Virtual Currency Estate Planning, Bit by Bit

ABIGAIL FARMER & CORY ELIZABETH TYSZKA

This paper addresses the issues virtual currency, specifically bitcoins, pose in estate planning. First, this paper explains bitcoins, their origins, and their legal status. Next, this paper will identify special problems posed by bitcoins in estate planning. Finally, this paper will offer solutions to those problems, including transfer mechanisms and gifting strategies.

CONTENTS

I. Introduction

Gone are the days when marshaling a decedent's assets entailed looking through filing cabinets and personal effects for bank statements, letters, or other clues that might lead to assets. Now an estate planner must look for other, intangible assets: while most banks still send paper statements, an individual might have an E*Trade account that he or she accesses and manages entirely online—will the decedent's executor have access to the account? What about electronic media such as photos, music, or e-books? Did the decedent have a social networking profile that possessed some monetary value? More than one? Digital asset management is a real concern for estate planning.

Then there is the matter of digital currencies, such as bitcoins. To begin, what are they? How do they work? Can they be transferred at death? Digital currencies are legal currency that an individual can use to purchase items, yet it rarely exists in tangible form (and even then, the physical coins are more collectibles than anything; most transactions using bitcoins are entirely digital). Virtual currencies like bitcoins are appealing because they offer payment freedom, low fees, few risks for merchants, security and control, and their use is transparent and neutral. There are some challenges, however, associated with bitcoins, including uncertain public acceptance, price volatility, and ongoing development. Most importantly, if an individual bitcoin owner does not plan ahead, these virtual assets with very real value could be lost when their owner passes.

Since several excellent articles already address digital asset management in general as well as management of copyrighted content created by an author,[1] digital music and e-books,[2] and social media accounts,[3] this article will focus on the as yet unanalyzed cryptocurrencies. More specifically, this article will highlight the special challenges that virtual currencies pose for estate planning. To begin, Part II of this paper will give an overview of what virtual currencies

are, how they work, and how they are used. It will then summarize I.R.S. Notice 2014-21, the I.R.S.'s response to the demand for guidance regarding the taxation of virtual currencies. In Part III, this article will demonstrate the need to consider virtual currencies in estate planning and will explain how I.R.S. Notice 2014-21 impacts the way virtual currencies should be handled in an estate plan. Finally, it will offer some practical planning suggestions to ensure that the management of digital currencies goes as smoothly as possible.

II. Background

Virtual currencies are digital, decentralized, partially anonymous currencies; they are not backed by any government or other legal entity and are presently not redeemable for gold or other commodities.[4] They can operate like "real" currency (e.g., dollars and euros), but they do not have legal tender status in any jurisdiction.[5] Convertible virtual currencies have an equivalent value in real currency or can act as a substitute for real currency.[6] In other words, they can be exchanged for dollars, euros, or other currencies.

At present, there are more than sixty virtual currencies traded at various exchanges, from bitcoins to dogecoins (complete with a Shiba Inu on its logo).[7] Although this article focuses on bitcoins, as they are the oldest and most established virtual currency, the principles discussed apply to all virtual currencies.

A.   <u>Bitcoins and Their Origins</u>

When discussing bitcoins, the first thing to do is to distinguish between "Bitcoin" and "bitcoins." When spelled with a capital *B*, Bitcoin refers to the payment network itself, the first decentralized peer-to-peer payment network that is powered by its users with no central authority or middlemen.[8] When spelled in all lowercase, bitcoin refers to the currency itself: bitcoins.[9] To take the explanation from the abstract to the concrete, the system works much like PayPal and

dollars: you pay with dollars (the currency) through PayPal (the network).[10] However, instead of having the currency controlled by the United States federal government and the network controlled by a single company, neither bitcoins nor the Bitcoin network are controlled by any single entity.[11]

In practice, Bitcoin is a mobile app or program that allows each user to have a Bitcoin wallet with which to send and receive bitcoins.[12] Digital signatures corresponding to the sending addresses protect the authenticity of each transaction; this means that users have full control over sending bitcoins from their Bitcoin addresses.[13] Each of these transactions is recorded in the "block chain," the public Bitcoin network ledger, which contains every transaction ever processed.[14] Because the block chain contains the record of every bitcoin transaction, a user's computer can verify the validity of each transaction.[15]

The block chain is actually a very clever solution to double spending, one of the major issues that kept virtual currencies from developing sooner.[16] In the real world, Bob can give Joe a gold coin to pay for a new watch; because he has given the coin to Joe, Bob cannot turn around and use that same coin to pay Sam for a new pair of shoes—he already gave the coin away. For a while, the problem with virtual currencies was that there was no way to tell whether a given virtual coin had already been spent.[17] Certainly, the easiest way to deal with the double spending would be to assign a number to each virtual coin and keep that number in a virtual ledger, but if only a limited number of individuals had access to the ledger, they would be free to invent virtual coins or say that a given coin had not been spent in a given transaction.[18] To solve this problem, Bitcoin has a public, decentralized ledger: the block chain. As the network grows, it is very difficult to tamper with the ledger because now all transactions have to match everyone's ledger.[19] Cooking one book is easy, but cooking thousands is a much more difficult

proposition.[20] This helps prevent the fraudulent creation of new bitcoins, which in turn helps bitcoins maintain their value.

And yet bitcoins must come from somewhere. Unlike traditional currencies, there is no government in charge of minting bitcoins; instead, individuals "mine" bitcoins through processing the bitcoin transactions that make up the block chain.[21] The technical definition of mining is "the process of running SHA256 double round hash verification processes in order to validate transactions and provide the requisite security for the public ledger of the bitcoin network."[22] In plain English, this means an individual uses very powerful, specialized hardware to do math problems, which process transactions (by running them through the block chain), and receives bitcoins in return.[23] Processing these transactions consumes a great deal of electricity and generates enormous amounts of heat, which means individuals must use very powerful, specialized hardware to process transactions—otherwise they spend more on electricity than they earn mining bitcoins.[24] In addition to this specialized hardware, bitcoin miners also need special software to process the transactions.[25] The reward for processing these transactions is currently twenty-five bitcoins per transaction block, but this reward halves every time 210,000 blocks have been mined so that the number of bitcoins awarded will slowly taper off and limit the total number of bitcoins.[26] Due to the massive amounts of computing power required to process transactions, individual mining efforts are unlikely to be profitable, so miners often join a mining pool, where multiple people combine computing power to process transactions and each one is paid in proportion to the amount of work contributed.[27]

Once an individual has received bitcoins, whether through mining efforts or as payment for goods or services, he or she must have a place to store them. Bitcoins are stored in "wallets," which can be software, mobile, or web-based.[28] Bitcoins are sent to the wallet by using a unique

address that only belongs to the individual; to ensure the wallet's security, individuals set up a two-factor authentication system or keep their wallets on an offline computer with no Internet access.[29]

Bitcoin security is maintained through the use of public key cryptography. As a very simplified example of how public key cryptography works, imagine that you want to send a private message. One way to ensure the security of your message is to use a cryptographic algorithm to transform that message into an encrypted form, which can only be decrypted by using a key.[30] Without the key, the encrypted message is worthless; so long as the key is kept secret, the message remains secure.[31] But you do not want your message to only be readable by you; you want someone else to be able to read it. How do you securely pass on the key to the message recipient? Public key cryptography is one solution to this problem: it defines an algorithm that uses two keys, either of which may be used to encrypt a message.[32] If Key A is used to encrypt the message, then Key B must be used to decrypt it.[33] This allows you to send multiple messages using the same decryption key; you can securely send and receive messages by publishing one key (the public key) and keeping the other secret (the private key).[34]

As applied to bitcoins, a Bitcoin address is shorthand notation for a public key.[35] When you make a transaction to an address, you are stating that you give the right to spend a bitcoin to the person who owns the private key corresponding to that address.[36] The transaction recipient can spend the transaction by signing it using *his* private key; the signature proves that he owns the key without having to disclose the key because others can verify the signature by using the public key (the Bitcoin address).[37]

As complicated as the underlying theory and mining processes are, bitcoins are remarkably easy to use. In that sense, they are rather like cars: you don't need to know how to

build a car to drive one; likewise, you don't need to understand how bitcoins are mined to use them.[38] You only need a wallet application on your computer to make and receive bitcoin payments.[39] To make a payment, one simply opens the wallet application, enters the recipient's address and the payment amount and hits "send."[40] This is where bitcoins move beyond mere theory: people already use bitcoins to purchase items in the real world, from sports tickets[41] to sandwiches.[42] Bitcoins also make it easy to purchase big-ticket items. On February 19, 2014, one bitcoin enthusiast used the currency to purchase a luxury villa in Bali, Indonesia.[43] The buyer paid more than 800 bitcoins for the villa; although the exact price was not disclosed, this was the equivalent of more than $500,000.[44] The villa's seller commented, "the whole thing was done in an hour. If we had gone through normal bank transfers, it would have taken a few days or a week."[45]

Even as bitcoins gain traction for use in larger transactions, they still pose practical difficulties. If the private key is lost, it cannot be retrieved and the corresponding bitcoin is also lost.[46] In this sense, it is like losing an actual coin. Unlike physical currency, however, another individual cannot simply "find" that bitcoin: it goes dormant and falls out of circulation.[47] This effect is intentional; since only 21 million bitcoins will ever be mined,[48] as more bitcoins are inevitably lost, the remaining bitcoins' value will increase—the opposite of inflation.

B.   Legal Significance of Bitcoins

1.   *In the United States: I.R.S. Notice 2014-21*

Until recently one of the most important questions regarding virtual currencies was whether the I.R.S. would treat them as currency or property.[49] On March 26, 2014, the I.R.S. laid the question to rest, issuing Notice 2014-21, which stated that for U.S. Federal Tax purposes, virtual currencies would be treated as property.[50]

The notice addresses the taxation of virtual currencies, defined as a "representation of value that functions as a medium of exchange, a unit of account, and/or a store of value."[51] The I.R.S. distinguishes virtual currencies from "real" currencies in that they do not have legal tender status in any jurisdiction.[52] Nevertheless, the sale or exchange of convertible virtual currency, or the use of convertible virtual currency to pay for goods and services in a real-world economy transaction has very real tax consequences that may result in a tax liability.[53]

Virtual currencies, the notice explains, will not be treated as currency that could generate a foreign currency gain or loss for U.S. federal tax purposes.[54] Instead, they will be treated as property; thus, tax principles that apply to property transactions will also apply to transactions using virtual currency.[55] This means that a taxpayer who receives virtual currency as payment for goods or services must include the fair market value of the virtual currency, which is measured in U.S. dollars as of the date that the virtual currency was received.[56] If the virtual currency is listed on an exchange, with an exchange rate established by market supply and demand, then the virtual currency is converted into U.S. dollars at the exchange rate.[57]

Because virtual currencies must be converted into dollars for reporting purposes, this means that individuals can have a gain or loss. The tax basis for virtual currency is the fair market value of the virtual currency in dollars on the date of receipt.[58] If the fair market value of the property received in exchange for the virtual currency exceeds the taxpayer's adjusted basis of the virtual currency, then the taxpayer has a taxable gain; if the value received is less than the adjusted basis, then the taxpayer has a loss.[59] The type of gain/loss depends on how the taxpayer holds the virtual currency: if it is held as a capital asset, then gains and losses will be taxed as capital gains and losses, otherwise it will be an ordinary gain or loss.[60]

Determining whether virtual currency is held as a capital asset then becomes of critical importance. As a general rule,

> [g]ains from the sale or exchange of capital assets shall be excluded to the extent that such gains are allocated to corpus and are not (A) paid, credited, or required to be distributed to any beneficiary during the taxable year, or (B) paid, permanently set aside, or to be used for the purposes specified in section 642(c).[61]

Losses from the sale or exchange of capital assets are excluded, except to the extent such losses are taken into account in determining the amount of gains from the sale or exchange of capital assets which are paid, credited, or required to be distributed to any beneficiary during the taxable year.[62] The exclusion under section 1202 is also not taken into account.[63]

2.   *In Other Countries*

The I.R.S. decision to tax bitcoins as property, not currency, is in keeping with other countries' decisions. In August 2013, the German Finance Ministry declared that bitcoins are "units of account" and therefore that mining for bitcoins was a form of money creation.[64] This means that any profits from bitcoins will be charged the capital gains tax.[65] And on March 6, 2014, the United Kingdom released its own Revenue and Customs Brief regarding the taxation of bitcoins and virtual currencies.[66] It also said that bitcoins could be subject to the corporation tax, income tax, or capital gains tax, depending on the activities and parties involved with the bitcoins.[67] A few other countries have passed laws regarding whether bitcoins will be treated as foreign currency or property, but most seem to view the virtual currency with suspicion and are waiting to see how it develops before passing further laws.[68]

One potential concern is that since bitcoins do not have a physical location, they could be considered as being located "everywhere"—in other words, since the Bitcoin network is decentralized, bitcoins are fair game for every nation to tax. However, Brazil can no more tax the

bitcoins of a United States citizen than it can tax the income that United States citizen generates from a blog—the jurisdictional reach simply is not there. Owning bitcoins is not like holding shares in a foreign corporation, where the corporation generates income in that country; it is property held by a citizen of a single country. Likewise, there is little risk that a United States citizen's mining activities could be the target of Spanish taxation, as mining activities are most likely conducted in the United States as a form of self-employment, which is also outside of foreign jurisdiction. Finally, given that most countries are still struggling to decide how to tax their own citizens' bitcoins, there seems little chance that they would go beyond their borders, "looking for trouble." For estate planning purpose, foreign taxation poses little risk.

III. Analysis

A.   Special Problems Posed by Bitcoins

1.   Impact of I.R.S. Notice 2014-21

I.R.S. Notice 2014-21 has the strongest implications for bitcoin owners for income tax purposes, but it raises several important issues to crafting an estate plan.

To begin, for purposes of determining gains and loses, bitcoin owners must determine whether their bitcoins are held as capital assets. Under section 1221(a) of the Internal Revenue Code, capital assets are property held by the taxpayer (whether or not connected with his or her trade or business), except:

- Inventory the taxpayer holds primarily for sale to customers in the ordinary course of his trade or business;
- Real and depreciable property used in his or her trade or business;
- A copyright, literary, musical, or artistic composition, a letter or memorandum, or similar property held by the taxpayer who created it;

- Accounts or notes receivable acquired in the ordinary course of trade or business for services rendered or for the sale of property
- United States Government publications
- Commodities derivative financial instruments held by a commodities derivatives dealer
- Hedging transactions
- Supplies regularly used or consumed in the ordinary course of trade or business[69]

In most situations, bitcoins will not fall into these categories, unless they are used for a hedging transaction; thus, they are probably capital assets. However, if they are held as inventory in a trade or business, they might not be capital assets. For example, miners could be said to hold bitcoins as inventory; these bitcoins would then be subject to ordinary income taxes.[70]

Next, bitcoin owners must keep meticulous records for two reasons: to establish the requisite holding period for long term versus short term capital gains and to determine the bitcoins' tax basis. Beyond giving the date for establishing fair market value, careful records are critical for determining whether gains and losses are long term or short term. If a bitcoin owner uses a wallet to store bitcoins, he or she can rely on the block chain for this: it permanently records transactions to and from an address, along with the date and time of the transaction.[71] Furthermore, the block chain is public, disinterested from the taxpayer, and extremely difficult to tamper with, making it extremely reliable.[72] If the bitcoin owner is using a brokerage, such as Coinbase, a file with a full list of trades may be available.[73] Since the tax basis is the fair market value on the date of receipt, it is essential to know when bitcoins were acquired.

Those who receive bitcoins as a gift will generally inherit their donor's tax basis.[74] However, if the donor's basis is more than the market value of the bitcoins at the time the gift was made, the tax basis would not be determined until the bitcoins are sold in the future.[75] The process is like determining the tax basis for gifts of stock. First, the donee calculates the gain or

loss using the donor's tax basis.[76] If this results in a gain, then the donor's tax basis is the proper

basis.[77] If this number results in a loss, then the donee calculates the gain or loss using the market

value on date of receipt as the basis.[78] If this calculation results in a loss, then that is the correct

basis to use.[79] If it results in a gain, the donee reports nothing.[80]

Finally, bitcoin owners should remember that every transaction where they use bitcoins

to purchase goods and services are considered a taxable event. That means if a bitcoin was

acquired on a day when bitcoins traded at $400 and was used to purchase goods on a day when

bitcoins traded at $500, the bitcoin owner has received a gain of $100 that must be reported.

2.   Bitcoin Valuation

As an initial matter, it is worth reiterating that virtual currency has real value. Bitcoins

have inherent value, but their value is difficult to determine with any consistency because how

much one bitcoin is worth is terms of goods and services is volatile. This volatility is exemplified

by regular and sometimes drastic fluctuations in currency exchange rates.[81] Bitcoins were valued

at exchange rate of just a few dollars for their first two years of existence, and in January 2013,

one bitcoin exchanged for only $13.[82] As of April 16, 2014, one bitcoin was valued at $521;

however, at the all-time peak in December 2013, one bitcoin was valued at $1,151.[83] Values

have increased as bitcoins gained more legitimacy and buying power.[84] External market forces

affect bitcoin value, but internal forces do as well.

When bitcoins are lost, they and go dormant, and the relative value of each remaining

bitcoin increases.[85] On the other hand, when bitcoins are mined, this puts more bitcoins in

circulation, and the value of each bitcoin decreases.[86] This makes sense; it is the simple law of

supply and demand: the more bitcoins that are in circulation, the less value each individual

bitcoin has. However, the 21 million limit on the number of bitcoins discussed above puts a cap on the deflationary effect from further mining efforts.

3.   Mining Pool Valuation

An individual's membership in a mining pool must also be valued because that interest will continue after death. The question of mining pool valuation, though, is complex and difficult. Valuing the hardware and software, specialized for processing transactions and solving problems in the block chain, should be relatively straightforward: they can likely be assigned a dollar value based on the amount paid for them and their age. More difficult, however, is the value of Bitcoins to be received for transactions not yet processed. At present, there does not seem to be much guidance on whether this is essentially an annuity for which the present value must be calculated or if a different valuation method should be used. Even if it is determined that the mining pool interest will be treated as an annuity, calculating the time value of money is difficult, if not impossible, when the exchange rate of dollars to bitcoins is constantly shifting based on consumer confidence and total bitcoin mining activity: as of April 16, 2014, one bitcoin is worth $521, but last December a single bitcoin traded for over $1,100.[87] Thus, the value of membership in a mining pool fluctuates greatly.

B.   <u>Forming an Effective Estate Plan</u>

Bitcoins pose unique problems to the typical estate plan, including locating and identifying bitcoin wallets, transferring or gifting bitcoins, and devising bitcoins. While the long-term impact of whether bitcoins will have lasting economical value is yet to be seen, they are gaining enough currency—no pun intended—to have garnered the attention of the I.R.S., as evidenced by its Notice 2014-21 addressing how virtual currencies will be treated for income tax

purposes.[88] Thus, the prudent estate planner should at least be aware of the potential issues bitcoins raise.

Under 26 U.S.C. § 2033, all property a decedent owned or otherwise had an interest in is taken into the decedent's gross estate. Given bitcoins' actual buying power and the I.R.S.'s acknowledgement of virtual currency as legitimate, bitcoins can rightly be considered property in which a decedent has an interest, to be disposed of as part of a decedent's gross estate. Given the virtual nature of bitcoins—and the accompanying security measures that make bitcoins so appealing—including bitcoins in a person's estate plan becomes a valuable and important consideration.

A mindful bitcoin owner who forms a coherent estate plan can alleviate some of the problems bitcoins pose. This section will identify the particular problems associated with bitcoins in intestacy, describe bitcoin transfer mechanisms, discuss the implications of gifting bitcoins, and suggest effective ways to devise bitcoins.

1.   Bitcoins in Intestacy

Intestacy is bad enough for the typical estate, but it is especially problematic when it comes to an estate that includes bitcoins. Bitcoins are now viewed as property, and very valuable property at that. However, the very security and anonymity that make bitcoins so attractive to investors can be an insurmountable barrier to passing on that value through intestacy.[89] Bitcoins are secured by private keys that are necessary to access the asset.[90] If a bitcoin key is lost, that bitcoin goes dormant; no one can access it.[91] As of this writing, there are no methods to recover the key, and because the security of bitcoins is one of their most appealing features, there will likely never be a mechanism to do so. While the block chain effectively tracks bitcoins to prevent double spending of the same bitcoin, it is incapable of identifying a bitcoin's owner.[92]

The same protections that make bitcoins so secure also renders them vulnerable to permanent loss.[93]

With a total bitcoin circulation of nearly fourteen billion dollars, some estates could lose significant assets is their bitcoins were to go dormant.[94] Because bitcoins are neither tracked in public record nor otherwise searchable by an owner's credentials, i.e., name, address, date of birth, social security number, etc., it is quite possible that an intestate decedent's estate might never know of the bitcoins.[95] A decedent who enjoys buying and selling with bitcoins from the comfort of his or her home computer may not inform his or her family members of this habit. And even if the estate is aware of decedent's virtual currency, it still cannot access the property without the proper keys.[96]

On the other hand, because bitcoins are not trackable and identifiable, a decedent's estate that is aware of the property and is in possession of bitcoin keys could conveniently "lose" a decedent's bitcoins to circumvent traditional estate disposition and taxation. However, such conduct is clearly fraud—and where the I.R.S. can establish fraud, there is no applicable statute of limitations, meaning it would behoove the decedent's estate to be honest from the start.

As with most assets, a bitcoin owner's best course of action is either to transfer bitcoins prior to death or to have a plan for the transfer of bitcoins upon death. Bitcoins can be transferred upon death by pre-planned bitcoin transfers, by gift, or by devise.

2. *Bitcoin Transfer Mechanisms*

a. Create a Copy of the Bitcoin Wallet

The easiest way to pass on bitcoins is to simply give someone else the private keys. This is a quick, easy way to allow multiple parties to access the same funds. However, this is less than desirable for several reasons. First, while this allows the original owner to retain access to the

bitcoins, it also allows the beneficiary to have immediate access to the bitcoins. Handing over the keys to give the beneficiary immediate access requires trusting the beneficiary not to spend the bitcoins before the original owner wishes. Furthermore, even if the individual trusts the intended beneficiary, there are further security risks: the beneficiary must maintain the same level of vigilance as the original wallet owner; otherwise the risk of third party theft is compounded.

b.   M-of-N Transactions

One potential way to resolve the security issue is to create an M-of-N transaction system. This is essentially an escrow system built into the Bitcoin protocol that allows transactions requiring multiple signatures.[97] With this method, individuals can set up a transaction that requires M-of-N parties to sign: for example, the original bitcoin owner, the intended beneficiary, and a third party such as a trustee or the executor of the individual's will are given the power to approve the transaction, but only two of the three parties' approval is required for the transaction to be valid.[98] Thus when the original owner passes, the beneficiary and the third party can sign off on the transaction and transfer the bitcoins to the beneficiary.

Such a transaction has several advantages. To begin, such transactions are already allowed by the Bitcoin protocol, so they are easy to set up.[99] Furthermore, with a third party to approve the completion of the transaction, such as a trustee or executor, an individual can rest easy knowing that the transaction will be completed only upon his or her passing.[100] Finally, this method of passing bitcoins to a beneficiary does not entail giving the beneficiary access to the entire wallet, but only to that specific transaction.[101] This does mean, however, that once the transaction is set up, the bitcoins must be kept in that same wallet—this type of transaction requires that the sending and receiving addresses be specified; if the bitcoins are moved to a new wallet, the sending address from the original transaction cannot be used.[102]

c.   Dead Man's Switch

This method is a variation on the M-of-N transaction, but instead of using a third party to verify the transaction, a computer server verifies if a user-provided expression is true.[103] For example, the computer server will periodically send a message asking the bitcoin owner if he or she is alive; if this is the case, he or she will click a link, if not, the program will wait and try again.[104] If the bitcoin owner does not respond after a given number of tries, the program will activate the switch and sign the transaction to transfer the bitcoins.[105]

This variation on the M-of-N transaction has all the advantages of the standard M-of-N transaction, with the added benefit that the bitcoin owner does not need to involve a third party but can simply set up the program.[106] On the other hand, the same caveats as a M-of-N transactions apply: the sending and receiving addresses must be written into the transaction and cannot be changed.[107]

d.   Lock Time Transactions

Lock time transactions are the rough equivalent of post-dating a check: the transaction will not be accepted until the time specified is valid.[108] The bitcoin owner can provide the private key to the transaction to the beneficiary, to be broadcasted when the owner passes, but if the owner is still alive at the time the date becomes valid, he or she can always cancel the transaction by moving the bitcoins to a new address.[109]

Such a system maintains the security of the bitcoin wallet, as the beneficiary only has the ability to broadcast the transaction and does not have access to the wallet itself.[110] The Bitcoin protocol already provides for such a transaction, so a bitcoin owner can set this up without any outside involvement.[111] Like M-of-N transactions, however, the bitcoin sending and receiving addresses cannot change in order for the transaction to be validated in the future.[112] The

beneficiary must also take care not to lose the transaction, or else the transfer will never take place.[113]

Each of these gifting mechanisms have their advantages and drawbacks; bitcoin owners should consider which plan best suits their needs. Those who trust their intended beneficiaries may wish to avoid a third party's involvement and simply pass on the key to their bitcoin wallets, whereas an M-of-N transaction would be the superior choice where the bitcoin owner does not wish the beneficiary to have immediate control over the bitcoins. Once a bitcoin owner has decided the best mechanism to pass on his or her bitcoins, the next decision is how to pass them.

3.   Gifting Bitcoins

Gifting bitcoins is one viable option a bitcoin owner has to reduce tax liability and to transfer the value of the bitcoins during the owner's lifetime. To make an *inter vivos* gift of personal property, including virtual currency, the donor must intend to make a gift and must deliver possession of the property to the donee.[114] The donee must also accept the property.[115]

In the case of virtual currencies, manual delivery is impossible, leaving an owner with the options of constructive (i.e., keys) or symbolic (i.e., letter or deed) delivery.[116] In the case of bitcoins, constructive delivery applies because the donor must give a donee virtual keys in order to access the gift.[117] The fact that a bitcoin owner can give another access to his or her wallet while maintaining personal access raises the interesting question of when the gift becomes complete. If a bitcoin owner simply gives the donee the key to a bitcoin wallet but keeps a copy of the key either for backup or so he can continue to have access to the bitcoins, then this is likely an incomplete gift. Until the owner "has so parted with dominion and control as to leave him in no power to change the disposition, whether for his own benefit or the benefit of another," it is not subject to taxation.[118] However, as with joint bank accounts, ownership is defined by

each owner's net contribution, but any withdrawal in excess of an individual's contribution is then considered a gift because the other owner no longer has control over that money.[119] Likewise, if a donor gifts bitcoins to someone by way of giving that person the bitcoin keys, the donee has no ownership in the bitcoins, and it does not become a gift until those bitcoins are removed from the account.

Generally, if it is an incomplete gift, then the owner has to be concerned that the intended gift will fall into the residuary estate. However, it is possible for a bitcoin owner to make a valid, present gift for a future, remainder interest.[120] In *Gruen v. Gruen*, a father gave his son a valuable painting as a present gift without immediately relinquishing the item.[121] Instead, the father maintained possession of the painting for the remainder of his life, and the son claimed the gift upon father's death.[122] Despite the lack of immediate delivery, the New York Court of Appeals found that the father had made a proper present gift for a future interest.[123] The same principle the Court applied in *Gruen* could apply to the disposition of bitcoins: an owner can make a future gift of a bitcoin wallet but can maintain possession of the key for his own enjoyment until death. However, unlike typical chattel, bitcoins can be spent in part or in full, essentially changing the character of the gift.

Another use for *inter vivos* gifts is to transfer bitcoins to donees within the annual exclusion limit. Currently, the annual exclusion that applies to each donee is $14,000, so a bitcoin owner with substantial bitcoin property could begin gifting bitcoins so the donee will not have to pay gift tax, and the estate tax will subsequently be lower.[124] When using the exclusion, the gift's value must be measured in accordance with the fair market value at the time of the gift, using the exchange rate.[125] Given bitcoins' exchange rate fluctuation, an owner trying to limit his estate liability could gift $14,000 worth of bitcoins when they are at a lower exchange rate to still

allow the donee to claim the annual exclusion, even if the bitcoins are worth double by the end of the year. It will then be up to the donee to determine when to cash in—or use—the bitcoins, ideally when their value is high.

To avoid the problem of an intended donee having to prove the presence of a gift, an owner can establish an M-of-N transaction, described *supra*, Section III(B)(2)(b), as an alternative. The M-of-N key provides an effective, secure way to make a gift, it allows the owner to divide up the sum of his bitcoins to multiple donees, and it permits the owner to continue using the bitcoins as he wishes.[126] Though the M-of-N transaction itself is irrevocable, if the bitcoin owner no longer wishes to give away the bitcoins, he or she can simply change the sending address to re-route it back to himself through a virtual straw man. Comparably to a ban on unilateral trusts, a bitcoin owner establishing M-of-N transactions cannot act as sole sender and receiver.[127]

A variation on the M-of-N transaction that would allow a bitcoin owner to make a post-mortem gift is through a dead man's switch transaction, described *supra*, Section III(B)(2)(c). This would allow a bitcoin owner to schedule a post-mortem gift without having to involve a third party.[128]

The benefits to making either *inter vivos* or post mortem gifts of bitcoins are several. First, the bitcoin owner can control when to release the gift. Until then, the gift remains securely stored in the bitcoin wallet. Second, it provides for a proper transfer of the ever-important keys. Donees will then be taxed on the value of the gift at the time of receipt. While gifts are one way to plan ahead for the disposition of bitcoins, another is to devise an owner's bitcoins by will or trust.

4.   Devising Bitcoins

Devising bitcoins by will or by trust is another viable option to ensure that an owner's bitcoins are not lost and do not become permanently dormant. First and foremost, a bitcoin owner is advised to keep very thorough and accurate records to prevent a loss of bitcoin keys. A bitcoin owner must then choose a method of transfer he is comfortable with, both in terms of the method's security and finality. If the bitcoins are placed into trust, the owner will need to turn over the bitcoin keys to the trustee for safe keeping and should instruct the trustee on how to use them. If a bitcoin owner has minor children, he is advised to designate conservators to manage the bitcoins and the bitcoin keys until the children are matured.

Not only can a bitcoin owner devise the bitcoins themselves, but he can also devise his interest in a mining pool. Like any other business interest, an interest in a mining pool would most likely be valued by future cash flow. Unlike other business interests, however, interest in a mining pool does not have traditional assets and liabilities, making it nearly impossible to predict a future rate of return, and in turn making it nearly impossible to determine the business interest's tax basis.

One final consideration for the mindful bitcoin donor concerns ademption. What happens to an adeemed gift depends on whether it is a general or specific devise. When a general gift is adeemed, the value of that gift is paid out of the general assets of the estate, but when a specific gift is adeemed, the gift fails.[129] Bitcoins pose an interesting question in this regard because they are, first and foremost, a virtual currency. This would suggest that a gift of bitcoins is a general devise; however, the I.R.S. considers bitcoins property for tax purposes, which would support finding that a gift of bitcoins is a specific devise.[130] Under the new I.R.S. guidelines, then, if a devise of bitcoins is adeemed, the gift fails. Thus, a bitcoin owner will want to be aware of the

impact of the I.R.S. Notice 2014-21 in order to make sure his named takers receive all that he intends to devise to them.

IV.   Conclusion

Bitcoins and other virtual currencies rely on technology and individual use for their value. They add a new layer of complexity to estate planning and taxation, and the prudent estate planner should treat bitcoins as legitimate property with real value. Given the complexity of the process of mining for bitcoins and the fact that they are stored in special wallets, trusting bitcoins to be distributed through intestacy will not suffice. Even assuming a decedent's loved ones know that he or she owned bitcoins, there is no guarantee that they will have the keys to access them; this is risks losing the bitcoins entirely. Rather than merely hoping that intended beneficiaries will know of the bitcoins' existence, how to access them, and what to do with them, bitcoin owners should be proactive and develop a coherent estate plan that considers the relationship between the bitcoin owner and beneficiary, retains the desired about of flexibility for the bitcoin owner during life, and provide adequate security for the bitcoin owner's peace of mind.

Beyond these factors, the prudent estate planner will also consider the impact of I.R.S. Notice 2014-21. This decision to treat bitcoins as property, not currency, has two primary implications for bitcoin owners. First, treating bitcoins as property means that they will be subject to capital gains taxes. Second, bitcoin owners must be sure to keep impeccable records so that their devisees will have the proper tax basis for bitcoins received.

Even if bitcoins do not become the universally used currency its proponents hope for, there is enough value invested in bitcoins to make their inclusion in estate planning more than an interesting hypothetical. Estate planners should be sure to inquire about whether their clients own bitcoins and, if they do, work to develop a plan that ensures these valuable assets will not be lost.

[1] Claudine Wong, *Can Bruce Willis Leave His iTunes Account to His Children?*, 29 SANTA CLARA COMPUTER & HIGH TECH. L.J. 703 (2013).

[2] Emily Stutts, *Will Your Digital Music and E-Book Libraries "Die Hard" with You?: Transferring Digital Music and E-Books Upon Death*, 16 SMU SCI. & TECH. L. REV. 371 (2013).

[3] Nicole Schneider, *Social Media Wills – Protecting Digital Assets*, J. KANS. B. ASS'N

[4] Reuben Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 HASTINGS SCI. & TECH. L.J. 159, 160 (2012).

[5] I.R.S. Notice 2014-21 (Mar. 26, 2014).

[6] *Id.*

[7] Samuel Gibbs, *Nine Bitcoin Alternatives for Future Currency Investments*, THE GUARDIAN (Nov. 28, 2013), http://www.theguardian.com/technology/2013/nov/28/bitcoin-alternatives-future-currency-investments; DOGECOIN, dogecoin.com (last visited Apr. 12, 2014).

[8] *Frequently Asked Questions*, BITCOIN.COM, https://bitcoin.org/en/faq#what-is-bitcoin (last visited Apr. 12, 2014).

[9] Erik Voorhees, *What is Bitcoin? Welcome to Cryptocurrency*, YBITCOIN, Spring 2014, at 8, 8.

[10] *Id.*

[11] *Id.*

[12] *Frequently Asked Questions*, *supra* note 8.

[13] *Id.*

[14] *Id.*

[15] *Id.*

[16] Nik Custodio, *Explain Bitcoin Like I'm Five*, MEDIUM.COM (Dec. 13, 2013), https://medium.com/p/73b4257ac833.

[17] *Id.*

[18] *Id.*

[19] *Id.*

[20] *Id.*

[21] *Getting Started*, BITCOINMINING.COM, http://www.bitcoinmining.com/getting-started/ (last visited Apr. 12, 2014).

[22] *Id.*

[23] *Id.*

[24] *Id.*

[25] *Id.*

[26] *Bitcoin Glossary*, COINDESK, http://www.bitcointaxsolutions.com/are-bitcoins-capital-asset/ (last visited Apr. 16, 2014).

[27] *Id.*

[28] *Id.*

[29] *Id.*

[30] *SSL/TLS Strong Encryption: An Introduction*, APACHE HTTP SERVER VERSION 2.2, http://httpd.apache.org/docs/2.2/ssl/ssl_intro.html#cryptographictech (last visited Apr. 16, 2014).

[31] *Id.*

[32] *Id.*

[33] *Id.*

[34] *Id.*

[35] Steven Roose, *How Are Public and Private Keys Related to the Wallet?*, BITCOIN.STACKEXCHANGE.COM (Jan. 6, 2014), http://bitcoin.stackexchange.com/questions/19950/how-are-public-and-private-keys-related-to-the-wallet.

[36] *Id.*

[37] *Id.*

[38] Voorhees, *supra* note 9, at 8.

[39] *Frequently Asked Questions*, *supra* note 8.

[40] *Id.*

[41] *Sacramento Kings Become First Professional Sports Team to Accept Virtual Currency Bitcoin*, NAT'L BASKETBALL ASS'N, http://www.nba.com/kings/news/sacramento-kings-become-first-professional-sports-team-accept-virtual-currency-bitcoin (last visited Apr. 12, 2014).

[42] Jessica Roy, *I Bought Everything on My Christmas List with Bitcoin*, TIME (Dec. 5, 2013), http://newsfeed.time.com/2013/12/05/i-bought-everything-on-my-christmas-list-with-bitcoin/#ixzz2sgQtHG00.

[43] Robin Sidel, *Bitcoins Buy a Villa in Bali*, WALL ST. JOURNAL (Mar. 19, 2014, 6:09 PM), http://online.wsj.com/news/articles/SB10001424052702304026304579449710288367366?mg=reno64-wsj&url=http%3A%2F%2Fonline.wsj.com%2Farticle%2FSB100014240527023040263045794499710288367366.html&cb=logged0.46043218113482.

[44] *Id.*

[45] *Id.*

[46] Dormant Bitcoin Chart as of Block 289999, DORMANTBITCOIN.COM, http://dormantbitcoin.com/dormantbitcoin/dbchart/ (last visited May 6, 2014).

[47] *Id.*

[48] *Id.*

[49] Laura Saunders, *How Will the I.R.S. Tax Bitcoin?*, WALL ST. J. (Dec. 20, 2013), *available at* http://online.wsj.com/news/articles/SB10001424052702304773104579268322915488180.

[50] *I.R.S. Virtual Currency Guidance: Virtual Currency Is Treated as Property for U.S. Federal Tax Purposes; General Rules for Property Transactions Apply*, IRS.GOV (Mar. 25, 2014), http://www.irs.gov/uac/Newsroom/IRS-Virtual-Currency-Guidance.

[51] I.R.S. Notice 2014-21, *supra* note 5.

[52] *Id.*

[53] *Id.*

[54] *Id.*

[55] *Id.*

[56] *Id.*

[57] *Id.*

[58] *Id.*

[59] *Id.*

[60] *Id.*

[61] 26 U.S.C.A. § 643 (West).

[62] *Id.*

[63] *Id.*

[64] *Germany Plans Tax on Bitcoin After Virtual Currency Recognized as "Private Money"*, THE TELEGRAPH (Aug. 13, 2013, 2:15 PM), http://www.telegraph.co.uk/finance/globalbusiness/10252383/Germany-plans-tax-on-bitcoin-after-virtual-currency-recognised-as-private-money.html.

[65] *Id.*

[66] UK HM REVENUE & CUSTOMS, REVENUE AND CUSTOMS BRIEF: TAX TREATMENT OF ACTIVITIES INVOLVING BITCOINS AND OTHER SIMILAR CRYPTOCURRENCIES (Mar. 3, 2014), *available at* http://www.hmrc.gov.uk/briefs/vat/brief0914.htm.

[67] *Id.*

[68] Kashmir Hill, *Bitcoins' Legality Around the World*, FORBES (Jan. 31, 2014, 6:02 PM), http://www.forbes.com/sites/kashmirhill/2014/01/31/bitcoins-legality-around-the-world/.

[69] 26 U.S.C.A. § 1221 (West).

[70] *Are Bitcoins a Capital Asset?*, BITCOINTAXSOLUTIONS.COM, (Jan. 8, 2014), http://www.bitcointaxsolutions.com/are-bitcoins-capital-asset/.

[71] Tyler Robbins, *A Primer on Bitcoin Taxation: Record Keeping*, BITCOINTAX.INFO (Mar. 25, 2014), http://www.bitcointax.info/#records.

[72] *Id.*

[73] *Id.*

[74] I.R.C. § 1015 (2014).

[75] *Id.*

[76] *Id.*; 26 C.F.R. § 1.1015-1(a) (2014).

[77] 26 C.F.R. § 1.1015-1(a)(1) (2014).

[78] *Id.*

[79] *Id.*

[80] *Id.*

[81] *Market Price (USD)*, BLOCKCHAIN.COM, https://blockchain.info/charts/market-price (last visited Apr. 16, 2014).

[82] *Id.*

[83] *Id.*

[84] Reuben Grinberg, *Bitcoin: An Innovative Alternative Digital Currency*, 4 HASTINGS SCI. & TECH. L.J. 159, 175 (2012).

[85] Dormant Bitcoin Chart as of Block 289999, DORMANTBITCOIN.COM, http://dormantbitcoin.com/dormantbitcoin/dbchart/ (last visited May 6, 2014).

[86] *Id.*

[87] *Market Price (USD)*, BLOCKCHAIN.COM, https://blockchain.info/charts/market-price (last visited Apr. 16, 2014).

[88] I.R.S. Notice 2014-21, *supra* note 5.

[89] Wayne Parker, *Protect Your Bitcoin Wallet After You Die*, TRADEBLOCK.COM (May 13, 2013), http://tradeblock.com/research/protect-your-bitcoin-wallet-after-you-die-2/.

[90] *Frequently Asked Questions*, *supra* note 8.

[91] *Id.*

[92] *Id.*

[93] *Id.*

[94] *Market Capitalization*, BLOCKCHAIN.COM, https://blockchain.info/charts/market-cap (last visited May 6, 2014).

[95] *Frequently Asked Questions*, *supra* note 8.

[96] *Id.*

[97] *M of N Transactions*, DIGITAL CURRENCY WIKI (Dec. 13, 2013, 3:17 AM), http://wiki.dgcmagazine.com/index.php?title=M_of_N_Transactions.

[98] *Id.*

[99] Wayne Parker, *Protect Your Bitcoin Wallet After You Die*, TRADEBLOCK.COM (May 13, 2013), http://tradeblock.com/research/protect-your-bitcoin-wallet-after-you-die-2/.

[100] *Id.*

[101] *Id.*

[102] *Id.*

[103] *Id.*

[104] *Id.*

[105] *Id.*

[106] *Id.*

[107] *Id.*

[108] *Id.*

[109] *Id.*

[110] *Id.*

[111] *Id.*

[112] *Id.*

[113] *Id.*

[114] *See, e.g.*, Murphy v. Kilimurray, 88 N.E.2d 544 (Mass. 1949); In re Szabo's Estate, 176 N.E.2d 395 (N.Y. 1961).

[115] *See, e.g.*, Murphy v. Kilimurray, 88 N.E.2d 544 (Mass. 1949); In re Szabo's Estate, 176 N.E.2d 395 (N.Y. 1961).

[116] *See* Newman v. Bost, 29 S.E. 848 (N.C. 1898)

[117] *Frequently Asked Questions*, *supra* note 8.

[118] 26 C.F.R. § 25.2511-2(b) (2014).

[119] *See, e.g.*, A.R.S. § 14-6211 (2014); Savig v. First Nat'l Bank of Omaha, 781 N.W.2d 335 (Minn. 2010).

[120] Gruen v. Gruen, 496 N.E.2d 869 (N.Y. 1986)

[121] *Id.* at 870–71.

[122] *Id.* at 871.

[123] *Id.* at 872.

[124] I.R.C. § 2503(b) (2014).

[125] 26 U.S.C.A. § 2512(a).

[126] Wayne Parker, *Protect Your Bitcoin Wallet After You Die*, TRADEBLOCK.COM (May 13, 2013), http://tradeblock.com/research/protect-your-bitcoin-wallet-after-you-die-2/.

[127] *Id.*

[128] *Id.*

[129] *See, e.g.*, In re Estate of Wales, 727 P.2d 536 (Mont. 1986).

[130] I.R.S. Notice 2014-21, *supra* note 5; *Frequently Asked Questions*, *supra* note 8.