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# How El Salvador Has Changed U.S. Law by a Bit: The Consequences for the UCC of Bitcoin Becoming Legal Tender

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### HOW EL SALVADOR HAS CHANGED U.S. LAW BY A BIT: THE CONSEQUENCES FOR THE UCC OF BITCOIN BECOMING LEGAL TENDER

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#### I. Introduction

On June 8, 2021, the Congress of El Salvador passed a law that changed American commercial law.<sup>1</sup> How could a foreign country change U.S. law? El Salvador's Congress voted to confer "legal tender" status upon the cryptocurrency Bitcoin.<sup>2</sup> The law took effect in El Salvador on September 7, 2021;<sup>3</sup> starting that day, Bitcoin could be used to pay taxes<sup>4</sup> and buy

3. See Nelson Renteria & Anthony Esposito, El Salvador's World-First Adoption of Bitcoin Endures Bumpy First Day, REUTERS (Sep. 8, 2021, 4:11 AM CDT), https://www.

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<sup>1.</sup> See generally Decreto No. 57, 8 June 2021, Ley Bitcoin [Bitcoin Law], DIARIO OFICIAL [D.O.], tomo 431, 9 June 2021, at 13 (El Sal.), https://www.diariooficial.gob.sv/ diarios/do-2021/06-junio/09-06-2021.pdf; Avik Roy, *El Salvador's Bitcoin Law: Full English Text*, FOUND. FOR RSCH. ON EQUAL OPPORTUNITY (June 8, 2011), https://freopp. org/el-salvadors-bitcoin-law-full-proposed-english-text-9a2153ad1d19 (translating the Ley Bitcoin [Bitcoin Law] from Spanish to English).

<sup>2.</sup> Roy, *supra* note 1; *see also* Nelson Renteria et al., *In a World First, El Salvador Makes Bitcoin Legal Tender*, REUTERS (June 9, 2021, 10:24 PM CDT), https://www.reuters. com/world/americas/el-salvador-approves-first-law-bitcoin-legal-tender-2021-06-09/.

goods and services in El Salvador.<sup>5</sup> As the first country to adopt Bitcoin as legal tender, El Salvador made world history and sparked many debates and predictions about the effects its decision may have on the Central American nation and its economy.<sup>6</sup> Beyond such consequences, El Salvador has, wittingly or unwittingly, changed the legal effects of various provisions in the Uniform Commercial Code ("UCC," or "the Code"). As a result of the UCC's particular definition of money,<sup>7</sup> designating Bitcoin as legal tender has wrought changes throughout the commercial law of all U.S. states that have adopted the UCC. This Article explores some of the consequences wrought by El Salvador's bold action. Part I explains the nature and history of Bitcoin and summarizes the forms in which people can own the cryptocurrency. Part II then catalogues the major consequences for the UCC of Bitcoin becoming legal tender in El Salvador. Finally, the Article reaches some conclusions about what actions the Uniform Laws Commission should propose in response to this development.

#### II. What Is Bitcoin and How Is It Held?

This Part summarizes the history and nature of Bitcoin and then discusses the direct and indirect methods to store Bitcoin after acquisition.

#### A. What Is Bitcoin?

Bitcoin is a cryptocurrency that relies upon blockchain technology.<sup>8</sup> Some have described understanding blockchain technology to be like learning to speak Klingon.<sup>9</sup> Bitcoin's history is murky, but it appears to have been developed as the first "cryptocurrency" in 2008 or 2009.<sup>10</sup> Lorena Yashira Gely-Rojas has formulated a concise definition of crypto

5. Id. (translating capítulo (chapter) 1, article 7 of the Ley Bitcoin [Bitcoin Law]).

6. See Renteria & Esposito, supra note 3.

7. See U.C.C. § 1-201(b)(24) (Ам. L. INST. & UNIF. L. СОММ'N 2018).

8. See J.P. Schmidt & Tung Chan, *The Future Infrastructure of Business: A Primer on Blockchain and the Evolving Regulations*, HAW. BAR J., Apr. 2020, at 13, 13.

9. Id.

reuters.com/business/finance/el-salvador-leads-world-into-cryptocurrency-bitcoin-legal-tender-2021-09-07/.

<sup>4.</sup> *See* Roy, *supra* note 1 (translating capítulo (chapter) 1, article 4 of the Ley Bitcoin [Bitcoin Law]).

<sup>10.</sup> See id. at 13–14 (acknowledging that, though debated, the date of Bitcoin's creation is often traced to 2008); Chris Meuse, *Cryptocurrencies, in* TXCLE ADVANCED FAMILY LAW ch. 28, IV.a (State Bar of Tex. 2018), 2018 WL 6366472 (asserting that Bitcoin was created in 2009).

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and other virtual currencies as "digital representations of value that are issued by private developers and that are not denominated in fiat currency, but rather have their own unit of account."<sup>11</sup> Bitcoin, developed by a person known by the pseudonym Satoshi Nakamoto, relies upon "cryptography by using a distributed database across nodes of peer-to-peer networks"<sup>12</sup> referred to as the blockchain.<sup>13</sup> This means that transactions involving Bitcoin or other cryptocurrencies are recorded on a computer network that is not located on a single computer or system. Rather, the information is "distributed on computers around the world called 'nodes."<sup>14</sup> The network is not built by a single person, entity, or government; each node is created by anyone with equipment that can support a node, and this diversity is what "makes a public blockchain a decentralized and 'distributed' ledger" of transactions.<sup>15</sup>

Bitcoin is essentially a "digital asset," the transfer and ownership of which is "recorded on a blockchain."<sup>16</sup> Blockchain advisors Schmidt and Chan explain the revolutionary use of cryptography on a blockchain network that gives cryptocurrencies the certainty and security that transactions in them are not fraudulent:

Satoshi Nakamoto's solution was to create a "trustless" ledger. Simplified, his idea was to create a public ledger that everyone could look at that was completely transparent. Each electronic "coin" would have a cryptographic, unique identity that would be tracked on this public ledger. As the coin moved from payment to payment, every movement would be visible and tracked on the public ledger. The ledger would not need to rely on a bank or anyone else to make sure there were no duplications or to reconcile against a physical account.<sup>17</sup>

Numerous qualities of Bitcoin make it a unique form of currency. Bitcoin's cryptography is open source and decentralized, as the data is spread across numerous peer-to-peer networks and not stored in a central

<sup>11.</sup> Lorena Yashira Gely-Rojas, *Cryptocurrencies and the Uniform Commercial Code: The Curious Case of Bitcoin*, 8 U. P.R. BUS. L.J. 129, 130 (2017).

<sup>12.</sup> *Id.* 

<sup>13.</sup> Id.

<sup>14.</sup> Schmidt & Chan, *supra* note 8, at 14.

<sup>15.</sup> Id. See generally Meuse, supra note 10, at IV.a.

<sup>16.</sup> Schmidt & Chan, *supra* note 8, at 14.

<sup>17.</sup> *Id*.

location.<sup>18</sup> Bitcoin can be used to complete transfers to other Bitcoin users willing to receive value in this form.<sup>19</sup> (Outside of El Salvador, a seller's willingness to receive this form of value is essential to the transaction. However, under El Salvador's new law, a seller *must* accept Bitcoin as payment, even if receiving value in this form is against his will.<sup>20</sup>) One of the unique features of transacting with Bitcoin is that the transacting parties can remain anonymous since parties are not required to provide personal information to send or receive payments-they merely need a personal digital key to access their digital currency.<sup>21</sup> Because this payment medium does not include any identifying personal information, Bitcoin is a digital equivalent of paying in cash.<sup>22</sup> No legal entity or natural person "controls" the blockchain that processes and validates transactions.<sup>23</sup> Bitcoin also provides a security advantage-because the information on holdings is decentralized and dispersed among independent nodes, a centralized authority or a hacker cannot break in and delete entries in the ledger.<sup>24</sup> In addition, the transaction ledger is transparent and open to anyone with the necessary equipment.<sup>25</sup> Schmidt and Chan summarize some of the alleged attractive features of such a payment system as Bitcoin:

This new decentralized system of electronic cash offered a number of attractive features over the centralized money system that currently relies on banks, credit card companies, and other centralized authorities. The decentralized nature of a blockchain eliminated the risk of a centralized authority controlling the cash system and deciding all facets of transfer policies, including the order of transfers and fees. Blockchain eliminated the risk of the centralized authority being hacked, held hostage, or otherwise captured. Blockchain also eliminated the middleman, reducing

<sup>18.</sup> See id.

<sup>19.</sup> See Gely-Rojas, supra note 11, at 131.

<sup>20.</sup> *See* Roy, *supra* note 1 (translating capítulo (chapter) 1, article 7 of the Ley Bitcoin [Bitcoin Law]).

<sup>21.</sup> See Gely-Rojas, *supra* note 11, at 131. Some argue that Bitcoin is better described as "pseudonymous" because although one can "hide one's actual identity behind" the private key, "sophisticated computer analyses have enabled large transactions to be tracked." Jeanne L. Schroeder, *Bitcoin and the Uniform Commercial Code*, 24 U. MIA. BUS. L. REV. 1, 13 (2016).

<sup>22.</sup> Gely-Rojas, supra note 11, at 129.

<sup>23.</sup> Id. at 130.

<sup>24.</sup> Schmidt & Chan, supra note 8, at 14.

<sup>25.</sup> Id.

the time, fees, and human errors associated with more intermediaries. Satoshi Nakamoto had thought through these issues to present a truly innovative change to the old cash system.<sup>26</sup>

#### B. How Bitcoin Is Acquired and Held

Where does Bitcoin come from and how does one own it? No commodity or promise of any sovereign government backs Bitcoins.<sup>27</sup> New Bitcoins are released into the market through a process called mining in which computer programmers attempt to solve mathematical problems and receive Bitcoin in exchange.<sup>28</sup> Although the original miners were individuals with computers, the computations required to mine Bitcoin have become so complex that the number of miners has decreased and individuals have been replaced by large enterprises that pool resources.<sup>29</sup> One important aspect of Bitcoin that distinguishes it from fiat currency, which can be created at will in infinite amounts,<sup>30</sup> is that the Bitcoin algorithm was designed to cap the amount of Bitcoin that will ever be created at 21 million and to reduce the amount of coins given as rewards to miners as more and more Bitcoin is released.<sup>31</sup>

Unless one is a miner who receives Bitcoin as a reward, one can acquire Bitcoins "by purchasing them on various online exchanges, through peerto-peer transfers, or by receiving them as payment for a product or service."<sup>32</sup> One can hold Bitcoin directly in a digital wallet stored on a personal device and transfer it without the use of any intermediary.<sup>33</sup> The digital wallet stores the private, anonymous keys necessary for accessing a public (but still anonymous) Bitcoin address that represents the Bitcoin.<sup>34</sup> Bitcoin ownership is confirmed through the blockchain by both a public and a private key or passcode.<sup>35</sup>

Although not necessary to transact in Bitcoin since one could transact directly from a digital wallet over the blockchain, "a variety of

<sup>26.</sup> Id.

<sup>27.</sup> Gely-Rojas, supra note 11, at 130.

<sup>28.</sup> Id. at 131; see Schroeder, supra note 21, at 11.

<sup>29.</sup> Schroeder, supra note 21, at 12.

<sup>30.</sup> See Meuse, supra note 10, at IV.a.

<sup>31.</sup> See Gely-Rojas, supra note 11, at 131.

<sup>32.</sup> Id.

<sup>33.</sup> See id. at 130–31; see also Meuse, supra note 10, at IV.d.

<sup>34.</sup> See Gely-Rojas, supra note 11, at 131; see also Meuse, supra note 10, at IV.d.

<sup>35.</sup> See Schroeder, supra note 21, at 13.

intermediaries and exchanges have developed" to facilitate transactions.<sup>36</sup> A cryptocurrency exchange is an online environment in which people can trade Bitcoin for fiat currencies or other cryptocurrencies.<sup>37</sup> Although Bitcoin can be transferred directly over the blockchain, fiat currencies and other things of value cannot be "sent" over the blockchain, so the exchange bridges this gap. These exchanges include Coinbase, Kraken, Bittrex, Bitstamp, Poloniex, and Shapeshift.<sup>38</sup>

In addition to acting as an intermediary to facilitate the exchange of Bitcoin for other cryptocurrencies, fiat currency, or something of value, exchanges can also offer custodial services so that rather than storing the private keys to access Bitcoin in a digital wallet on a personal device, they can be kept by the exchange.<sup>39</sup> One such exchange, Coinbase, explains the difference between holding Bitcoin directly in a digital wallet and holding it through a Coinbase account: "Coinbase.com stores your crypto[currency] for you after you buy it. . . . Think of your Coinbase.com account as a brokerage that can store your crypto[currency] for you, and Wallet like a traditional cash wallet that gives you direct and complete control over your own crypto assets."<sup>40</sup> The analogy to a brokerage account seems apt since if you hold your Bitcoin in a Coinbase.com account, you do not actually have the Bitcoin in your personal wallet; you have a claim against Coinbase.com for the amount of Bitcoin they are holding on your behalf.<sup>41</sup>

Thus, Bitcoin acts like a currency as it is a medium by which people can exchange things of value. It can also be a way to store value since the amount of fiat currency or goods and services one can trade for Bitcoin will fluctuate based upon Bitcoin's perceived value relative to the values of fiat currency. Although functioning like money in this way, until El Salvador passed its Bitcoin law, Bitcoin was not a real currency—no government had

<sup>36.</sup> *Id*.

<sup>37.</sup> See Schmidt & Chan, supra note 8, at 22.

<sup>38.</sup> Id. at 15.

<sup>39.</sup> See id. at 15-16.

<sup>40.</sup> What's the Difference Between Coinbase.com and Coinbase Wallet?, COINBASE, https://help.coinbase.com/en/wallet/getting-started/what-s-the-difference-between-coinbase-com-and-wallet (last visited Mar. 3, 2022).

<sup>41.</sup> See Legal: Coinbase User Agreement, COINBASE (Feb. 1, 2022), https://www.coinbase.com/legal/user\_agreement/united\_states.

designated it as legal tender in which taxes could be paid or that could be required to be accepted in payment of debts.<sup>42</sup>

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#### III. The Impact of El Salvador's Law on the Uniform Commercial Code

The definition of the term "money," contained in Article 1,<sup>43</sup> is the Trojan horse through which the Congress of El Salvador entered into the law of states that have adopted the UCC to change the effects of many aspects of the Code. After examining this definition and its interpretation, this Part surveys the effects that Bitcoin's transformation into money is having on secured transactions, commercial paper, and bank clearing and payment law.

#### A. Bitcoin Becomes Money

The provisions of Article 1 of the UCC apply to transactions that are subject to the scope of all the other articles of the Code.<sup>44</sup> Article 1 defines "money" to mean "a medium of exchange *currently authorized or adopted by a* domestic or *foreign government*. The term includes a monetary unit of account established by an intergovernmental organization or by agreement between two or more countries."<sup>45</sup> The italicized language designates that the act of authorization or adoption of any medium of exchange by any government, not just the United States, is what categorizes a medium of exchange as money for purposes of the Code. The use of both words "authorized" or "adopted" makes clear that the government does not have to issue or create the medium of exchange but can adopt one produced by the market, like Bitcoin. The word "foreign" makes clear that a government like El Salvador can act to include a medium of exchange within the scope of this definition. The comments make clear that although being designated "legal tender" would include a medium of exchange within the definition, the definition is not limited to that concept.<sup>46</sup>

<sup>42.</sup> Joe Hernandez, *El Salvador Just Became the First Country to Accept Bitcoin as Legal Tender*, NPR (Sept. 7, 2021, 4:57 PM ET), https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency.

<sup>43.</sup> See U.C.C. § 1-201(b)(24) (Am. L. INST. & UNIF. L. COMM'N 2018).

<sup>44.</sup> Id. § 1-102.

<sup>45.</sup> Id. § 1-201(b)(24) (emphasis added).

<sup>46.</sup> *Id.* § 1-201 cmt. 24 ("The test is that of sanction of government, whether by authorization before issue or adoption afterward, which recognizes the circulating medium as a part of the official currency of that government. The narrow view that money is limited to legal tender is rejected.").

Prior to El Salvador's Bitcoin Act, commentators agreed that Bitcoin, although a medium of exchange, was not "money" since no government had authorized or adopted it.<sup>47</sup> Now that El Salvador has adopted Bitcoin as money, for all purposes in the UCC, money includes Bitcoin.

Before turning to the likely impacts that this change will have, there is another definition that may be affected by Bitcoin becoming money for purposes of the UCC. Article 1 defines a "bank" as "a person engaged in the business of banking and includes a savings bank, savings and loan association, credit union, and trust company."<sup>48</sup> The Code employs a circular definition: a bank is a person that engages in "the business of banking," but the Code does not define "the business of banking."<sup>49</sup> Looking to other law, one core element of the business of banking is taking deposits.<sup>50</sup> In a recent dispute over the ability of the Office of the Comptroller of the Currency to issue bank charters to loan originators that do not take deposits, the Southern District of New York held that taking deposits was central to the "business of banking" under federal law.<sup>51</sup>

51. See Vullo v. Off. of the Comptroller of the Currency, 378 F. Supp. 3d 271, 292 (S.D.N.Y. 2019), *rev'd sub nom*. Lacewell v. Off. of the Comptroller of the Currency, 999 F.3d 130 (2d Cir. 2021). In reversing, the Second Circuit never reached the merits of the definition of banking; rather, the court reversed because it decided the issue was not ripe as no company had actually filed an application for a license but only a draft application. *See Lacewell*, 999 F.3d at 134.

<sup>47.</sup> See, e.g., Gely-Rojas, supra note 11, at 133-34, 138.

<sup>48.</sup> U.C.C. § 1-201(b)(4).

<sup>49.</sup> See id.

<sup>50.</sup> See First Fiduciary Corp. v. Off. of the Comm'r of Banks, 684 N.E.2d 1, 3 (Mass. App. Ct. 1997) ("Traditionally, banks have as their base functions the acceptance of deposits, the discounting of bills and notes, and the making of loans."); 26 U.S.C. § 581 (stating that "a substantial part" of a bank's business must "consist[] of receiving deposits and making loans and discounts, or of exercising fiduciary powers similar to those permitted to national banks under authority of the Comptroller of the Currency"); 12 U.S.C. § 1813(a)(2) (defining "State bank" as "any bank, banking association, trust company, bank, industrial bank (or similar depository institution which the Board of Directors finds to be operating substantially in the same manner as an industrial bank), or other banking institution which ... is engaged in the business of receiving deposits" (emphasis added)); id. § 1813(1)(1), (3) (defining "deposit" as "the unpaid balance of money or its equivalent received or held by a bank or savings association in the usual course of business and for which it has given or is obligated to give credit" or "money received or held by a bank or savings association, or the credit given for *money* or its equivalent received or held by a bank or savings association, in the usual course of business for a special or specific purpose, regardless of the legal relationship thereby established" (emphasis added)).

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Even if an organization does not engage in all activities undertaken by banks, the UCC's open-ended definition of "bank" that relies on other law to define the business of banking "permits the Code to apply to persons and to organizations that engage in only a restricted area or segment of the total banking business."52 Now that Bitcoin is money, exchanges like Coinbase seem to be operating the business of taking deposits of money; they allow users to store or deposit Bitcoin in their accounts with the exchange, to pay for goods and services out of those accounts, and to receive Bitcoin into them from others. Users of exchange accounts deposit money in the form of Bitcoin and then use the accounts to receive and make payments.<sup>53</sup> Given the breadth of the UCC definition, it is conceivable that exchanges like Coinbase are conducting banking activity in maintaining deposit accounts and are thus banks under the UCC.<sup>54</sup> Whether or not federal or state banking regulatory law would consider an exchange like Coinbase to be conducting banking business and subject to regulation is another interesting question raised by El Salvador's action, but this question is outside the scope of this Article. For purposes of the UCC, whether or not an entity is regulated as a bank under other law is not dispositive of its characterization as a bank under the UCC as long as it is engaged in the business of banking.<sup>55</sup> There seems to be at least a plausible argument that exchanges that permit clients to store Bitcoin could be considered in the banking business and therefore be banks, at least for purposes of the UCC.

#### B. Effects on Secured Transactions Under Article 9

Bitcoin now being money as defined in section 1-201 of the UCC changes how a secured party would perfect a security interest in Bitcoin. Prior to El Salvador's legislative action, Bitcoin was a "general intangible"

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<sup>52. 1</sup>A DAVID FRISCH, LAWRENCE'S ANDERSON ON THE UNIFORM COMMERCIAL CODE § 1-201:741 (rev. 3d ed. 2021).

<sup>53.</sup> Jake Frankenfield, *Bitcoin Exchange*, INVESTOPEDIA (Jan. 15, 2022), https://www.investopedia.com/terms/b/bitcoin-exchange.asp.

<sup>54.</sup> See generally U.C.C. § 1-201(b)(4).

<sup>55.</sup> See Edward D. Jones & Co. v. Mishler, 983 P.2d 1086, 1096 (Or. Ct. App. 1999) (holding that not being subject to bank regulation law does not exempt an organization that conducts banking business from being treated as a "bank" under the UCC); FRISCH, *supra* note 52, § 1-201:741 n.3 ("Whether a person or organization is a bank for the purpose of governmental or administrative regulation of banks presents a different question [than whether a person or organization is a bank for the UCC].").

under the UCC.<sup>56</sup> A secured creditor can perfect a security interest in a general intangible by filing a UCC-1 financing statement that identifies the Bitcoin as such or simply as a "general intangible."<sup>57</sup> A security interest in "money," however, can be perfected only by possession.<sup>58</sup> This method of perfection appears to be impossible given that Bitcoin is not tangible—it cannot be held like a dollar bill or coins. A court could possibly hold that transferring the private key from a device of the debtor to a device of the secured creditor would be possession of the key or the Bitcoin itself, yet these items are not themselves tangible as they are only digital. Thus, the effect of El Salvador's Bitcoin Act making Bitcoin "money" under the UCC is that it now seems impossible to perfect a security interest in Bitcoin, whereas when it was a general intangible, a secured party could simply file a financing statement.

It also may be impossible to determine which jurisdiction's law applies to a security interest in Bitcoin. The choice-of-law provision for money states that "while . . . money . . . is located in a jurisdiction, the local law of that jurisdiction governs."<sup>59</sup> Since Bitcoin is not tangible and only represented by codes dispersed through a decentralized network of nodes, it is not clear in which jurisdiction it is "located." Perhaps it is located in the jurisdiction in which its owner's device holding the digital key is located. Yet, the digital key is not the Bitcoin but only the method to access it. When Bitcoin was a general intangible, the law governing perfection, the effect of perfection, and priority was the law of the jurisdiction in which the debtor was located.<sup>60</sup> The choice of law is a relevant concern because it is possible that, due to the lack of a definition of "possession" in the UCC,<sup>61</sup> different states will develop different rules to define how or if Bitcoin can be possessed. If such a split arises, outcomes may depend upon whether the Bitcoin is located in one state or another.

The one advantage of Bitcoin becoming money is that a transferee of Bitcoin would take free of any security interest in the Bitcoin (unless acting

<sup>56.</sup> See Gely-Rojas, supra note 11, at 137–38; see also Matthew D. Rayburn, Note, Bitcoin When the Bank Breaks: Uncertainty in the Treatment of Bitcoin & Other Cryptocurrencies in the Face of Bankruptcy, 16 N.Y.U. J.L. & BUS. 257, 274–75 (2019).

<sup>57.</sup> See U.C.C. § 9-501(a)(2); see also Schroeder, supra note 21, at 38.

<sup>58.</sup> See U.C.C. § 9-312(b)(3).

<sup>59.</sup> See id. § 9-301(3).

<sup>60.</sup> See id. § 9-301(1).

<sup>61.</sup> See generally id. § 1-201.

in collusion to defraud the secured party).<sup>62</sup> When Bitcoin was a general intangible, security interests continued notwithstanding sale of the Bitcoin (unless the secured party consented to the transfer free of its interest).<sup>63</sup> Investment advisor Michael Gordon noted that when Bitcoin was a general intangible, "it [was] unclear how a transferee would confirm that all liens that previously attached to the relevant Bitcoins [had] been released."<sup>64</sup> Now that Bitcoin is clearly money, this problem has been eliminated.<sup>65</sup> The practical benefit of this change is likely minimal since the anonymous nature of Bitcoin transferred.<sup>66</sup> Thus, although when Bitcoin was a general intangible a security interest would remain attached after transfer, practically it was unlikely a secured party could find the Bitcoin again.

Bitcoin becoming money also implicates parties' contractual obligations. Prior to Bitcoin becoming money, for Article 9 purposes any contract that obligated a party to deliver Bitcoin in exchange for property or services would have been a contract right, and thus a general intangible, since there would have been no obligation to pay "money." Now, however, such an obligation should be classified as an "account" since the obligation to deliver Bitcoin is a "monetary obligation."<sup>67</sup> All rules relating to "accounts"<sup>68</sup> would therefore apply to Bitcoin transactions, including the

65. *See* Schroeder, *supra* note 21, at 16 ("If bitcoin were 'money' it would be entitled to the rule of Sec. 9-332(a).").

67. See generally U.C.C. § 9-102(a)(2).

<sup>62.</sup> See id. § 9-332.

<sup>63.</sup> See id. § 9-325; see also Gely-Rojas, supra note 11, at 138; Schroeder, supra note 21, at 8 ("Unfortunately, general intangibles are non-negotiable. That is, unlike virtually every other category of personal property recognized by Article 9, once a general intangible becomes encumbered by a security interest, it can never become unencumbered even by transfer to a bona fide purchaser for value. This could greatly impinge on bitcoin's liquidity and, therefore, its utility as a payment system.").

<sup>64.</sup> Michael R. Gordon et al., *Bitcoin to Blockchain: How Laws and Regulations Are Conforming to and Impacting the Use of Virtual Currency*, N.Y.C. BAR CTR. FOR CONTINUING LEGAL EDUC. at V.B.3.e.iv (Apr. 28, 2016), 2016 WL 3019299.

<sup>66.</sup> See Pamela J. Martinson & Christopher P. Masterson, *BankThink: The Hazards of Lending to Bitcoin Users*, AM. BANKER (Jan. 2, 2014, 12:00 PM EST), https://www. americanbanker.com/opinion/the-hazards-of-lending-to-bitcoin-users ("Should a borrower transfer collateral funds out of a Bitcoin wallet, it is likely impossible for a creditor to recover since transactions cannot be reversed. Once again, without a control agreement, the option of sweeping the Bitcoin wallet is not available.").

<sup>68.</sup> See, e.g., id. §§ 9-102(a)(2), 9-312(b)(1).

rule that makes sales of accounts subject to Article 9<sup>69</sup> and the rules relating to the assignment of accounts and the obligations of account debtors to comply with notices of assignment.<sup>70</sup> That means that contracts to buy and sell goods and services in exchange for Bitcoin become accounts.

Finally, since Bitcoin is now money, when collateral is sold in exchange for Bitcoin it then becomes "cash proceeds"<sup>71</sup> in which a security interest continues perfected indefinitely as long as the Bitcoin remains identifiable. Given the unique private key, it should remain identifiable.<sup>72</sup> Thus, although it may now be practically impossible to take an original security interest in Bitcoin due to the problem of possession, it is now quite easy to maintain a perfected security interest as proceeds since it is automatically perfected as cash proceeds.<sup>73</sup>

The foregoing analysis applies when the Bitcoin itself is the collateral. If a debtor holds Bitcoin through an exchange as described in Section II.B, then the debtor does not create a security interest in Bitcoin but rather in its rights against the exchange. Strictly speaking, the collateral is the contractual claim against the exchange to receive or transfer the Bitcoin deposited with the exchange.<sup>74</sup> Such a right would be a payment intangible or a general intangible.<sup>75</sup> This latter term is a catchall for all property that is not "accounts, chattel paper, commercial tort claims, deposit accounts, documents, goods, instruments, investment property, letter-of-credit rights, letters of credit, money, and oil, gas, or other minerals before extraction."<sup>76</sup> The only items on this list that could possibly identify an account holding Bitcoin would be an account, a deposit account, or investment property. A customer's account with a Bitcoin exchange would not be an "account" as defined in the UCC because, even though the client's right to receive back their Bitcoin would be considered a "right to payment of a monetary obligation"<sup>77</sup> since Bitcoin is money, such a right does not arise from the disposition of property or services rendered.<sup>78</sup> The client neither disposes of

- 73. See generally id. § 9-312(b)(3)(e).
- 74. See, e.g., supra note 41 and accompanying text.
- 75. See generally U.C.C. § 9-102(a)(42), (61).
- 76. Id. § 9-102(a)(42).
- 77. See generally id. § 9-102(a)(2).
- 78. See generally id.

<sup>69.</sup> See id. § 9-109(a)(3).

<sup>70.</sup> See id. §§ 9-404, 9-406.

<sup>71.</sup> See generally id. § 9-102(a)(9) (defining "[c]ash proceeds" as "proceeds that are *money*, checks, deposit accounts, or the like" (emphasis added)).

<sup>72.</sup> See generally id. § 9-315(d)(2), (e).

the Bitcoin nor provides services to the exchange. Comment 5.a to section 9-102(a)(2) lends support to the argument that an account with an exchange is not an "account" under the UCC:

Among the types of property that are expressly excluded from the definition of account is "a right to payment for money or funds advanced or sold."... As used in the exclusion from the definition of "account," however, "funds" is a broader concept (although the term is not defined). For example, when a banklender credits a borrower's deposit account for the amount of a loan, the bank's advance of funds is not a transaction giving rise to an account.<sup>79</sup>

Since Bitcoin is now money, this comment makes clear that a right to the payment of that money is not an account.

The exchange account could be considered a "deposit account,"<sup>80</sup> since the contract seems similar to a traditional deposit account. The UCC defines "deposit account" as a "demand, time, savings, passbook, or similar account maintained with a bank."<sup>81</sup> This definition, however, "like that of 'money' is surprisingly unhelpful, presupposing that the reader already knows what an 'account maintained by a bank' is."<sup>82</sup> In a cryptocurrency exchange account transaction, like in a traditional bank deposit account, the customer delivers money in exchange for the right to withdraw the money or have it sent from the deposit account to pay other people. Since the exchange account could be considered "similar" to a demand account, the key to the definition is "maintained with a bank."<sup>83</sup> Thus, if exchanges such as Coinbase are banks, as discussed in Section III.A, then these accounts would likely be "deposit accounts."<sup>84</sup>

An exchange account's classification as a deposit account has three consequences. First, using the exchange account as collateral in a consumer transaction<sup>85</sup> would exclude the creation of a security interest in those

<sup>79.</sup> Id. § 9-102 cmt. 5(a).

<sup>80.</sup> See generally id. § 9-102(a)(29).

<sup>81.</sup> *Id*.

<sup>82.</sup> Schroeder, *supra* note 21, at 21.

<sup>83.</sup> See generally U.C.C. § 9-102(a)(29).

<sup>84.</sup> See generally id.

<sup>85.</sup> A "consumer transaction" is defined to mean "a transaction in which (i) an individual incurs an obligation primarily for personal, family, or household purposes, (ii) a security interest secures the obligation, and (iii) the collateral is held or acquired primarily for personal, family, or household purposes." *Id.* § 9-102(a)(26).

accounts from the scope of Article 9 (except that the rules relating to proceeds would still apply).<sup>86</sup> Thus, the only way to obtain a security interest in the exchange account would be to find a method under the pre-Code common law, although it is highly unlikely that caselaw would contain a clear method since Bitcoin did not exist at the time the UCC was first adopted.<sup>87</sup> In the case of non-consumer business transactions, the creation and perfection of a security interest would be subject to Article 9. The only available method of perfection in the exchange account would be to take control of the account<sup>\$8</sup></sup> by one of the three specified methods: (1) the secured party is the exchange itself, (2) the secured party enters into a control agreement with the exchange and the customer, or (3) the secured party becomes the exchange's client.<sup>89</sup> Given that the exchanges are not set up with systems to facilitate one of these methods as are commercial banks, they may not be prepared to review and execute such agreements. Thus, if exchanges such as Coinbase are considered banks and these accounts are considered deposit accounts, the value of Bitcoin held in those accounts would likely be very difficult to use as collateral, but it would be possible to do so for business loans.

A second complexity that would arise is that exchange accounts that hold Bitcoin would be "deposit accounts," but accounts that hold other cryptocurrency would likely not be deposit accounts since Bitcoin is the only cryptocurrency within the UCC's definition of "money." This would make creating a security interest in a portfolio of cryptocurrencies held in exchange accounts a complex situation. Finally, the balance of deposited Bitcoin held in an exchange account would also be "cash proceeds" in which a security interest in proceeds is continually perfected to the extent

<sup>86.</sup> Id. § 9-109(d)(13) (excluding the assignment of deposit accounts in consumer transactions); see also Ben Carpenter, Security Interests in Deposit Accounts and Certificates of Deposit Under Revised UCC Article 9, 55 CONSUMER FIN. L.Q. REP. 133, 134 (2001).

<sup>87.</sup> The UCC was first adopted by a state in 1953. *Uniform Commercial Code*, UNIF. L. COMM'N, https://www.uniformlaws.org/acts/ucc (last visited Mar. 4, 2022). In contrast, Bitcoin was created in 2008 or 2009. *See supra* note 10.

<sup>88.</sup> See U.C.C. § 9-312(b)(1).

<sup>89.</sup> See *id.* § 9-104 (specifying three methods for establishing control of a deposit account: the bank holding the deposit account is the secured party; the secured party becomes the deposit bank's customer on the account; and the deposit bank, debtor, and secured party enter into an agreement by which the deposit bank agrees to act on the instructions of the secured party).

proceeds of the sale or other disposition of collateral could be traced to the Bitcoin deposited.<sup>90</sup>

If, on the other hand, courts determine that the exchanges are not "banks," then the customers' accounts with the exchanges would either be "investment property"<sup>91</sup> or "general intangibles."<sup>92</sup> To be investment property, the exchange account would have to be a "securities account" or a "commodity account."<sup>93</sup> To be a securities account, Bitcoin would have to meet the definition of a "security"94 or a "financial asset."95 A financial asset is either a "security" or

an obligation of a person or a share, participation, or other interest in a person or in property or an enterprise of a person, which is, or is of a type, dealt in or traded on financial markets, or which is recognized in any area in which it is issued or dealt in as a medium for investment.<sup>96</sup>

The UCC does not define the term "security," although the term has an extensive definition in the U.S. Securities Act of 1933.<sup>97</sup> If this definition were applied to Bitcoin, the most likely category of the definition that could apply to it would be an "investment contract."<sup>98</sup> In 1946, the U.S. Supreme Court formulated a definition of an investment contract that has stood the test of time:

a contract, transaction or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party, it being immaterial whether the shares in the enterprise are evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise.<sup>99</sup>

- 93. Id. § 9-102(a)(49).
- 94. See generally Securities Act of 1933 § 2, 15 U.S.C. § 77b(a)(1).
- 95. See generally U.C.C. § 8-501(a).
- 96. See id. § 8-102(9)(i)-(ii).
- 97. See Securities Act of 1933 § 2.
- 98. See generally id.
- 99. SEC v. W.J. Howey Co., 328 U.S. 293, 298-99 (1946).

<sup>90.</sup> See generally id. § 9-102(a)(9) (defining "[c]ash proceeds" to include "deposit accounts"); id. § 9-315(d)(2), (e).

<sup>91.</sup> See generally id. § 9-102(a)(49).

<sup>92.</sup> See generally id. § 9-102(a)(42).

Bitcoin, however, is not a contract between anyone. It is a complex set of computer code. One may own Bitcoin in the expectation that Bitcoin will appreciate in value, but such profit would not be due "solely from the efforts of the promoter or a third party."<sup>100</sup> Also, blockchain's decentralized network of nodes may be interconnected, but it does not appear to be a "common enterprise."<sup>101</sup>

The U.S. Securities and Exchange Commission ("SEC") sent mixed messages for several years about the status of cryptocurrencies as an investment contract and hence as a security.<sup>102</sup> Eventually the SEC released written guidance in 2019, but it merely contained lists of multi-factor considerations and further complicated matters by claiming that a cryptocurrency token, even if a security when first mined, might cease to be one at a later date when transferred.<sup>103</sup> Although the SEC may not presently consider some cryptocurrency to meet the definition of an investment contract or other form of security, William Hinman, the Director of the Division of Corporation Finance, emphasized in a 2019 speech that the "analysis of whether something is a security is not static and does not strictly inhere to the instrument. Even digital assets with utility that function solely as a means of exchange in a decentralized network could be packaged and sold as an investment strategy that can be a security."<sup>104</sup>

If Bitcoin is not a security, it is also likely not a financial asset. Other than securities, the following interests can be financial assets if they meet the other aspects of the above-quoted definition: "an obligation of a person or a share, participation, or other interest in a person or in property or an enterprise of a person."<sup>105</sup> Bitcoin is not an obligation of anyone, and it is not a participation in any person or the property of any enterprise. As described in Section II.A, Bitcoin is not owned by anyone; there is no Bitcoin entity. The network is decentralized, and the creators of the network did not retain any ownership of the network or the Bitcoins that are mined.

<sup>100.</sup> See id. at 299.

<sup>101.</sup> See id. But the SEC has stated they believe a common enterprise may exist. See Framework for "Investment Contract" Analysis of Digital Assets, U.S. SEC, https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets (Apr. 3, 2019) [hereinafter Framework for "Investment Contract" Analysis].

<sup>102.</sup> See Schmidt & Chan, supra note 8, at 17-18.

<sup>103.</sup> See Framework for "Investment Contract" Analysis, supra note 101.

<sup>104.</sup> William Hinman, Dir., Div. of Corp. Fin., U.S. SEC, Digital Asset Transactions: When Howey Met Gary (Plastic), Remarks at the Yahoo Finance All Markets Summit: Crypto (June 14, 2018), https://www.sec.gov/news/speech/speech-hinman-061418.

<sup>105.</sup> U.C.C. § 8-102(a)(9)(ii) (Am. L. INST. & UNIF. L. COMM'N 2018).

Although it would seem that Bitcoin in an exchange account is not a security or a financial asset, exchanges like Coinbase that offer custodial services might be able to use contracts to turn Bitcoin into a financial asset and the account into a securities account.<sup>106</sup> The definition of financial asset also includes this broad provision: "any property that is held by a securities intermediary for another person in a securities account if the securities intermediary has expressly agreed with the other person that the property is to be treated as a financial asset under this Article."<sup>107</sup> If an organization like Coinbase were a "securities intermediary"<sup>108</sup> and the exchange placed in the account agreement that the account be considered a "securities account,"109 then the Coinbase contract could establish that Bitcoin is a financial asset. The term "securities intermediary" includes "(i) a clearing corporation; or (ii) a person, including a bank or broker, that in the ordinary course of its business maintains securities accounts for others and is acting in that capacity."110 Unlike the definition of a deposit account, this definition does not require that exchanges be considered banks, as a securities intermediary can be simply "a person." The key term in the securities intermediary definition is "securities account," which is defined as "an account to which a financial asset is or may be credited in accordance with an agreement under which the person maintaining the account undertakes to treat the person for whom the account is maintained as entitled to exercise the rights that comprise the financial asset."<sup>111</sup> Thus, an exchange like Coinbase could simply characterize the account as a "securities account" and agree in the account opening contract with its customer that Bitcoin is a "financial asset." If the Bitcoin account became a "securities account," a secured party could perfect a security interest in the exchange account either by filing or control,<sup>112</sup> but control would entitle the secured party priority over parties who merely filed a financing statement.<sup>113</sup>

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<sup>106.</sup> See Schroeder, supra note 21, at 59-60.

<sup>107.</sup> U.C.C. § 8-102(a)(9)(iii).

<sup>108.</sup> See generally id. § 8-102(a)(14).

<sup>109.</sup> See generally id. § 8-501(a).

<sup>110.</sup> Id. § 8-102(a)(14).

<sup>111.</sup> See id. § 8-501(a).

<sup>112.</sup> See id. § 9-310(a), (b)(8) (optional perfection by filing); id. § 9-312(b)(1) (perfection by control); id. § 9-314(a) (perfection by control).

<sup>113.</sup> See id. § 9-328(1); see also Schroeder, supra note 21, at 62 ("Whereas perfection by filing gives secured parties little practical ability to protect themselves against transfers of

If Bitcoin is not a security or a financial asset, then it is not investment property, and interests in accounts held at exchanges such as Coinbase would not be securities entitlements.<sup>114</sup> Therefore, exchange customers' property interests that act as depositories of Bitcoin would be considered general intangibles.<sup>115</sup> In any event, regardless of whether accounts with Bitcoin exchanges are investment property or general intangibles, one could create a security interest by filing a financing statement, although secured parties lack the added priority by control obtained in investment property.<sup>116</sup>

Unlike the case in which the exchange account is a deposit account, the analysis of the account as investment property would likely not differ for other cryptocurrencies since it does not hinge on the money definition.<sup>117</sup> Thus, an exchange could establish standard contracts for treating these accounts as investment property and agreeing to grant control to secured parties.

In conclusion, the designation of Bitcoin as "money" makes it practically impossible to obtain a perfected security interest in Bitcoin directly since it cannot be "possessed." Prior to this designation, one could likely obtain a perfected security interest in Bitcoin as a general intangible,<sup>118</sup> which is likely still possible for other forms of cryptocurrency. In order to obtain a perfected security interest in the value of Bitcoin, a secured party could require a debtor to deposit Bitcoin with an exchange that will hold the Bitcoin and then obtain control of that account (in case it is a deposit account or investment property) and file a financing statement identifying the account (in case it is a general intangible). Bitcoin, and the accounts in which it is held if considered a deposit account, would constitute cash proceeds.

collateral, the super-negotiation regimes of Articles 8 and 9 give secured parties the ability to ratchet up protection through 'control.'").

<sup>114.</sup> See generally Securities Act of 1933 § 2, 15 U.S.C. § 77b(a)(1) (defining "security"); U.C.C. § 8-102(9)(i)-(ii) (defining "financial asset"); *id.* § 9-102(a)(49) (defining "investment property").

<sup>115.</sup> See generally U.C.C. § 9-102(42) (defining "general intangible" as all other personal property that does not meet the definition of any other defined category of property).

<sup>116.</sup> See id. §§ 9-310, 9-312(a), (b)(1).

<sup>117.</sup> See generally id. § 3-104 cmt. 1.

<sup>118.</sup> See generally id. § 9-102(a)(42).

#### C. Possible Effects on Commercial Paper and Bank Account Law in Articles 3 and 4

The designation of Bitcoin as legal tender in El Salvador will also have potential impacts on Article 3 (negotiable instruments) and Article 4 (bank deposits).

The key definition in Article 3 is that of a negotiable instrument, which is "an unconditional promise or order to pay a fixed amount of money, with or without interest or other charges described in the promise or order."<sup>119</sup> Now that Bitcoin is money according to the UCC, any writing that meets the definition of a "promise"<sup>120</sup> or "order"<sup>121</sup> to pay Bitcoin could be a negotiable instrument subject to the rules of Article 3.<sup>122</sup> The comment to the section makes clear that a promise or order to pay money includes one to pay money that is not U.S. dollars.<sup>123</sup> That would mean such writings would be subject to all the rules on negotiation and transfer,<sup>124</sup> as well as those that grant rights and privileges to "holders in due course."<sup>125</sup> This new categorization of promises or orders to deliver Bitcoin as "negotiable instruments" would not include electronic communications since the term is limited to communications in writing.<sup>126</sup>

Similar issues arise under Articles 4 (bank deposits and collections) and 4A (funds transfer), although they may be more relevant under 4A given that this article is not tied to written documents as extensively as Articles 3 and 4.127

<sup>119.</sup> See id. § 3-104(a) (emphasis added).

<sup>120.</sup> See generally id. § 3-103(a)(12).

<sup>121.</sup> See generally id. § 3-103(a)(8).

<sup>122.</sup> See id. § 3-104(a).

<sup>123.</sup> See id. § 3-104 cmt. 1 ("Money' is defined in Section 1-201(24) and is not limited to United States dollars. It also includes a medium of exchange established by a foreign government . . . . ").

<sup>124.</sup> See id. §§ 3-201 to 3-207.

<sup>125.</sup> See generally id. § 3-302 (defining "holder in due course"). Holders in due course can enforce instruments and are not subject to several claims or defenses when enforcing the instrument. See id. § 3-305.

<sup>126.</sup> See generally id. § 3-103(a)(8), (a)(12); id. § 3-104 cmt. 1.

<sup>127.</sup> See id., § 4A-103(a)(1) (contemplating oral and electronic transmission of a payment order). See generally Carleton R. Burch & Mark J. Krone, Common Issues for Financial Institutions and Fidelity Insurers Under Articles 3, 4 and 4A of the Uniform Commercial Code, 22 FID. L.J. 103 (2016).

Article 4 governs the responsibilities and liabilities of banks that handle the collection and deposit of checks.<sup>128</sup> Article 4 applies to banks and uses the same definition of banks discussed in Section III.A.<sup>129</sup> The same openended definition of "engaged in the business of banking"<sup>130</sup> is broad enough to potentially apply to a Bitcoin exchange that allows customers to maintain accounts holding Bitcoin, as such activity might be taking deposits for purposes of this definition. Any check, a written order to pay Bitcoin drawn on an exchange considered a bank,<sup>131</sup> would be subject to Article 4's presentment and collection rules and liability allocations.<sup>132</sup> Since such exchanges are not operated in the same manner as banks, they likely lack the processes, procedures, and back-office software to handle items subject to these rules.

Given that transactions in Bitcoin and on exchanges are, as a practical matter, likely to be accomplished electronically, it is more likely that Article 4A, rather than the paper-based Articles 3 and 4, would be of actual concern. Article 4A governs "payment orders," which are defined 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 to a beneficiary if [other conditions relating to the order are met]."<sup>133</sup> As previously noted, Bitcoin meets the UCC definition of money,<sup>134</sup> and exchanges such as Coinbase may be considered banks for UCC purposes.<sup>135</sup> One of the official comments to the definition of "bank" reinforces this conclusion: "The definition of 'bank' in subsection [4A-105](a)(2) includes some institutions that are not commercial banks. The definition previously restricted to commercial banks, including acting on behalf of customers in funds transfers ....."<sup>136</sup>

Unlike Articles 3 and 4, Article 4A applies to instructions "transmitted . . . electronically."<sup>137</sup> If an instruction to an exchange that is treated as a bank to pay Bitcoin is a "funds transfer," then the transaction is

<sup>128.</sup> See Burch & Krone, supra note 127, at 103.

<sup>129.</sup> See U.C.C. § 4-105(1).

<sup>130.</sup> Id.

<sup>131.</sup> See id. § 3-104(f).

<sup>132.</sup> See id. §§ 4-102, 4-202, 4-402.

<sup>133.</sup> Id. § 4A-103(a)(1).

<sup>134.</sup> See supra Section III.A.

<sup>135.</sup> See supra note 54.

<sup>136.</sup> U.C.C. § 4A-105 cmt. 1.

<sup>137.</sup> See id. § 4A-103(a)(1).

"governed by [Article 4A's] unique rules intended to be the exclusive means of determining the rights, duties, and liabilities of the affected parties, so that resort to principles of law or equity outside of Article 4A is deemed not appropriate."<sup>138</sup> Since cryptocurrency exchanges have not considered themselves banks, they likely lack the operations and systems to process transactions consistent with Article 4A. Also, these exchanges would face the perplexing problem that, since only Bitcoin has become "money" for UCC purposes, transactions involving Bitcoin would be subject to Article 4A but not transactions involving other forms of cryptocurrency.

#### IV. Conclusion

El Salvador has struck the Achilles' heel of the Uniform Commercial Code to work a dramatic change in U.S. law. The definition of "money" requires only that any government adopt or approve a medium of exchange. This allowed the government of El Salvador to transform Bitcoin into "money" under the UCC.

The most far-reaching implication of this change is in the area of secured transactions. Now Bitcoin is subject to Article 9's rules governing money.<sup>139</sup> It is now practically impossible to perfect a security interest in Bitcoin since the only permitted method of perfection is possession.<sup>140</sup> The result exposes a significant assumption that undergirds the UCC's rules concerning money—that it will always be something tangible that can be possessed. There are two solutions to this problem. Either the definition of "money" is amended to require a tangible substance to be considered money, or Article 9 is amended to permit perfection in money by filing. I have already advocated elsewhere the second solution for reasons beyond the case of Bitcoin.<sup>141</sup> The change in status does provide greater negotiability for Bitcoin since security interests generally do not remain in place after money is transferred. It also means that a security interest in

<sup>138.</sup> Gary D. Spivey, Construction and Application to Immediate Parties of Uniform Commercial Code Article 4A Governing Funds Transfers, 62 A.L.R.6TH 1, 1 (2011).

<sup>139.</sup> See supra Section III.B.

<sup>140.</sup> See supra note 58.

<sup>141.</sup> See Brian M. McCall, Money, Money Everywhere but Not a Drop to Secure: A Proposal for Amending the Perfection Rules for Security Interests in Money and Deposit Accounts, 74 TENN. L. REV. 669, 709–10 (2007).

Bitcoin that is proceeds of other collateral benefits from the "cash proceeds" automatic and continuous perfection rule.<sup>142</sup>

The change also may impact the enterprises that provide trading and storage services to owners of Bitcoin. For those customers who deposit Bitcoin into an account held with the exchange, it is now unclear if their rights under that arrangement are "general intangibles,"<sup>143</sup> "deposit accounts,"<sup>144</sup> or "securities accounts."<sup>145</sup> The answer hinges upon whether these exchanges are "banks" because they engage in the business of banking by taking deposits of money in the form of Bitcoin. If they are banks, then the accounts are "deposit accounts,"<sup>146</sup> but if not, they could be either "general intangibles"<sup>147</sup> or "securities accounts."<sup>148</sup> The result is that it is unclear if the perfection of a security interest in these accounts can or must be accomplished by obtaining control or by filing a financing statement.

If exchanges like Coinbase become banks under the UCC, such exchanges would be subject to all the rules and liability allocations of Articles 3, 4, and 4A.<sup>149</sup> It is unlikely that there would be a significant impact from Articles 3 and 4 since those parts of the UCC require a physical writing, which is unlikely to be used in transactions with internet-based exchanges. Article 4A, however, permits payment orders to be made orally or "electronically,"<sup>150</sup> which would mean that such exchanges would need to adopt policies, procedures, and systems used by banks to process payment orders. Yet, unlike traditional banks, the exchanges would have to follow these rules only with respect to transactions based on Bitcoin and not other cryptocurrencies. A solution to this problem is to amend the definition of "bank" to exclude transactions involving deposits of Bitcoin or other cryptocurrencies. In addition, if the definition of money were amended to exclude Bitcoin by requiring a tangible representation of the medium of exchange, the ambiguity about engaging in banking would be eliminated.

<sup>142.</sup> See generally U.C.C. §§ 9-102(a)(9), 9-315(d).

<sup>143.</sup> See generally id. § 9-102(a)(42).

<sup>144.</sup> See generally id. § 9-102(a)(29).

<sup>145.</sup> See generally id. § 8-501(a).

<sup>146.</sup> See supra notes 80-90 and accompanying text.

<sup>147.</sup> See supra notes 56–57 and accompanying text.

<sup>148.</sup> See supra notes 95–113 and accompanying text.

<sup>149.</sup> See supra Section III.C.

<sup>150.</sup> U.C.C. § 4A-103(a)(1).

In any event, the Uniform Laws Commission should prioritize studying the issues made pressing by El Salvador's legislation and update the definitions of "money" and "bank." U.S. commercial law needs clearer answers to these questions.