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# VIRTUAL CURRENCY AS CRYPTO COLLATERAL UNDER ARTICLE 9 OF THE UCC: TRYING TO FIT A SQUARE PEG IN A ROUND HOLE

Sharon E. Foster\*

## I. INTRODUCTION

This Article addresses the current state of academic discussion regarding the problems of creating an enforceable security interest under Article 9 of the Uniform Commercial Code (UCC) using virtual currency, such as bitcoin, as collateral.<sup>1</sup> While academic discussion is helpful and, indeed, may one day be adopted by a court and become law, the primary problem in using virtual currency as collateral is the uncertainty regarding using Article 9 to create an enforceable security interest in virtual currency. Simply put, Article 9 does not specifically address virtual currency as collateral, and we have no case law at this time to rely upon.

In addressing this uncertain state of affairs, this Article shall examine the four primary considerations regarding creating an enforceable security interest: scope, creation, perfection, and tracing. First, does the scope of Article 9 of the UCC apply to virtual currency? As indicated in Part II, this is not a settled issue. Virtual currency would probably have to qualify as personal property to be covered under the scope provisions of Article 9. While it seems likely that virtual currency will qualify as personal

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1. Additional problems regarding virtual currency, including purchase money security interests, duties regarding collateral, liability risks, proceeds, disposition of collateral, and accounting requirements are not discussed in this paper. However, some of these issues are addressed in Fred H. Miller & Alvin C. Harrell, *Current Issues: UCC Articles 2 and 2A; Virtual Currency*, 71 CONSUMER FIN. L.Q. REP. 59, 66-67 (2017). For purposes of this paper, I have used the term “virtual currency” rather than “cryptocurrency” or other like terms.

property, there is some uncertainty that will only be resolved by case law or a revision of Article 9 to clarify this issue.

Second, the creation of a security interest in virtual currency is discussed in Part III. Here, as with the scope issue, there are definitional problems. Creation of a security interest requires evidence of a voluntary lien by the debtor<sup>2</sup> “that provides a description of the collateral.”<sup>3</sup> If the collateral is not properly described, there is no security interest.<sup>4</sup> Current practice is to use UCC defined collateral description, when possible, to avoid a finding of an insufficient description.<sup>5</sup> However, as with scope, virtual currency does not neatly fit into the UCC defined collateral descriptions.

Third, the issue of perfection of the security interest will be discussed in Part IV. As with scope and creation, perfection of a security interest depends on the type of collateral. There are four mechanisms for perfection: filing a financing statement, control, possession, and automatic perfection.<sup>6</sup> As explained in more detail, it is critical that the secured party select the proper mechanism of perfection in order to ensure perfection is achieved and priority secured.<sup>7</sup> When one does not know the collateral type, as with the case of virtual currency, there is the possibility of improper perfection creating significant uncertainty.

Finally, Part V addresses the problems of tracing. This issue arises in situations where there was the creation and perfection of a security interest, but the debtor subsequently transfers the collateral to a third party.<sup>8</sup> The first issue to address is whether the security interest remains with virtual currency collateral in the hands of a third-party transferee. And second, even if the security interest remains, how can the secured party trace specific virtual

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2. U.C.C. § 9-203(b) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

3. § 9-203(b)(3)(A); U.C.C. § 9-108 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

4. § 9-108.

5. *See infra* text accompanying notes 74-80.

6. U.C.C. § 9-310(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019); U.C.C. § 9-314 (AM. LAW INST. & UNIF. LAW COMM’N 2019); U.C.C. § 9-312(a)-(b) (AM. LAW INST. & UNIF. LAW COMM’N 2019); U.C.C. § 9-313(a)-(c) (AM. LAW INST. & UNIF. LAW COMM’N 2019); U.C.C. § 9-309 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

7. *See infra* text accompanying notes 177-89.

8. *See infra* text accompanying notes 210-12; U.C.C. § 9-201(a) cmt. 2 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

currency to a third-party transferee? Given the nature of virtual currency, these four issues underscore the current state of commercial inefficiency of Article 9 for virtual currency as collateral.

## II. DOES ARTICLE 9 OF THE UNIFORM COMMERCIAL CODE APPLY?

The first step in determining if a creditor can obtain an enforceable security interest in virtual currency is to establish the applicability of Article 9 of the UCC. To ascertain the answer to that question, we must look to the scope of Article 9 under section 9-109:

(a) General scope of article.

Except as otherwise provided in subsections (c) and (d), this article applies to:

- (1) a transaction, regardless of its form, that creates a security interest in *personal property* or fixtures by contract;
- (2) an agricultural lien;
- (3) a sale of accounts, chattel paper, payment intangibles, or promissory notes;
- (4) a consignment;
- (5) a security interest arising under Section 2-401, 2-505, 2-711(3), or 2A-508(5), as provided in Section 9-110; and
- (6) a security interest arising under Section 4-210 or 5-118.<sup>9</sup>

Few academic papers examine this first step in detail. However, the scope issue has not been settled. To illustrate, at its October 2019 meeting, the Uniform Law Commission Joint Study Committee on the Uniform Commercial Code and Emerging Technologies stated as one of the issues to consider: “Does the UCC apply?”<sup>10</sup>

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9. U.C.C. § 9-109(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019) (emphasis added). Section 9-109 also lists transactions to which Article 9 does not apply. § 9-109(d). While not addressed in this article, issues relating to state, federal, and foreign laws which may preempt Article 9 could receive significant attention in the near future. Brackets originally existing in the UCC provisions have been omitted to clearly express any changes made by the author.

10. Joint Study Committee on the Uniform Commercial Code and Emerging Technologies, *Issues List*, UNIF. LAW COMM’N (Sept. 16, 2019), [<https://perma.cc/ND3U-NKYF>].

### A. Is Virtual Currency “Personal Property?”

The general consensus in the academic community assumes that virtual currency would be “personal property” under Article 9.<sup>11</sup> If virtual currency is personal property, it would qualify for Article 9 coverage under section 9-109(a)(1).<sup>12</sup> Currently, virtual currency has been defined as “property” by the Internal Revenue Service (IRS) for tax purposes.<sup>13</sup> In general, the Commodity Futures Trading Commission (CFTC)<sup>14</sup> defines virtual currency using the IRS definition.<sup>15</sup>

That said, it is not at all clear that courts will deem virtual currency to be personal property for purposes of Article 9 of the UCC. This is, in part, due to the intangible nature of virtual currency and courts’ rather conservative view of property as tangible. For example, in *Network Solutions, Inc. v. Umbro International, Inc.*,<sup>16</sup> the court was confronted with whether a domain name was truly property or services.<sup>17</sup> The court concluded “a domain name registration is the product of a contract for services between the registrar and registrant,” rather than a true form of personal property.<sup>18</sup> However, the Ninth Circuit has held that a domain name

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11. See Miller & Harrell, *supra* note 1, at 66; Lorena Yashira Gely-Rojas, Note, *Cryptocurrencies and the Uniform Commercial Code: The Curious Case of Bitcoin*, 8 U. P.R. BUS. L.J. 129, 134 (2017); Jeanne L. Schroeder, *Bitcoin and the Uniform Commercial Code*, 24 U. MIAMI BUS. L. REV. 1, 18 (2016).

12. § 9-109(a)(1) (stating that Article 9 applies to “a transaction, regardless of its form, that creates a security interest in personal property”).

13. I.R.S. Notice 2014-21, 2014-16 I.R.B. 938 [hereinafter I.R.S. Notice] (“For federal tax purposes, virtual currency is treated as *property*. General tax principles applicable to property transactions apply to transactions using virtual currency.”) (emphasis added); see also Anthony F. Fata & Brian P. O’Connell, *The Blockchain Bandwagon: Cryptocurrency on the Move*, CBA REC., Jan. 2018, at 30.

14. The CFTC is an independent U.S. governmental agency that regulates the U.S. commodities including derivatives markets. “In 2014, the CFTC declared virtual currencies to be a ‘commodity’ subject to oversight under its authority under the Commodity Exchange Act (CEA).” CFTC BACKGROUND ON OVERSIGHT OF AND APPROACH TO VIRTUAL CURRENCY FUTURES MARKETS, U.S. COMMODITY FUTURES TRADING COMM’N 1 (Jan. 4, 2018), [https://perma.cc/CFP9-TRZ2]. CFTC activities regarding cryptocurrency may include regulating Bitcoin futures exchanges (BitFinex) and enforcing the laws related to derivatives platforms. *Id.*

15. PRIMER ON VIRTUAL CURRENCIES, U.S. COMMODITY FUTURES TRADING COMM’N 4 (Oct. 17, 2017), [https://perma.cc/752A-DY74] [hereinafter CFTC PRIMER].

16. *Network Sols., Inc. v. Umbro Int’l, Inc.*, 529 S.E.2d 80 (Va. 2000).

17. *Id.* at 85-86.

18. *Id.* at 86 (quoting *Dorel v. Arel*, 60 F. Supp. 2d 558, 561 (E.D. Va. 1999)) (internal quotations omitted).

is “an intangible property right.”<sup>19</sup> This confusion shows judicial difficulty in conceptualizing intangible property rights which, in turn, creates difficulties in even getting past the first hurdle—does Article 9 apply?<sup>20</sup> As for the remaining categories of coverage under the Article 9 scope provision, an agricultural lien; a sale of accounts; chattel paper; payment intangibles or promissory notes; a consignment; a security interest arising under sections 2-401, 2-505, 2-711(3), or 2A-508(5), as provided in section 9-110; and a security interest arising under sections 4-210 or 5-118 are most likely not applicable.<sup>21</sup>

### **B. Virtual Currency Is Not an “Agricultural Lien”**

An “agricultural lien” is defined as “an interest in farm products:”

(A) which secures payment or performance of an obligation for:

- (i) goods or services furnished in connection with a debtor’s farming operation; or
- (ii) rent on real property leased by a debtor in connection with its farming operation;

(B) which is created by statute in favor of a person that:

- (i) in the ordinary course of its business furnished goods or services to a debtor in connection with a debtor’s farming operation; or
- (ii) leased real property to a debtor in connection with the debtor’s farming operation; and

(C) whose effectiveness does not depend on the person’s possession of the personal property.<sup>22</sup>

To fall under the scope provision here, virtual currency would have to qualify as a farm product, which is highly unlikely.<sup>23</sup>

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19. *See* *Kremen v. Cohen*, 337 F.3d 1024, 1030 (9th Cir. 2003).

20. *See* Christopher K. Odinet, *Bitproperty and Commercial Credit*, 94 WASH. U. L. REV. 649, 680-93 (2017).

21. *See* discussion *infra* Sections II.B-I.

22. U.C.C. § 9-102(a)(5) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

23. § 9-102(a)(34) (defining “farm products”).

### C. Virtual Currency Is Not an “Account”

For purposes of “sale of accounts,” an “account” is defined and discussed in Section III.B.1,<sup>24</sup> which concludes that virtual currency would not be considered an account.<sup>25</sup>

### D. Virtual Currency Is Not “Chattel Paper”

“Chattel paper” is defined as a:

[R]ecord or records that evidence both a *monetary obligation* and a *security interest* in specific goods, a security interest in specific goods and software used in the goods, a security interest in specific goods and license of software used in the goods, a lease of specific goods, or a lease of specific goods and license of software used in the goods. In this paragraph, “monetary obligation” means a monetary obligation secured by the goods or owed under a lease of the goods and includes a monetary obligation with respect to software used in the goods. The term does not include (i) charters or other contracts involving the use or hire of a vessel or (ii) records that evidence a right to payment arising out of the use of a credit or charge card or information contained on or for use with the card. If a transaction is evidenced by records that include an instrument or series of instruments, the group of records taken together constitutes chattel paper.<sup>26</sup>

First, it is doubtful that virtual currency meets the definition of “record,” which is defined as “information that is inscribed on a tangible medium or which is stored in an electronic or other medium and is retrievable in perceivable form.”<sup>27</sup> Virtual currency is transferable but not retrievable in a perceivable form. Second, a “monetary obligation”<sup>28</sup> is the requirement to pay money.<sup>29</sup> As discussed in Section III.B.6, virtual currency does not qualify as money.<sup>30</sup>

Finally, virtual currency does not evidence a “security interest” such as an Article 9 security interest. Virtual currency has

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24. See discussion *infra* Section III.B.1.

25. See § 9-102(a)(2).

26. § 9-102(a)(11) (emphasis added).

27. § 9-102(a)(70).

28. “Monetary obligation” is not defined in the U.C.C. See § 9-102(a).

29. See *Aetna Fin. Co. v. Hendrickson*, 526 N.E.2d 1222 (Ind. Ct. App. 1988).

30. See discussion *infra* Section III.B.6.

variously been defined as: “a digital unit of exchange that is not backed by a government-issued legal tender”<sup>31</sup>; “a medium of exchange that operates like a currency in some environments, but . . . does not have legal tender status in any jurisdiction”<sup>32</sup>; and “a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value.”<sup>33</sup> None of these definitions line-up with the definition of a security interest which means “an interest in *personal property* or *fixtures* which secures payment or performance of an obligation.”<sup>34</sup>

As indicated above, it is unclear if virtual currency will be deemed personal property.<sup>35</sup> As for “fixtures,” this is not applicable, as a fixture means “goods that have become so related to particular real property that an interest in them arises under real property law.”<sup>36</sup> This is hardly an attribute of virtual currency. Further, the above IRS and CFTC definition of virtual currency does not indicate a mechanism to “secure payment or other performance of an obligation.”<sup>37</sup>

### E. Virtual Currency Is Not a “Payment Intangible”

A “payment intangible” is “a general intangible under which the account debtor’s principal obligation is a *monetary obligation*.”<sup>38</sup> As noted, a monetary obligation<sup>39</sup> is the requirement to pay money,<sup>40</sup> and virtual currency does not meet the definition of money.<sup>41</sup>

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31. U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-13-516, VIRTUAL ECONOMIES AND CURRENCIES: ADDITIONAL IRS GUIDANCE COULD REDUCE TAX COMPLIANCE RISKS 3 (2013).

32. FIN. CRIMES ENF’T NETWORK, DEP’T OF TREASURY, FIN-2013-G001, GUIDANCE APPLICATION OF FINCEN’S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES 1 (Mar. 18, 2013), [<https://perma.cc/J7HJ-Q6RD>] [hereinafter FIN-2013-G001].

33. I.R.S. Notice, *supra* note 13.

34. U.C.C. § 1-201(b)(35) (AM. LAW INST. & UNIF. LAW COMM’N 2019) (emphasis added).

35. *See* discussion *supra* Section II.A.

36. U.C.C. § 9-102(a)(41) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

37. § 9-102(a)(59).

38. § 9-102(a)(61) (emphasis added).

39. “Monetary obligation” is not defined in Article 9 of the U.C.C. *See* § 9-102(a).

40. *See* *Aetna Fin. Co. v. Hendrickson*, 526 N.E.2d 1222 (Ind. Ct. App. 1988).

41. *See* discussion *infra* Section III.B.6.

### F. Virtual Currency Is Not a “Promissory Note”

A “promissory note” is defined as “an *instrument* that evidences a promise to pay a *monetary obligation*, does not evidence an order to pay, and does not contain an acknowledgment by a bank that the bank has received for deposit a sum of money or funds.”<sup>42</sup> As indicated in Section III.B.4, virtual currency does not qualify as an “instrument,”<sup>43</sup> and, as discussed above, virtual currency does not evidence a promise to pay a monetary obligation.<sup>44</sup>

### G. Virtual Currency Is Not a “Consignment”

Under Article 9 of the UCC, “consignment” means:

[A] transaction, regardless of its form, in which a person delivers *goods* to a merchant for the purpose of sale and:

(A) the merchant:

(i) deals in goods of that kind under a name other than the name of the person making delivery;

(ii) is not an auctioneer; and

(iii) is not generally known by its creditors to be substantially engaged in selling the goods of others;

(B) with respect to each delivery, the aggregate value of the goods is \$1,000 or more at the time of delivery;

(C) the goods are not consumer goods immediately before delivery; and

(D) the transaction does not create a security interest that secures an obligation.<sup>45</sup>

Here, there is a requirement of a transaction in “goods,” which are defined as “all things . . . which are moveable at the time of identification to the contract for sale . . . .”<sup>46</sup> The problem for virtual currency lies in the “moveable” requirement. Generally, to be

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42. § 9-102(a)(65) (emphasis added).

43. See discussion *infra* Section III.B.4.

44. See discussion *supra* in Sections II.D-E.

45. § 9-102(a)(20) (emphasis added).

46. U.C.C. § 2-105(1) (AM. LAW INST. & UNIF. LAW COMM'N 2019).

moveable the item in question must be tangible.<sup>47</sup> Virtual currency is more akin to an intangible.<sup>48</sup>

#### H. Virtual Currency Does Not Qualify Under the Scope Provisions That Reference UCC Articles 2 and 2A

Sections 2-401, 2-505, 2-711(3), and 2A-508(5) referenced under the scope provision of Article 9 apply to Article 2, which applies to the sale of goods, or Article 2A, which applies to leases.<sup>49</sup> The scope of Article 2 is limited to goods,<sup>50</sup> which does not apply to virtual currency, as discussed above.

As for Article 2A, its scope is limited to “any transaction . . . that creates a lease.”<sup>51</sup> A “lease” is defined as “a transfer of the right to possession and use of goods for a term in return for consideration . . . .”<sup>52</sup> In addition to the probable inapplicability of a transfer of a right to possession and use for virtual currency, there is the additional inapplicability based on the limitation to goods.

#### I. Virtual Currency Does Not Qualify Under the Scope Provisions That Reference UCC Articles 4 and 5

As for sections 4-210 and 5-118 under the scope provision of Article 9, Article 4 of the UCC addresses bank deposits and collections,<sup>53</sup> and section 4-210 is specifically limited to a “collecting bank,” which is defined as “a *bank* handling an item for collection except the payor bank.”<sup>54</sup> A “bank” is defined as “an organization that is engaged in the business of banking. The term

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47. See Adam Epstein, *Sales and Sports Law*, 18 J. LEGAL ASPECTS SPORT 67, 70 (2008); Nancy S. Kim, *Expanding the Scope of the Principles of the Law of Software Contracts to Include Digital Content*, 84 TUL. L. REV. 1595, 1597 (2010); Frank D. Nguyen, *Regulation of Medical Expert Systems: A Necessary Evil?*, 34 SANTA CLARA L. REV. 1187, 1199 (1994).

48. An intangible is not defined in the UCC but is generally defined as something “that does not exist as a physical thing but is still valuable to a company.” *Intangible*, OXFORD LEARNER’S DICTIONARIES (last visited Mar. 20, 2020), [<https://perma.cc/W5AT-2KKH>].

49. U.C.C. § 2-102 (AM. LAW INST. & UNIF. LAW COMM’N 2019); U.C.C. § 2A-102 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

50. § 2-102.

51. § 2A-102.

52. U.C.C. § 2A-103(1)(j) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

53. U.C.C. § 4-101 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

54. U.C.C. § 4-105(5) (AM. LAW INST. & UNIF. LAW COMM’N 2019) (emphasis added).

includes savings banks, savings and loan associations, credit unions, and trust companies.”<sup>55</sup>

The Official Comments are not much help here: “The revised definition of ‘deposit account’ incorporates the definition of ‘bank,’ which is new. The definition derives from the definitions of ‘bank’ in Sections 4-105(1) and 4A-105(a)(2), which focus on whether the organization is ‘engaged in the business of banking.’”<sup>56</sup>

Case law addressing this issue is unanimous in holding that the “business of banking” for purposes of the UCC is a functional test, not a question regarding whether the entity is chartered under state or federal law.<sup>57</sup> Accordingly, an entity that accepts deposits, issues notes, provides checking account services, transfers funds, and loans is in the business of banking.<sup>58</sup> The critical issue here is that virtual currency is, in most cases, not held by a bank as that term is defined.<sup>59</sup>

Article 5 applies to “letters of credit,”<sup>60</sup> which are defined as:

[A] definite undertaking that satisfies the requirements of Section 5-104 by an issuer to a beneficiary at the request or for the account of an applicant or, in the case of a financial institution, to itself or for its own account, to honor a documentary presentation by payment or delivery of an item of value.<sup>61</sup>

Section 5-118 is limited to a security interest for “[a]n issuer or nominated person . . . in a document presented under a letter of

55. U.C.C. § 9-102(a)(8) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

56. § 9-102 cmt. 12.

57. See *Whitaker v. Wedbush Securities, Inc.*, No. 1-18-1455, 2019 WL 1319858, \*2 (Ill. App. Ct. Mar. 21, 2019); *Brooks v. Transamerica Fin. Advisors*, 57 So. 3d 1153, 1159 (La. Ct. App. 2011); *McCray v. Commonwealth*, 556 S.E.2d 50, 51 (Va. Ct. App. 2001); *Childers v. State*, 813 N.E.2d 432, 435-36 (Ind. Ct. App. 2004); *Edward D. Jones & Co. v. Mishler*, 983 P.2d 1086, 1093 (Or. Ct. App. 1999); *Pinasco v. Del Pilar Ara*, 219 A.D.2d 540, 541 (N.Y. App. Div. 1995); *Woods v. MONY Legacy Life Ins. Co.*, 641 N.E.2d 1070, 1072 (N.Y. 1994); *Morris v. Marshall*, 305 S.E.2d 581, 586 (W. Va. 1983).

58. See *Whitaker*, 2019 WL 1319858 at \*2; *Brooks*, 57 So. 3d at 1160; *McCray*, 556 S.E.2d at 51-52; *Childers*, 813 N.E.2d at 435-36; *Mishler*, 983 P.2d at 1093; *Pinasco*, 219 A.D.2d at 541; *Woods*, 641 N.E.2d at 1072; *Morris*, 305 S.E.2d at 586.

59. See Kevin Tu, *Perfecting Bitcoin*, 52 GA. L. REV. 505, 549 (2018).

60. U.C.C. § 5-101 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

61. U.C.C. § 5-102(a)(10) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

credit . . . .”<sup>62</sup> Issuers and nominated persons are usually banks,<sup>63</sup> and section 5-118 requires a “document,” defined as:

[A] draft or other demand, document of title, investment security, certificate, invoice, or other record, statement, or representation of fact, law, right, or opinion (i) which is presented in a written or other medium permitted by the letter of credit or, unless prohibited by the letter of credit, by the standard practice referred to in Section 5-108(e) and (ii) which is capable of being examined for compliance with the terms and conditions of the letter of credit. A document may not be oral.<sup>64</sup>

As the scope of this section is limited to persons, often banks, specified in a document, and virtual currency does not specify a person nor a document, this provision is inapplicable.

To recap, the most likely scope provision under Article 9 of the UCC to apply would be personal property under section 9-109(a)(1). The remaining scope provisions are not applicable.

### III. CREATION OF A SECURITY INTEREST

Assuming a court will determine that virtual currency is personal property covered by Article 9 of the UCC, step two for a creditor would be to properly create a security interest. To create a security interest, there must be a security agreement.<sup>65</sup> For the security agreement to effectively create a security interest, the security agreement must establish attachment.<sup>66</sup> Attachment requires: (1) value to be given; (2) the debtor to have rights in the collateral; and (3) evidence of a voluntary lien by the debtor<sup>67</sup> “that provides a description of the collateral . . . .”<sup>68</sup> Value given is similar to consideration; however, value given may be past or present value.<sup>69</sup> In essence, there are no past consideration issues

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62. U.C.C. § 5-118(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

63. *See* § 5-102(a)(9), (11).

64. § 5-102(a)(6).

65. “‘Security agreement’ means an agreement that creates or provides for a security interest.” U.C.C § 9-102(a)(74) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

66. *See* U.C.C § 9-203(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

67. § 9-203(b)(1)-(3).

68. § 9-203(b)(3)(A).

69. *See* § 9-203(b)(1) (requiring that “value has been given”); § 9-102(a)(57) (defining “new value”).

as may be present under most contract formation requirements.<sup>70</sup> While mere naked possession is not enough to establish rights in the collateral,<sup>71</sup> legal title is not required.<sup>72</sup> Generally, it does not appear that the first two requirements for attachment pose a specific problem for virtual currency as collateral under Article 9. However, the third requirement for attachment, evidence of a voluntary lien, does create a problem as one must describe the collateral for a security interest to attach. How does a creditor properly describe the virtual currency in the security agreement?<sup>73</sup>

### A. Describing Collateral in a Security Agreement

The collateral description in the security agreement is sufficient “if it reasonably identifies what is described.”<sup>74</sup> What would be a reasonable identification for virtual currency? A safe harbor for a reasonable identification is provided in sections 9-108(b), (d), and (e):

(b) Examples of reasonable identification.

Except as otherwise provided in subsection (d), a description of collateral reasonably identifies the collateral if it identifies the collateral by:

- (1) specific listing [such as “Ethan Allan maple dining room set”<sup>75</sup>];
- (2) category [for example, “crops”<sup>76</sup> or “all machinery”<sup>77</sup>];
- (3) except as otherwise provided in subsection (e), a type of collateral defined in the Uniform Commercial Code;
- (4) quantity [such as “three printing presses”<sup>78</sup>];

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70. 4 WILLISTON ON CONTRACTS § 8:13 (4th ed. 2019); RESTATEMENT (SECOND) OF CONTRACTS § 86 cmt. a (AM. LAW INST. 2019).

71. *See, e.g.,* Jerke Constr., Inc. v. Home Fed. Sav. Bank, 2005 SD 19, ¶ 12, 693 N.W.2d 59, 63.

72. *See, e.g., In re Whatley*, 874 F.2d 997, 1004 (5th Cir. 1989).

73. *See* § 9-203(b)(3)(A) (requiring a description of the collateral).

74. U.C.C. § 9-108(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

75. § 9-108(b)(1); Jo M. Pasqualucci, *Revised Article 9 in South Dakota with Emphasis on Newly Included Agricultural Liens*, 46 S.D. L. REV. 449, 462 (2001) (citing to S.D. CODIFIED LAWS § 57A-9-108(b) (Supp. 2000)).

76. § 9-108(b)(2); *Newsom v. Rabo Agrifinance, Inc.*, 2013 Ark. App. 259, at 8, 427 S.W.3d 688, 694.

77. § 9-108(b)(2); Pasqualucci, *supra* note 75, at 462.

78. § 9-108(b)(3)-(4); Pasqualucci, *supra* note 75, at 462.

- (5) computational or allocational formula or procedure [as in “one-half of all the grain produced”<sup>79</sup>]; or
- (6) except as otherwise provided in subsection (c), any other method, if the identity of the collateral is objectively determinable.

(d) Investment property.

Except as otherwise provided in subsection (e), a description of a security entitlement, securities account, or commodity account is sufficient if it describes:

- (1) the collateral by those terms or as investment property; or
- (2) the underlying financial asset or commodity contract.

(e) When description by type insufficient.

A description only by type of collateral defined in the Uniform Commercial Code is an insufficient description of:

- (1) a commercial tort claim; or
- (2) in a consumer transaction, consumer goods, a security entitlement, a securities account, or a commodity account.<sup>80</sup>

In addition, a supergeneric description such as “all the debtor’s personal property” is not a reasonable identification.<sup>81</sup>

As provided by section 9-108, descriptions of collateral may include non-statutory descriptions,<sup>82</sup> however, most creditors prefer to use the collateral defined by Article 9 as allowed by section 9-108(b)(3), “a type of collateral defined in the Uniform Commercial Code”<sup>83</sup> in order to avoid the possibility that a court will find that the collateral description is not sufficient. Attempting to describe collateral by specific listing, category, quantity, computational or allocational formula or procedure, or by any other method if the identity of the collateral is objectively determinable has an element of uncertainty. There is little case law on the sufficiency of such collateral descriptions, and secondary sources provide little guidance. Accordingly, collateral descriptions specified in sections 9-108(b)(1), (2), (4), (5), & (6); 9-108(d); and 9-

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79. § 9-108(b)(5); Pasqualucci, *supra* note 75, at 462.

80. § 9-108(b), (d), (e).

81. § 9-108(c).

82. § 9-108(b)(6).

83. § 9-108(b)(3).

108(e) are not addressed in this paper. It is clear that an identification of collateral using the allowed UCC definitions as specified in section 9-108(b)(3) would be best to ensure a reasonable identification. According to legal commentary, UCC-defined collateral that may apply to virtual currency includes account, deposit account, general intangible, instruments, investment property, and money.<sup>84</sup>

While there is no case law on-point at this time, we do have some administrative agencies that have defined virtual currency. For example, as indicated in Section II.A, the IRS has defined virtual currency as property.<sup>85</sup> The IRS has further defined virtual currency as:

[A] digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value. In some environments, it operates like “real” currency—i.e., the coin and paper money of the United States or of any other country that is designated as legal tender, circulates, and is customarily used and accepted as a medium of exchange in the country of issuance—but it does not have legal tender status in any jurisdiction.

Virtual currency that has an equivalent value in real currency, or that acts as a substitute for real currency, is referred to as “convertible” virtual currency. Bitcoin is one example of a convertible virtual currency. Bitcoin can be digitally traded between users and can be purchased for, or exchanged into, U.S. dollars, Euros, and other real or virtual currencies.<sup>86</sup>

According to this IRS definition, virtual currency could be described as an account, a general intangible, an instrument, a payment intangible, a promissory note, or a negotiable instrument under UCC Article 9. The critical aspect of these categories is that virtual currency’s intended use is as a medium of exchange.

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84. See Ian A. Holcomb, *Bitcoin’s Standing Within the Global Regulatory and Economic Marketplace*, 23 CURRENTS: J. INT’L ECON. L. 56, 61-62 (2016); see also Irina Marinescu, *Market Making in Crypto—A Secured Lending Lawyer’s Learnings*, 49 U.C.C. L.J. 159 (2019).

85. I.R.S. Notice, *supra* note 13.

86. *Id.*

The CFTC has found virtual currency to be a commodity in virtual currency swap situations, as such transactions fall within the definition of “all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt in.”<sup>87</sup> The CFTC will regulate in the spot market for a virtual currency and in derivative markets involving a virtual currency.<sup>88</sup>

In general, the CFTC defines virtual currency using the IRS definition.<sup>89</sup> Further, the CFTC has provided a list of potential uses for virtual currency:

#### Store of Value

- Like precious metals, many virtual currencies are a “non-yielding” asset (meaning they do not pay dividends or interest), but they may be more fungible, divisible, and portable

- Limited or finite supply of virtual currencies may contrast with ‘real’ (fiat) currencies

#### Trading

- Trading in virtual currencies may result in capital gains or losses

- Note that trading in virtual currencies may involve significant speculation and volatility risk . . .

#### Payments and Transactions

- Some merchants and online stores are accepting virtual currencies in exchange for physical and digital goods (i.e., payments)

- Some public Blockchain systems rely on the payment of fees in virtual currency form in order to power the network and underlying transactions

#### Transfer / Move Money

- Domestic and international money transfer (e.g., remittances) in order to increase

87. 7 U.S.C. § 1a(9) (2010); Fata & O’Connell, *supra* note 13, at 30.

88. CFTC PRIMER, *supra* note 15, at 11; Fata & O’Connell, *supra* note 13, at 30. “The spot market is where financial instruments, such as commodities, currencies and securities, are traded for immediate delivery.” Tim Smith, *Spot Market*, INVESTOPEDIA (Apr. 19, 2019), [https://perma.cc/6TZK-RNAE]. Swaps “involve the sale or purchase of [an asset or liability] on one date and the offsetting purchase or sale . . . on a future date, with both dates agreed when the transaction is initiated.” See MARC LEVINSON, GUIDE TO FINANCIAL MARKETS 16 (4th ed. 2005); James Chen, *Swap*, INVESTOPEDIA (Feb. 4, 2020), [https://perma.cc/S6R3-WM77]. “A derivative is a financial security with a value that is reliant upon or derived from, an underlying asset or group of assets . . . .” James Chen, *Derivative*, INVESTOPEDIA (Jan. 27, 2020), [https://perma.cc/BW3N-YEPE].

89. CFTC PRIMER, *supra* note 15, at 4.

efficiencies and potentially reduce related fees<sup>90</sup>

By this definition, virtual currency used as a medium of exchange may be described as an account, a general intangible, an instrument, a payment intangible, a promissory note, or a negotiable instrument under UCC Article 9. However, Article 9 also provides for more specific collateral categories for commodities such as a commodity account or commodity contract.<sup>91</sup> The problem is it depends upon the intended use.

In 2017, an influx of initial coin offerings (ICOs) brought virtual currency to the attention of the Securities and Exchange Commission (SEC).<sup>92</sup> The SEC found that an ICO is a fundraising event similar to initial public offerings (IPOs).<sup>93</sup> Many ICOs meet the definition of a security pursuant to the “investment contract” test.<sup>94</sup> Under the investment contract test, “an instrument is a security if it constitutes an investment of money in a common enterprise with a reasonable expectation of profits to be derived from the entrepreneurial or managerial efforts of others.”<sup>95</sup> In its July 25, 2017 report on Decentralized Autonomous Organization, the SEC concluded that the ICOs at issue were securities under the investment contract test.<sup>96</sup> Further, virtual currency exchanges may be considered Securities Exchanges requiring registration compliance under the 1934 Securities Exchange Act.<sup>97</sup>

The SEC uses the Financial Action Task Force<sup>98</sup> definition of virtual currency:

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90. *Id.* at 7.

91. U.C.C. § 9-102(a)(14)-(15) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

92. ASS’N. OF CHARTERED CERTIFIED ACCOUNTANTS, ICOS: REAL DEAL OR TOKEN GESTURE?: EXPLORING INITIAL COIN OFFERINGS 5 (2018), [https://perma.cc/ZK5V-Q8C4].

93. *Id.*

94. See 15 U.S.C. § 77b(a)(1) (2012). For the investment contract test announced by the Supreme Court, see *SEC v. W.J. Howey Co.*, 328 U.S. 293, 298 (1946). See also *Fata & O’Connell*, *supra* note 13, at 30.

95. *Fata & O’Connell*, *supra* note 13, at 30; *Howey*, 328 U.S. at 298, 301.

96. SEC, REPORT OF INVESTIGATION PURSUANT TO SECTION 21(a) OF THE SECURITIES EXCHANGE ACT OF 1934: THE DAO 1 (2017), [https://perma.cc/NJ7T-CV5T].

97. *Fata & O’Connell*, *supra* note 13, at 30.

98. Fin. Crimes Enf’t Network, *The Financial Action Task Force*, FINCEN, [https://perma.cc/4TZY-B6Q3] (last visited Mar. 13, 2020) (“The Financial Action Task Force (FATF) is an inter-governmental policymaking body whose purpose is to establish international standards, and to develop and promote policies, both at national and international levels, to combat money laundering and the financing of terrorism. It was formed in 1989 to set out measures to be taken in the fight against money laundering.”).

[A] digital representation of value that can be digitally traded and functions as (1) a medium of exchange; and/or (2) a unit of account; and/or (3) a store of value, but does not have legal tender status (i.e., when tendered to a creditor, is a valid and legal offer of payment) in any jurisdiction. It is not issued nor guaranteed by any jurisdiction and fulfils the above functions only by agreement within the community of users of the virtual currency. Virtual currency is distinguished from fiat currency (a.k.a. “real currency,” “real money,” or “national currency”), which is the coin and paper money of a country that is designated as its legal tender; circulates; and is customarily used and accepted as a medium of exchange in the issuing country. It is distinct from e-money, which is a digital representation of fiat currency used to electronically transfer value denominated in fiat currency.<sup>99</sup>

The Financial Crimes Enforcement Network (FinCEN)<sup>100</sup> defines virtual currency as:

FinCEN’s regulations define currency (also referred to as “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.” 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.<sup>101</sup>

The definitions provided by the SEC, using the Financial Action Task Force definition, and FinCEN indicate that virtual currency used as a medium of exchange may be described as an account, a general intangible, an instrument, a payment intangible, a promissory note, or a negotiable instrument. However, virtual

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99. FATF REPORT, VIRTUAL CURRENCIES: KEY DEFINITIONS AND POTENTIAL AML/CFT RISKS, FIN. ACTION TASK FORCE 4 (June 2014), [<https://perma.cc/PY7N-LLMZ>].

100. Fin. Crimes Enf’t Network, *What We Do*, FINCEN, [<https://perma.cc/A543-F3X9>] (last visited Mar. 13, 2020) (“FinCEN is a bureau of the U.S. Department of the Treasury.”).

101. FIN-2013-G001, *supra* note 32.

currency may also be used as an investment.<sup>102</sup> Article 9 also provides for more specific collateral categories for securities investments that may be applicable such as investment property, financial asset, or securities account.<sup>103</sup> The problem is, again, it depends upon the intended use.

## B. UCC Collateral Categories

Suggested defined UCC collateral categories for virtual currency include account, deposit account, general intangible, instrument, investment property, money, negotiable instrument, payment intangible, and promissory note.<sup>104</sup>

### *i. Account*

“Account”, except as used in “account for”, means a right to payment of a monetary obligation, whether or not earned by performance, (i) for property that has been or is to be sold, leased, licensed, assigned, or otherwise disposed of . . . . The term does not include (i) rights to payment evidenced by chattel paper or an instrument . . . , (iii) deposit accounts, (iv) investment property, (v) letter-of-credit rights or letters of credit, or (vi) rights to payment for money or funds advanced or sold, other than rights arising out of the use of a credit or charge card or information contained on or for use with the card.<sup>105</sup>

The most common collateral that falls under the category of account is an account receivable.<sup>106</sup> Assuming virtual currency is not a right to payment evidenced by chattel paper or an instrument, a deposit account, or investment property (discussed below), is it an account? While the blockchain upon which virtual

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102. Thomas Lee Hazen, *Virtual or Crypto Currencies and the Securities Laws*, 38 FUTURES & DERIVATIVES L. REP., Nov. 2018.

103. U.C.C. § 9-102(a)(49) (AM. LAW INST. & UNIF. LAW COMM’N 2019); *see also* U.C.C. § 8-102(a)(9), (15) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

104. Holcomb, *supra* note 84; Marinescu, *supra* note 84. I have excluded from this list defined collateral that does not appear to apply, including chattel paper, commercial tort claim, electronic chattel paper, farm products, fixtures, goods, equipment, health-care-insurance receivable, tangible chattel paper, certificated security, check, lease, lease agreement, lease contract, and leasehold interest.

105. § 9-102(a)(2).

106. *See generally* § 9-102(a)(2); Thomas E. Plank, *Assignment of Receivables Under Article 9: Structural Incoherence and Wasteful Filing*, 68 OHIO ST. L.J. 231 (2007).

currency is based has been described as a “ledger,” it does not appear to constitute a right to payment like an account receivable. Such “right to payment” is for “property that has been or is to be sold, leased, licensed, assigned, or otherwise disposed.”<sup>107</sup> While one could argue that virtual currency, when sold, constitutes a right to payment, like other investments, investment property is specifically excluded from the UCC definition of account.<sup>108</sup> Further, converting virtual currency into fiat currency “is not really a monetary obligation for property sold.”<sup>109</sup> It is more akin to the sale of an investment where the price will be determined by the market, not a fixed amount as with an account.<sup>110</sup>

### *ii. Deposit Account*

A “‘deposit account’ means a demand, time, savings, pass-book, or similar account maintained with a bank. The term does not include investment property or accounts evidenced by an instrument.”<sup>111</sup> The critical part of the definition of a deposit account is that it exists only through an intermediary—a bank.<sup>112</sup> The term “bank” is defined in Section II.I.<sup>113</sup> It is believed that virtual currency would not qualify as a deposit account, because neither blockchain nor virtual currency exchanges provide the functions described as the business of banking.<sup>114</sup>

### *iii. General Intangible*

Regarding “general intangibles,” they are defined as: “any personal property, including things in action, other than 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

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107. See Marinescu, *supra* note 84.

108. *Id.*

109. *Id.*; § 9-102(a)(2).

110. See Marinescu, *supra* note 84.

111. § 9-102(a)(29).

112. Schroeder, *supra* note 11, at 22-23.

113. See *supra* Section II.I; § 9-102(a)(8).

114. See Marinescu, *supra* note 84; Schroeder, *supra* note 11, at 21-23; § 9-102(a)(8), (29).

before extraction. The term includes payment intangibles and software.”<sup>115</sup>

A general intangible is a catchall category defined as the personal property that does not fall within any other Article 9 category.<sup>116</sup> It has been held to include such personal property intangibles such as license rights,<sup>117</sup> intellectual property,<sup>118</sup> expectation of recovery in a personal injury claim (excluding commercial tort claims),<sup>119</sup> software,<sup>120</sup> and likely a company’s customer database.<sup>121</sup>

Most commentators seem to agree that the general intangible category is the most likely to apply to virtual currency.<sup>122</sup> However, there is still the problem of uncertainty as it is not clear that virtual currency will be deemed personal property as required for a general intangible.<sup>123</sup>

#### iv. *Instrument*

An “instrument” means:

[A] negotiable instrument or any other writing that evidences a right to the payment of a *monetary obligation*, is not itself a security agreement or lease, and is of a type that in ordinary course of business is transferred by delivery with any necessary indorsement or assignment. The term does not include (i) investment property, (ii) letters of credit, or (iii) writings that evidence a right to payment arising out of the use of a credit or charge card or information contained on or for use with the card.<sup>124</sup>

Section 3-104 defines a “negotiable instrument” as:

115. § 9-102(a)(42).

116. § 9-102 cmt. 5d.

117. *In re Media Properties, Inc.*, 311 B.R. 244, 247, 248 (Bankr. W.D. Wis. 2004).

118. *Rice v. Miller*, 864 N.Y.S.2d 255, 259 (N.Y. Sup. Ct. 2008).

119. *In re Cohen*, 305 B.R. 886, 903 (B.A.P. 9th Cir. 2004).

120. Odinet, *supra* note 20, at 681.

121. Stacy-Ann Elvy, *Commodifying Consumer Data in the Era of the Internet of Things*, 59 B.C.L. REV. 423, 458 (2018).

122. Schroeder, *supra* note 11, at 30; Kevin V. Tu, *Crypto-Collateral*, 21 SMU SCI. & TECH. L. REV. 205, 223 (2018); Ronald J. Mann, *Reliable Perfection of Security Interests in Crypto-Currency*, SMU SCI. & TECH. L. REV. 159, 163 (2018); Marinescu, *supra* note 84; Odinet, *supra* note 20, at 681.

123. *See supra* Section II.A.

124. U.C.C. § 9-102(a)(47) (AM. LAW INST. & UNIF. LAW COMM’N 2019) (emphasis added).

(a) Except as provided in subsections (c) and (d), “negotiable instrument” means 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, if it:

- (1) is payable to bearer or to order at the time it is issued or first comes into possession of a holder;
- (2) is payable on demand or at a definite time; and
- (3) does not state any other undertaking or instruction by the person promising or ordering payment to do any act in addition to the payment of money, but the promise or order may contain (i) an undertaking or power to give, maintain, or protect collateral to secure payment, (ii) an authorization or power to the holder to confess judgment or realize on or dispose of collateral, or (iii) a waiver of the benefit of any law intended for the advantage or protection of an obligor.<sup>125</sup>

First, instruments reflect monetary obligations which, as stated in Section II.D, would exclude virtual currency.<sup>126</sup> Second, the requirement that a negotiable instrument reflect a “fixed amount of money” would exclude virtual currency because its value fluctuates as a result of its volatility.<sup>127</sup> Third, the definition of instrument seems to require a “writing,” which is defined as “printing, typewriting, or any other intentional reduction to tangible form.

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125. U.C.C. § 3-104(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019) (emphasis added). The exceptions referenced, subsections (c) and (d) are not applicable. Subsection (c) provides that “[a]n order that meets all of the requirements of subsection (a), except paragraph (1), and otherwise falls within the definition of ‘check’ in subsection (f) is a negotiable instrument and a check.” § 3-104(c). Subsection (f) defines a check as “a draft, other than a documentary draft, payable on demand and drawn on a bank or . . . a cashier’s check or teller’s check. An instrument may be a check even though it is described on its face by another term, such as ‘money order.’” § 3-104(f). Virtual currency is not drawn on a bank, cashier’s check or teller’s check.

Subsection (d) states that:

A promise or order other than a check is not an instrument if, at the time it is issued or first comes into possession of a holder, it contains a conspicuous statement, however expressed, to the effect that the promise or order is not negotiable or is not an instrument governed by this Article.

§ 3-104(d). Virtual currency does not contain such “conspicuous statements.”

<sup>126</sup> See *supra* Section II.D.

<sup>127</sup> Tu, *supra* note 122, at 215; Nicolas Wenker, Note, *Online Currency, Real-World Chaos: The Struggle to Regulate the Rise of Bitcoin*, 19 TEX. REV. L. & POL. 145, 193 (2014). For an example of virtual currency’s volatility, see Billy Bambrough, *Bitcoin Moves Sharply Lower Again as Other Major Cryptocurrencies Go into Free Fall [Updated]*, FORBES (Dec. 16, 2019), [<https://perma.cc/P79W-QH3A>].

‘Written’ has a corresponding meaning.”<sup>128</sup> As indicated above, virtual currency is not tangible.

Further, Comment 5(c) to section 9-102 states: “[t]he definition of ‘instrument’ includes a negotiable instrument. . . . [I]t also includes any other right to payment of a monetary obligation that is *evidenced by a writing* of a type that in ordinary course of business is transferred by *delivery* . . . .”<sup>129</sup> This, along with the definitional language for instrument “or any other writing”<sup>130</sup> confirms the writing requirement.

Finally, “[d]elivery’ . . . with respect to an instrument, a tangible document of title, or chattel paper, means voluntary transfer of possession.”<sup>131</sup> “Possession” is not defined in the UCC but has been defined by case law as requiring physical possession,<sup>132</sup> which is not possible for intangibles. For all of the above stated reasons, commentators have not advocated for instruments as the proper category for virtual currency.<sup>133</sup>

#### v. *Investment Property*

“‘Investment property’ means a security, whether certificated or uncertificated, security entitlement, securities account, commodity contract, or commodity account.”<sup>134</sup> For the definition of a security, certificated security, uncertificated security, security entitlement, and securities account, we must consult Article 8 of the UCC.<sup>135</sup> “‘Certificated security’ means a security that is represented by a certificate.”<sup>136</sup> Virtual currency does not have a tangible form like a certificate, so this definition does not apply. “‘Uncertificated security’ means a security that is not represented

128. U.C.C. § 1-201(b)(43) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

129. § 9-102 cmt. 5(c) (emphasis added).

130. § 9-102(a)(47).

131. § 1-201(b)(15).

132. See Schroeder, *supra* note 11, at 19; NBD-Sandusky Bank v. Ritter, 446 N.W.2d 340, 342 (Mich. Ct. App. 1989). Possession may also include constructive possession. See, e.g., U.S. Bank Nat’l Ass’n v. Gray, 2013-Ohio-3340, ¶ 25, 2013 WL 3963471, at \*5; Farm Credit of Nw. Fla. v. Easom Peanut Co., 718 S.E.2d 590, 599 (Ga. Ct. App. 2011); Georg v. Metro Fixtures Contractors, Inc., 178 P.3d 1209, 1214 (Colo. 2008).

133. Marinescu, *supra* note 84; Tu, *supra* note 122, at 222-24.

134. § 9-102(a)(49).

135. § 9-102(b).

136. U.C.C. § 8-102(a)(4) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

by a certificate.”<sup>137</sup> Generally, this deals with securities that are evidenced by other means than a certificate, such as a book entry.<sup>138</sup> Virtual currency may qualify if it meets the definition of security:

[A]n obligation of an issuer or a share, participation, or other interest in an issuer or in property or an enterprise of an issuer:

(i) which is represented by a security certificate in bearer or registered form, or the transfer of which may be registered upon books maintained for that purpose by or on behalf of the issuer;

(ii) which is one of a class or series or by its terms is divisible into a class or series of shares, participations, interests, or obligations; and

(iii) which:

(A) is, or is of a type, dealt in or traded on securities exchanges or securities markets; or

(B) is a medium for investment and by its terms expressly provides that it is a security governed by this Article.<sup>139</sup>

The general consensus is that virtual currency would not meet this definition, as virtual currency reflects neither an obligation of any particular entity nor an interest in any cognizable entity or property.<sup>140</sup>

Some commentators opine that virtual currency may, in some cases, be a security under federal law definitions:

Although [virtual currency] itself is not a stock or bond, certain [virtual currency] transactions could be characterized as a scheme devised by those who seek to use the money of others on the promise of profits. As such, some [virtual currency] uses may fall within the broadly inclusive definition of a security, likely as an “investment contract” under the *Howey* test.<sup>141</sup>

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137. § 8-102(a)(18).

138. See, e.g., § 8-102 cmt. 18; Peter F. Coogan, *Security Interests in Investment Securities Under Revised Article 8 of the Uniform Commercial Code*, 92 HARV. L. REV. 1013, 1014 (1979).

139. § 8-102(a)(15).

140. Mann, *supra* note 122, at 162-63; Marinescu, *supra* note 84.

141. Tu, *supra* note 122, at 222.

But as Article 9 specifically incorporates the definitions in Article 8 for investment property,<sup>142</sup> reference to federal law is inapplicable.<sup>143</sup> Even those commentators who opine that virtual currency may qualify as a security under federal law seem skeptical that it would qualify as investment property under Article 9 of the UCC:

However, it appears unlikely that [virtual currency] would constitute a security in all cases. . . . The implication for the categorization of [virtual currency] under Article 9 is relatively clear. Investment property as a collateral type does not appear to fully encompass [virtual currency]. Investment property is limited, by definition, to securities and the like. Notwithstanding the broad concept of “securities” under federal securities law, only some applications of [virtual currency], namely, ICOs, will constitute a security. As a result, the Article 9 collateral category of “investment property” may not be applicable to [virtual currency] held by a potential borrower.<sup>144</sup>

While most commentators seem to be in agreement that virtual currency is not a security, at least two commentators have argued that virtual currency may still be investment property as it meets the definition of “security entitlement” or “security account,” as virtual currency is a “financial asset.”<sup>145</sup> The pertinent definitions here are as follows:

“Security entitlement” means the rights and property interest of an entitlement holder with respect to a financial asset specified in Part 5.<sup>146</sup>

“Securities account” means 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*.

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142. U.C.C. § 9-102(a)(49) cmt. 6, (b) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

143. See Tu, *supra* note 122, at 221, 223.

144. Tu, *supra* note 122, at 222-23.

145. Marinescu, *supra* note 84; Holcomb, *supra* note 84, at 62.

146. U.C.C. § 8-102(a)(17) (AM. LAW INST. & UNIF. LAW COMM’N 2019) (emphasis added).

(b) Except as otherwise provided in subsections (d) and (e), a person acquires a security entitlement if a securities intermediary:

- (1) indicates by book entry that a *financial asset* has been credited to the person's securities account;
- (2) receives a *financial asset* from the person or acquires a *financial asset* for the person and, in either case, accepts it for credit to the person's securities account; or
- (3) becomes obligated under other law, regulation, or rule to credit a *financial asset* to the person's securities account.

(c) If a condition of subsection (b) has been met, a person has a security entitlement even though the securities intermediary does not itself hold the *financial asset*.

(d) If a securities intermediary holds a *financial asset* for another person, and the *financial asset* is registered in the name of, payable to the order of, or specially indorsed to the other person, and has not been indorsed to the securities intermediary or in blank, the other person is treated as holding the *financial asset* directly rather than as having a security entitlement with respect to the *financial asset*.

(e) Issuance of a security is not establishment of a security entitlement.<sup>147</sup>

“Financial asset,” except as otherwise provided in Section 8-103, means:

- (i) a security;
- (ii) 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; or
- (iii) 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.

As context requires, the term means either the interest itself or the means by which a person's claim to it is evidenced,

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147. U.C.C. § 8-501 (AM. LAW INST. & UNIF. LAW COMM'N 2019) (emphasis added).

including a certificated or uncertificated security, a security certificate, or a security entitlement.<sup>148</sup>

As indicated above, virtual currency is probably not a security, so prong (i) does not apply. It is contended that virtual currency meets prong (ii) for the definition of financial asset, as virtual currency “fall[s] within the definition of a ‘financial asset’ because [it is] an[] ‘interest . . . in property . . . 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>149</sup> One problem with this argument is that it does not consider the Official Comments to the definition of financial asset which suggest that financial assets must be held in a security account<sup>150</sup> to meet this definition.<sup>151</sup> Prong (iii) has the same requirement.<sup>152</sup> While this requirement may be met in some circumstances, it requires an intermediary to hold the virtual currency, which may not be the most efficient use of virtual currency.

Assuming virtual currency does meet the definition of investment property as a financial asset, it would functionally limit virtual currency to investments rather than a means of payment. Generally, collateral is categorized at the time of creation by the security agreement.<sup>153</sup> Accordingly, if the debtor is holding the virtual currency as an investment at the time she enters into the

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148. § 8-102(a)(9).

149. Holcomb, *supra* note 84, at 62 (quoting § 8-102(a)(9)); *see also* Marinescu, *supra* note 84.

150. The official comment reads:

The fact that something does or could fall within the definition of financial asset does not, without more, trigger Article 8 coverage. The indirect holding system rules of Revised Article 8 apply only if the financial asset is in fact held in a securities account, so that the interest of the person who holds the financial asset through the securities account is a security entitlement. Thus, questions of the scope of the indirect holding system rules cannot be framed as “Is such-and-such a ‘financial asset’ under Article 8?” Rather, one must analyze whether the relationship between an institution and a person on whose behalf the institution holds an asset falls within the scope of the term securities account as defined in Section 8-501. That question turns in large measure on whether it makes sense to apply the Part 5 rules to the relationship.

§ 8-102 cmt. 9.

151. For an argument that bitcoin wallets are “securities accounts,” *see* Holcomb, *supra* note 84, at 62.

152. *See* Marinescu, *supra* note 84.

153. *See, e.g., In re Palmer*, 365 B.R. 816, 821 (Bankr. S.D. Ohio 2007) (quoting *In re Troupe*, 340 B.R. 86, 91 (Bankr. W.D. Okla. 2006)).

security agreement but subsequently uses it as a payment mechanism, this should not create a problem for the initial collateral description.<sup>154</sup> But, if virtual currency is meant to be a payment mechanism and is held for that purpose, it will not meet the definition of financial asset.<sup>155</sup>

Finally, “commodity account” and “commodity contract” are probably not applicable definitions for virtual currency. Commodity account and commodity contract are defined in Article 9:

“Commodity account” means an account maintained by a commodity intermediary in which a commodity contract is carried for a commodity customer.<sup>156</sup>

“Commodity contract” means a commodity futures contract, an option on a commodity futures contract, a commodity option, or another contract if the contract or option is:

(A) traded on or subject to the rules of a board of trade that has been designated as a contract market for such a contract pursuant to federal commodities laws; or

(B) traded on a foreign commodity board of trade, exchange, or market, and is carried on the books of a commodity intermediary for a commodity customer.<sup>157</sup>

There are no commentators suggesting that virtual currency would fall within the definitions of commodity account or commodity contract. This is probably due to the fact that virtual currency would not be considered a commodity.<sup>158</sup> The UCC does not define “commodity,” but the term is generally defined as “a basic *good* used in commerce that is interchangeable with other goods of the same type. Commodities are most often used as inputs in the production of other goods or services. The quality of

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154. *See id.* It does, however, create tracing and enforcement problems.

155. *See* § 8-102(a)(9).

156. U.C.C. § 9-102(a)(14) (AM. LAW INST. & UNIF. LAW COMM'N 2019).

157. § 9-102(a)(15).

158. However, the CFTC has found virtual currency to be a commodity in virtual currency swaps situations as such transactions fall within the definition of “all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt in.” 7 U.S.C. § 1a (2010). *See also* CFTC PRIMER, *supra* note 15, at 11; Fata & O’Connell, *supra* note 13, at 30.

a given commodity may differ slightly, but it is essentially uniform across producers.”<sup>159</sup>

“Goods” are defined under the UCC as:

[A]ll things (including specially manufactured goods) which are movable at the time of identification to the contract for sale other than the money in which the price is to be paid, investment securities (Article 8) and things in action. “Goods” also includes the unborn young of animals and growing crops and other identified things attached to realty as described in the section on goods to be severed from realty (Section 2-107).<sup>160</sup>

These definitions would seem to suggest that commodities are goods. Goods are moveable, suggesting a tangible rather than an intangible, such as virtual currency. Accordingly, virtual currency would probably not qualify as a commodity account or commodity contract.

#### *vi. Money*

While virtual currency may function as a payment mechanism similar to money, it generally does not meet the definition of “money,” which is: “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>161</sup>

Virtual currency, such as bitcoin, is not fiat currency; that is to say it is not “a medium of exchange currently authorized or adopted by a domestic or foreign government.”<sup>162</sup> It has been noted that one Indian tribe and one foreign country have adopted virtual currency as money.<sup>163</sup> This would seem to meet the definitional requirement.<sup>164</sup> However, specific types of virtual currency, such as bitcoin, have not been adopted by any government,

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159. James Chen, *Commodity*, INVESTOPEDIA (Feb. 14, 2020), [<https://perma.cc/5TMS-FP45>] (emphasis added).

160. U.C.C. § 2-105(1) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

161. U.C.C. § 1-201(b)(24) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

162. § 1-201(b)(24).

163. Miller & Harrell, *supra* note 1; Tu, *supra* note 122, at 220-21; Mann, *supra* note 122, at 161-62.

164. Schroeder, *supra* note 11, at 19.

so it would not meet the definition of money.<sup>165</sup> It has also been argued that the term money, as used in the UCC requires physical, or “hand-to-hand,” currency as evidenced by the fact that money does not include deposit accounts or other forms of storing mediums of exchange.<sup>166</sup> This seems to relegate money to the tangible category rather than an intangible where virtual currency resides.<sup>167</sup> Most commentators believe virtual currency would not meet the definition of money.<sup>168</sup>

*vii. Payment Intangible*

A payment intangible is defined as “a general intangible under which the account debtor’s principal obligation is a *monetary obligation*.”<sup>169</sup> Again, as discussed in Section II.E, the requirement of monetary obligation would eliminate virtual currency from this category.<sup>170</sup>

*viii. Promissory Note*

As indicated in Section II.F, virtual currency does not qualify as a promissory note because it is neither an instrument nor does it evidence a promise to pay a monetary obligation.<sup>171</sup>

Virtual currency would, most likely, fall under the category of a general intangible, which seems to be the consensus of most commentators.<sup>172</sup> That said, there is still uncertainty as a court has not ruled on this issue. Additionally, even if virtual currency is deemed a general intangible, there are perfection and tracing problems as discussed in Parts IV and V below.

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165. Tu, *supra* note 122, at 220-21; Mann, *supra* note 122, at 161-62.

166. Schroeder, *supra* note 11, at 22-23.

167. Tu, *supra* note 122, at 220-21.

168. Miller & Harrell, *supra* note 1; Schroeder, *supra* note 11, at 10; Bob Lawless, *Is the UCC Article 9 the Achilles Heel of Bitcoin?*, CREDIT SLIPS (Mar. 10, 2014), [<https://perma.cc/QK4Y-WZKS>]; Marinescu, *supra* note 84; Tu, *supra* note 122, at 220-21; Mann, *supra* note 122, at 161-62; Holcomb, *supra* note 84, at 61.

169. U.C.C. § 9-102(a)(61) (AM. LAW INST. & UNIF. LAW COMM’N 2019) (emphasis added).

170. See discussion *supra* Section II.E.

171. See discussion *supra* Section II.F.

172. See sources cited *supra* note 122.

#### IV. PERFECTION

Once a security interest has been created, meaning attached, it must be perfected in order for a creditor/secured party to have priority vis-à-vis other creditors or to be deemed a secured creditor if the debtor petitions for bankruptcy.<sup>173</sup> Perfection is intended to provide public notice of a creditor's security interest in the debtor's collateral so subsequent creditors can determine if there is a creditor with priority over the collateral and if there is sufficient collateral to protect further extensions of credit.<sup>174</sup> The perfection mechanism to provide public notice is largely premised on commercial practices and feasibility based upon the type of collateral.<sup>175</sup> To properly perfect, it is critical to have a clear understanding of collateral type, as some collateral types require a specific mechanism for proper perfection.

There are four mechanisms for perfection: filing a financing statement,<sup>176</sup> control,<sup>177</sup> possession of the collateral,<sup>178</sup> and automatic perfection.<sup>179</sup> Proper perfection depends on the category of collateral using the same collateral categories discussed above for description of the collateral under creation of the security interest. For example, if the virtual currency is considered an account, perfection must be by filing a financing statement.<sup>180</sup> Deposit accounts must be perfected by control.<sup>181</sup> General intangibles must be perfected by filing a financing statement.<sup>182</sup> A security interest in instruments or investment property may be perfected by filing a financing statement,<sup>183</sup> however, priority over conflicting investment property security interests, where one is by filing and

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173. Thomas H. Jackson & Anthony T. Kronman, *Secured Financing and Priorities Among Creditors*, 88 YALE L.J. 1143, 1143, 1162 (1979).

174. See Christopher G. Bradley, *Disrupting Secured Transactions*, 56 HOUS. L. REV. 965, 976-78 (2019).

175. See Kristin N. Johnson et al., *(Im)Perfect Regulation: Virtual Currency and Other Digital Assets as Collateral*, 21 SMU SCI. & TECH. L. REV. 115, 121 (2018).

176. U.C.C. § 9-310(a) (AM. LAW INST. & UNIF. LAW COMM'N 2019).

177. U.C.C. § 9-312(b) (AM. LAW INST. & UNIF. LAW COMM'N 2019); U.C.C. § 9-314(a) (AM. LAW INST. & UNIF. LAW COMM'N 2019).

178. U.C.C. § 9-313 (AM. LAW INST. & UNIF. LAW COMM'N 2019).

179. U.C.C. § 9-309 (AM. LAW INST. & UNIF. LAW COMM'N 2019).

180. § 9-310(a).

181. § 9-312(b)(1).

182. § 9-310(a).

183. § 9-312(a).

the other is by control—control has priority.<sup>184</sup> Money must be perfected by possession.<sup>185</sup>

### A. Filing a Financing Statement

While the collateral description in a financing statement is more liberal than the collateral description in a security agreement<sup>186</sup> by allowing for supergeneric descriptions such as “all personal property,” it is still critical to properly perfect in order to have a security interest with priority and one that survives bankruptcy. As a practical matter, perfection by filing a financing statement creates a problem of enforcement for the creditor because the pseudo-anonymous nature of virtual currency makes it difficult to trace.<sup>187</sup> Additionally, this method of perfection creates a problem for transferees of virtual currency collateral because exceptions for buyers in the ordinary course of business,<sup>188</sup> which allow a transferee to take free and clear of security interests, only apply to goods, which as indicated above, would not include virtual currency. In essence, the transferee of virtual currency may end-up accepting it subject to a security interest. Accordingly, while perfection by filing may work for collateral that can be perfected by filing, virtual currency has the additional problems of security interest encumbrances and tracing issues as discussed more in Part V below.

### B. Perfection by Control

Perfection by control is required for deposit accounts:

(a) Requirements for control. A secured party has control of a deposit account if:

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184. § 9-312 cmts. 2, 4; U.C.C. § 9-328(1), (3), (5), cmts. 2, 3 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

185. § 9-312(b)(3).

186. *In re ProvideRx of Grapevine, LLC*, 507 B.R. 132, 163 (Bankr. N.D. Tex. 2014).

187. Josias N. Dewey & Michael D. Emerson, *Beyond Bitcoin: How Distributed Ledger Technology Has Evolved to Overcome Impediments Under the Uniform Commercial Code*, 47 U.C.C. L.J. 1 (2017); see Gely-Rojas, *supra* note 11, at 130, 140.

188. U.C.C. § 9-320(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019); U.C.C. § 1-201(b)(9) (AM. LAW INST. & UNIF. LAW COMM’N 2019); Gely-Rojas, *supra* note 11, at 140; Schroeder, *supra* note 11, at 27; Lawless, *supra* note 168.

- (1) the secured party is the bank with which the deposit account is maintained;
- (2) the debtor, secured party, and bank have agreed in an authenticated record that the bank will comply with instructions originated by the secured party directing disposition of the funds in the deposit account without further consent by the debtor; or
- (3) the secured party becomes the bank's customer with respect to the deposit account.

(b) Debtor's right to direct disposition. A secured party that has satisfied subsection (a) has control, even if the debtor retains the right to direct the disposition of funds from the deposit account.<sup>189</sup>

Section 9-104(a)(1) provides for control when the creditor/secured party is a bank.<sup>190</sup> As we have seen in Section II.I, to be a bank, the creditor/secured party must be in the business of banking.<sup>191</sup> Section 9-104(a)(2) requires an authenticated agreement by the bank giving the creditor/secured party access to the virtual currency.<sup>192</sup> Again, we have the problem with the term bank as with subsection 1. Section 9-104(a)(3) basically allows for a joint account mechanism over the deposit account or sole control over the account.<sup>193</sup> As with subsection 1, subsections 2 and 3 are difficult to apply to virtual currency as we may not have an intermediary that qualifies as a bank.<sup>194</sup>

Perfection by control for investment property requires:

(a) Control under Section 8-106.

A person has control of a certificated security, uncertificated security, or security entitlement as provided in Section 8-106.

(b) Control of commodity contract.

A secured party has control of a commodity contract if:

- (1) the secured party is the commodity intermediary with which the commodity contract is carried; or

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189. U.C.C. § 9-104 (AM. LAW INST. & UNIF. LAW COMM'N 2019) (emphasis added).

190. § 9-104(a)(1), cmt. 3.

191. See *supra* Section II.I.

192. § 9-104(a)(2).

193. § 9-104(a)(3).

194. Miller, *supra* note 1; Marinescu, *supra* note 84; Gely-Rojas, *supra* note 11, at 141.

(2) the commodity customer, secured party, and commodity intermediary have agreed that the commodity intermediary will apply any value distributed on account of the commodity contract as directed by the secured party without further consent by the commodity customer.<sup>195</sup>

Basically, Article 9 of the UCC looks to Article 8 of the UCC to define control for investment property, such as stock.<sup>196</sup> “Control” under Article 8 requires:

(a) A purchaser has “control” of a certificated security in bearer form if the certificated security is delivered to the purchaser.

(b) A purchaser has “control” of a certificated security in registered form if the certificated security is delivered to the purchaser, and:

(1) the certificate is indorsed to the purchaser or in blank by an effective indorsement; or

(2) the certificate is registered in the name of the purchaser, upon original issue or registration of transfer by the issuer.

(c) A purchaser has “control” of an uncertificated security if:

(1) the uncertificated security is delivered to the purchaser; or

(2) the issuer has agreed that it will comply with instructions originated by the purchaser without further consent by the registered owner.<sup>197</sup>

Virtual currency would not qualify as a certificated security because there is no tangible certificate. As for uncertificated securities, there is a requirement for one to be a registered owner, which is not possible for virtual currency.<sup>198</sup> Further, there is a requirement of “delivery” of uncertificated securities, which is defined under Article 8 as occurring when “the issuer registers the purchaser as the registered owner, upon original issue or registration of transfer” or when “another person, other than a securities intermediary, either becomes the registered owner of the uncertificated security on behalf of the purchaser or, having previously

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195. U.C.C. § 9-106(a)-(b)(2) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

196. § 9-106(a).

197. U.C.C. § 8-106 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

198. U.C.C. § 8-301(b) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

become the registered owner, acknowledges that it holds for the purchaser.”<sup>199</sup>

So, again, there is a requirement of a registered owner, which is a problem for virtual currency. For commodity contracts, a commodity intermediary is required.<sup>200</sup> As indicated in Section III.B.5, the use of an intermediary is not efficient for virtual currency.<sup>201</sup>

### C. Perfection by Possession

As stated in Section III.B.4, the term possession is not defined in the UCC but has been held to mean physical custody or constructive custody.<sup>202</sup> As it is not possible to perfect an intangible by possession,<sup>203</sup> this is not a viable method of perfection for virtual currency.<sup>204</sup>

### D. Automatic Perfection

Automatic perfection does not apply to any of the relevant Article 9 categories discussed for virtual currency.<sup>205</sup> As indicated in Part III, virtual currency would most likely be considered a general intangible requiring perfection by filing.<sup>206</sup> While this may resolve the issue of proper perfection, assuming a court agrees that virtual currency is a general intangible, given the transient nature of virtual currency, perfection by filing exacerbates the tracing problem.

## V. TRACING

Tracing is a necessary process under Article 9 of the UCC. Basically, because collateral is often left in the hands of the debtor,<sup>207</sup> there is a problem regarding what happens when the

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199. § 8-301(b).

200. § 9-106(b).

201. *See supra* Section III.B.5.

202. *See* sources cited *supra* note 132; *see also supra* Section III.B.4.

203. Mann, *supra* note 122, at 163.

204. *Id.* at 163-64; Miller, *supra* note 1; Gely-Rojas, *supra* note 11, at 141.

205. *See* U.C.C. § 9-309 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

206. *See supra* Section III.B.3.

207. Collateral left in the hands of the debtor occurs with perfection by filing. It also is the case with perfection by control, but the secured party has a greater opportunity to stop the transfer of collateral and to trace. There is not a tracing problem with perfection by

debtor disposes of the collateral to a third party. The general rule is that the security interest stays with the collateral in the hands of a third party.<sup>208</sup> However, the secured party must be able to trace the collateral to ensure that the collateral in question is the collateral to which the security interest has attached.<sup>209</sup>

There are exceptions to the rule that the security interest stays with the collateral in the hands of a third party, such as the buyer in the ordinary course of business rule.<sup>210</sup> However, a buyer in the ordinary course of business is defined as “a person that buys goods in good faith, without knowledge that the sale violates the rights of another person in the goods, and in the ordinary course from a person . . . in the business of selling goods of that kind.”<sup>211</sup> As discussed in Section II.G, virtual currency does not qualify as a good, so this exception is most likely not applicable.<sup>212</sup>

Another exception to the rule that the security interest stays with the collateral in the hands of the third party is the good faith purchaser for value exception, which states:

Buyers that receive delivery.

Except as otherwise provided in subsection (e), a buyer, other than a secured party, of tangible chattel paper, documents, goods, instruments, or a certificated security takes free of a security interest or agricultural lien if the buyer gives value and receives delivery of the collateral without knowledge of the security interest or agricultural lien and before it is perfected.<sup>213</sup>

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possession. *See* U.C.C. §§ 9-310, 9-313, 9-314, 9-328 cmt. 3 (AM. LAW INST. & UNIF. LAW COMM’N 2019).

208. Generally, a security agreement is effective against third parties. U.C.C. § 9-201(a), cmt. 2 (AM. LAW INST. & UNIF. LAW COMM’N 2019). Typically, the security interest in the proceeds in the collateral continues unless the secured party authorized the disposition of the collateral free of that security interest. U.C.C. § 9-315(a), cmt. 2 (AM. LAW INST. & UNIF. LAW COMM’N 2019); *see also* Evan Hewitt, *Bringing Continuity to Cryptocurrency: Commercial Law as a Guide to the Asset Categorization of Bitcoin*, 39 SEATTLE U. L. REV. 619, 630 (2016).

209. *See* § 9-315(a)-(b).

210. “[A] buyer in ordinary course of business . . . takes free of a security interest created by the buyer’s seller, even if the security interest is perfected and the buyer knows of its existence.” U.C.C. § 9-320(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

211. U.C.C. § 1-201(b)(9) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

212. *See* discussion *supra* Section II.G; *see also* Gely-Rojas, *supra* note 11, at 140; Hewitt, *supra* note 208, at 631.

213. U.C.C. § 9-317(b) (AM. LAW INST. & UNIF. LAW COMM’N 2019).

The exception specified in subsection (e) relates to purchase money security interests which is not applicable to the tracing issue and, thus, not addressed in this analysis. As for the remainder of the good faith purchaser for value exception, it is limited to collateral that qualifies as “tangible chattel paper, tangible documents, goods, instruments, or a certificated security.”<sup>214</sup> As indicated in Parts II and III, virtual currency would most likely not qualify as tangible chattel paper, documents, goods, instruments, or a certificated security.<sup>215</sup> Additionally, there is the problem of the requirement that the buyer “receives delivery.” As stated in Section III.B.4, delivery requires possession which is not possible for intangibles like virtual currency.<sup>216</sup>

Finally, if the collateral is considered money a third-party transferee of that money will take the collateral free of any security interest.<sup>217</sup> As explained in Section III.B.6, virtual currency does not meet the definition of money.<sup>218</sup>

As discussed above, if it is possible to create and perfect a security interest in virtual currency, the most likely possibility would be as a general intangible perfected by filing. This creates a tracing problem, as once the virtual currency is transferred to a third party, it is impossible to reverse the transaction, and transfer transactions are pseudonymous.<sup>219</sup> Thus, identifying the third-party holder of the collateral with the security interest would be difficult.

However, if it was possible to identify the virtual currency collateral in the hands of a third-party transferee, this would mean that some third party may have to turn over the virtual currency to the secured party. True, the UCC Article 9 notice mechanisms are meant to protect third parties by giving them notice of security interests,<sup>220</sup> but is it commercially efficient to require a check of Article 9 financing statements every time one transacts in virtual

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214. § 9-317(d).

215. *See supra* Parts I-II.

216. *See supra* Section III.B.4; *see also* § 1-201(b)(15); Schroeder, *supra* note 11, at 19; NBD-Sandusky Bank v. Ritter, 446 N.W.2d 340, 342 (Mich. Ct. App. 1989).

217. U.C.C. § 9-332(a) (AM. LAW INST. & UNIF. LAW COMM’N 2019); Schroeder, *supra* note 11, at 23; Hewitt, *supra* note 208, at 631-32.

218. *See supra* Section III.B.6.

219. Gely-Rojas, *supra* note 11, at 141; Wenker, *supra* note 127.

220. Bradley, *supra* note 174, at 977-78.

currency? The end result would likely be a third party who did not check Article 9 financing statements learning that there is a lien on the virtual currency.<sup>221</sup>

Given the benefits of liquidity for virtual currency, the expectation that a third party would check to see if there is a security interest attached to virtual currency reduces that liquidity. Indeed, it is commercial efficiency and the benefits of liquidity with regard to money that prompted the drafters of UCC Article 9 to exclude money from the rule that a security interest follows the collateral in the hands of a third party.<sup>222</sup> Accordingly, the inefficiencies of the current Article 9 system with regard to the practical ability of a secured party to trace and enforce security interests in virtual currency creates additional problems of uncertainty and risks for secured-party creditors.

## VI. CONCLUSION

Article 9 of the UCC in its present form has too many risks for creditors who want to accept virtual currency as collateral. Does virtual currency fall under the scope of Article 9? If it does, under what collateral category for purposes of creation of the security interest and perfection? If we can create a security interest in virtual currency and perfect that interest, how do subsequent creditors know there is a security interest in specific virtual currency, and how does a secured party trace the collateral? We do not have definitive answers to these questions as the courts have yet to rule on these issues, and the Joint Study Committee on the Uniform Commercial Code and Emerging Technologies has yet to issue any suggestions. This uncertainty for virtual currency as collateral reduces the likelihood it will be accepted as collateral under the present laws<sup>223</sup> and underscores the need to clarify the law.

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221. See Hewitt, *supra* note 208, at 630-31; Lawless, *supra* note 168.

222. See § 9-332 cmt. 3.

223. See Hewitt, *supra* note 208, at 631; Lawless, *supra* note 168.