geo. Mason Univ., Working Paper, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2295134; Sarah Jeong, *The Bitcoin Protocol as Law, and the Politics of a Stateless Currency* (Working Paper, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2294124.

⁷⁶ Grinberg, *supra* note 63, at 169 n.46; Jeong, *supra* note 75, at 9.

⁷⁷ Grinberg, *supra* note 63, at 169 n.46.

⁷⁸ *Id.*

⁷⁹ Jeong, *supra* note 75, at 9.

⁸⁰ *Id.* Cf. Rainey Reitman, a Director at the Electronic Frontier Foundation (EFF), an organization co-founded by former Cypherpunk John Gilmore, engaged in Bitcoin transactions but ceased doing so in 2011. She is also a co-founder of the Bradley Manning Support Network (supporting WikiLeaks whistleblower Pfc. Bradley Manning), and additionally supports Bitcoin as a method to provide needed anonymity to financially support patriotic causes such as whistleblowing on one’s government. *About-Rainey Reitman*, ELECTRONIC FRONTIER FOUNDATION, <https://www.eff.org/about/staff/rainey-reitman> (last visited Feb. 24, 2014); Rainey Reitman, *Bitcoin – a Step Toward Censorship-Resistant*

with libertarian streaks, opposing most regulation, advocating for privacy, and seeking to use cryptography.⁸¹ Toward the end of the decade, in 1998, pseudonymously named Wei Dai, created the idea of b-money.⁸² B-money foreshadowed the allegedly pseudonymous Satoshi Nakamoto, author of the paper⁸³ detailing the creation of the Bitcoin currency⁸⁴ that appeared just as the U.S. and global economies and currencies began to plummet in 2008–2009.⁸⁵ Nakamoto’s germinal paper set the foundation for the purpose of “cryptographic proof,” which was to purportedly serve as a “solution to...double spending” and described the creation of blocks, chains (or “blockchains”), and Bitcoins that go well beyond this Article’s scope.⁸⁶ Because cryptography is a key to Bitcoin’s success, many refer to virtual currencies as a cryptocurrency, while others, including government agencies, refer to virtual currencies as an e-currency,⁸⁷ digital currency,⁸⁸ virtual currency,⁸⁹ or a decentralized convertible virtual currency.⁹⁰

At least a dozen virtual currencies exist as of this writing.⁹¹ Those include: (1) Litecoin (LTC) (called a “complementary cryptocurrency— ‘the silver to Bitcoin’s gold,’”), which as of May 11th, 2013, had approximately

Digital Currency, EFF DEEPLINKS BLOG (Jan. 20, 2011), <https://www.eff.org/deeplinks/2011/01/bitcoin-st-ep-toward-censorship-resistant>.

⁸¹ Grinberg, *supra* note 63, at 162.

⁸² Wei Dai, *b-money*, WEI DAI’S HOME PAGE, <http://weidai.com/bmoney.txt>.

⁸³ See generally Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System* (2009), <http://www.bitcoin.org/bitcoin.pdf>. On March 6, 2014, Newsweek allegedly revealed the face behind bitcoin. Leah McGrath Goodman, *The Face Behind Bitcoin*, NEWSWEEK (Mar. 6, 2014), available at <http://mag.newsweek.com/2014/03/14/bitcoin-satoshi-nakamoto.html>.

⁸⁴ See Grinberg, *supra* note 63, at 162; Nakamoto, *supra* note 83.

⁸⁵ Jeong, *supra* note 75, at 12–13 (citation omitted) (indicating that while Satoshi never mentioned the cypherpunks or crypto anarchy on any Internet postings, “[i]nstead, Bitcoin was introduced to the world in the context of the 2008 financial crisis” as “an alternative to a system controlled by ‘financial institutions’”).

⁸⁶ Nakamoto, *supra* note 83.

⁸⁷ FinCEN Guidance FIN-2013-G001, *supra* note 15, at 3.

⁸⁸ Nicholas A. Plassaras, *Regulating Digital Currencies: Bringing Bitcoin Within the Reach of the IMF*, 14 CHI. J. INTL L. 377 (2013); Kaplanov, *supra* note 74. Both articles refer to Bitcoins as a “private digital currency.”

⁸⁹ Memorandum from Benjamin M. Lawsky on Notice of Inquiry on Virtual Currencies to N.Y. State Dep’t of Fin. Services (Aug. 12, 2013), <http://www.dfs.ny.gov/about/press2013/memo1308121.pdf>; Kelly Clay, *Amazon Announces New Virtual Currency for Kindle Fire*, FORBES (Feb. 5, 2013), <http://www.forbes.com/sites/kellyclay/2013/02/05/ama-zon-announces-new-virtual-currency-for-kindle-fire/>.

⁹⁰ FinCEN Guidance FIN-2013-G001, *supra* note 15, at 3.

⁹¹ Andrew R. Johnson, *From Bitcoin to Amazon Coins: A Guide to Virtual Currencies*, WALL ST. J. (May 31, 2013, 6:04 PM), <http://blogs.wsj.com/moneybeat/2013/05/31/from-bitcoin-to-amazon-coins-a-guide-to-virtual-currencies/>.

17 million LTC in circulation⁹² with a market price of \$3.28 USD per LTC, for an aggregate market price of approximately \$55.5 million USD, “making it the most valuable cryptocurrency after Bitcoin;”⁹³ (2) PPCoin (PPC), that purportedly has an additional security feature called “proof-of-stake”⁹⁴ but also represents a centralized virtual currency without an alleged cap on the number of PPC that could be created, thus more reflective of mainstream fiat currencies but less attractive to many founders and early adopters of Bitcoins; other competing virtual currencies exist such as (3) Freicoin (FRC), (4) Namecoin, (5) Terracoin, (6) Ripple, and (7) Feathercoin, among others.⁹⁵ Numerous other virtual currencies have failed, including Solidcoin, BBQCoin, Fairbrix, and GeistGold.⁹⁶ Global e-commerce powerhouse Amazon entered the virtual currency arena in May 2013 with Amazon Coins, primarily to buy “apps, games, and in-app items.”⁹⁷ This Article focuses on Bitcoins because Bitcoins currently represent the “world’s most widely used alternative currency,”⁹⁸ and they have been that way since January 9, 2009 when Nakamoto announced via email the “first release of Bitcoin,”⁹⁹ and the creation of the initial Bitcoin “block” (the “Genesis Block”)¹⁰⁰ occurred.

B. Specifically, What Are Bitcoins, and How Do They Function?

Bitcoin is an electronic payment system “that uses peer-to-peer networking along with digital signatures and cryptographics to generate currency.”¹⁰¹ Bitcoins represent “a private digital currency traded online via a

⁹² Ian Steadman, *Wary of Bitcoin? A Guide to Some Other Cryptocurrencies*, ARSTECHNICA (May 11, 2013, 9:51 AM), <http://arstechnica.com/business/2013/05/wary-of-bitcoin-a-guide-to-some-other-cryptocurrencies/>.

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ Johnson, *supra* note 91.

⁹⁶ Steadman, *supra* note 92.

⁹⁷ Press Release, Amazon, Introducing Amazon Coins (Feb. 5, 2013), *available at* [http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irolnewsArticle&ID=1781498&highlight=\(last visited Feb. 24, 2014\)](http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irolnewsArticle&ID=1781498&highlight=(last%20visited%20Feb.%2024%202014)).

⁹⁸ Justin Spittler, *Bitcoin: Money of the Future or Fool’s Gold*, WALL ST. CHEATSHEET (June 2, 2013), <http://wallstcheatsheet.com/stocks/bitcoin-money-of-the-future-or-fools-gold.html/?a=viewall>.

⁹⁹ Email from Satoshi Nakamoto (Jan. 9, 2009, 5:05 PM), *available at* <http://www.mailarchive.com/cryptography@metzdowd.com/msg10142.html> [hereinafter Nakamoto email].

¹⁰⁰ Joel Falconer, *Bitcoin, the Peer-To-Peer Currency that Hopes to Change the World*, TNW (June 5, 2011 8:30 AM), <http://thenextweb.com/insider/2011/06/05/bitcoin-the-peer-to-peer-currency-that-hopes-to-change-the-world/>.

¹⁰¹ Duncan Elms, *A Brief Background on Bitcoin*, DIGITAL FOR REAL LIFE (Apr. 23, 2013), <http://www.digitalforreallife.com/2013/04/bitcoin/>.

peer-to-peer network.”¹⁰² Given the minarchist-libertarian milieu painted by many authors of virtual currency supporters, some authors believe that Bitcoins have several endearing features to this constituency. Four key distinctions exist between Bitcoins and fiat currencies.

First, unlike fiat currencies, the Bitcoin system is alleged to have “a cap on the number of coins that will ever be generated”¹⁰³ at 21 million Bitcoins,¹⁰⁴ unlike the central bankers who can print money at will. As a result, “[m]any Bitcoin users are motivated by a belief that Bitcoin, unlike the dollar, is inflation-resistant”¹⁰⁵ Second, hearkening to the days of precious metal-backed currencies, to distinguish them from fiat currencies, Bitcoins’ creation and distribution to the market occurs via computer “mining,” a model akin to “natural resource extraction, gold mining”¹⁰⁶ Specifically, computer users can mine Bitcoins via computer processing, which may force material overhead costs for users to produce Bitcoins.¹⁰⁷

Therefore, Bitcoins are “likely to be attractive to those who like gold-backed currencies because its value depends on the availability of a limited (albeit virtual) resource rather than discretionary actions by central bankers.”¹⁰⁸ Third, the Bitcoin Foundation has maintained that, instead of the currency’s backing by nothing, which is the case with fiat currencies, or by a precious metal such as gold, which was the case with traditional pre-Bretton Woods collapse currencies: “Bitcoin is backed exclusively by code *Cryptography is the key to Bitcoin’s success.*”¹⁰⁹ Fourth, Bitcoins permit “two willing parties to transact directly with each other without the

¹⁰² Plassaras, *supra* note 88, at 2.

¹⁰³ Falconer, *supra* note 100.

¹⁰⁴ *Id.* Tom Standage, *The Economist Explains: How Does Bitcoin Work*, ECONOMIST (Apr. 11, 2013, 11:50 PM), <http://www.economist.com/blogs/economist-explains/2013/04/economist-explains-how-does-bitcoin-work>.

¹⁰⁵ Grinberg, *supra* note 63, at 198.

¹⁰⁶ James Niccolai, *Bitcoin Developer Chats About Regulation, Open Source, and the Elusive Satoshi Nakamoto*, PCWORLD (May 19, 2013, 12:15 PM), <http://www.pcworld.com/article/2039184/bitcoin-developer-talks-regulation-open-source-and-the-elusive-satoshi-nakamoto.html>.

¹⁰⁷ See Emma Rowley, *Russians Most Interested in Bitcoin, Searches Show*, TELEGRAPH (Apr. 6, 2013, 9:00 PM), <http://www.telegraph.co.uk/finance/economics/9976524/Russians-most-interested-in-Bitcoin-searches-show.html>.

¹⁰⁸ Grinberg, *supra* note 63, at 168; see also *Virtual Currencies: Mining Digital Gold*, ECONOMIST (Apr. 11, 2013, 2:18 PM), <http://www.economist.com/news/finance-and-economics/21576149-even-if-it-crashes-bitcoin-may-make-dent-financial-world-mining-digital> (stating, “[w]hat makes Bitcoin different is that, unlike other online (and offline) currencies, it is neither created nor administered by a single authority such as a central bank.”). Cf. Turner, *supra* note 69 (describing the role of central bankers in fiat currencies and inflation).

¹⁰⁹ *About Bitcoin*, BITCOIN FOUNDATION, <http://bitcoinfoundation.org/about/> (last visited Feb. 24, 2014) (emphasis added).

need for a trusted third-party” or intermediary (or central issuer or payment system), where the basis of the transaction’s security is “cryptographic proof instead of trust.”¹¹⁰

Despite the legitimate concern that these facts may cause for users of more traditional payment systems, currencies, commodities, money, and marketplaces, Bitcoins currently are exchangeable for at least thirty state-sanctioned currencies, including the Euro, Japanese Yen, Hong Kong Dollar, and the U.S. dollar via exchanges such as Mt.Gox.¹¹¹ From a disruptive business model standpoint, Bitcoins may become a welcomed entrepreneurial innovator in the micropayment (payments under \$1 USD) space, by competing with more well-known brands such as PayPal or iTunes¹¹² based on a perception of “low transaction costs” involved with BitCoin-based transactions.¹¹³ Even Boston University Distinguished Professor of Economics, Lawrence Kotlikoff,¹¹⁴ recently went so far as to suggest that Bitcoins should replace the dollar as the U.S. currency.¹¹⁵

¹¹⁰ Steadman, *supra* note 92; *see also* Plassaras, *supra* note 88, at 6.

¹¹¹ Teigland, Yetis, & Larsson, *supra* note 62, at 7. Based in Japan, Mt.Gox was the most widely used exchange as of this study period, with approximately 400,000 transactions in U.S. dollars alone on a daily basis. *Id.* However, Mt. Gox filed for bankruptcy in early 2014 following several scandals. *See, e.g.*, Andrew Peterson, *Everything You Need to Know About the Latest Bitcoin Crisis*, WASH. POST (Feb. 25, 2014 1:48 PM), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/02/25/everything-you-need-to-know-about-the-latest-bitcoin-crisis/>. Trading Bitcoins has become increasingly popular, and according to some unsubstantiated websites, has “surpass[ed] almost every financial asset over the past year, beating stock, gold, silver” and more. *Forexminute Bitcoin Trading*, FOREXMINUTE, <http://www.forexminute.com/trade-bitcoins> (last visited Feb. 24, 2014). As of December 2012, the busiest Bitcoin exchange was Mt.Gox, handling approximately eighty percent of Bitcoin-dollar trades. *Terms of Use*, MT.GOX, <https://mtgox.com/> (last visited Feb. 24, 2014). To use Mt.Gox purchasers and sellers are charged a commission on every transaction. MT.GOX, https://mtgox.com/terms_of_service (last visited, Feb. 24, 2014). Mt.Gox also charges to convert transactions at a “fixed commission of 2.5%.” *Id.*

¹¹² Other examples of micropayments include Facebook Credits, which was the currency used for games such as Farmville that generated a thirty percent commission for Facebook for all purchases made with Facebook credits. While Facebook credits became a failed currency experiment, other potentially competitive microcurrencies including gaming-related virtual currencies continue, and in May 2013, Amazon released “Amazon Coins” as a virtual currency to purchase apps and games. *See* Grinberg, *supra* note 63, at 171; Kelly Clay, *Amazon Announces New Virtual Currency for Kindle Fire*, FORBES (Feb. 5, 2013, 2:04 PM), <http://www.forbes.com/sites/kellyclay/2013/02/05/amazon-announces-new-virtual-currency-for-kindle-fire/>.

¹¹³ Grinberg, *supra* note 63, at 170.

¹¹⁴ *Laurence Kotlikoff*, BOS. UNIV. PUB. REL., <http://www.bu.edu/news/profiles/laurence-kotlikoff/> (last visited Feb. 24, 2014).

¹¹⁵ Paul Solman, *It’s No Bubble: Why We Should All Give Bitcoin a Chance*, PBS NEWSHOUR (Dec. 4, 2013, 12:13 PM), <http://www.pbs.org/newshour/making-sense/its-no-bubble-why-we-should-al/>.

Further legitimizing Bitcoins is the meaningfully growing number of small businesses and online enterprises that have already begun accepting Bitcoin as an exchange medium—particularly as an alternative to credit and debit cards.¹¹⁶ In May 2010, Laszlo Hanyecz “sen[t] 10,000 [B]itcoins to a volunteer in the U.K.” who in exchange placed a call and had Papa John’s Pizza deliver a pizza to Laszlo making this the first ever Bitcoin transaction.¹¹⁷ Further illustrating this point, several National Public Radio reporters exchanged their Bitcoins to transact with a New York City deli,¹¹⁸ a Southern California car dealer accepts BitCoins as consideration for automobiles,¹¹⁹ and a Las Vegas housing developer also accepts BitCoins.¹²⁰ If virtual currencies continue this momentum and become widely accepted, a substitution effect could occur, contrary to the desire of central bankers, which may explain the mid-August 2013 actions by Congress¹²¹ and New York’s Department of Financial Services,¹²² both demanding granular investigations of a currency that has existed for more than four years.

To adherents of the Hayekian–Austrian–minarchist–libertarian view,¹²³ the government’s real concern and involvement in this matter likely results from governmental realization that increased Bitcoin use should result in decreased “real” currency (legal tender) use, thus hampering central bankers’

¹¹⁶ Sarah E. Needleman, *More Small Businesses Embrace Bitcoin*, WALL ST. J. (June 26, 2013, 7:27 PM), <http://online.wsj.com/news/articles/SB1000142412788732330000457855994138913138>.

¹¹⁷ Curt Hopkins, *The Complete History of Bitcoin—The Revolutionary Currency*, DAILY DOT (Apr. 3, 2013), <http://www.dailydot.com/business/bitcoin-complete-history-timeline/>.

¹¹⁸ *The Tuesday Podcast: Bitcoin*, NPR PLANET MONEY (June 12, 2011, 6:44 PM), <http://www.npr.org/blogs/money/2011/07/13/137795648/the-tuesday-podcasst-bitcoin>.

¹¹⁹ *We Just Sold Our Very First Vehicle with Bitcoin as Payment!*, LAMBORGHINI NEWPORT BEACH (Dec. 4, 2013), <http://lamborghininewportbeach.blogspot.com/2013/12/we-just-sold-our-very-first-vehicle.html>; Melanie Hicken, *Someone Bought a \$100,000 Tesla with Bitcoins*, CNN MONEY (Dec. 12, 2013, 11:49 AM), <http://money.cnn.com/2013/12/06/autos/tesla-bitcoin/index.html>.

¹²⁰ Jennifer Robison, *Home for sale: Asking \$7.85 million, bitcoin welcome*, LAS VEGAS REV. J. (Dec. 12, 2013), <http://www.reviewjournal.com/business/home-sale-asking-785-million-bitcoin-welcome>.

¹²¹ See Zachary Warmbrodt, *Congress Starts Looking into Bitcoin*, POLITICO (Aug. 13, 2013, 12:00 AM), <http://www.politico.com/story/2013/08/congress-starts-looking-into-bitcoin-95464.html>.

¹²² See Timothy B. Lee, *Congress Starts Investigating Bitcoin*, WASH. POST (Aug. 13, 2013), <http://www.washingtonpost.com/blogs/the-switch/wp/2013/08/13/congress-starts-investigating-bitcoin/>; Lawsky, *supra* note 89.

¹²³ Reuters not so kindly phrased Bitcoins users as “an odd assortment of uber-geeks, anarchists, libertarians, scammers, and forex [foreign exchange] traders.” Naomi O’Leary, *Bitcoin, the City Traders’ Anarchic New Toy*, REUTERS (Apr. 1, 2012, 7:01 PM), <http://www.reuters.com/article/2012/04/01/traders-bitcoin-idUSL6E8ET5K620120401>.

attempts to influence short-term interest rates.¹²⁴ Such concern becomes particularly heightened during an era of massive government involvement favoring large financial institutions over middle class borrowers' credit constraints, via three rounds of failed Federal Reserve quantitative easing.¹²⁵ As a result, more than just e-businesses and delis want to be involved in virtual currencies; "[i]f the virtual currency seems to be taking off ... the banks want to be part of that."¹²⁶ It has been reported that Goldman Sachs and Morgan Stanley employees have "visit[ed] online Bitcoin exchanges as often as 30 times a day"¹²⁷ and rumors exist that large U.S. financial institutions are among the virtual currency investors.¹²⁸ If Bitcoin represented a legitimate threat to legal tender, these financial institutions may be less likely to feed from the government trough. Perhaps that explains why, in late

¹²⁴ *ECB Report*, *supra* note 73, at 34. Central bankers can only impact the short term interest rates, that is, the short-end of the yield curve, which caused former Federal Reserve Chairman Alan Greenspan to remark that his influence over short-term rates having no effect on intermediate interest rates was a "conundrum," or, to many financial journalists a "riddle wrapped in a mystery inside an enigma," to quote Winston Churchill. Roger Craine & Vance L. Martin, *Interest Rate Conundrum*, B.E. J. MACROECON., Mar. 2009, available at <http://www.degruyter.com/view/j/bejm.2009.9.1/bejm.2009.9.1.1819/bejm.2009.9.1.1819.xml?format=INT>; Mark Glibert, *Greenspan's Bond Conundrum Ripens Into an Enigma*: Mark Gilbert, BLOOMBERG (June 2, 2005), http://www.bloomberg.com/apps/news?pid=newsarchive&refer=columnist_gilbert&sid=ac6xHdHdneGo; Philip Coggan, *Greenspan's Conundrum: A Riddle in a Mystery in an Enigma*, FIN. TIMES, Oct. 6, 2005. Central bankers' control over interest rates and the money supply are so meaningful, because the interest rates serve in essence as the denominator for determining the present value of every global asset.

¹²⁵ See Ben S. Bernanke, Chairman, Board of Governors of the Fed. Reserve Sys., Speech at the Stamp Lecture London School of Economics: The Crisis and the Policy Response (Jan. 13, 2009), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20090113a.htm>; James D. Hamilton & Jing Cynthia Wu, *Effectiveness of Alternative Monetary Policy Tools in a Zero Lower Bound Environment* 37–38, 44–46 (Nat'l Bureau of Econ. Research, Working Paper 16956, 2011), http://www.nber.org/papers/w16956.pdf?new_window=1; Johathan H. Wright, *What Does Monetary Policy Do to Long-Term Interest Rates at the Zero Lower Bound?* 1, 8–9 (Nat'l Bureau of Econ. Research, Working Paper 17154, 2011), <http://www.nber.org/papers/w17154.pdf>.

¹²⁶ Andrew R. Johnson, *Promise and Peril of Virtual Currencies*, WALL ST. J. (May 28, 5:33 PM), <http://online.wsj.com/news/articles/SB10001424127887324125504578511\580913892620> (quoting Mercedes Kelley Tunstall) (internal quotation marks omitted).

¹²⁷ O'Leary, *supra* note 123.

¹²⁸ *Id.* (indicating that none of Goldman Sachs, JPMorgan, or Morgan Stanley would respond to inquiries of whether they owned Bitcoins); Kamal El-Din, *Goldman Sachs Shares Surge on Announcement of Bitcoin Trading Unit*, UNCONFIRMED SOURCES, <http://unconfirmedsources.com/?itemid=6155> (last visited Feb. 24, 2014) (indicating that Goldman Sachs' shares rose on unsubstantiated rumors that Goldman was launching a Bitcoin trading desk).

July 2013, the SEC quietly charged an individual with violating federal securities laws with an alleged Bitcoin-related scheme.¹²⁹

Also, many individuals on the other side of the political continuum—or Nolan chart—believe “Bitcoin is not going to fly because there is no central bank or power base. It’s doomed to fail.”¹³⁰ The ECB noted, “[t]he fact that the founder of Bitcoin uses a pseudonym—Satoshi Nakamoto—and is surrounded by mystery does nothing to help promote transparency and credibility in the scheme.”¹³¹ A 2012 ECB Report indicated the price and volatility of virtual currencies depended on four material factors:

1. Money supply and issuer actions, regarding market intervention to maintain a fixed or semi-fixed exchange rate;
2. Institutional conditions governing the virtual community;
3. The virtual currency issuer’s reputation for meeting commitments; and
4. A currency’s future value speculations and any history of cyber-attacks suffered in the virtual community.¹³²

In addition to being affected by “credit, liquidity, and operational risk without any kind of underlying legal framework, [virtual currencies] are also subject to legal uncertainty and fraud risk....”¹³³ Liberal economics

¹²⁹ Complaint ¶¶ 6–7, SEC v. Shavers, No. 4:13-CV-416, 2013 WL 4028182 (E.D. Tex. July 23, 2013) (No. 4:13CV00415) (claiming jurisdiction under §§ 20 and 22 Securities Act [15 U.S.C. §§ 77t and 77v] and §§ 21 and 27 Exchange Act [15 U.S.C. §§ 78u and 78aa]).

¹³⁰ O’Leary, *supra* note 123 (quoting Simon Lelieveldt).

¹³¹ ECB Report, *supra* note 73, at 27.

¹³² *Id.* at 38.

¹³³ *Id.* at 17. *Cf.* Quantitative Easing 1, 2, 3 and other Federal Reserve actions that impact interest rates and lead to the devaluation of traditional U.S. currency. *See, e.g.,* Peter Schiff, *Fed Is Killing the Recovery with Quantitative Easing*, FORBES (Sept. 4, 2012, 4:36 PM), <http://www.forbes.com/sites/greatspeculations/2012/09/04/fed-is-killing-the-recovery-with-quantitative-easing/>. Schiff subscribes to the Austrian economic analytic and has been recognized as one of twelve public figures to predict accurately the housing bubble and its crash. *See* Dirk J. Bezemer, “No One Saw This Coming”: *Understanding Financial Crisis Through Accounting Models*, MUNICH PERS. REPEC ARCHIVE PAPER NO. 15892 (June 2009); Tim Swanson, *Interview with Peter Schiff*, MISES ECON. BLOG (Apr. 21, 2008), <http://archive.mises.org/8039/interview-with-peter-schiff/>; Leslie Wines, *CDOs Would Be Rocked by Open Auction: Strategist*, WALL ST. J. (June 21, 2007, 2:27 PM), <http://www.marketwatch.com/story/bear-stearns-hedge-fund-woes-stir-worry-in-cdo-market>; MURRAY N. ROTHBARD, *AMERICA’S GREAT DEPRESSION 7–12* (2011) (1962) (employing an Austrian/Misesan analytic in the 1960s to explain why a policy such as Quantitative Easing would not work). Having said that, other notable heterodox economists also indicated that a bubble formed and would burst. *See generally* Dean Baker, *The Run-Up in Home Prices: Is It Real or Is It Another Bubble?*, (Ctr. for Econ. Pol’y Research Briefing Paper, Aug 2002), http://www.cepr.net/documents/publications/housing_2002_08.pdf (representing a post-Keynsian analytic); Nick Beams, *US Housing Crisis Could Spark Serious Economic Downturn*, WORLD SOCIALIST WEB SITE (Sept. 3, 2007), <http://www.wsws.org/en/articles/2007/09/econ-s03.html> (representing a Marxian view).

Nobel laureate Paul Krugman previously indicated in scholarly writings that currency crises occur as a result of speculative attacks likely resulting from a risk combination of international reserve losses, current account deficits, fiscal and monetary expansions, and decreased price competitiveness.¹³⁴

C. Bubbles, Bitcoins, the Wild West, or Holland?

1. Is Bitcoin a Fad, a Bubble, or Something Else?

In late 2012, singer Alicia Keys introduced a song entitled *Girl is on Fire*, at the MTV Video Music Awards that subsequently hit number 5 on the charts.¹³⁵ Evidencing Bitcoins' impact on popular culture, within several months, a YouTube video parodied Ms. Keys's song to belittle Bitcoin's status as a bubble,¹³⁶ as demonstrated in the below chart.

| | |
|---|--|
| <p>Bitcoin's a fad And it's on fire. Higher than a fantasy Like a singularity. Bulls living in world full of denial. I'm feeling a catastrophe. They're thinking it can fly away. Ohhh, I keep on riding my bear. Though I'm falling a tear. Ohhh, it's gonna crash to the ground. And I'm not backing down. Bitcoin is a Bubble. Bitcoin is a Bubble, ohh. It's only a Bubble. Bitcoin is a Bubble, ohh.</p> | <p>She's just a girl And she's on fire. Hotter than a fantasy. Lonely like a highway. She's living in a world, and it's on fire. Filled with catastrophe, But she knows she can fly away. Ohhhh, she got both feet on the ground. And she's burning it down. Ohhhh, she got her head in the clouds. And she's not backing down. This girl is on fire. This girl is on fire. She's walking on fire. This girl is on fire.¹³⁷</p> |
|---|--|

¹³⁴ See Paul Krugman, *A Model of Balance of Payments Crises*, 11 J. MONEY, CREDIT & BANKING 311, 312 (1979); Paul Krugman & J. Rotemberg, *Speculative Attacks on Target Zones*, in TARGET ZONES AND CURRENCY BANDS 117 (Oxford Univ. Press, 1991).

¹³⁵ ALICIA KEYS, *Girl Is on Fire*, on GIRL ON FIRE (RCA Records 2012); see *Alicia Keys Chart History*, BILLBOARD, available at <http://www.billboard.com/artist/278600/Alicia+Keys/chart?f=381> (last visited Feb. 24, 2014).

¹³⁶ TheKoziTwo, "The Proudhon Song (Bitcoin Is a Bubble)," YOUTUBE (Apr. 7, 2013), <http://www.youtube.com/watch?v=A7TuFy0fcuw>.

¹³⁷ Compare KEYS, *supra* note 135, with TheKoziTwo, *supra* note 136.

Gradually dispensing Bitcoins into the market is alleged to create more stability as opposed to “releas[ing] all 21 million Bitcoins at once,” which would be “more volatile.”¹³⁸ In the beginning, to generate Bitcoins it was “ridiculously easy,” and a user could generate Bitcoins by using a “typical PC” that would only take “just a few hours.”¹³⁹ As more and more people start generating Bitcoins, the difficulty level to generate the Bitcoins will increase.¹⁴⁰ In addition, “[o]btaining the necessary computational power is easy, if expensive.”¹⁴¹ Additionally, “[a]n individual would need to spend around \$600,000 (plus costs for supporting infrastructure) to control a majority of the processing power on the network.”¹⁴² A legitimate question arises then: if the level is hard and the computing power to mine so expensive, why are hackers at schools such as the Massachusetts Institute of Technology (M.I.T.) not harnessing the vast computing power of that university to enrich themselves or the university?

2. *Certain Risks Associated with Bitcoins*

“Bitcoin might undergo a deflationary spiral that causes certain individuals or industries to abandon Bitcoin, possibly causing a panic or just a permanent depression in Bitcoin’s value.”¹⁴³ “The end result of such a spiral is underemployed human capital and other means of production and destruction of wealth.”¹⁴⁴ Thus, deflationary pressures may impact Bitcoins more than traditional currencies.¹⁴⁵ Those who favor a regulatory state have asserted that “[b]ecause digital currencies like Bitcoin lack regulation or public oversight, they are subject to credit, liquidity, and operational risks, as well as risk of fraud.”¹⁴⁶ Other risks exist as well.

¹³⁸ Niccolai, *supra* note 106.

¹³⁹ Nakamoto, *supra* note 99.

¹⁴⁰ *Id.*

¹⁴¹ Grinberg, *supra* note 63, at 181.

¹⁴² *Id.* at 181 n.90.

¹⁴³ *Id.* at 177–78.

¹⁴⁴ *Id.* at 178.

¹⁴⁵ *ECB Report, supra* note 73, at 25 (“If ... the number of Bitcoin users starts growing exponentially for any reason, and assuming that the velocity of money does not increase proportionally, a long-term appreciation of the currency can be expected... [meaning] a depreciation of the prices of goods and services quoted in Bitcoins. People would have a great incentive to hold Bitcoins and delay their consumption, thereby exacerbating the deflationary spiral.”).

¹⁴⁶ Plassaras, *supra* note 88, at 12.

For example, evidence of computing risk has occurred, as “Bitcoin trojan horses already exist.”¹⁴⁷ In addition, cyber-attacks have doubled from 2010 to 2012.¹⁴⁸ Mt.Gox indicated that hackers have targeted the exchange “to ‘destabilise Bitcoin’ ... [and] abuse the system for profit.”¹⁴⁹ When “Mt.[.]Gox, the most popular exchange, was hacked [t]he glut of bitcoins for sale crashed the price from \$17.50 to \$0.01 within a half hour.”¹⁵⁰ The company said, “Attackers ... wait for everybody to panic-sell their Bitcoins, wait for the price to drop to a certain amount ... and start buying as much as they can.”¹⁵¹ In late 2010, the Bitcoin system had to fix a “vulnerability in the system” found when the creation of nearly 185 billion Bitcoins resulted from a verification error and again when an inter-governmental task force wrote that terrorist groups may use digital assets such as Bitcoin.¹⁵²

Such linkage to international criminal activity may represent a material risk for Bitcoins, as well. In 2011, Silkroad, which was an illegal marketplace for crimes with victims, began permitting Bitcoins as a currency medium.¹⁵³ In 2012, more controversy arose: a major market, Tradehill, closed;¹⁵⁴ two additional markets—Bitcoinica and Bitfloor—were hacked;¹⁵⁵ an FBI report became leaked, reporting that the FBI “fears[ed] ... Bitcoin as a tool to facilitate the sales of drugs and weapons and assist terrorists;”¹⁵⁶ the closing of “Bitcoin savings and trust” creating “\$5.6 million in debt;”¹⁵⁷ and clients sued Bitcoinica for the alleged loss of deposits.¹⁵⁸ As

¹⁴⁷ Grinberg, *supra* note 63, at 180 n.88.

¹⁴⁸ Gabriel J. Michael, *Anarchy and Property Rights in the Virtual World: How Disruptive Technologies Undermine the State and Ensure that the Virtual World Remains a “Wild West”* 3 n.3 (Working Paper, 2013) available at <http://ssrn.com/abstract=2233374> (citing *2011 Second Annual Cost of Cyber Crime Study: Benchmark Study of U.S. Companies*, PONEMON INST. (Aug. 2011), http://www.ponemon.org/local/upload/file/2011_2nd_Annual_Cost_of_Cyber_Crime_Study%20.pdf; *2012 Cost of Cyber Crime Study: Benchmark Study of U.S. Companies*, PONEMON INST. (Aug. 2011), http://www.ponemon.org/local/upload/file/2012_US_Cost_of_Cyber_Crime_Study_FINAL6%20.pdf).

¹⁴⁹ Emma Rowley, *Russians Most Interested in Bitcoin, Searches Show*, TELEGRAPH (Apr. 6, 2013, 9:00 PM), <http://www.telegraph.co.uk/finance/economics/9976524/Russian-s-most-interested-in-Bitcoin-searches-show.html>.

¹⁵⁰ Grinberg, *supra* note 63, at 197.

¹⁵¹ *Id.*

¹⁵² Hopkins, *supra* note 117 (internal citation omitted).

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

a result, “users are anxious about Bitcoin’s legal status and the possibility of a government crackdown.”¹⁵⁹

Bitcoinica’s ultimate folding prompted a \$460,000 lawsuit against Bitcoinica, allegedly founded by 17-year-old Singaporean Zhou Tong, whose platform permitted for shorting Bitcoins, and whose platform allegedly suffered from a cyber-attack in which hackers purportedly stole more than 40,000 Bitcoins.¹⁶⁰ One author described this situation as “a story that will sound familiar to anyone who has been following the saga of the fledgling currency and its nascent economy, a digital Wild West where bad actors routinely take advantage of inexperienced buyers and sellers in the absence of a sheriff.”¹⁶¹

Volatility risks exist, because “no fixed exchange rate between Bitcoins and regular currencies” exists.¹⁶² In addition, other disruptive risks, besides alternate virtual currencies, exist for Bitcoins, such as competing transaction logs. In March 2013, Mt.Gox had two separate transaction logs for a time and, while the competing logs lasted for only several hours, the Mt.Gox exchange halted activity and Bitcoins’ price plummeted from \$48 to \$37.¹⁶³ Disruptions may also occur to the international FOREX markets.¹⁶⁴

Another recurring theme arises as to whether virtual currencies, such as Bitcoins, represent a form of a Ponzi scheme. These claims arise because virtual currency holders initiate their holdings by purchasing Bitcoins with traditional currencies; however, virtual currency holders may only leave the scheme and retrieve their funds in traditional currencies if other interested parties want to buy the selling party’s virtual currency holdings (i.e., if other people join the scheme).¹⁶⁵

3. Analyzing Arguable Madness of Crowds and Bitcoin Bubbles

One Bitcoin trader indicated that approximately nine of ten traders were purchasing digital assets such as Bitcoin in hopes of capitalizing on

¹⁵⁸ Adrienne Jeffries, *Bitcoin Woes: Users File Lawsuit over \$460k in Missing Funds*, THE VERGE (Aug. 10, 2012, 4:20 PM), <http://www.theverge.com/2012/8/10/3233711/second-bitcoin-lawsuit-is-filed-in-california>.

¹⁵⁹ Grinberg, *supra* note 63, at 161. *Cf.* Dickson Lueng, *Doing Business in China*, LEHMAN BROWN MGI MEDITERRANEAN CIRCLE MEETING 23 (Mar. 4, 2012), <http://www.soraya.co.il/files/wordocs/13314497215798.03.pdf>.

¹⁶⁰ Jeffries, *supra* note 158.

¹⁶¹ *See, e.g., infra* note 191 (quoting Douglas J. Whaley); O’Leary, *supra* note 123. *See also* Jeffries, *supra* note 158.

¹⁶² Bollen, *supra* note 61, at 274.

¹⁶³ *Id.* at 278 (internal citation omitted).

¹⁶⁴ *See generally*, Plassaras, *supra* note 88.

¹⁶⁵ *ECB Report, supra* note 73, at 27.

fast and material returns.¹⁶⁶ Bitcoin has experienced hugely volatile market pricing to date. For example, early on the currency reflected a near-trivial market price.¹⁶⁷ Specifically, in May 2010, a Bitcoin's market price was \$0.005 until hitting \$30 per Bitcoin in June 2011 (a 600,000 percent increase) prior to plummeting to \$2 that October.¹⁶⁸ By early 2013, Bitcoin's market price continued to demonstrate extreme volatility, causing concerns that the market is creating a "bubble."¹⁶⁹ Another author indicated:

The scale of the recent boom-and-bust has been staggering indeed. At the start of the year, a Bitcoin was worth \$13.51. Earlier this week, it traded as high as \$266. And on Thursday, it plummeted to less than \$100, as one of the exchanges where Bitcoins are traded closed temporarily.¹⁷⁰

Evidencing this extreme volatility in the Bitcoin currency market is the currency's recent price movements in 2013. For example, during the five-month period from February 2013 to June 2013, Bitcoins' market price went from the \$20 range to the \$220 range, back to the \$20 range, to the \$120 range as of early June 2013.¹⁷¹ Subsequently, the price was near \$1,200 on December 5, 2013 (nearly the extant market price of gold), prior to collapsing below \$600 during the next 48 hours before rising to approximately \$830 by the week ending December 6, 2013.¹⁷² In May 2013, the *Wall Street Journal* indicated that the market price of Bitcoins "has gone through some wild spikes in value this spring."¹⁷³ As of April 2013, Bitcoins' market price totaled approximately 1.6 billion U.S. dollars,

¹⁶⁶ O'Leary, *supra* note 123 (quoting Simon Lelieveldt).

¹⁶⁷ Henry Blodget, *Bitcoin Just Hit the Big Time—Here's What Everyone Ridiculing It Doesn't Understand*, BUS. INSIDER (May 9, 2013, 10:13 AM), <http://www.businessinsider.com/investing-in-bitcoin-2013-5>.

¹⁶⁸ Grinberg, *supra* note 63, at 164.

¹⁶⁹ Hopkins, *supra* note 117.

¹⁷⁰ Differences exist between trading prices and an intrinsic worth. See Michael Sivy, *The Real Significance of the Bitcoin Boom (and Bust)*, TIME (Apr. 12, 2013), <http://business.time.com/2013/04/12/the-real-significance-of-the-bitcoin-boom-and-bust/>.

¹⁷¹ *Mt.Gox Price Chart*, BITCOIN CHARTS, <http://bitcoincharts.com/charts/mtgoxUSD#rg730ztgSzm1g10zm2g25zv> (last visited Feb. 24, 2014).

¹⁷² See Michael Hiltzik, *The Bitcoin Crash of 2013: Don't You Feel Silly Now?*, L.A. TIMES (Dec. 8, 2013, 7:28 AM), <http://www.latimes.com/business/hiltzik/la-fi-mh-the-bitcoin-crash-20131207,0,7011276.story#axzz2tJppAfln>. Cf. Lawrence (Larry) Kotlikoff & Rob Shavell, *It's No Bubble: Why We Should All Give Bitcoin a Chance*, PBS NEWSHOUR (Dec. 4, 2013, 12:13 PM), <http://www.pbs.org/newshour/making-sense/its-no-bubble-why-we-should-al/> (stating—via well-regarded economists—earlier that same week that Bitcoin was not undergoing a bubble and that Bitcoins should replace the U.S. Dollar as that nation's currency).

¹⁷³ Reed Albergotti & Jeffery Sparshott, *U.S. Says Firm Laundered Billions*, WALL ST. J. (May 28, 2013), <http://stream.wsj.com/story/markets/SS-2-5/SS-2-241109/>.

which exceeded the FOREX price for “the entire currency stock of over 30 countries, including Niger, Belize, and Rwanda.”¹⁷⁴

In a cyber-attack on June 20, 2011, the value of a Bitcoin dropped “from USD 17.50 to USD 0.01 within minutes.”¹⁷⁵ An ECB chart demonstrated how an “immature and illiquid currency can almost completely disappear within minutes, causing panic to thousands of users.”¹⁷⁶ Bitcoin “daily transactions” have risen “from 1,000 in early 2011 to roughly 50,000 today.”¹⁷⁷ As of February 2014 approximately 12,296,825 Bitcoins were in circulation.¹⁷⁸ This volatility and increase in trading volume has led several authors to compare the Bitcoin situation to the tulip-bulb situation of the Dutch East India company.¹⁷⁹

D. Legal, Regulatory, and Other Enforcement Mechanisms?

U.S. regulators are beginning to focus on Bitcoin, saying it “is for sure something we need to explore,” according to Bart Chilton, one of five commissioners from the Commodity Futures Trading Commission.¹⁸⁰ In March 2013, the U.S. Treasury Department stated that all businesses which engage in “the exchange or transfer of [Bitcoin] will be considered ‘money services businesses.’”¹⁸¹ The founder of Bitcoinstore.com, Roger Ver, claimed to know that some entrepreneurs had relocated to Panama in order to escape the reach of the American legal and regulatory system.¹⁸² Also, “[e]ven if US regulations make it hard for Bitcoin businesses to operate in the

¹⁷⁴ Plassaras, *supra* note 88, at 13.

¹⁷⁵ *ECB Report*, *supra* note 73, at 26.

¹⁷⁶ *Id.*

¹⁷⁷ Spittler, *supra* note 98.

¹⁷⁸ *Total Bitcoins in Circulation*, BLOCKCHAIN, <http://blockchain.info/charts/total-bitcoins> (last visited Feb. 24, 2014).

¹⁷⁹ *See, e.g.*, Blodgett, *supra* note 167 (stating that Bitcoin might be the “next tulip bulb or dotcom stock bubble.”); Sivy, *supra* note 170 (comparing Bitcoins to the tulip bulb mania due to the “volatile rise-and-fall of Bitcoin[s]”); Radford, *supra* note 52 (asserting that the tulip bulb could “hold[] important lessons for economists and sociologists—and maybe bitcoin investors as well”).

¹⁸⁰ Tracy Alloway, Gregory Meyer & Stephan Foley, *US Regulators Eye Bitcoin Supervision*, FIN. TIMES (May 6, 2013), http://www.ft.com/intl/cms/s/b810157c-b651-11e2-93ba00144feabdc0,Authorised=false.html?_i_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F0%2Fb810157c-b651-11e2-93ba-00144feabdc0.html&_i_referer=http%3A%2F%2Fsearch.yahoo.com%2Fsearch%3Ffr%3Dmcafee%26p%3DUS%2Bregulators%2Beye%2BBitcoin%2Bsupervision#axzz2c9fiQc2P/.

¹⁸¹ *Id.*

¹⁸² *Id.*

US, that doesn't mean it will make it difficult for people to use Bitcoin as a currency in the US. Bitcoin is a world currency," he told the *Financial Times*.¹⁸³

A recent Reuters article stated that "Bitcoin poses a puzzle for [European] regulators"¹⁸⁴ and "[t]he situation in the United States is even more complex,"¹⁸⁵ where a recent law review article indicated that "[m]ost importantly, Bitcoin currently operates in a legal grey area."¹⁸⁶ Some critics have likened Bitcoin to a currency equivalent of PayPal for criminals,¹⁸⁷ and others—approximately 217,000 hits' worth on a Google search in August 2013¹⁸⁸—have called Bitcoin a "Wild West"¹⁸⁹ type of finance. Senator Charles Schumer of New York "declared [B]itcoin 'an online form of money laundering used to disguise the source of money.'"¹⁹⁰ Moreover, doctoral candidate and Yale master's degree holder in religion, Gabriel J. Michael recently wrote, that "most actors in the virtual world operate under conditions of anarchy [and] [w]hen we fail to recognize the anarchic nature of the virtual world, we come to fundamentally incorrect conclusions about how best to think about that world."¹⁹¹ Michael accused "legal scholars [of being] far too sanguine about the ability of states to regulate the virtual world," because of Michael's belief in "legal academia's tendency to over-emphasize legislation and formal rules, while underemphasizing other factors that influence actors' behavior...."¹⁹² Despite Michael's self-professed expertise despite apparently lacking any educational degree in law or any

¹⁸³ *Id.*

¹⁸⁴ O'Leary, *supra* note 123.

¹⁸⁵ *Id.*

¹⁸⁶ Grinberg, *supra* note 63, at 207.

¹⁸⁷ *Liberty Reserve Online Service a 'PayPal for Criminals'*, TELEGRAM.COM (May 28, 2013), <http://www.telegram.com/article/20130528/NEWS/305289616/1052&Template=printart> (quoting a senior law enforcement official as calling Liberty Reserve "PayPal for criminals" and "a shadow banking system for criminal conduct" that was "able to facilitate all sorts of criminal conduct that would not otherwise happen").

¹⁸⁸ Google Search for "Bitcoin Wild West," GOOGLE, <http://www.google.com> (search "Bitcoin Wild West"; then follow search hyperlink) (Aug. 14, 2013, 7:05 PM) (on file with author).

¹⁸⁹ See O'Leary, *supra* note 123; Jeffries, *supra* note 158; Gabriel J. Michael, *Anarchy and Property Rights in the Virtual World: How Disruptive Technologies Undermine the State and Ensure that the Virtual World Remains a "Wild West"* 30 (George Washington Univ., Working Paper, 2013), available at <http://ssrn.com/abstract=2233374>.

¹⁹⁰ Kaplanov, *supra* note 74, at 129.

¹⁹¹ Michael, *supra* note 189, at 2. Well-known Commercial Law Professor Emeritus Douglas J. Whaley, and author of law school casebooks on payment law (*see, e.g.*, DOUGLAS J. WHALEY, PROBLEMS AND MATERIALS ON PAYMENT LAW (5th ed. 2008)) indicated to me in a conversation in June 2013 that the rules of the "Wild West" would apply to these payment systems, rather than Uniform Commercial Code Article 4A.

¹⁹² Michael, *supra* note 189, at 3.

bar passage in any nation in the world, and while understanding that bubbles can occur with or without government interference, the idea of a lawless Wild West deserves exploration in this Article relative to potential regulatory solutions. This section details some potential regulatory problems in the U.S., and a synthesized proscriptive proposal occurs below in Part IV.

Having said that, Bitcoin is not really run by anyone or anything as it is not organized under a central authority;¹⁹³ the absence of a central organizing body may render Bitcoin particularly difficult to shut down.¹⁹⁴ Some scholars have asserted that Bitcoins represent intangible private property and reflect neither a contract nor debt owed among parties.¹⁹⁵ This section attempts to review potential regulatory instruments available in the U.S., relative to Bitcoins, that could attempt to prevent risk and bubbles.

Inquiries as to what statutory and regulatory schemes may apply to Bitcoins appear to demonstrate that Bitcoins and virtual currencies generally escape any material existing regimes. This section analyzes many, but certainly not all, of those potential schemes.

1. Anti-Counterfeiting Measures?

The U.S. Constitution assigns “control over currency to Congress to the exclusion of states.”¹⁹⁶ But, as one author indicated, “[t]he Constitution has nothing to say about private parties creating money.”¹⁹⁷ In the recent Liberty Dollar private currency conviction, the Justice Department asserted that creating private currency systems seemingly violates some vague and non-specific federal law.¹⁹⁸

Community currencies exist, however, including the more well-known Ithaca Dollars, which “have avoided any legal attack under [counterfeiting laws or the Stamp Payments] Act by creating notes only in values greater than \$1.”¹⁹⁹ “[I]n *United States v. Gellman*, the [district] court warned that early money-related laws providing criminal penalties should be cautiously

¹⁹³ Kaplanov, *supra* note 74, at 130.

¹⁹⁴ Grinberg, *supra* note 63, at 177.

¹⁹⁵ See, e.g., Bollen, *supra* note 61, at 279.

¹⁹⁶ Grinberg, *supra* note 63, at 182. See U.S. CONST. art. I, § 8, cl. 5.

¹⁹⁷ Grinberg, *supra* note 63, at 182; See U.S. CONST. art. I, § 8.

¹⁹⁸ Grinberg, *supra* note 63, at 182 (citing Press Release, U.S. Attorney’s Office, W. Dist. of N.C., Defendant Convicted of Minting His Own Currency (Mar. 18, 2011), available at <http://www.fbi.gov/charlotte/press-releases/2011/defendant-convicted-of-minting-his-own-currency>) (“It is a violation of federal law ... to create private coin or currency systems to compete with the official coinage and currency of the United States.”).

¹⁹⁹ *Id.* at 186. Also, as mentioned in the text accompanying note 217, *infra*, Ithaca Dollars are denominated in a temporal currency of hours, not a notional currency, such as dollars.

applied to new technologies.”²⁰⁰ But relative to counterfeiting, material questions exist as to whether “[a]s a threshold matter, the statutes under which NotHaus [Liberty Coin] was convicted, 18 U.S.C. §§ 485 and 486, are inapplicable to Bitcoin because they only deal with metal coins or coins or bars that resemble official U.S. or foreign currency.”²⁰¹

2. *Stamp Payments Act of 1862?*

One author indicated that “[i]n the nineteenth century, inflation caused the metal in ... coins to become more valuable than the face value of the coins themselves Companies used privately issued currencies in the form of notes or tokens in small denominations.”²⁰² Attempting to prevent private currencies from arguably contributing to inflationary pressures,²⁰³ Congress enacted the Stamp Payments Act of 1862,²⁰⁴ of which Section 2 prohibits currencies with face values less than \$1 to circulate, and whose policy basis is to prohibit competition with the nation’s official currency.²⁰⁵

While some people believe that virtual currencies may be subject to the Stamp Payments Act due to transactions occurring in digital assets or alt-coins for \$1 or under, legitimate questions of enforcement exist. Evidencing the enforcement problem is that the Stamp Payments Act has not been addressed by the courts in a published opinion in over one hundred years.²⁰⁶

3. *U.C.C. Article 4A and Electronic Funds Transfer Rules?*

Unlike in the Uniform Commercial Code’s (U.C.C.’s) universe, no transparent issuer exists for a Bitcoin-based payment system.²⁰⁷ In addition, most payment systems rely on common law, contractual underpinnings, legislation,

²⁰⁰ Grinberg, *supra* note 63, at 187 (citing *United States v. Gellman*, 44 F. Supp. 360, 365–66 (D. Minn. 1942)).

²⁰¹ *Id.* at 192.

²⁰² *Id.* at 183.

²⁰³ *Id.*

²⁰⁴ Act of July 17, 1862, ch. 196, 12 Stat. 592 (codified as amended at 18 U.S.C. § 336).

²⁰⁵ The current version of § 336 reads:

Whoever makes, issues, circulates, or pays out any note, check, memorandum, token, or other obligation for a less sum than \$1, intended to circulate as money or to be received or used in lieu of lawful money of the United States, shall be fined under this title or imprisoned not more than six months, or both.

18 U.S.C.A. § 336 (West 2014).

²⁰⁶ Grinburg, *supra* note 63, at 190.

²⁰⁷ Bollen, *supra* note 61, at 279. *Cf.* U.C.C. § 4A-102 (2012) (noting the liability of banks issuing payments).

and other codes to dictate the parties' respective rights and obligations.²⁰⁸ Nonetheless, some researchers have argued that Bitcoin represents a payment system, albeit one without express contracts or centralized rules.²⁰⁹

Article 4A of the U.C.C. defines a payment order as “an instruction of a sender to a receiving bank, transmitted orally, electronically, or in writing, to pay, or to cause another bank to pay, a fixed or determinable amount of money....”²¹⁰ The U.C.C., however, limits the scope of its payment system through intermediary banks.²¹¹ As a result, it appears unlikely that U.C.C. Article 4A applies to Bitcoins. When I spoke with noted U.C.C. author Douglas J. Whaley—Professor Emeritus at The Ohio State University Moritz College of Law—regarding how Bitcoins might fit into a U.C.C. world, his response was that they do not and that the rules of the so-called “Wild West” apply.²¹²

Supporting the ideas that the rules of the “Wild West” apply to Bitcoins, Kaplanov discussed a number of other current laws, rules, and regulations that seemingly fail to encapsulate sufficient authority to permit U.S. government regulation of alt-coins, crypto-currencies, or digital assets.²¹³ These failures appear to include money transmitter licensing laws,²¹⁴ electronic funds transfer (EFT) laws and regulations,²¹⁵ common law contract law's relation to legal tender,²¹⁶ local currencies,²¹⁷ sellers

²⁰⁸ Bollen, *supra* note 61, at 279–80.

²⁰⁹ *Id.*

²¹⁰ See U.C.C. § 4A-104(a) (2012) (defining “funds transfer”); see also U.C.C. § 4A-103(a)(1) (2012).

²¹¹ See U.C.C. § 4A-104(b) (2012) (defining “intermediary bank”).

²¹² See *supra* note 191.

²¹³ Kaplanov, *supra* note 74.

²¹⁴ *E.g.*, 31 U.S.C.A. § 5330(d)(1)–(2) (West 2014) (stating in essence that money transmitting services are businesses that accept currencies denominated in a specific country's currency and then transmit the currency through a financial institution or electronic funds transfer network); 31 C.F.R. § 1010.100(ff) (2012) (evidencing that the accompanying regulations promulgated under the statute involve a similar definition).

²¹⁵ *E.g.*, 15 U.S.C.A. §§ 1601–1693 (West 2014) [hereinafter Electronic Fund Transfer Act of 1978 or EFTA]; 12 C.F.R. §§ 205.1-502.20 (2001) (promulgating rules under the statute) [hereinafter Regulation E] (combining to still exempt Bitcoin regulation because Bitcoins and their exchanges do not fit under the definition of “financial institution”). *Cf.* WHALEY, *supra* note 191, at 325 (stating “[a]s electronic fund transfers (EFTs) replace checks, the consumer drawer at least faces loss of control over the account and the evidentiary nightmare of providing that computers are in error.”).

²¹⁶ 31 U.S.C.A. § 5103; The Legal Tender Cases, 79 U.S. 457 (1870).

²¹⁷ Perhaps the most well-known example of a local currency is Ithaca Hours, also known as Ithaca Dollars, begun in the early 1990s in hopes of assisting the struggling upstate New York economy during the existing recession. See, *e.g.*, FAQ, ITHACA HOURS, <http://www.ithacahours.org/> (last visited Feb. 24, 2014). See also Lewis D.

attempting to use self-created coins similar in appearance to U.S. legal tender, such as the Liberty Dollar,²¹⁸ securities regulation,²¹⁹ and commodities regulation.²²⁰ Kaplanov acknowledged, however, that some rules governing foreign currency trading may ensnare Bitcoins.²²¹

In addition, Bitcoins avoid many of the problems taught in commercial paper and payment systems courses, because Bitcoins can generally “ensure that the coin hasn’t been stolen, and that it hasn’t already been spent or transferred to someone else.”²²² In the event of a dispute with proper ownership in Bitcoins, the best and longest record prevails because of the peer-to-peer networked approach; further, Bitcoin’s payment and transaction

Solomon, *Reflections on the Future of Business Organizations*, 20 CARDOZO L. REV. 1213, 1213–15, 1230 (1999). Solomon describes future trending privatization models for traditionally perceived government-controlled practices such as quasi-currencies, including vouchers, and asserting that “local currency helps promote a decentralized political economy by discouraging the flow of capital to large, more environmentally destructive business organizations,” *id.* at 215, and explains that:

[l]ocal currency involves the use of a medium of exchange other than national currency to obtain goods and services. For example, simple barter between individuals is a form of local currency. Other forms of local currency seek to overcome the lack of flexibility inherent in a traditional barter system which requires a direct swap of goods or service between people.

One such system is the Ithaca HOURS system, which utilizes a paper currency in which one HOUR has a value of ten dollars—the average hourly wage in Ithaca, New York. Local businesses and individuals wishing to participate in the Ithaca HOURS system need only agree to accept the HOURS in full or partial exchange for goods and services. Thus, by use of the Ithaca HOURS, participants in the program agree to patronize local businesses which, in turn, reinforces trading among people who live within the community. This program benefits individuals, businesses, and the community.

Id. at 1230 (internal citations omitted).

²¹⁸ 18 U.S.C.A. § 485 (West 2014) (leading to prosecution and conviction of Liberty Dollar Services, Inc.’s currency creator, Bernard von NotHaus).

²¹⁹ Discussed in detail *infra* Part III. For now, *see* Securities Act of 1933 (Securities Act), 15 U.S.C.A. § 77(q) (West 2014); Securities Exchange of 1934 (Exchange Act), 15 U.S.C.A. § 78(j) (West 2014); SEC v. W. J. Howey Co., 328 U.S. 293 (1946).

²²⁰ Discussed in detail *infra* Part II.D.4.

²²¹ Kaplanov, *supra* note 74, at 131–50.

²²² Bollen, *supra* note 61, at 277. *Cf.* “Holder in Due Course” issues under U.C.C. § 3-302 (2004). Bitcoin also avoids note and draft encumbrances such as determining the validity of a financial instrument when an allonge of prior holders is affixed to the original promissory note via a staple versus a paper clip. *See, e.g.,* Douglas J. Whaley, *Mortgage Foreclosure, Promissory Notes, and the Uniform Commercial Code*, 39 W. ST. U. L. REV. 313, 319 (2013).

recording system is primarily maintained using cloud-based technology.²²³ While some people may initially scoff at a decentralized recordkeeping approach, such payment systems in many ways reflect smart cards.²²⁴

4. *Commodities Statutes and Regulations Promulgated by the CFTC?*

The Commodity Futures Trading Commission (CFTC) regulates *derivatives* contracts. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank),²²⁵ which was passed in 2010 to “promote the financial stability of the United States by improving accountability and transparency in the financial system”²²⁶ in response to the subprime mortgage crisis and financial crisis of 2007–2010,²²⁷ the CFTC has authority to oversee retail foreign exchange dealers. The CFTC’s jurisdiction does not extend to cash markets unless there are derivative contracts based on cash.²²⁸ Thus, Bitcoins generally should not be subject to CFTC jurisdiction, but leveraged Bitcoin transactions settled in more than two days—generally known as “rolling spot” transactions—appear to be under the CFTC’s jurisdiction.²²⁹ Bart Chilton, a CFTC regulator, stated, “[i]n essence, we’re talking about a type of shadow currency, and there is more than a colorable argument to be made that derivative products relating to Bitcoin falls squarely within our jurisdiction.”²³⁰ Assuming that one can take seriously a federal agency whose director pushed to pass the so-called “Eddie Murphy Rule,”²³¹ a quick glance at the commodities rules shows regulatory coverage of Bitcoin to be questionable. One author indicated that “[B]itcoin could also be classified as a commodity and its exchange a commodity futures contract. Commodities are goods sold in the

²²³ Bollen, *supra* note 61, at 277.

²²⁴ See *What is a Smart Card?*, HOWSTUFFWORKS, <http://www.howstuffworks.com/question332.htm> (last visited Feb. 24, 2014) (describing how a smart card contains a microprocessor that uses a “limited instruction set for application such as cryptography” to store data; smart cards are said to avoid the need for “extensive online mainframe-based networks for verification and processing” because all the card’s data is secured by the microprocessor).

²²⁵ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified as amended in scattered sections of 12 U.S.C.).

²²⁶ *Id.*

²²⁷ Steven J. Markovich, *The Dodd-Frank Act*, COUNCIL ON FOREIGN RELATIONS (Dec. 10, 2013), <http://www.cfr.org/united-states/dodd-frank-act/p28735#p1>.

²²⁸ See Alloway, *supra* note 180, at 2.

²²⁹ *Id.*

²³⁰ *Id.*

²³¹ See Statement of Hon. Gary Gensler, *supra* note 58.

market of uniform quality and value throughout the world.”²³² However, the CFTC retains exclusive jurisdiction over “accounts, agreements ..., and transactions involving contracts of sale of a commodity for future delivery ... subject to regulation by the Commission.”²³³

But as discussed above²³⁴, challenges exist in stating with any reasonable certainty what constitutes a commodity. For example, the Court defined futures contracts as “agreements to buy or sell a specified quantity of a commodity at a particular price for delivery at a set future date.”²³⁵ Thus, a futures contract, which memorializes in the present a transaction to take place in the future, is distinguishable from a forward contract, which has been defined as “a contract for a present transaction with future delivery.”²³⁶ In addition, “the delivery of [B]itcoins between users is nearly instantaneous and well outside of the requirements for future delivery.”²³⁷ So while the CFTC may regulate a certain degree of commodities futures contracts, and foreign currency contracts executed on a leveraged basis,²³⁸ little evidence supports the theory that Bitcoin transactions, even on a leveraged basis, would come under the purview of the CFTC.

5. Securities Laws?

Securities laws are described in greater detail in Part III dealing with crowdfunding and Kickstarter, but the Supreme Court has stated:

[T]he fundamental purpose undergirding the Securities Acts is ‘to eliminate serious abuses in a largely unregulated securities market.’ ... Congress therefore did not attempt to precisely cabin the scope of the Securities Acts. Rather, it enacted a definition of ‘security’ sufficiently broad to encompass virtually any instrument that might be sold as an investment.²³⁹

Therefore, it is critical that a determination is made as to whether Bitcoins qualify as securities to be regulated under the Securities Acts. Some commentators have “concluded that digital currencies are unlikely to be regulated as

²³² Kaplanov, *supra* note 74, at 125.

²³³ *Id.* at 27 (quoting 7 U.S.C. § 2(a)(1)(A) (2006)) (internal quotation marks omitted).

²³⁴ See *supra* note 58 and accompanying text.

²³⁵ *Dunn v. Commodity Futures Trading Comm’n*, 519 U.S. 465, 470 (1997).

²³⁶ *Commodity Futures Trading Comm’n v. Erskine*, 512 F.3d 309, 322 (6th Cir. 2008).

²³⁷ Kaplanov, *supra* note 74, at 147–48 (citing 7 U.S.C. § 2(c)(2)(C)(i)(II) (2010)) (stating in essence that delivery must be outside a three-day window to come under CFTC regulatory authority).

²³⁸ Presumably under 7 U.S.C.A. § 2(c)(2)(C)(i)(I) (West 2014).

²³⁹ *Reves v. Ernst & Young*, 494 U.S. 56, 60–61 (1990) (footnote omitted) (citation omitted).

securities,²⁴⁰ and that should Bitcoins represent a security, it will be because Bitcoins fall “within the vague and broad phrase ‘investment contract.’”²⁴¹ This argument’s basis is that the Court in the famed *Howey* decision interpreted an investment contract as a security if four prongs were satisfied in which a person “[1] invests his money in [2] a common enterprise and [3] is led to expect profits [4] solely from the efforts of the promoter or a third party ...”²⁴² Thus, “[t]hose arguing that a [B]itcoin is not a security may also argue that [B]itcoins ... are commodities.”²⁴³

But “securities ... have a feature that commodities do not have: they confer a claim on some other entity,”²⁴⁴ because “[a]ll securities represent claims against an *issuer*....”²⁴⁵ Yet,

decisions explaining why commodities are not securities have also noted that commodities are “tangible” and have “inherent value,” unlike securities. Bitcoins are not “tangible,” and one may argue that by design they have no inherent value because there is no government or commodity backing them. Furthermore, just as one generally cannot “use” a security—except by buying, selling, or pledging it—one cannot “use” a [B]itcoin—except by buying, selling, or pledging.²⁴⁶

As an author indicated, “although [B]itcoins share many features with commodities, they also share features with securities and are unlikely to evade categorization as an ‘investment contract’ on this ground.”²⁴⁷

The OCC’s exemptions from the definition of “security” appear to save Bitcoin from regulation, because Bitcoin is not a “note, draft, bill of exchange, or bankers acceptance....”²⁴⁸ Also, some authors have argued that despite excluding currencies from the definition of securities, some currencies may also be securities, because currencies may be, not a “medium of

²⁴⁰ *Id.* at 195 (referencing Kerry Lynn Macintosh, *How to Encourage Global Electronic Commerce: The Case for Private Currencies On the Internet*, 11 HARV. J.L. & TECH. 733, 746 n.49 (1998)).

²⁴¹ *Id.* at 196.

²⁴² *Id.* (citing SEC v. W. J. Howey Co., 328 U.S. 293, 298–99 (1946)).

²⁴³ *Id.* at 199.

²⁴⁴ *Id.*

²⁴⁵ RICHARD SCOTT CARNELL, JONATHAN R. MACEY, & GEOFFREY P. MILLER, *THE LAW OF BANKING AND FINANCIAL INSTITUTIONS* 130 (Aspen Publisher, Inc., 4th ed. 2008). *Cf.* U.C.C. § 3-105(c) (defining “issuer” as relates to “instruments”).

²⁴⁶ Grinberg, *supra* note 63, at 200.

²⁴⁷ *Id.*

²⁴⁸ *See* 12 C.F.R. § 344.3(m)(5) (2014).

exchange” but instead “current money.”²⁴⁹ Investors can engage in leveraged trading of or shorting Bitcoin.²⁵⁰

According to Tieglund, Yetis, and Larsson, the Bitcoin Foundation is an approved 501(c)(3) entity by the Internal Revenue Service, with Nakamoto listed as a founding member, along with a five-person corporate board.²⁵¹ Corporate governance concerns are beyond this article’s scope, but the foundation’s five board seats are voted by different voting classes, based on annual membership classes based on costs, which are, of course, denominated in Bitcoins.²⁵² Corporate members of the Bitcoin Foundation include Mt.Gox, bitcoinstore (U.S.), bitinstant (New York), CoinLab (Seattle), BITHOC (Florida), Cryptex (Kansas), the Newport Beach Company (U.S.),²⁵³ zipbit (New Zealand), and eCardOne (Czech Republic).²⁵⁴

6. *The Bank Holding Company Act of 1956?*

The Bank Holding Company Act of 1956²⁵⁵ does not cover Bitcoins or its exchanges as a banking institution. The Federal Reserve Board similarly appears to lack authority.²⁵⁶ Many state banking laws also are similarly lacking, employing a hodgepodge of definitions regarding what constitutes a bank.²⁵⁷ As *The Economist* indicated, “[u]nlike traditional currencies, which are issued by central banks, Bitcoin has no central monetary authority.”²⁵⁸

In terms of banking regulation, the U.S. regulatory scheme for banks is more fragmented than other G20 nations,²⁵⁹ thereby leaving a hodgepodge of inconsistent and messy regulations at both state and federal levels. For

²⁴⁹ Grinberg, *supra* note 63, at 203 (quoting BLACK’S LAW DICTIONARY (9th ed. 2009) and *State v. Quackenbush*, 98 Minn. 515, 520–21 (1906), respectively).

²⁵⁰ Teigland, Yetis, & Larsson, *supra* note 62, at 8 (quoting Ron Finberg, *A Closer Look at Coinsetter and its Bitcoin ECN Trading Platform*, FOREX MAGNATES (Apr. 26, 2013), <http://forexmagnates.com/a-closer-look-at-coinsetter-and-its-bitcoin-ecn-trading-platform/>).

²⁵¹ *Id.* at 10–11.

²⁵² *Id.* at 10.

²⁵³ *Id.* at 11–12. *But cf.* Craig Trudell, *Bitcoin Meets Tesla with Lamborghini Dealership’s Model S Sale*, BLOOMBERG (Dec. 7, 2013, 12:00 AM), <http://www.bloomberg.com/news/2013-12-06/bitcoin-meets-tesla-in-california-dealership-model-s-transaction.html> (discussing sale of Tesla Model S using Bitcoins).

²⁵⁴ Teigland, Yetis, & Larsson, *supra* note 62, at 11–12.

²⁵⁵ See 12 U.S.C.A. § 1841(a)(1)–(6) (West 2014).

²⁵⁶ See 12 C.F.R. § 225.2 (2006) (Regulation Y); *Bd. of Governors of Fed. Reserve Sys. v. Dimension Fin. Corp.*, 474 U.S. 361, 363 (1986).

²⁵⁷ Compare OHIO REV. CODE ANN. § 1304.01 (West 2013) (adopting the U.C.C. definition in § 4-105) with N.M. STAT. ANN. § 58-2-3 (West 2012) (applying federal definition in 12 U.S.C. § 1813(h) (2011)) and WYO. STAT. ANN. § 13-9-307 (West 2013) (applying the federal Bank Holding Company Act, 12 U.S.C. § 1841(c)).

²⁵⁸ Standage, *supra* note 104.

²⁵⁹ Bollen, *supra* note 61, at 285–87.

example, Singapore's rapidly developing economy is subject to a single regulatory agency, which includes oversight of both banking and insurance.²⁶⁰ In the U.S., in addition to the myriad regulators, definitions of banking also differ.

7. *U.S. Coinage Act of 1965?*

The U.S. Coinage Act of 1965 states that U.S. "coins and currency (including Federal Reserve notes ...) are legal tender for all debts, public charges, taxes, and dues. Foreign gold or silver are not legal tender for debts."²⁶¹ This suggests that the U.S. Coinage Act of 1965 also is inapplicable to alt-coins, crypto-currencies, and other digital assets such as Bitcoins.

8. *Foreign Exchange (FOREX) Instruments?*

Simply put, "foreign currencies are generally not considered to be a security."²⁶² As one author asserted, "[b]ecause Bitcoin is not formally backed by a country's government, it is not bound by the IMF's guidelines. As a result, Bitcoin poses a serious threat to the economic stability of the foreign currency exchange if it continues to grow in both value and usage."²⁶³ Seemingly confirming that FOREX is not applicable, a person must exchange the currency of one or more countries to be considered a dealer in foreign exchange.²⁶⁴ Because Bitcoins are not a foreign currency representing legal tender of any nation, the U.S. foreign exchange laws and regulations do not appear to apply to Bitcoins and virtual currencies.

9. *Anti-Money Laundering (AML) Laws?*

Several laws aimed at targeting alleged terrorist financing activities may apply to Bitcoins or the exchanges, including the Money Laundering Control Act of 1986 (MLCA).²⁶⁵ The MLCA subjects persons to criminal sanctions for conducting or attempting to conduct, with knowledge of the unlawful origin of the property in the financial transaction, financial transactions

²⁶⁰ *Id.* at 289.

²⁶¹ 31 U.S.C.A. § 5103 (West 2014).

²⁶² Kaplanov, *supra* note 74, at 161 (citing Lewis D. Lowenfels & Alan R. Bromberg, *What Is A Security Under the Federal Securities Laws?*, 56 ALB. L. REV. 473, 483 (1993)).

²⁶³ Plassaras, *supra* note 88.

²⁶⁴ 31 C.F.R. § 1010.100(ff)(1) (2012).

²⁶⁵ 18 U.S.C.A. § 1956 (West 2014).

“which in fact involve[] the proceeds of specified unlawful activity.”²⁶⁶ Additionally, the Bank Secrecy Act (BSA) and the related regulations promulgated by FinCEN collectively subject money transmitting or servicing businesses to potential criminal or civil penalties for their failure to register with FinCEN.²⁶⁷ Failing to register may subject international persons to liability so long as affected persons are located in the United States.²⁶⁸ In March 2013, using authority granted under the BSA,²⁶⁹ FinCEN issued interpretive guidance on “virtual currencies,” which seem to cover Bitcoin.²⁷⁰ FinCEN’s guidance expressly acknowledged the flaw articulated in this Section; that is, FinCEN’s comments “should not be interpreted as a statement by FinCEN about the extent to which those activities comport with other federal or state statutes, rules, regulations, or orders.”²⁷¹ While providing some clarification specific only to FinCEN’s position on virtual currencies, the lack of a consistent or coherent broad scheme of regulatory definitions, norms, and understandings led to FinCEN’s interpretive guidance adding to the confusion surrounding the subject.

²⁶⁶ *Id.* The MLCA contributed to the decimation of E-Gold. *See* Press Release, U.S. Dep’t of Justice, Digital Currency Business E-Gold Pleads Guilty to Money Laundering and Illegal Money Transmitting Charges (July 21, 2008), *available at* <http://www.justice.gov/opa/pr/2008/July/08-crm-635.html>.

²⁶⁷ 31 U.S.C.A. § 5330(a)(1) (West 2014) (“Any person who owns or controls a money transmitting business shall register the business (whether or not the business is licensed as a money transmitting business in any State)” with FinCEN). *See also* Amendment to the Bank Secrecy Act Regulations—Definitions Relating to, and Registration of, Money Services Businesses, 64 Fed. Reg. 45,438, 45,438 n.1 (Aug. 20, 1999) (to be codified at 31 C.F.R. pt. 103); 31 C.F.R. § 1022.380 (2006).

²⁶⁸ *See, e.g.*, Bank Secrecy Act Regulations; Definitions and Other Regulations Related to Money Services Businesses, 76 Fed. Reg. 43,585, 43,588 (July 21, 2011) (to be codified at 31 C.F.R. pts. 1010, 1021, 1022) (indicating that a person qualifies as a money services business (MSB) because of its activity in the U.S. and asserting that “[t]his proposal arose out of the recognition that the Internet and other technological advances make it increasingly possible for persons to offer MSB services ... from foreign locations.”); Press Release, Financial Crimes Enforcement Network, FinCEN Clarifies Money Services Business Definitions: Rule Includes Foreign-Located MSBs Doing Business in U.S. (July 18, 2011), http://www.fincen.gov/news_room/nr/pdf/20110715.pdf.

²⁶⁹ Treas. Order 180-01, *supra* note 14.

²⁷⁰ FinCEN Guidance FIN-2013-G001, *supra* note 15. The Guidance attempted to “clarify the applicability of the regulations implementing the Bank Secrecy Act (‘BSA’) to persons creating, obtaining, distributing, exchanging, accepting, or transmitting virtual currencies. Such persons are referred to ... as ‘users,’ ‘administrators,’ and ‘exchangers’ A user of a virtual currency is *not* an MSB under FinCEN’s regulations and therefore is not subject to MSB registration, reporting, and recordkeeping regulations.” Having said that, “an administrator or exchanger *is* an MSB under FinCEN’s regulations,” and “[a]n administrator or exchanger is not a ... dealer in foreign exchange, under FinCEN’s regulations.” *Id.*

²⁷¹ *Id.* at 1 n.1.

For example, FinCEN provides four definitions for currency (referred to by FinCEN as “real currency”),²⁷² virtual currencies,²⁷³ “centralized convertible virtual currencies,”²⁷⁴ and “[d]e-centralized convertible virtual currencies,”²⁷⁵ that seem to encompass Bitcoins. Specifically, FinCEN stated:

In contrast to real currency, “virtual” currency is a medium of exchange that operates like a currency in some environments, but does not have all the attributes of real currency. In particular, virtual currency does not have legal tender status in any jurisdiction. This guidance addresses “convertible” virtual currency. This type of virtual currency either has an equivalent value in real currency, or acts as a substitute for real currency.²⁷⁶

Furthermore, FinCEN stated that the rules that apply to brokers and dealers of e-currency and e-precious metals are the same as those that apply to brokers and dealers of real currencies “since the definition of a money transmitter does not differentiate between real currencies and convertible virtual currencies....”²⁷⁷

Essentially, what this dictate means is that persons who either broker or conduct an exchange in Bitcoins are subject to FinCEN regulation as an MSB, but typical purchasers and sellers would not be subject to FinCEN regulation.²⁷⁸

10. Other Federal Regulators?

In early 2014, just weeks after Federal Reserve Chairwoman Janet Yellen indicated in response to a U.S. senator’s letter to U.S. financial regulators²⁷⁹ that Bitcoins could not be regulated by the Fed “in any way,”²⁸⁰

²⁷² *Id.* (defining currency or “real” currency as “the coin and paper money of the United States or of any other country that [i] is designated as legal tender and that [ii] circulates and [iii] is customarily used and accepted as a medium of exchange in the country of issuance”).

²⁷³ *Id.*

²⁷⁴ *Id.* at 4.

²⁷⁵ *Id.* at 5.

²⁷⁶ *Id.* at 1.

²⁷⁷ *Id.* at 4.

²⁷⁸ Bollen, *supra* note 61, at 285–86.

²⁷⁹ Letter from Joe Manchin III, U.S. Senator, to Jacob Lew, Secretary, U.S. Dept. of Treasury, et al. (Feb. 26, 2014), <http://online.wsj.com/public/resources/documents/ManchinBitcoinLetter.pdf>.

²⁸⁰ Steven Russolillo, *Yellen on Bitcoin: Fed Doesn’t Have Authority to Regulate It in Any Way*, WALL ST. J. (Feb. 27, 2014, 12:43 PM), <http://blogs.wsj.com/moneybeat/2014/02/27/yellen-on-bitcoin-fed-doesnt-have-authority-to-regulate-it-in-any-way/>. Chairwoman Yellen stated, “To the best of my knowledge there’s no intersection at all, in any way,

New York State sought to regulate crypto-currencies via a “BitLicense” to regulate virtual currency exchanges.²⁸¹ The statements by Senator Manchin and by the New York Department of Financial Services appear to be political posturing when the explicitly apolitical Federal Reserve²⁸² has taken a different position.

E. Synthesis

Rhys Bollen asserted that “[m]ost regulatory regimes are not well designed to cater” to a decentralized peer-to-peer payment system and suggested a regulatory regime that is broad, outcomes-focused, and technology neutral.²⁸³ The problem, however, is that financial engineers will always be ahead of regulation, and regulation will then attempt to over-regulate to make up for the initial lack of regulation and to cast a broad net to catch as much potentially future conduct as possible.²⁸⁴ Such a policy is not wise when dealing with economic activities in which efficiency should be maximized and frictional costs minimized, so long as harmed parties may seek redress.

One potential action would simply be a requirement for exchanges to pay premiums to a third-party insurer of the exchange’s choice (i.e., a privatized and competitive model of the Federal Deposit Insurance Corporation (FDIC) for banks or the Pension Benefit Guaranty Corporation (PBGC) for defined benefit pension plans). Persons wishing to participate in any voluntary transaction can choose the exchange they wish based on a number of factors including best execution, reputation, trading volume, as well as the insurer of the exchange. Requiring mandatory insurance for voluntary financial transactions is far more similar to states requiring automobile drivers to purchase insurance than it is to mandating the purchase

between Bitcoin and banks that the Federal Reserve has the ability to supervise and regulate. So the Fed doesn’t have authority to supervise or regulate Bitcoin in anyway.”

²⁸¹ Press Release, N.Y. State Dep’t. of Fin. Servs., NYDFS Issues Public Order on Virtual Currency Exchanges (Mar. 11, 2014), *available at* http://www.dfs.ny.gov/about/po_vc_03112014.htm; Paul Vigna, *Lawsky’s Office Starts Taking Applications for the ‘BitLicense’*, WALL ST. J. (Mar. 11, 2014, 2:16PM), <http://blogs.wsj.com/moneybeat/2014/03/11/lawskys-office-starts-taking-applications-for-the-bitlicense/>.

²⁸² *See, e.g., Current FAQs*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., http://www.federalreserve.gov/faqs/about_12799.htm (last visited Feb. 24, 2014); Thomas Gaudet, *The Politics of the Federal Reserve*, HARV. POL. REV. (May 24, 2011, 12:40 AM), <http://harvardpolitics.com/united-states/the-politics-of-the-federal-reserve/>.

²⁸³ *Id.* at 292.

²⁸⁴ *See, e.g., IRS Notice 2014-21*, <http://www.irs.gov/pub/irs-drop/n-14-21.pdf> (taxing convertible virtual currencies as property, rather than as currencies).

of insurance for individual health care. Moreover, insurance of this type continues to support a broad array of experimentation and incubation among insurers, exchanges, and parties, in terms of transactions, rather than dictating that all definitions and policies be dictated by a single regulatory body, such as in Singapore.²⁸⁵

The most active Bitcoin Forum member identified by Tieglund, Yetis and Larsson was Phinnaeus Gage, who “founded and ... maintains Bitcoin100, a kickstarter for non-profits that implement a Bitcoin donation option onto their websites.”²⁸⁶ Additionally, no story would be complete without the famed Winklevoss twins, portrayed in the film *The Social Network* as the co-founders of Facebook duped by Mark Zuckerberg.²⁸⁷ Sure enough, in early 2013, the Winklevoss twins announced the launch of a hedge fund in Bitcoins.²⁸⁸ Thanks to finally enacted and much delayed rules by the SEC, violating the timing of its enabling statute,²⁸⁹ hedge funds like the Winklevoss’s can now advertise any way they would like for financing their venture to any potential investor, including on crowdfunding portals such as Kickstarter.

III. CROWDFUNDING, KICKSTARTER, AND COMMISSION CONSTRAINTS

Crowdfunding provides financial capital to individuals and small business ventures by crowdsourcing individual investors via the world wide web, without traditional financial intermediaries or underwriters.²⁹⁰ Crowdfunding has been defined as “the practice of funding a project or venture by raising many small amounts of money from a large number of people,

²⁸⁵ *Id.* at 289.

²⁸⁶ Tieglund, Yetis, & Larsson, *supra* note 62, at 12.

²⁸⁷ THE SOCIAL NETWORK (Sony Pictures 2010); *see also Plot Summary for The Social Network*, IMDB, <http://www.imdb.com/title/tt1285016/plotsummary> (last visited Feb. 24, 2014).

²⁸⁸ Nathaniel Popper & Peter Lattman, *Winklevoss Twins Plan First Fund for Bitcoins*, N.Y. TIMES (July 2, 2013, 8:53 PM), http://dealbook.nytimes.com/2013/07/01/first-name-in-the-first-fund-for-bitcoins-winklevoss/?_r=0; Nathaniel Popper & Peter Lattman, *Never Mind Facebook; Winklevoss Twins Rule in Digital Money*, N.Y. TIMES (Apr. 11, 2013, 3:11 PM), <http://dealbook.nytimes.com/2013/04/11/as-big-investors-emerge-bitcoin-gets-ready-for-its-close-up/>.

²⁸⁹ *See* Goad, *supra* note 11.

²⁹⁰ Ethan Mollick, *The Dynamics of Crowdfunding: An Exploratory Study*, 29 J. BUS. VENTURING 1, 2–3 (2014). *See also* Heather L. Traeger, Theodore W. Kassinger, & Zachary D. Kaufman, *Democratizing Entrepreneurship: An Overview of the Past, Present, and Future of Crowdfunding*, BLOOMBERG L. (Dec. 4, 2012), <http://about.bloomberglaw.com/practitioner-contributions/democratizing-entrepreneurship-an-overview-of-the-past-present-and-future-of-crowdfunding/>.

typically via the Internet.”²⁹¹ Another definition stated that crowdfunding “emerged as [a] novel way for entrepreneurial ventures to secure funds without having to seek out venture capital”²⁹² Having said that, crowdfunding remains a relatively unknown subject to academia, despite the enormity of the practice.²⁹³ Nonetheless, entrepreneurs may engage in four types of crowd-funding:

1. donation-based, which permits investors, or “donors,” to invest in a project without receiving (or expecting) a return from the project creator;
2. reward-based, which sanctions investors, or “contributors,” to contribute capital to project creators in return for a nominal reward worth less than the investment given;
3. equity-based, which permits certain investors to provide capital in return for a stake in the company or dividend; and
4. debt-based (sometimes referred to as “peer-to-peer (‘P2P’) lending” or, at times, “microlending”), which allows many lenders to loan small monetary amounts to borrowers.²⁹⁴

Congress broadly defined crowdfunding in the Jumpstart Our Business Startups (JOBS) Act of 2012²⁹⁵ as “Capital Raising Online,”²⁹⁶ a bill that President Obama called “a potential game changer” for small businesses and start-ups.²⁹⁷ Crowdfunding has the potential to help entrepreneurs assuage the challenges of obtaining—and the associated friction costs of raising—startup capital. While crowdfunding may represent an approach better suited for today’s technological environment, due to securities laws and regulations, crowdfunding is only partially disruptive to traditional

²⁹¹ Tanya Prive, *What Is Crowdfunding and How Does It Benefit the Economy*, FORBES (Nov. 27, 2012, 10:50 AM), <http://www.forbes.com/sites/tanyaprive/2012/11/27/what-is-crowdfunding-and-how-does-it-benefit-the-economy/> (citation omitted) (internal quotation marks omitted).

²⁹² Mollick, *supra* note 290, at 2.

²⁹³ *See id.* at 1 (“Despite over a billion dollars spent by millions of individual crowdfunding backers, ... even basic academic knowledge of the dynamics of crowdfunding is lacking....”). A fifth method of crowdfunding has recently emerged, which is royalty-based crowdfunding and is the subject of a separate article. *See, e.g.*, MASSOLUTION, 2013CF: THE CROWDFUNDING INDUSTRY REPORT 19 (2013), available at <http://research.crowdsourcing.org/2013cf-crowdfunding-industry-report>.

²⁹⁴ *Id.* at 3. *See also* D. Scott Freed, *Crowdfunding as a Platform for Raising Small Business Capital*, 45 MD. BAR J. 12, 13 (July–Aug. 2012).

²⁹⁵ *See* Jumpstart Our Business Startups (JOBS) Act of 2012, Pub. L. No. 112-106, 126 Stat. 306 (2012) (codified as amended in scattered sections of 15 U.S.C.).

²⁹⁶ *Id.* § 301, 126 Stat. at 315. *See also supra* note 175 and accompanying text.

²⁹⁷ Mollick, *supra* note 290, at 2.

debt and equity capital campaigns, and funding from the crowd comes in a variety of flavors.

A. Reward and Donation-Based Crowdfunding

1. Reward-Based Crowdfunding

Reward-based crowdfunding generally entails raising capital to fund some sort of creative project from which contributors receive some form of reward, tangible or otherwise, in exchange for contributions that reach a certain monetary benchmark.²⁹⁸ Because investors only receive non-monetary perks—such as the goods funded by the capital, a credit in a crowd-funded film or television production, or an opportunity to meet with an actor from that production—reward-based crowdfunding is more of “goodie-bag” crowdfunding.²⁹⁹ With no expectation of a financial return, reward-based capital providers essentially pay for whatever the goodie bag entails.³⁰⁰ Doing so avoids the scope of current securities laws and SEC rules and regulations, which do not govern reward-based crowdfunding because a goodie bag does not constitute a “security.”³⁰¹ Reward-based crowdfunding platforms include Kickstarter, Indiegogo, and RocketHub. Kickstarter and Indiegogo are the two most popular reward-based crowdfunding platforms, although many other platforms exist throughout the world.³⁰²

Kickstarter uses an “all or nothing” funding strategy from which project creators receive contributed funds only if the project creator’s defined funding goal is met, within a set time period.³⁰³ Indiegogo permits project creators to receive any funds contributed, without having to meet a set monetary funding goal.³⁰⁴ In 2012, approximately 2.2 million people from 177 countries pledged approximately \$319.8 million to fund a total of 18,109 projects through Kickstarter.³⁰⁵ Ten percent of films submitted to

²⁹⁸ *Id.* at 3.

²⁹⁹ *Id.*

³⁰⁰ C. Steven Bradford, *Crowdfunding and the Federal Securities Laws*, 2012 COLUM. BUS. L. REV. 1, 16–18 (2012).

³⁰¹ Freed, *supra* note 294, at 13.

³⁰² Shahrokh Sheik, *Fast Forward on Crowdfunding*, 36 L.A. LAWYER 34, 39 (May 2013).

³⁰³ Bradford, *supra* note 300, at 19; *see also* Robert Hoskins, *How to Pick the Best Crowdfunding Sites for Successful Fundraising Campaigns*, CROWDFUNDING PR, SOC. MEDIA & MKTG. CAMPAIGNS (Feb. 17, 2013), <http://crowdfundingpr.wordpress.com/2013/02/17/kickstarter-vs-indiegogo-which-is-the-best-crowdfunding-site-and-why/>.

³⁰⁴ Bradford, *supra* note 300, at 19; *see also* Hoskins, *supra* note 303.

³⁰⁵ *Best of Kickstarter 2012, Overall Pledged*, KICKSTARTER, http://www.kickstarter.com/year/2012?ref=footer#overall_pledged (last visited Feb. 24, 2014); *Best of Kickstarter*

the 2012 Sundance Film Festival also received funding via Kickstarter.³⁰⁶ Further, in March 2013 the Veronica Mars Movie Project generated approximately \$2 million, reaching the project's funding goal, within the first 11 hours of the campaign being posted on Kickstarter.³⁰⁷ Subsequently, more than 91,000 backers contributed amounts totaling approximately \$5.7 million within the 30-day time period.³⁰⁸ Project creators have also enjoyed a significant amount of success crowdfunding through Indiegogo. For instance, an 18-year-old film director raised almost \$6,000 on Indiegogo in just a couple days after previewing a trailer of her movie, "My Sucky Teen Romance," at a comic book convention.³⁰⁹

Reward-based crowdfunding platforms, however, suffer from considerable drawbacks.³¹⁰ For example, because raising capital via crowdfunding is available to the public, such access can adversely impact project creators in several ways. First, crowdfunding provides information to third parties regarding how much capital an entrepreneur raised. Second, a failure to deliver on a successfully crowdfunded project may result in negative consequences for the project creator, including a loss of reputational capital.³¹¹

Nonetheless, even though crowdfunding entails many risks for both the contributor and the entrepreneur, crowdfunding continues to surge in popularity. In 2013, crowdfunding is expected to raise \$5.1 billion globally—far more than the aggregate market for virtual currencies.³¹²

2. Donation-Based Crowdfunding

Donation-based crowdfunding typically involves raising funds for some social cause from which donors receive no tangible return. Donation-based

2012, *Countries*, KICKSTARTER, <https://www.kickstarter.com/year/2012?ref=footer#countries> (last visited Feb. 24, 2014).

³⁰⁶ *Best of Kickstarter 2012, Sundance*, KICKSTARTER, <http://www.kickstarter.com/year/2012?ref=footer#sundance> (last visited Feb. 24, 2014).

³⁰⁷ Jason Cohen, *Reviving an Old Series the New Way: Fan-Financing*, N.Y. TIMES (Apr. 27, 2013), <http://www.nytimes.com/2013/04/28/us/veronica-mars-will-return-thanks-to-fan-financing.html>.

³⁰⁸ *Id.*

³⁰⁹ *Can You Spare a Quarter? Crowdfunding Sites Turn Fans into Patrons of the Arts*, KNOWLEDGE@WHARTON (Dec. 8, 2010), <http://knowledge.wharton.upenn.edu/article.cfm?articleid=2647>.

³¹⁰ See Eric Markowitz, *When Kickstarter Investors Want Their Money Back*, INC. (Jan. 10 2013), <http://www.inc.com/eric-markowitz/when-kickstarter-investors-want-their-money-back.html>.

³¹¹ Katherine Bindley, *Failed Kickstarter Project Bankrupts Seth Quest, Hanfree iPad Stand Inventor: Report*, HUFFINGTON POST (Jan. 15, 2013, 5:55 PM), http://www.huffingtonpost.com/2013/01/15/failed-kickstarter-project-seth-quest-hanfreeipad_n_2479798.html; see also Markowitz, *supra* note 310.

³¹² See MASSOLUTION, *supra* note 293, at 8.

funding platforms include: (1) Gofundme, (2) Razoo, and (3) Crowdrise. Investors provide capital but do not receive anything in return for their contribution other than feelings of goodwill. The charitable donations, however, may fund for-profit enterprises.³¹³ Since donors receive no consideration, donation-based crowdfunding does not fall under the purview of the SEC regulations and rules promulgated thereunder.³¹⁴

B. Debt-Based Crowdfunding

Peer-to-peer (P2P) lending is a debt-based form of crowdfunding that uses an online platform to connect borrowers with individual lenders. P2P lending has generated billions of dollars in loans during a time when consumers and small businesses “faced reduced access to credit from banks and credit unions.”³¹⁵ P2P lending platforms have revolutionized community lending by providing “searchable electronic marketplaces, standardized loan contracts, borrower creditworthiness data, and loan servicing,” and generating large volumes of small loans between anonymous individuals.³¹⁶

Microloan concepts are nearly as historical as metal coinage, since microloans have appeared in fourth-century China (lun hui), and at other times and places, such as Ghana (susus), India (chit funds), Mexico (tandas), Bolivia (pansanaku), and Bangladesh (the Grameen Bank in the 1970s).³¹⁷

The Internet has created an environment for P2P microlending. As Paul Slattery describes, “[f]or borrowers, P2P lending platforms offer debt consolidation, increased access to liquidity, and significantly less racial and sexual discrimination than traditional lenders.”³¹⁸ For lenders, P2P lending platforms offer accessible portfolio diversification and socially conscious investing. Lenders involved in the P2P lending model provide short-term funds and expect repayment.³¹⁹

Since traditional lenders generally intend to bundle and securitize loans, certain borrowers may be overlooked either because the borrower has an “unusual profile” or because the borrower poses a credit risk. P2P lenders, on the other hand, have an opportunity to lend to these overlooked

³¹³ Bradford, *supra* note 300, at 15.

³¹⁴ See *SEC v. W. J. Howey Co.*, 328 U.S. 293 (1946); see *supra* text accompanying note 220.

³¹⁵ Paul Slattery, Note, *Square Pegs in A Round Hole: SEC Regulation of Online Peer-to-Peer Lending and the CFPB Alternative*, 30 *YALE J. ON REG.* 233, 235 (2013).

³¹⁶ *Id.*

³¹⁷ Juanjuan Zhang, *The Wisdom of Crowdfunding*, MIT SLOAN SCHOOL OF MGMT., Winter 2013, at 30, 30.

³¹⁸ Slattery, *supra* note 315, at 235.

³¹⁹ Bradford, *supra* note 300, at 20.

borrowers based on the intrinsic monetary value of the loan or based on purely social value (i.e., philanthropy).

P2P lending also has drawbacks. For borrowers, these platforms may create privacy risks. P2P platforms collect and store large amounts of personal data, including credit and identification information.³²⁰ P2P platforms can also sell borrower information or hackers can steal borrower information as a result of P2P platforms implementing inadequate information security systems.³²¹ For lenders, the major risk is the fact that the borrower can default—much like traditional loans. Additionally, the P2P lender runs the risk of losing money if borrowers do not pay back enough of the loan to generate interest.

Some platforms only provide a return of the principal of the loan to the lender.³²² Other platforms provide interest on the funds investors loan to borrowers.³²³ Thus, P2P lending platforms are differentiated into two categories, those from which lenders receive no interest and those from which lenders receive interest.³²⁴

1. Non-Interest Bearing MicroLoans

Kiva is considered the leading “non-interest bearing” platform.³²⁵ Instead of lending to entrepreneurs directly, Kiva partners with “field partners,” which include international microfinancing institutions and non-profit organizations.³²⁶ Kiva posts entrepreneur loan requests on the Kiva website.³²⁷ Individual lenders can loan any amount, from \$25 to the full requested amount, through the Kiva website.³²⁸ Kiva collects and distributes the

³²⁰ Slattery, *supra* note 315, at 245.

³²¹ *Id.*

³²² Devashis Mitra, *The Role of Crowdfunding in Entrepreneurial Finance*, 13:2 DELHI BUS. REV., July–Dec. 2012, at 67, 69.

³²³ *Id.*

³²⁴ *Id.*

³²⁵ Until 2009, Kiva was originally not open to entrepreneurs in the United States. See Tamara Schweitzer, *Microloans for All?*, INC. (June 10, 2009), http://www.inc.com/the-kiva-connection/2009/06/microloans_for_all.html; Michael Liedtke, *Kiva to Feed Cash-Starved US Small Businesses*, USA TODAY (June 10, 2009, 9:51 AM), http://www.usatoday.com/tech/hotsites/2009-06-10-kiva_N.htm.

³²⁶ *About Us*, KIVA, <http://www.kiva.org/about> (last visited Feb. 24, 2014); see also *Field Partner Role*, KIVA, <http://www.kiva.org/partners> (last visited Feb. 24, 2014); *About Microfinance*, KIVA, <http://www.kiva.org/about/microfinance> (last visited Feb. 24, 2014).

³²⁷ *How Kiva Works, The Long Version*, KIVA, <http://www.kiva.org/about/how/even-more> (last visited Feb. 24, 2014).

³²⁸ Bradford, *supra* note 300, at 21.

funds the individual lender agrees to loan back to the field partners, crediting lenders with any repayments the entrepreneur makes.³²⁹ Lenders receive payment of the principal and the field partners use any interest to cover operating and transactional costs.³³⁰ Since lenders do not receive any interest and Kiva.org is a non-profit organization, Kiva.org remains free from SEC regulation.³³¹

2. Interest-Bearing Microloans

Both Prosper and Lending Club dominate the market with respect to interest-bearing debt-based crowdfunding.³³² These platforms provide an online marketplace that allows potential borrowers to anonymously seek individual loans. Prospective borrowers make the case to receive funding by posting narratives and consent to be subjected to a credit check.³³³ Potential creditors (lenders) browse the debtors' applications and fund loans at platform-determined interest rates.³³⁴ Paul Slattery states that "[b]oth platforms contract with an FDIC-insured bank to execute loans, and both issue notes to lenders dependent on borrower payment streams."³³⁵ Debtors request loans ranging from \$2,000 to \$35,000 and lenders can agree to loan a monetary amount as low as \$25.³³⁶ Originally, debtors issued promissory notes directly to creditors on both crowdfunding platforms, while the site maintained "custody of the notes and service[ed] [the debts] for a 1 % fee."³³⁷ Now, creditors directly buy notes issued by either Prosper or Lending Club, and the funds from those purchases are used by both sites to make loans through WebBank.³³⁸ These platforms reduce the costs of extending credit by eliminating "unnecessary ... services ... associated with traditional intermediaries."³³⁹

³²⁹ *How Kiva Works*, *supra* note 327.

³³⁰ *Id.*

³³¹ Jason Beahm, *Microloans to Entrepreneurs: Kiva Claims Success in US Despite Controversy*, FINDLAW (Apr. 22, 2010, 4:23 PM), http://blogs.findlaw.com/law_and_life/2010/04/microloans-to-entrepreneurs-kiva-claims-success-in-us-despite-controversy.html.

³³² See Slattery, *supra* note 315, at 238; Angus Loten, *Peer-to-Peer Loans Grow*, WALL ST. J., June 16, 2011, at B10.

³³³ Slattery, *supra* note 315, at 238–39, 241.

³³⁴ *Id.* at 238–41.

³³⁵ *Id.* at 238.

³³⁶ *Company Overview*, PROSPER, <http://www.prosper.com/about/> (last visited Feb. 24, 2014).

³³⁷ Bradford, *supra* note 300, at 22.

³³⁸ *Id.* at 22–23.

³³⁹ Andrew Verstein, *The Misregulation of Person-to-Person Lending*, 45 U.C. DAVIS L. REV. 445, 457 (2011).

In lieu of a service fee, Prosper and Lending Club charge debtors an origination fee for each lending transaction.³⁴⁰ The amount of the origination fee is proportional to the perceived credit risk for each borrower, taking into consideration factors such as credit scores.³⁴¹ Lending Club determines the debtor's "loan grade" and assigns an interest rate for each loan accordingly.³⁴² Lending Club measures the debtor's credit risk by evaluating the debtor's loan application and credit history.³⁴³ Alternatively, Prosper rates each loan to set a minimum rate but an auction-like process determines the actual interest rate assigned to the loan.³⁴⁴ Generally, P2P lenders provide loans to borrowers having difficulty obtaining credit through traditional channels.³⁴⁵ Crowdfunded interest-bearing microloans are subject to securities regulation.³⁴⁶

C. Equity Crowdfunding and Associated Restrictions

Because only one type of crowdfunding provides an unlimited upside return on an investment as well as internal governance control mechanisms,³⁴⁷ the most meaningful crowdfunding type is equity crowdfunding. Further, equity-based crowdfunding comprises about 15 percent of the total crowdfunding market and raised the most funds per project, as compared to donation and reward-based crowdfunding.³⁴⁸

The JOBS Act aimed to create jobs, in part, by incentivizing investors to finance entrepreneurial small business ventures through allowing capital contributors to receive a financial interest without registering the offering with the SEC.³⁴⁹ The JOBS Act arguably represented a means of facilitating

³⁴⁰ Bradford, *supra* note 300, at 23.

³⁴¹ *Id.*; see also Slattery, *supra* note 315, at 239.

³⁴² Bradford, *supra* note 300, at 23.

³⁴³ *What Rates and Fees Will I Pay?*, LENDINGCLUB, http://kb.lendingclub.com/borrower/articles/Borrower/What-rates-and-fees-will-i-pay/?l=en_US&c=Borrower%3ARates_and_Fees&fs=Search&pn=1 (last visited Feb. 24, 2014).

³⁴⁴ Bradford, *supra* note 300, at 23.

³⁴⁵ See Thomas V. Powers, *SEC Regulation of Crowdfunding Intermediaries Under Title III of the JOBS Act*, 31:10 BANKING & FIN. SERVS. POL'Y REPORT, Oct. 2012, at 1, 1.

³⁴⁶ See, e.g., SEC v. W. J. Howey Co., 328 U.S. 293, 298–99, 301 (1946); *Reves v. Ernst & Young*, 494 U.S. 56, 60–61. See also Slattery, *supra* note 315, at 252–53.

³⁴⁷ See Marco Becht, *Corporate Governance and the Credit Crisis*, in *MACROECONOMIC STABILITY AND FINANCIAL REGULATION: KEY ISSUES FOR THE G20* 165, 169 (Mathias Dewatripont, Xavier Freixas & Richard Portes eds., 2011).

³⁴⁸ Sandip Sekhon, *Crowdfunding Statistics and Trends [Infographic]*, GOGETFUNDING (May 1, 2013), <http://blog.gogetfunding.com/crowdfunding-statistics-and-trends-infographic/>.

³⁴⁹ See Thaya Brook Knight et al., Comment, *A Very Quiet Revolution: A Primer on Securities Crowdfunding and Title III of the JOBS Act*, 2 MICH. J. PRIVATE EQUITY &

opportunities for middle class investors, entrepreneurs, and workers to benefit from an ease in the exchange of capital among parties.

When an entrepreneur exchanges an equity interest in their start-up for cash investment, a potential problem exists because the entrepreneur seeking capital may have issued “securities.”³⁵⁰ Congress passed the JOBS Act, at least in part, to facilitate equity crowdfunding.³⁵¹ Instead of choosing to employ debt financing, an entrepreneur can seek capital from investors who, in exchange for their investment in the startup, receive an equity interest in the startup.³⁵² Obtaining outside financing can be a challenging proposition.³⁵³ The frictional costs of raising outside capital can be high, both in terms of financial and governance give-ups, including board seats, to the venture capital investors.³⁵⁴ Until September 2013, a prohibition existed on businesses engaging in solicitation of securities to the general public (general solicitation).³⁵⁵ With this prohibition removed, one may initially and intuitively believe that equity crowdfunding might disrupt or even replace traditional equity financing mechanisms. But such a belief is in large part misplaced.

The Crowdfund Provision “authorizes the ‘crowdfunding’ of securities, defined as the sale of unregistered securities over the Internet to large numbers of retail investors, each of whom only invests a small dollar amount.”³⁵⁶ The Crowdfund Provision provides an exemption allowing the issuance of unregistered securities.³⁵⁷ Such an exemption lowers the barriers

VENTURE CAPITAL, 135, 135 (2012); Tit. III, Jumpstart Our Business Startups (JOBS) Act of 2012, Pub. L. No. 112-106, § 302, 126 Stat. 306, 315 (2012) (codified as amended at 15 U.S.C. § 77d (2012)) [hereinafter, *Crowdfund Provision*].

³⁵⁰ See, e.g., Bradford, *supra* note 300, at 33.

³⁵¹ See Kurtis Urien & David Groshoff, *An Essay Inquiry: Will the JOBS Act’s Transformative Regulatory Regime for Equity Offerings Cost Bankers’ Jobs?*, 1 TEX. A&M L. REV. (forthcoming 2014).

³⁵² For purposes of this Article, the term startup refers to a fledgling business enterprise.

³⁵³ Jeffrey A. Brill, Note, “Testing the Waters”—*The SEC’s Feet Go From Wet to Cold*, 83 CORNELL L. REV. 464, 467 (1998).

³⁵⁴ See, e.g., Jill E. Fisch, *Can Internet Offerings Bridge the Small Business Capital Barrier?*, 2 J. SMALL & EMERGING BUS. L. 57, 87 (1998).

³⁵⁵ *Eliminating the Prohibition Against General Solicitation and General Advertising in Rule 506 and Rule 144A Offerings: A Small Entity Compliance Guide*, U.S. SEC. & EXCH. COMM’N (Sept. 20, 2013) [hereinafter SEC COMPLIANCE GUIDE], available at <http://www.sec.gov/info/smallbus/secg/general-solicitation-small-entity-compliance-guide.htm>.

³⁵⁶ Andrew A. Schwartz, *Crowdfunding Securities*, 88 NOTRE DAME L. REV. 1457, 1458 (2013).

³⁵⁷ Ajay Agrawal et al., *Some Simple Economics of Crowdfunding*, in 14 NAT’L BUREAU OF ECON. RESEARCH, INNOVATION POLICY AND THE ECONOMY (forthcoming 2014), <http://www.nber.org/chapters/c12946.pdf>.

to entry for small businesses to obtain equity capital by: (a) lowering agency costs associated with acceding to mandatory SEC registration and disclosure requirements; (b) lowering marketing and promotional costs traditionally correlating with issuing equity to the public; and (c) increasing the ease of obtaining equity capital by small businesses.³⁵⁸

Yet meaningful equity-based crowdfunding remains currently available only to accredited investors.³⁵⁹ Broadly speaking, an accredited individual investor is a natural person whose: (a) net worth exceeds \$1 million; or (b) individual annual income exceeds \$200,000.³⁶⁰ As Professor Usha Rodrigues wrote, “[s]ecurities law’s dirty little secret is that rich investors have access to special kinds of investments ... that everyone else does not ... [T]he law assumes that the average investor needs the protection of the full panoply of securities regulation and thus should be limited to buying public securities.”³⁶¹

Unaccredited investors are not permitted to participate in equity-based crowdfunding until the SEC passes appropriate rules and regulations, pursuant to the JOBS Act; when the SEC will do so is anyone’s guess. Section 201 of the JOBS Act required the SEC to “revise its rules” with respect to the ban on Regulation D [Section 506] solicitations “not later than 90 days” after the enactment of the Act.³⁶² That did not occur until July 2013, more than 365 days later than required by the JOBS Act.³⁶³ These changes, effective September 2013, permit for so-called general solicitation of securities to anyone.³⁶⁴ Only accredited investors, however, may actually invest in the

³⁵⁸ See Schwartz, *supra* note 356, at 1467.

³⁵⁹ JD Alois, *Equity Crowdfunding Platforms Raising Money Now From Accredited Investors*, CROWDFUND INSIDER (Feb. 20, 2013, 9:00 AM), <http://www.crowdfundinsider.com/2013/02/10285-equity-crowdfunding-platforms-raising-money-now/>.

³⁶⁰ 15 U.S.C.A. § 77d(a)(6)(B) (West 2014); 17 C.F.R. § 230.501(a)(5)–(6) (2014). See also Edan Burkett, *A Crowdfunding Exemption? Online Investment Crowdfunding and U.S. Securities Regulation*, 13 TENN. J. BUS. L. 63, 89 n.178 (2011).

³⁶¹ Usha Rodrigues, *Securities Law’s Dirty Little Secret*, 81 FORDHAM L. REV. 3389, 3389 (2013).

³⁶² Jumpstart Our Business Startups (JOBS) Act of 2012, Pub. L. No. 112-106, § 201, 126 Stat. 306, 313–14 (2012) (codified as amended at 15 U.S.C. § 77d (2012)); see also Press Release, Sec. & Exch. Comm’n, SEC Approves JOBS Act Requirement to Lift General Solicitation Ban (No. 2013-124) (July 10, 2013), available at www.sec.gov/News/PressRelease/Detail/PressRelease/1370539707782#.Uj8mj6SYZts.

³⁶³ SEC COMPLIANCE GUIDE, *supra* note 355; JOBS Act § 201, 126 Stat. 306, 313–14 (2012) (codified as amended at 15 U.S.C. § 77d (2012)).

³⁶⁴ 17 C.F.R. § 230.506(c) (2014). See also Halah Touryalai, *Ready for Hedge Fund Commercials? SEC to End Ad Ban*, FORBES (July 10, 2013, 11:42 AM), <http://www.forbes.com/sites/halahtouryalai/2013/07/10/ready-for-hedge-fund-commercials-sec-to-end-ad-ban/>.

enterprises that advertise using general solicitation.³⁶⁵ While the SEC released proposed equity crowdfunding rules in October 2013, these proposed rules asked numerous questions, and no one is certain when, or if, the equity crowdfunding rules will become effective, thus permitting small investors and enterprises to exchange equity for financial capital.

Also, section 108 of the Act required the SEC “[n]ot later than 180 days after the date of enactment of this title” to issue such rules as may be necessary to carry out the amendments contained in section 301 of the JOBS Act.³⁶⁶ While individuals face penalties for violating the securities laws, the SEC faces no penalty for failing to fulfill certain obligations contained in these and various other portions of the JOBS Act.³⁶⁷ In addition, “[b]y law, the SEC cannot revisit the actual definition of accredited investor status until 2014,”³⁶⁸ and the JOBS Act limits the amount that entrepreneurs can raise via crowdfunding at \$1 million,³⁶⁹ and this amount fails to include the proposed material legal and accounting compliance costs.

These restrictions are unproductive for entrepreneurs, middle-class investors, workers, and the economy as a whole. First, the restrictions harm entrepreneurs because the constraints limit capital, lowering amounts to numbers far below what traditional equity investments can provide. In addition, should the business raise more than \$1 million in crowdfunded equity, it faces potential liability under the Securities Act.³⁷⁰ Furthermore, the entrepreneurial firm may not crowdfund more than \$1 million in any twelve-month period. For example, game console developer Ouya crowdfunded approximately \$950,000 in eight hours on Kickstarter.³⁷¹ What legitimate policy rationale could exist to prevent that company from crowdfunding additional capital?

³⁶⁵ *Id.*

³⁶⁶ JOBS Act § 108(a)–(b), 126 Stat. at 313.

³⁶⁷ Jonathan B. Wilson, *Congress Passes Laws; SEC Ignores It*, POINTOFLAW (Apr. 1, 2013, 8:38 AM), <http://www.pointoflaw.com/archives/2013/04/congress-passes-law-sec-ignores-it.php>.

³⁶⁸ Usha Rodrigues, *In Search of Safe Harbor: Suggestions for the New Rule 506(c)*, 66 VAND. L. REV. EN BANC 29, 31 n.3 (2013).

³⁶⁹ See Patrick J. Franke, Jessica F. Hoerschelmann, & Matthew D. Viers, *Supporting Startups: Will the JOBS Act Expand the Crowdfunding Crowd?*, JDSUPRA LAW NEWS (Aug. 19, 2013), <http://www.jdsupra.com/legalnews/supporting-startups-will-the-jobs-act-ex-22817/>.

³⁷⁰ See generally Gary Emmanuel, *5 Reasons Why Equity-Based Crowdfunding Under the JOBS Act Won't Work*, HUFFINGTON POST (Feb. 25, 2013, 12:41 PM), http://www.huffingtonpost.com/gary-emmanuel/5-reasons-why-equitybased_b_2759580.html.

³⁷¹ *See id.*

Second, these provisions do not help individual middle-class investors, as those investors may only provide \$2,000 in crowdfunded capital (if those investors have a financial net worth below \$100,000) or ten percent of an investor's financial net worth, should the investor have a financial net worth between \$100,000 and \$999,999.99.³⁷² No meaningful reason exists to cap what an individual saves, spends, gives away, or invests to a particular entity based on an arbitrary appraisal of a concept as slippery as "net worth."³⁷³ By restricting the equity crowdfunding contributions in these ways, the so-called JOBS Act³⁷⁴ does not help businesses create many positive net present value projects that would lead to a growth in the jobs base or an expansion of the productions possibilities frontier for the economy as a whole.³⁷⁵

A proffered reason for the securities regulations that act as crowdfunding constraints is to avoid potential investor fraud,³⁷⁶ so as to keep with the

³⁷² See Edward T. Swanson, *Crowdfunding and the Sale of Securities*, CENTURY CITY LAWYER (Apr. 2012), <http://centurycitybar.com/newslettertemplate/April12/article3.htm>.

³⁷³ Rodriques, *supra* note 368, at 41.

³⁷⁴ Jumpstart Our Business Startups (JOBS) Act of 2012, Pub. L. No. 112-106, 126 Stat. 306 (2012) (codified as amended in scattered sections of 15 U.S.C.). *Cf.* the freedoms removed by the similarly misnamed USA PATRIOT Act. Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT) Act of 2001, Pub. L. No. 107-56, 115 Stat. 272 (2001) (codified as amended in scattered sections of 8, 15, 18, 22, 31, 42, 49, 50 U.S.C.). While aimed at increasing the security of Americans following the September 11, 2001 terrorist attacks, the USA PATRIOT Act authorized unprecedented levels of domestic surveillance, among other infringements on freedoms. John Fund, *Sensenbrenner: NSA Surveillance is Abuse of Patriot Act*, NAT'L REV. (Aug. 19, 2013, 12:04 PM), <http://www.nationalreview.com/corner/356159/sensenbrenner-nsa-surveillance-abuse-patriot-act-john-fund>.

³⁷⁵ See, e.g., Harvey Leibenstein, *Entrepreneurship and Development*, 58 AM. ECON. REV. 72, 72 (1968) (advancing as a Harvard professor a non-neo-classical economic theory (X-efficiency theory) that "entrepreneurship is a significant variable in the development process" and describing the production possibilities frontier to entrepreneurship); see also Sander Wennekers & Roy Thurik, *Linking Entrepreneurship and Economic Growth*, 13 SMALL BUS. ECON. 27, 32, 35, 38-42, 49 (1999) (synthesizing three important concepts: (i) indicating that while Austrian economic theory permitted for entrepreneurship, neo-classical economic theory left no room for entrepreneurship to exist because of the neo-classical assumption that perfect competition eliminates any profit opportunities potentially remaining for entrepreneurs; (ii) demonstrating the impact of laws, rules, and policy instruments on entrepreneurial development throughout history, and (iii) linking entrepreneurship with economic growth and national advantage) (referencing MICHAEL E. PORTER, *THE COMPETITIVE ADVANTAGE OF NATIONS* (1990)). *Cf.* David Kennedy, *supra* note 10 (regarding law and economic development in new economies).

³⁷⁶ Thomas Lee Hazen, *Crowdfunding or Fraudfunding? Social Networks and the Securities Laws—Why the Specially Tailored Exemption Must Be Conditioned on Meaningful Disclosure*, 90 N.C. L. REV. 1735, 1737 (2012).

SEC's oft-repeated policy to protect the interests of the public investor.³⁷⁷ Some high-ranking members of the SEC take their nanny-statism quite seriously. For example, SEC Commissioner Luis A. Aguilar wrote that he opposed loosening constraints for individual non-accredited investors.³⁷⁸ Aguilar asserted that removing those obstacles to middle-class investment in equity crowdfunded startups via general solicitation, such as Kickstarter, would "come at the expense of investors and place investors at greater risk."³⁷⁹ Aguilar continued, "without additional protections, *general solicitation makes fraud easier* and enforcement more difficult [and] *[e]xperience tells us that this will lead to economic disaster* for many investors."³⁸⁰

While Commissioner Aguilar's experience may tell *him* hyperbolically of many forthcoming economic disasters as a result of the easier fraud and increased risk that will occur when bureaucrats afford the slightest increase in freedom to middle-class equity crowdfunders, the *empirical data* related to unregulated crowdfunding—as opposed to Commissioner Aguilar's experience—tells otherwise. Specifically, Wharton Professor Ethan Mollick examined metadata including approximately 48,500 crowdfunded projects that raised over \$237 million.³⁸¹ All of these projects were patronage

³⁷⁷ To demonstrate a long history of propaganda hoping to convince people of the acceptability and necessity of government's institution of coercive laws and policies to protect people from themselves, see generally, Andrew Downey Orrick, Commissioner, SEC, Address Before the San Francisco Bond Club: Current SEC Program to Protect Public Investors (Dec. 5, 1955), <http://www.sec.gov/news/speech/1955/120555orrick.pdf> ("This Commission is determined to use its vast regulatory powers to protect the public investors...."); *The Investor's Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation*, U.S. SEC. & EXCH. COMM'N, <http://www.sec.gov/about/whatwedo.shtml> (last visited Feb. 24, 2014) (describing "[t]he mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation [O]ur investor protection mission is more compelling than ever As our nation's securities exchanges mature into global for-profit competitors, there is even greater need for sound market regulation."); U.S. SEC. & EXCH. COMM'N, PROTECTING INVESTORS (2005), <http://www.sec.gov/about/secpar/secparsumm04.pdf> (articulating the SEC's vision as "[strengthen[ing] the integrity and soundness of U.S. securities markets for the benefit of investors and other market participants, and conduct its work in a manner that is as sophisticated, flexible, and dynamic as the securities markets it regulates").

³⁷⁸ Luis A. Aguilar, *Facilitating General Solicitation at the Expense of Investors*, HARV. L. BLOG, FORUM ON CORP. GOVERNANCE & FIN. REG. (July 11, 2013, 9:07 AM), <http://blogs.law.harvard.edu/corpgov/2013/07/11/facilitating-general-solicitation-at-the-expense-of-investors/>.

³⁷⁹ *Id.*

³⁸⁰ *Id.* (emphasis added).

³⁸¹ Mollick, *supra* note 290, at 1.

or reward-based crowdfunding,³⁸² and all projects were funded on Kickstarter, which is “the largest and dominant crowdfunding site.”³⁸³

Like Bitcoin, Kickstarter started in 2009.³⁸⁴ As mentioned earlier, Kickstarter has no intermediary besides itself.³⁸⁵ Additionally, Kickstarter has no enforcement mechanism for funded entities that fail to deliver their promised goods.³⁸⁶ As a result, a number of similarities exist between Bitcoin and Kickstarter. Mollick acknowledged that “[f]or the dishonest, [crowdfunding] creates an opportunity for fraud.”³⁸⁷ Yet, of these many Kickstarted projects he studied, Mollick found that fraud was “very rare.”³⁸⁸ Although a number of projects delivered their goods on a delayed basis, only \$21,324 of contributed capital failed to receive a response from the funded entity.³⁸⁹ Mollick asserted that “[f]or crowdfunding intermediaries and policy makers, there are also clear implications.... [T]he rate of fraud in crowdfunding is currently very low,” though that may not remain so in the future or in all crowdfunding forms.³⁹⁰

From the perspective of using policy and legal instruments to hinder entrepreneurial growth, Commissioner Aguilar’s nanny-statism was based on his “experience,” rather than informed by evidence created specifically for policymakers. More broadly, the government’s lingering and numerous restrictions on equity crowdfunding seem particularly poorly chosen for middle-class entrepreneurs, investors, job-seekers, employees, and the economy as a whole.

As a result, middle-class investors are thus relegated to receiving essentially goods with no governance rights, while the wealthy or high-income accredited, so-called “sophisticated,” and institutional investors retain the ability to receive the lion’s share of any equity return and any associated governance rights with funding the venture, pushing the entrepreneur to a less influential role. As a result, the unsubstantiated popular delusions of fraud that led to the madness of crowdfunding constraints continue to favor large businesses and wealthy or high-earning individual investors over entrepreneurs, their enterprises, their potential middle-class investors, their

³⁸² *Id.* at 3.

³⁸³ *Id.* at 4.

³⁸⁴ *Id.* See also Nakamoto, *supra* note 99.

³⁸⁵ Bradford, *supra* note 300, at 16–18.

³⁸⁶ Mollick, *supra* note 290, at 12.

³⁸⁷ *Id.* at 11.

³⁸⁸ *Id.*

³⁸⁹ *Id.*

³⁹⁰ *Id.* at 14.

potential future employees, and the nation's potential future economic growth. This ultimately harms the crowd in the name of protecting it.

IV. A HETERODOX PROSCRIPTIVE PROPOSAL FOR A PLURALISTIC PARLEY ON THE PARADOX

Thus far, this Article has demonstrated that both Bitcoins and Kickstarter as respective virtual currencies, and crowdfunding platforms share the following characteristics. First, both virtual currencies and crowdfunding represent Internet-based mediums of consideration exchange.³⁹¹ Second, both exchanges involve over \$1 billion annually, with crowdfunding exchanges representing approximately \$3 billion more per year than virtual currencies.³⁹² Third, neither platform features any intermediary besides itself.³⁹³ Fourth, a strong potential exists that future crowdfunding platforms will accept Bitcoins or other virtual currencies.³⁹⁴ Fifth, middle-class investors lack any meaningful governance rights when investing in either Bitcoins or a Kickstarter-backed entity.³⁹⁵ Yet, despite these operational similarities, a striking paradox exists relative to the government's ability to insert itself in entrepreneurial development, post-Great-Recession economic redevelopment.

Specifically, despite their volatile boom-to-bust bubbles that have demonstrably harmed those who speculated in Bitcoins, recent attempts to employ weak—and beyond exchange registration under FinCEN—tangential enforcement instruments relative to virtual currencies demonstrate that virtual currencies essentially are above the law and escape regulation in today's U.S. economy.³⁹⁶ In contrast, the initial empirical data on unregulated crowdfunded entities suggest that no material fraud or risk to capital providers exists.³⁹⁷ Yet, the SEC's response to the JOBS Act's mandate of

³⁹¹ See *supra* Part II.C.

³⁹² Compare Plassaras, *supra* note 88, at 13, with MASSOLUTION, *supra* note 293.

³⁹³ See Steadman *supra* note 92; Mollick *supra* note 290, at 2.

³⁹⁴ See, e.g., *Bitcoin Crowdfunding on Max Keiser's PirateMyFilm.com*, HOW TO ACCEPT BITCOIN (Aug. 30, 2012), <http://www.howtoacceptbitcoin.com/2012/08/bitcoin-crowdfunding-on-max-keisers.html>.

³⁹⁵ See *supra* Part III.C and accompanying text. These corporate governance rights are lacking for most investors, because most are middle-class, non-accredited, non-sophisticated, and non-institutional investors whose ability to invest in a project's equity is capped by securities regulation, leaving believers in a project who still want to contribute capital relegated to goodie bag consideration, lacking any governance rights to control the funded enterprise. This reality appears to be a poor use of regulatory instruments from a policy perspective.

³⁹⁶ See *supra* Part II.C.

³⁹⁷ See Hazen, *supra* note 376, at 1737.

general solicitation and to thoughts of permitting the average investor to equity crowdfund entities (thus securing some control rights) has been delayed, paternalistic, and devoid of evidence in the name of “protecting” the investor from “risk.”³⁹⁸

A. Why Employ an Acerbic Model of Economic Heterodoxy as the Article’s Analytic Supporting this Article’s Proposal?

Admittedly, much of this Article’s reliance on a Hayekian-Austrian economic analytic legitimately could cause the reader to believe that this Article represents nothing more than the modern manifesto of a radically capitalistic libertarian. That is not the case, however. *Any* of the diverse heterodox economic theories—ranging from Marxian to post-Keynesian to Austrian to Sraffian to behavioral, among others³⁹⁹—theoretically could have served as the lens through which this Article challenges the neo-classical economic assumptions that have served as the basis on which U.S. economic and monetary policy have rested for decades.⁴⁰⁰

Although heterodox economics may have multiple understandings—whether methodologically, ontologically, epistemologically, or pedagogically⁴⁰¹—most heterodox economic branches seek a common pluralism⁴⁰² because they are outside of mainstream orthodox, neo-classical economic thought.⁴⁰³ To reach a common pluralism, each heterodox economics strand

³⁹⁸ See *supra* note 378 and accompanying text.

³⁹⁹ I employed some of these in prior research analyses both within and outside this Article. See, e.g., *supra* Part II.C.3. (discussing behavioral economics and applying it to Bitcoins); Dylan P. Grady, *Charter School Revocation: A Method for Efficiency, Accountability, and Success*, 41 J.L. & EDUC. 513 (2012) (quoting David Groshoff, *Uncharted Territory: Market Competition’s Constitutional Collision with Entrepreneurial Sex-Segregated Charter Schools*, 2 BYU EDUC. & L.J. 307, 308 (2010)).

⁴⁰⁰ See, e.g., Frederic S. Lee, *The Emergence of Heterodox Economics, 1990–2006*, ASS’N FOR HETERODOX ECON, available at http://www.hetecon.net/division.php?page=about&side=history_of_heterodox_economics (derived from FREDERIC S. LEE, A HISTORY OF HETERODOX ECONOMICS: CHALLENGING THE MAINSTREAM IN THE TWENTIETH CENTURY ch. 10 (2009)); Andrew Mearman, *Who Do Heterodox Economists Think They Are?*, 70 AM. J. ECON. & SOC. 480, 480 (2011) [hereinafter Mearman, *Heterodox Economists*]; ANDREW MEARMAN, TEACHING HETERODOX ECONOMIC CONCEPTS 3–4 Figure 2 (2007).

⁴⁰¹ Andrew Mearman, *Pluralism and Heterodoxy: Introduction to the Special Issue*, 1 J. PHIL. ECON. 5, 5–10 (2008) [hereinafter Mearman, *Pluralism*].

⁴⁰² *Id.* at 12–13. This Article sprinkled pluralistic views of both heterodox and neo-classical economists in its early material. See, e.g., *supra* note 10 and accompanying text.

⁴⁰³ See, e.g., Barkley Rosser, Jr. et al., *How Can Something so Right as Heterodox Economics Have so Little Influence?*, 7–8, 11–13 (Sept. 12, 2012) (unpublished manuscript), available at <http://cob.jmu.edu/rosserjb/Friendly%209%2012%2012%20final.docx> (representing the writings of three orthodox neo-classical economists, stating “[w]e

includes its unique embrace of some, though not all, of the following descriptive understandings that clash with neo-classical economic theory: (1) human actors are social and less than perfectly rational; (2) economic systems are complex, evolving, and unpredictable; (3) individual economic actor theories are useful generally, and theories of the economic collective are useful for outcomes particularly; (4) human and economic history provide important understandings to the contemporary relevance of economic events; (5) *all* economic theories are fallible; (6) formal mathematical and statistical methods do not necessarily represent *the* supreme method; and (7) the importance of *power*⁴⁰⁴ relative to determining economic outcomes.⁴⁰⁵

Thus, despite acknowledging other economists and economic theories throughout, this Article's primary reliance on the Hayekian-Austrian lens occurred because I believed this analytic represented the heterodox theory that is the most directly applicable analytic to this research subject matter. Specifically, Hayek's Nobel prize-garnering theory arose from his work involving the interdependence of: (1) money (e.g., virtual currencies and arguably securities); (2) social phenomena and economic fluctuations (e.g., crowds and bubbles); and (3) institutional phenomena (e.g., governments, laws, rules, policies, instruments, and financial institutions);⁴⁰⁶ synthesized with (4) the general Hayekian view of what may occur in a free and unregulated market (e.g., Bitcoins' ex-ante status when this Article's research began and, generally speaking, Bitcoins' current ex-post status).

These reasons explain why this Article applied the often caustic analytic of the Hayekian-Austrian heterodoxical economic model to the extant economic and legal environment. The Article aimed to arrive at a pluralistic proscriptive framework seeking to engage other heterodox economic, legal, and financial scholars in a dialogue. Also, the dialogue is an attempt to find a logical common ground regarding inconsistent government application of its instruments to emerging entrepreneurial economic (re)development activity following the U.S. Great Recession and during global economic crises

identify orthodoxy with a belief in the trinity of assumptions of rationality, greed, and equilibrium represented by 'neoclassical economics' as taught in most textbooks" and describing their view of heterodox impact on public policy).

⁴⁰⁴ Cf. David Kennedy, *Speaking Law to Power: International Law and Foreign Policy Closing Remarks*, 23 WIS. INT'L L.J. 176, 177–78 (2005) (differentiating yet coupling "[l]aw in the interstices of power, law as an instrument of government, as a compliance program and management tool," and inquiring, "[h]ow can we translate the terms used by policy managers into the vernaculars of left-center-right, or of social interests, that we might contest the decisions *experts* take in political terms....") (emphasis added).

⁴⁰⁵ Mearman, *Heterodox Economists*, *supra* note 401, at 489.

⁴⁰⁶ See *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1974*, NOBELPRIZE.ORG, http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1974/index.html (last visited Feb. 24, 2014).

in the Western nations of Greece, Spain, Cypress, in addition to other struggling, developing, or redeveloping national economies.

B. Economic Failures Exist Regardless of Regulation

As Professor Christine Hurt asserted this year, relative to the law and economic bubbles and collapses in 2001 (post-Internet bubble) and 2008 (post-housing bubble), “state and federal laws are not good at criminalizing foolishness, even foolishness with other people’s money,”⁴⁰⁷ in part because “individuals have different appetites for risk.”⁴⁰⁸ Professor Hurt acknowledged that additional disclosure via SEC or agency rules would “not be necessarily helpful information”⁴⁰⁹ to investors, given that a disclosure regime already existed during the economic collapse. Further, Hurt explained that investors “were turned away from the courthouse door in cases involving federal securities law claims and claims of breaches of state law fiduciary duties,”⁴¹⁰ but that imposing additional risk-management duties relative to legal, currency, business, and other risks is impractical and would result in eliminating the business judgment rule.⁴¹¹ When regulated, political pressures often determine who gets sued or prosecuted and why or why not,⁴¹² and Professor Hurt paints a picture of stunning incompetence and potential caving to political pressure by the SEC in the wake of the Great Recession’s multiple regulatory violations.⁴¹³ Securities violations may be subject to civil, criminal, or administrative penalties.⁴¹⁴ Penalties for computer related crimes exist as well,⁴¹⁵ beyond those discussed above in Parts II and III. Answers are not always found through additional or amplified statutes and regulatory schemes.

C. A Market-Based Minarchist-Statutory Proposal

Because the Hayekian view does not seek to protect people from themselves, but recognizes the need to add a pragmatic-based theory based

⁴⁰⁷ Christine Hurt, *The Duty to Manage Risk* 6 (Ill. Prog. in Law, Behav. & Soc. Sci., Working Paper No. LBSS14-09, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2308007.

⁴⁰⁸ *Id.* at 42.

⁴⁰⁹ *Id.* at 44.

⁴¹⁰ *Id.* at 45.

⁴¹¹ *Id.*

⁴¹² *Id.* at 9–12, 10 n.45.

⁴¹³ *Id.*

⁴¹⁴ 15 U.S.C.A. § 77k (West 2014); § 77l (civil enforcement); § 78i (same); § 78j (same); § 77x (criminal enforcement); § 78ff (same).

⁴¹⁵ 18 U.S.C.A. § 3571 (West 2014); § 1030(c)(2)(B)(i) (including accessing or obtaining information from a financial institution used in interstate or foreign commerce).

on current structural regimes to achieve a pluralistic dialogue, this section acknowledges that risk-reduction for individual investors is economically beneficial. This section proposes a modestly brief statutory requirement that narrowly borrows from unnecessarily broader schemes such as those enabling the Federal Deposit Insurance Corporation (FDIC) and Pension Benefit Guaranty Corporation (PBGC), which serve as mandatory insurers of banks and defined benefit pension plans, respectively, with the banks and pension plans having to make mandatory premia based on government-determined risk premia.

This Article's proposal, however, is to assuage middle-class persons defrauded by a virtual currency exchange or a crowdfunding platform in a minimally intrusive way relative to the economy's ability to act in as free of a market as possible.

Therefore, rather than mandate that virtual currency exchanges and crowdfunding platforms pay the cost of potential future risk to a new regulatory agency, this Section proposes something much simpler: a requirement that any exchange or platform show proof of insurance from a private insurance provider—not an agency like FDIC or PBGC—on the entity's website. Such a requirement would be similar to the requirement of certain states' enabling legislation, which mandate benefit corporations to post verification on their business' websites.

1. Perceived Benefits

With this additional yet limited information, the potential capital contributor can then evaluate both the capital project itself, as well as the risk associated with the insurance for its investment. Each exchange or platform could choose an insurer of its choice, rather than pay a bureaucratic agency. Further, one may suspect that similar to traditional insurers, the insurers engaged in this business would also receive third-party ratings that may help capital contributors choose which insured exchange or platform to use. In addition, just as virtual currency exchanges have begun to work together relative to self-regulation, one may envision a mutualized insurer created and owned by the exchanges and crowdfunding platforms themselves. The choice to be mutualized or demutualized would reside with the virtual currency exchange or the crowdfunding platform.

2. Anticipated Costs

Any government interference in the marketplace creates a cost. Here, the cost must be passed to the contributor of capital or to the entrepreneur. As a result, the proposed statute must contain a requirement that the prior one through five years' of premiums be refunded to the virtual currency

exchange or crowdfunding platform, plus interest at the (arguably) market-based prime rate, at the insurer's discretion at the start of the coverage when the policy becomes bound. The remedy for a harmed party by an insurer's failure to return funds would be a civil suit by the exchange or platform, because the protected risk is, of course, that of the individual investor, who would be paid by the insurer for any fraudulent conduct.

3. How to Reduce Anticipated Costs of this Individual Investor Risk Reduction

The insurer would have to return this amount to each investor, but insurers tend to understand how to remain long-term cash-flow positive, typically via a combination of appropriate actuarial premium pricing and duration matching of fixed-income securities. The five-year window described above that provides the insurer with the choice of duration as to when to return interest on the premiums provides the flexibility for the insurer to duration match over a short-to-medium term. In addition, because some capital will leave the economy to pay for this insurance, limiting the insurer to a five-year duration matching window provides sufficiently short timing that it should incentivize insurers to take additional risk to achieve equity returns. As a result, the mandate is that anything beyond the market value of the duration-matched assets must be invested in either virtual currencies or private placements with entrepreneurial companies so that the funds as best approximate private investors making investment in the very entrepreneurial enterprises where evidenced bubbles and risk reduction fears exist, yet which represent the benefit of the experimental Bitcoin exchanges and Kickstarting platforms in the first place.

A justified counterargument to this proposal exists indicating that the proposal encourages additional unnecessary risk-taking by insurers. The point, however, is that the capital involved wants to be deployed to that risk in the first place by natural persons, most of whom either cannot or regulators do not want to engage in such risk taking. Therefore, institutional risk-taking appears to remain generally of less concern to regulators than risk taken by middle-class holders of capital.⁴¹⁶ As a result, this scheme achieves as cost effectively, as briefly, and as economically intrusive as possible an econo-legal heterodox framework that employs skeletal law and incentive maximization to mesh with a policy goal of protecting middle-class investor capital, while still approximating a flow of capital to entrepreneurial private equity investments.

⁴¹⁶ See Hurt, *supra* note 407, *passim*.

CONCLUSION

Although made in the context of international law and economic development, Harvard Law School's David Kennedy indicated that he

would like to propose a different task for ... law—less a program of action than the conveyor of a new sensibility about law and power. A sensibility of human freedom and responsibility, of clarity about what we do not know, and about the power in our hands, rather than clarity about what we know and denial of our power. Of moral action in an ... irrational world.⁴¹⁷

This Article attempted to embrace that heterodox philosophy and apply it to the new technologies of Bitcoin bubbles and crowdfunding constraints to help kick-start an unconventional dialogue regarding an economy bogged down via existing and threatened governmental interference affecting middle-class entrepreneurs, investors, and jobseekers.

This Article acknowledged that economic bubbles and the madness of crowdfunding items such as tulips to dot-coms have occurred throughout history. But this Article also showed the benefit that microfinance has played throughout history as well as the benefits of challenging conventional wisdom via a heterodox analytic to be informed by human reality applied to present situations, rather than purely by theoretical impossibilities taken as the basis for this nation's economic policies. This Article described the paradox of overregulation of securities in the disruptive crowdfunding space and the lack of meaningful regulation in the virtual currency space to fashion a proposal as close to the heterodox paradigm from which the problem was analyzed.

The proposal involves a minimally invasive statute with no promulgated rules or regulations thereunder. In addition, the proposal gives significant freedom to: (1) risk insurers as to how to structure their enterprises (mutualized or demutualized) and invest (duration matching in fixed-income securities of their choosing combined with a requirement to return the currency risk and private equity to the marketplace by more sophisticated investors); and (2) entrepreneurs, who will receive funding via a more safeguarded public, a return on premium interest at the prime rate, and a requirement that any funds that exceed the duration match on a present value basis must be reinvested in virtual currencies and private entrepreneurial enterprises.

⁴¹⁷ Kennedy, *supra* note 404, at 181.

Additional debate and gathering of empirical data on these issues should occur lest law and policy makers and regulators pass uninformed regulations designed to placate potentially fearful constituents and insulate them the risky and poor decisions all humans are prone to make at times. As Mackay indicated in *Extraordinary Popular Delusions*:

Let us not, in the pride of our superior knowledge, turn with contempt from the follies of our predecessors. The study of the errors into which great minds have fallen in the pursuit of truth can never be uninstruc-tive. As the man looks back to the days of his childhood and his youth, and recalls to his mind the strange notions and false opinions that swayed his actions at the time, that he may wonder at them; so should society, for its edification, look back to the opinions which governed the ages fled.⁴¹⁸

The U.S. should consider the uses, costs and benefits, of potential laws, regulations, and policy instruments that can lead to over and under-regulation of entrepreneurial activity that may spur economic redevelopment, employment opportunities, and general economic growth, a massive bubble that leaves many penniless, or an unknown place on the future economic spectrum, including at the heterodox barricade.⁴¹⁹

⁴¹⁸ Mackay, *supra* note 1, at 2.

⁴¹⁹ The final few words paraphrase Professor David Kennedy, Law and Development Class Lecture at Harvard Law School (Fall Semester, 2008).