Estate Planning in the Era of Digital Wealth

A primer on digital assets and strategies for their transfer.

MATTHEW T. MCCLINTOCK, VANESSA L. KANAGA AND JONATHAN G. BLATTMACHR

Few things have affected people's lives, personally and professionally as estate planners, as much as email and the internet have. The commercialization of the internet marked a sea change in global commerce and communication, dramatically changing how humans interact both within and across borders. Email became the internet's "killer app,"[1] providing the first truly mainstream use case for internet connectivity. For the first time in human existence individuals were able to share ideas and exchange value – in the form of text, images, and sound – across international borders instantaneously and, eventually, for free. Together,

these technologies marked a quantum leap in human interaction.

With the expansion of internet commerce and communications came an increasing need for individuals to transmit information securely and confidentially. Cryptography, the science of employing mathematical techniques to encrypt and decrypt data for the purpose of assuring privacy,[2] increasingly became *de rigueur* to keep private information private – even when transmitted across public networks.[3]

Blockchain-based data networks mark another significant shift in how individuals interact across borders, transmitting value from peer to peer and storing data on a broad,

dispersed network. Instead of relying on a central server as data intermediary to keep records of transactions, blockchains rely on interconnected peers – or "nodes" – to verify the validity of data transfer and store a record of the transactions. But while a centrally-intermediated network has clear economic incentives for the keeper of the network to ensure data security,[4] there is no immediately obvious incentive for unrelated peers on a decentralized blockchain network to expend resources for the purpose of validating transactions.

Cryptographically-secured blockchain tokens – commonly referred to as "cryptoassets" or "cryp-

MATTHEW T. MCCLINTOCK is a founding partner of Evergreen Legacy Planning LLP, an estate planning law firm serving ultra-affluent U.S. clients. He is licensed to practice in Colorado, Wyoming, Alaska, and South Dakota. He is also a founder of Bespoke Service Company LLC, an advisory firm serving private trust companies and family offices for ultra-affluent cryptoasset investors. VANESSA L. KANAGA is CEO of InterActive Legal. Vanessa received her J.D. from Cornell Law School and holds a B.A. in Philosophy from Wichita State University, as well as an Advanced Professional Certificate from New York University School of Law. She is licensed in New York and Kansas, and currently lives in Arizona. Prior to joining InterActive Legal, Vanessa practiced in New York, at Milbank LLP and Moses & Singer, LLP, and in Kansas, at Hinkle Law Firm, LLC. She has experience in a range of estate planning matters, including high net worth tax planning and asset protection planning. JONATHAN G. BLATTMACHR is Director of Estate Planning at Peak Trust Company, a Director at Pioneer Wealth Partners, LLC, Editor-in-Chief of InterActive Legal, LLC, and is a member of the editorial board of ESTATE PLANNING. ©2022 by Matthew T. McClintock, Vanessa L. Kanaga & Jonathan G. Blattmachr. All Rights Reserved.

tocurrency"– became one method of incentivizing and rewarding participation on a blockchain network. While many attempts to develop a truly decentralized blockchain with cryptographic token incentives predate bitcoin, it is now widely believed that the Bitcoin[5] network marks the first truly successful decentralized blockchain network with a secure token-based economic incentive model.[6] From its humble beginnings in January 2009, Bitcoin has since spawned an entire economy with many thousands of cryptoassets, thousands of separate blockchains, and is the most widely-adopted cryptoasset in a global economy measured in the trillions of dollars.[7]

As explored in this article, cryptocurrencies could not exist without blockchain technology. Like the commercialization of the internet and the expansion of email communications, cryptoassets – and the blockchain technology on which they are based – have a significant impact on all lives, including in the law, finance, and, more narrowly, on estate planning.[8] However, before turning to blockchain and cryptocurrency, we need to consider two other developments that societies have experienced for millennia: the evolution of money and cryptography.[9]

Estate planners need to be familiar with cryptocurrencies, NFTs, and the basic function of blockchain technologies because they will have (and most assuredly already have) clients whose wealth is comprised of cryptoassets. As explained below, there are many unanswered issues relating to such assets and the blockchains upon which the "proof" of their ownership resides. There are questions about what provisions documents used in estate planning (including Wills, trusts, powers of attorney, and more) should include with respect to them, how transfers both before death (such as to a trust or to a family member) may or should occur, valuation issues for purposes of determining shares of wealth (such as where a Will divides an estate into marital deduction and so-called "credit shelter" shares) based upon tax values, and general estate and gift tax valuation issues. And, not least of all, there are questions about duties fiduciaries have with respect to such matters. This article will discuss those. However, in order to understand these fast-changing matters, some background to cryptocurrencies, NFTs and, perhaps most important of all, blockchain technology is presented.

Money

Money is a social construct that continues to evolve over time. At its most fundamental level, money is a means of trading wealth indirectly; not directly as with bartering. Money is a mechanism that facilitates trade within and among societies.

Money may take a physical form as in coins and notes, or may exist as a written or electronic account. It may have intrinsic value (known as commodity money) legally exchangeable for something with intrinsic value (representative money), or only have nominal value (fiat money).[10]

Money is often best defined by the function it is intended to serve in context. The degree to which an asset has value for trade – its "moneyness" – may be measured by considering various characteristics, including:

Whether the asset serves as a *store of value*, tending to increase (or at least not be eroded) in value over time;

The degree to which the asset is acceptable as a *medium of exchange*, marked by how widely accepted the asset is in the marketplace; and

The use of the asset as a *unit of account*, with various goods and services broadly denominated in units of that asset.[11]

One of the key problems the evolution of money solves is the problem of "double coincidence of wants" inherent in the traditional barter system. Historically, barter systems only work when one party has goods or is willing to provide a service that another party "coincidentally" wants in exchange for goods or services that the second party has or may provide.

As an illustration, assume Vanessa has an apple orchard, Matt makes shoes, and Jonathan thatches huts.

---

[1] The first known instance of email dates to October 29, 1971, when computer engineer and software developer Raymond Tomlinson sent the first message from one computer to another using ARPANET, an intra-agency government communications network. https://blog.mdaemon.com/email-50-the-first-killer-app; https://www.raytheon.com/news/feature/ray_tomlinson

[2] The American Heritage® Dictionary of the English Language, 5th Edition.

[3] https://techjournal.org/need-of-cryptography-in-network-security/

[4] The earliest internet-connected networks employed a direct payment model whereby users paid connectivity and data transmission fees to participate in the network. With the rise of large-scale social networks and e-commerce, centrally-intermediated networks are monetized through ad revenue and the large scale mining and sale of user data.

[5] When written as "bitcoin" (lowercase "b"), the word refers to the cryptographic token asset. E.g., "Matthew has some bitcoin." When written with a capital "B", the word refers to the network. E.g., "Jonathan runs a Bitcoin miner," or "Vanessa operates a Bitcoin node."

[6] https://101blockchains.com/history-of-blockchain-timeline/

[7] At the time of this writing, bitcoin has a total global market capitalization of $750 billion worth of circulating supply. The total global market capitalization of all known cryptoassets is $1.78 trillion, down from 2021 highs of over $3 trillion. Source: https://coinmarketcap.com

[8] And other "technological" developments may have an even great impact. One possible one is the Metaverse (a purely digital world) where over $500 million in virtual real estate was purchased last year. https://www.cnbc.com/2022/02/01/metaverse-real-estate-sales-top-500-million-metametric-solutions-says.html

[9] For a more thorough discussion of some matters presented in this article, see Jenson, Bramwell, Earthman & Walsh, "New Kids on the Block(chain): Planning with Bitcoin and Cryptocurrency" 53rd University of Miami School of Law (2019) Session I-F.

[10] https://en.wikipedia.org/wiki/History_of_money . Footnote omitted.

[11] See generally, *The 7th Property,* by Eric Yakes. See also https://www.investopedia.com/terms/h/hardmoney.asp

In order for them to engage in trade, each must have a coincidental need for goods or services that the others provide. But if Matt

> **Blockchain-based data networks mark another significant shift in how individuals interact across borders, transmitting value from peer to peer and storing data on a broad, dispersed network.**

needs his roof thatched and Jonathan already has good shoes, how will they engage in trade? If Vanessa needs shoes but Matt doesn't need apples, must she simply go barefoot? And so, as primitive barter system markets evolved, market participants developed systems of money to allow them to exchange goods and services with each other in exchange for a fungible asset that would be widely accepted by other individuals in the marketplace.[12]

Many who grew up on the east coast of the United States were taught that eastern American natives created and used something called wampum – small beads strung together and used in ceremonies and as a medium of exchange.[13] In its role as a medium of exchange, wampum became an early form of currency – a form of money that may have limited (if any)

intrinsic value, but that became an acceptable form of payment for goods or services. In the early colonial days in America, beaver pelts, which have intrinsic value as clothing, were a prominent medium of exchange. Ancient peoples of the Yap Islands in modern-day Micronesia carved and erected large Rai stones as a means of storing value over time and occasionally, in exchange for payment of debts or acquisition of property.[14]

In certain closed societies, unusual assets become a form of money out of naturally-occurring scarcity. It may be of interest to note that cigarettes became the primary medium of exchange in prisoner of war camps during World War II.[15] Likewise, cigarettes were famously the primary form of money in the United States penal system but are gradually being replaced by ramen noodles.[16] Without belaboring too much the fact that different forms of money have simultaneously served different functions throughout history,[17] gold, silver, and other metals became acceptable both as a store of value and as a medium of exchange.

Indeed, at one time, "paper" money (such as certain bank notes or scrip printed by governments) was "hard" – that is, the paper notes issued by banks were redeemable directly for the commodity on which the value of the notes was based. Precious and scarce commodities were used to back paper currency systems, with the silver certificate growing in prominence in the U.S. in the late 1800s and early 1900s."[18]

More than 50 years ago, then President Richard Nixon took the United States off the "gold standard," meaning that U.S. dollars could no longer be redeemed for gold.[19] Hence, U.S. currency became what is known as "fiat" money. "The value of fiat money is based largely on public faith in the issuer. Commodity money's value, on the other hand, is based on the material it was manufactured with, such as gold or silver. Fiat money, therefore, does not have intrinsic value, while commodity money often does. Changes in public confidence in a government issuing fiat money may be enough to make the fiat currency worthless."[20]

Today, of course, almost all "money" in the United States and

---

[12] See generally, *Layered Money,* by Nik Bhatia.

[13] "Before European contact, strings of wampum were used for storytelling, ceremonial gifts, and recording important treaties and historical events, such as the Two Row Wampum Treaty and Hiawatha belts". https://www.google.com/search?q=wampum+used+before+the+european+colonization&ei=ItlOYrWUCs-7ggfGhbOIDA&oq=wampum+used+before+the+eur&gs_lcp=Cgdnd3Mtd2l6EAMYAD IFCCEQoAEyBQghEKABMgUIIRCgATIFCCE QoAEyBQghEKABOgcIABBHELADOgcIA BCwAxBDOgoIABDkAhCwAxgAOg8ILhDU AhDIAxCwAxBDGAE6BQgAEIAEOggIAB CABBCxAzoLCC4QgAQQxwEQrwE6CAgAEI AEEMkDOgQIABBDOgYIABAWEB46BQgAEI YDOgcIIRAKEKABOggIIRAWEB0QHjoICAAQ FhAKEB46BQgAEIcEsCSgQIQRgASgQIRhg BUPcPWLhgYPSFAWgCcAF4A4AB-QalAcop k g E O M i 4 x M y 4 y L j A u M S 4 x L j K Y A Q C g A Q H I A R P A A A Q H a a A Q Y I A B A B GAnaAQYIARABGAg&sclient=gws-wiz. For more background on wampum, see "From Beads to Bounty: How Wampum Became America's First Currency—And Lost Its Power," available at https://indiancountrytoday.com /archive/from-beads-to-bounty-how-wampum-became-americas-first-currencyand-lost-its-power

[14] *The 7th Property*, by Eric Yakes, at 28.

[15] Hassen, "The Perfect Draw – When Cigarettes Became a War Camp Currency," Finance Watch, Feb 13, 2015, available at https://www.finance-watch.org/the-perfect-draw-when-cigarettes-became-a-war-camp-currency/. This article makes reference to "The Economic Organization of a P.O.W. Camp, published in November 1945 and written by R.A. Radford, who became a rather famous economist after the war. Available at https://www.jstor.org/stable/2550133?origin=JSTOR-pdf

[16] Gibson-Light, M. Ramen Politics: Informal Money and Logics of Resistance in the Contemporary American Prison. *Qual Sociol* 41, 199–220 (2018).

[17] As 19th century economist and philosopher William Stanley Jones noted, "In Queen Elizabeth's reign silver was the common measure of value; gold was employed in large payments in quantities depending upon its current value in silver, while corn was required by the Act 18th Elizabeth, c. VI. (1576), to be the standard of value in drawing the leases of certain college lands." *Money and the Mechanism*

most of the world is digital, not tangible. Take a U.S. dollar bill out of your wallet (if you even have one). First, you will see that the elaborate piece of paper is a "Federal Reserve Note." It is a form of promissory note issued by the central bank of the United States guaranteeing that the denominated note may be exchanged for goods or services equal to the value of the note. Moreover, the paper states that the note "…is legal tender for all debts public and private." As such, the issuing authority (that is, the United States government) asserts its power to require market participants to transact in dollars as the only federally-recognized medium of exchange.

Notably, "money" in a checking account or represented by presentation of a credit card or an app such as Venmo or Cash App is not legal tender. Rather, it serves as a substitute for the presentation of legal tender, giving the holder of the check or the credit card receipt the right to receive legal tender from the account.[21] Even so, throughout most of the world, these transactions are accepted as payment for debt (including goods and services).

Cryptography

"Cryptography is the study of secure communications techniques that allow only the sender and intended recipient of a message to view its [actual] contents [or meaning]."[22] For example, the first time one of the authors of this article met their spouse, they slipped the author a note that said, "Nffu nf bu uif cbs bu tfwfo." Now the author had no idea what that meant but after considerable thought realized that the note writer, who was there on a date with another person, had used a system that Julius Caesar had allegedly used to communicate (secretly) with his generals.[23] That future spouse had shifted each letter one to the right (e.g., M became N). Hence, the message (decrypted) read, "Meet me at the bar at seven." As they say, the rest is history.

Many stories revolve around cryptography, such as in the movie "Christmas Story" where the boy, Ralphie, who is the central figure, gets a secret decoder ring from Little Orphan Annie. He decodes the secret message and is woefully disappointed that it reads, "Drink more Ovaltine." Dan Brown's popular book, *The Davinci Code*, which became a blockbuster movie, revolved about a Cryptex, a device that could be opened only with a special code.[24] Virtually, everyone has heard of Enigma machine, the secret device the Germans used in World War II to send encrypted messages.[25]

Challenges of Fiat Money

"Since the end of the Gold Standard in 1971, the U.S. dollar has lost over 80 percent of its purchasing power due to the uninhibited money creation of the Federal Reserve. Fiat currency, a system by which a currency only retains its value by "fiat" or decree by a government, leaves a central bank free to create money from thin air, reducing the value of the currency already in circulation. Fiat currency has reigned in the last forty years,[26] but every fiat currency that has existed in history has eventually failed. A study of 775 fiat currencies indicates the average life expectancy of fiat currencies is 27 years, with some taking a month to crash and others surviving for centuries."[27]

of Exchange, William Stanley Jevons (New York: D. Appleton & Co. (1875). Available in public domain at https://www.econlib.org/library /YPDBooks/Jevons/jvnMME.html?chapter _num=4#book-reader

[18] https://www.fool.com/investing/general/2015 /05/18/what-is-a-silver-certificate-dollar-worth.aspx

[19] https://www.barrons.com/articles/gold-standard-dollar-dominance-bretton-woods-51628890861

[20] https://www.investopedia.com/ask/answers/ 041515/fiat-money-more-prone-inflation-commodity-money.asp. "Near the end of the [American civil] war, the currency of the Confederacy became practically worthless as a medium of exchange. This was because, for the most part, Confederate currency were bills of credit, as in the [American] Revolutionary War, not secured or backed by any assets." wikipedia.org/wiki/Confederate_States_dollar

[21] See discussion at https://www.investopedia .com/terms/l/legal-tender.asp#:~:text= Understanding%20Legal%20Tender&text= In%20the%20U.S.%2C%20the%20 recognized,Federal%20Reserve%20notes%20 and%20coins.&text=A%20check%2C%20or%

20a%20credit,legal%20tender%20for%20the %20debt.

[22] https://www.kaspersky.com/resource-center/definitions/what-is-cryptography

[23] "In cryptography, a *Caesar cipher*, also known as Caesar's *cipher*, the *shift cipher*, *Caesar's code*, or *Caesar shift*, is one of the simplest and most widely known encryption techniques. It is a type of substitution in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet. For example, with a left shift of 3, D would be replaced by A, E would become B, and so on." https://en.wikipedia.org/wiki/ Caesar_cipher

[24] https://mysteriouswritings.com/the-mysterious-cryptex-and-codes-of-the-da-vinci-code/

[25] "The Enigma has an electromechanical rotor mechanism that scrambles the 26 letters of the alphabet. In typical use, one person enters text on the Enigma's keyboard and another person writes down which of 26 lights above the keyboard illuminated at each key press. If plain text is entered, the illuminated letters are the encoded ciphertext. Entering ciphertext transforms it back into readable plaintext. The rotor mechanism changes the electrical connections

between the keys and the lights with each keypress." https://en.wikipedia.org/ wiki/Enigma-jhnb ;b_machine#:~:text=The%20 Enigma%20machine%20is%20a,branches%20 of%20the%20German%20military. The enigma code was "broken." Some think that cryptocurrency codes also could be broken by decoding or finding an owner's private key (password). But the keys involve a 30 or greater string of 26 letters (which can be lower or upper case) and the ten primary digits (0 through 9) for a total of potentially 62 characters in the 30 or greater string. 2 to the 20th power is one billion. Sixty two to the 30th power is extraordinarily large. There is ongoing debate about whether quantum computing could "defeat" cryptocurrencies. Compare https://www.cnet .com/personal-finance/crypto/cryptocurrency-faces-a-quantum-computing-problem/ with https://www.newscientist.com/article/2305646-quantum-computers-are-a-million-times-too-small-to-hack-bitcoin/

[26] This article was published in 2012. So, the quote should now read "fifty years."

[27] https://www.businessinsider.com/the-failure-of-money-2012-9

Cryptocurrencies

In a seminal paper published October 31, 2008, a computer engineer using the name Satoshi Nakamoto[28] proposed "A Peer-to-Peer Electronic Cash" system that would, if effective, allow for online payments directly among peers without requiring involvement by any central authority such as a bank or other financial intermediary.[29] Nakamoto proposed a non-reversible electronic payment system that provided for final settlement without the possibility of reversal. Although the word "Bitcoin" is used only in the title of the 9-page white paper, the name became synonymous with both the network of nodes that sustain the network and the cryptographic token – or electronic "coin" – that is the fungible monetary incentive created through the network. With the mining of the "Genesis block" on January 3, 2009, Bitcoin became the first successful open source blockchain network, paving the way for the global monetary phenomenon that has become the crypto economy.[30]

Today, there are thousands of known cryptoassets. So many, in fact,

that the law struggles to neatly define what *kind* of assets cryptoassets are. While the Commodity Futures Trading Commission (CFTC) has determined that bitcoin and other digital currencies are commodities under the Commodity Exchange Act,[31] lawmakers and regulators continue to argue over how to regulate – and which agencies have jurisdiction over – newer forms of cryptoassets. Stablecoins are cryptoassets that have limited, if any, volatility, as the value of each token is pegged to the value of a sovereign currency like the U.S. dollar. Other cryptoassets are at least arguably issued to crowdfund nascent technology startups through token issuance.[32] Still other cryptoassets are nonfungible, meaning that each token is a digitally unique collectible or digital certificate of authenticity.[33] The cryptoasset space is vast and evolving rapidly, leaving lawmakers constantly playing catchup to enact a meaningful framework for legislation and regulation.

The electronic coins, or "tokens" associated with a blockchain network are tradeable digital assets used to incentivize participation in the network. The tokens can be

accessed through applications called "wallets"[34] and may be exchanged among users with compatible wallets, bought and sold in online exchanges,[35] or used for various functions within the network itself.[36] Different blockchain networks employ various methods of generating and employing blockchain tokens but for many clients, the primary appeal is financial.

Indeed, bitcoin alone – not to mention the broader crypto markets – outperformed other investment asset classes in 2021. Bitcoin gained nearly 60%, even besting a banner year for the S&P 500, which gained nearly 27%.[37] Moreover, bitcoin reached a total market capitalization of $1 trillion in only 12 years. It took Google 21 years, Amazon 24 years, and Apple 42 years respectively to reach that milestone.[38] The rapid increase in bitcoin's value – even if tempered somewhat by its volatility – captures clients' imagination sometimes in surprising ways. The authors have clients who built significant wealth in more traditional industries and who now have sizeable allocations to bitcoin and other cryptoassets in their estate.

[28] The identity of Satoshi Nakamoto remains unknown as of this writing. Nakamoto remained active in the Bitcoin development community from the release of the white paper on October 31, 2008, until Nakamoto disappeared from the Bitcoin forums. Nakamoto's final message was posted on December 12, 2010, less than two years from the launch of the blockchain. Nakamoto's final post can be found here: https://bitcointalk.org/index.php?topic=2228.msg29479#msg29479

[29] The Bitcoin white paper is available at https://bitcoin.org/bitcoin.pdf

[30] https://101blockchains.com/history-of-blockchain-timeline/

[31] https://www.coindesk.com/markets/2015/09/17/cftc-ruling-defines-bitcoin-and-digital-currencies-as-commodities/

[32] The Securities and Exchange Commission generally believes that such cryptoassets meet the "Howey test," articulated in *SEC v. W.J. Howey Co.,* 328 U.S. 293 (1946) and should thus be subject to oversight and regulation by the SEC. For more information, see https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets#_edn6

[33] Non-fungible Tokens, or NFTs, are cryptographic tokens that are digitally unique and therefore

are not fungible, or interchangeable with identically-like assets.

[34] Wallets don't actually "hold" cryptographic tokens. Rather, they provide encrypted interfaces established with the user's private keys to access and "unlock" the value of the cryptographic token within the blockchain network. Different types of wallets have varying levels of security, and different types of cryptoassets require different wallet solutions.

[35] The number of centralized and decentralized exchanges for the purchase and trading of cryptoassets available in the U.S. is too great to comprehensively list. Some examples include Gemini, Kraken, Coinbase, FTX, Crypto.com, and many (many!) more.

[36] https://www.blockchain-council.org/blockchain/what-are-crypto-tokens-how-crypto-tokens-work/

[37] https://www.visualcapitalist.com/how-every-asset-class-currency-and-sp-500-sector-performed-in-2021/

[38] https://www.visualcapitalist.com/bitcoin-is-the-fastest-asset-to-reach-a-1-trillion-market-cap/; https://coinmarketcap.com/currencies/bitcoin/

[39] For a more thorough explanation of Blockchain, see https://interestingengineering.com/what-

is-blockchain

[40] See, e.g., New York Surrogate's Court Official Form JA-4 for the accounting of a trustee.

[41] See https://en.wikipedia.org/wiki/Ledger

[42] What constitutes a "writing" depends upon the context. "Defamation falls into two categories: Libel and slander. Libel occurs when the false statement is made in writing, such as in a newspaper, on a website *or in an email*. In contrast, slander is when the statement is made orally." [emphasis added.] https://www .njemploymentlawfirm.com/defamation-and-false-light.html

[43] In New York City, for example, "The Office of the City Register records and maintains New York City Real Property and certain Personal Property transfers such as mortgage documents for property in all boroughs except for Staten Island." https://www1.nyc.gov/site/finance/taxes/property-recording-property-related-documents.page#:~:text=The%20Office%20of%20the%20City,boroughs%20except%20for%20Staten%20Island.

[44] In New York, the Will of a decedent is usually admitted to probate in the county where the decedent resided at death. Where the real estate transferred by Will is located in another county, a copy of the Will may be record in the

Blockchain[39]

Any estate planning attorney who has handled trust or estate administration is familiar with accounting ledgers in written form in which information about assets and liabilities of the estate or trust (starting inventory, sales, purchases, distributions, and so on) is maintained. Indeed, some jurisdictions, such as New York, have specific rules (or protocols) for presenting an accounting (essentially, a ledger) in order for a fiduciary, such as an executor or trustee, to be discharged from obligations and liability for certain acts.[40]

A ledger, of course, is a book or collection of accounts in which account transactions are recorded in writing. Each account has an opening (or balance before the latest entry is recorded) and would record each transaction as a debit or credit resulting in an ending or closing balance.[41] A checkbook is a common example. However, today, fewer and fewer written ledgers (e.g., checkbooks) are maintained in physical form, with most being kept digitally.[42]

Another common example of a ledger is a record of the ownership of a parcel of real estate. In at least some jurisdictions, transactions involving the transfer of real estate are "recorded" in a government

> While the Commodity Futures Trading Commission has determined that bitcoin and other digital currencies are commodities under the Commodity Exchange Act, lawmakers and regulators continue to argue over how to regulate – and which agencies have jurisdiction over – newer forms of cryptoassets.

office.[43] Note that, at least in most jurisdictions, the deed itself (by which the transfer of ownership occurred) is not given to or stored at a government office. Rather, the government office makes a record of the transfer. In many states, a record of a transfer of real estate by Will is not recorded where records of transfers by deeds are kept. Rather, the record of the transfer is kept, essentially, where the Will is kept (as the Will is the document of transfer), such as, in New York, for example, where the Will is stored (in New York, the Surrogate's Court where the Will has been admitted to probate).[44]

Such ledgers are built on the system of "double-entry" bookkeeping, an accounting methodology dating to the era of Florentine merchants in the 14th Century.[45] Heralded as a transformative innovation in financial recordkeeping, double-entry bookkeeping services as a means to detect mismatches in accounts between parties.[46] In the everyday ledgers attorneys use for trust accounting, business reporting, and all manner of traditional bookkeeping, the "ledger" is centralized. There is generally a central "keeper of the books" – whether on a spreadsheet, a software application, or a cloud server – on which accounting records are stored and retrieved.

It is the very centralization of the ledger that blockchain addresses. In a traditional centralized ledger, the integrity of the data is ensured only by the security of the keeper of the ledger. If the central recordkeeper is compromised (e.g., hacked, stolen, taken offline, infected with a virus), then the integrity of the recorded ledger may be compromised as well. Moreover, in a traditional double-entry accounting ledger, the data in the ledger is only as honest as the actor who writes the data. Without a means of independently verifying the integrity of the ledger, the centralized record is only as honest as those publishing records to the ledger. By adding ledger verification to the system of recording keeping, blockchain technology not only replicates the ledger across a broad network of independent nodes, it also verifies that the data published to the blockchain is consistent with the rules that govern the network.

At its essence, a blockchain is a decentralized ledger. In fact, another term, "Decentralized Ledger Technology" (abbreviated as DLT) is often used synonymously with blockchain technology.[47] Some believe that blockchain/DLT represents another significant shift forward in accounting and recordkeeping integrity because it combines the

Surrogate's Court there. This becomes even more complicated where someone not domiciled in New York directs original probate of his or her Will in New York as occurred with the Will of J. Seward Johnson. See *Johnson Vs. Johnson* by Barbara Goldsmith (Knopf 1988).

[45] https://www.liquisearch.com/double-entry_bookkeeping_system/history

[46] https://www.liquisearch.com/double-entry_bookkeeping_system

[47] In truth, there are many kinds of blockchains, each with various benefits and drawbacks. Some blockchains like Bitcoin are "permissionless," meaning that anyone with an internet connection and a compatible device can download and run the Bitcoin open source software and operate a node, adding another "verifier" to the Bitcoin network. Other blockchains are "permissioned," meaning that the software that operates nodes is restricted to a closed group of authorized participants. Further discussion of types of blockchains is well beyond the scope of this article. For more information, consider starting here: https://www.blockchain-council.org/ blockchain/permissioned-and-permissionless -blockchains-a-comprehensive-guide/

time-worn double-entry accounting method with the security of cryptography to distribute the ledger to a network of independent nodes who then validate the integrity of the data stored in the ledger.[48] By publishing the ledger of accounts to a network of nodes, no single network participant can change an entry in the ledger without all the other nodes noticing the change. The network of nodes operates on a software application that establishes the rules by which data may be added to the blockchain. If a network participant deviates from those rules, their published transaction will be rejected.

Blockchain tokens (see discussion of cryptocurrencies, above) serve to create economic incentives for network participants. In a traditional centralized ledger system (e.g., commercial cloud servers, software application systems), the keeper of the ledger has significant economic incentives to maintain integrity of the ledger. Whether the incentives are direct, such as in the form of licensing fees, or indirect

(e.g., monetizing the user base through ad revenue and data mining), maintaining server infrastructure is a lucrative business.[49] In a decentralized ledger system, the network participants – that is, the nodes that keep copies of ledger transactions – expend resources to validate transactions published to the network. Absent the economic incentives created by the value of the blockchain tokens, node operators have little, if any, incentive to secure the network.

Blockchains are regarded as extremely secure. Although there are circumstances of fraud relating to cryptocurrencies, only very seldom do they involve the "hacking" of the blockchain (that is, the continually-appended string of ledger transactions) itself. The security or "hackability" of a blockchain depends largely on the size and diversity of the network and the type of algorithm used to publish data to the network. As a general rule, the larger and more diverse the network, the more secure it will be. It is possible in some blockchain networks

to perform various attacks that change data in the blockchain. Such network manipulations are rare, but possible.[50] More often, other forms of fraud (such as convincing an owner to disclose his or her private key or hacking a computer on which the private key is stored) are much more commonly the cause of a blockchain token (i.e., cryptocurrency) holder losing their wealth.[51]

NFTs

One of the most recent phenomena in finance has been the rise of a special form of blockchain tokens called ""nonfungible tokens"," or NFTs.[52] An NFT is a unique nonfungible digital asset. The NFT may be truly one of a kind, or it may be one of a limited series (e.g., one of a hundred). Because it is *nonfungible*, it cannot be directly converted or exchanged kind-for-kind. It is comparable to a work of art (whether truly a one-off masterpiece or a limited edition print). Indeed, while NFTs are most commonly digital-only assets, real-world tangible assets may be "tokenized," with record of its owner-

---

[48] https://bitcoinmagazine.com/business/triple-entry-bookkeeping-bitcoin-1392069656

[49] In 2021 Amazon Web Services (AWS), posted cloud computing and hosing revenues of over $16 billion for the third quarter alone. Source: https://www.statista.com/statistics/250520/forecast-of-amazon-web-services-revenue/

[50] One example, called a "51% attack," may occur when bad actors employ sufficient computing resources so as to acquire more than 50% of the total computing power securing the network. The bigger and more diverse the blockchain's network grows, and the more data is being published to the blockchain, the harder it becomes for malefactors to acquire such control over the network. Moreover, proof-of-work blockchains (e.g., Bitcoin) create significant financial *dis*-incentives for parties to attempt such takeovers. Readers may learn more here: https://www.investopedia.com/terms/1/51-attack.asp

[51] See, e.g., "How The Government Tied One Couple to Billions in Stolen Bitcoin' available at https://www.wsj.com/podcasts/the-journal/how-the-government-tied-one-couple-to-billions-in-stolen-bitcoin/ad579c04-a43b-4a95-8872-7665da330135. The vulnerability of the private key has also aided law enforcement in catching criminals and thwarting cyber crime, as evidenced by the F.B.I.'s successful tracking of bitcoin transactions in halting the Colonial Pipeline ransomware attack in 2021. See

"Pipeline Investigation Upends Idea That Bitcoin is Untraceable," *The New York Times*, June 9, 2021.

[52] Another example of blockchain tokenization is found in securities tokens: digital tokens representing an ownership stake or some other rights in stocks. See Javier Paz, "Billionaire Bitcoin Investor Explains Why Tokenized Stocks Are a Big Deal…Outside America," Forbes.com (May 11, 2021) for additional information. It is also worth noting that the parent company of the New York Stock Exchange, Intercontinental Exchange Inc., recently purchase an interest in tZero, a trading platform for tokenized securities. See Doherty and Yang, "NYSE Owner Gets on Board With Crypto-Powered Revamp of Trading," Bloomberg.com (February 22, 2022).

[53] *The New York Times*, February 6, 2022; "In practice, anyone might be able to download a copy of a particular work from the web. However, an NFT owner possesses the equivalent of an autographed copy, with the autograph (personalized or not) serving as a sign of the copy's authenticity and possibly also of its relative rarity. Furthermore, just as artists might sign and hand-number many tangible lithographs that they made of a single drawing, so might they produce many NFTs from it, each with a unique digital code. ***One other characteristic differentiates NFTs from traditional copies of a work: An NFT can internally incorporate royalty agreements that allow the artist

to share in profits every time the NFT is licensed or resold." Effross, Goodman, Pochesci & Soled, "Tax Consequences of Nonfungible Tokens (NFTs)," Journal of Accountancy, June 24, 2021.

[54] See "When Purchasing a Real Estate NFT, What Are You Really Buying?" https://www.mansionglobal.com/articles/when-purchasing-a-real-estate-nft-what-are-you-really-buying-01639137564

[55] Donations to charity property of tangible personal property (such as a work of art) generally produces less beneficial income tax deduction purposes than does a donation of other types of property such as of money. However, there is no distinction based upon the type of property or type of charity for transfers for estate or gift tax purposes. See I.R.C. Sections 170, 2522 and 2055.

[56] I.R.C. Section 2104(a).

[57] Reg. 20.2104-1(a)(3).

[58] 549 F.2d 576 (9th Cir. 1977) (as stated in the concurring opinion, "Were this a case of first impression, it would be my view that a master tape is merely one of several convenient assembly points for a variety of valuable intangibles, and hold that it did not constitute tangible property entitled to the investment tax credit."

[59] "Stablecoins are a type of digital currency that avoids volatility. They are tokens backed by fixed assets, like gold or fiat currency (gov-

---

ship digitized, published to a blockchain, and converted to one or more cryptographic tokens. The cryptographic token itself is the NFT, serving as a digital certificate of ownership and authenticity of the tokenized asset.

NFTs may take the form of digital image files, audio files, or various characters or other assets in online game or metaverse experiences, with no actual link to any tangible asset. Other NFTs serve as digital "certificates of authenticity" or confirmation of provenance of real-world assets. Whether the underlying asset is purely digital or whether the underlying asset is tangible, NFTs serve as unique digital records of ownership reinforced by a distributed network of computers that records transactions and gives buyers proof of authenticity and ownership. NFTs make digital artworks unique and, therefore, sellable.[53] The NFT itself is not physical thing (like a painting or real estate) but is a virtual representation that the holder owns something. That "something," in turn, may be a

ernment issued money such as the U.S. dollar)." https://resources.stellar.org/what-are-stablecoins?utm_term=%2Bstablecoin&utm_campaign=Search:+Payments&utm_source=adwords&utm_medium=ppc&hsa_acc=8782384464&hsa_cam=12953021934&hsa_grp=124695784227&hsa_ad=518895296863&hsa_src=g&hsa_tgt=kwd-1211381016448&hsa_kw=%2Bstablecoin&hsa_mt=p&hsa_net=adwords&hsa_ver=3&gclid=EAIaIQobChMI_KHvmpyW9gIVCfTjBx15JggfEAAYAyAAEgKef_D_BwE

[60] https://finance.yahoo.com/news/secs-gensler-wants-crypto-exchange-regula-in-2022-warns-on-stablecoin-risks-130254530.html

[61] https://www.cnbc.com/2018/06/14/bitcoin-and-ethereum-are-not-securities-but-some-cryptocurrencies-may-be-sec-official-says.html. See *SEC v. W. J. Howey Co.*, 328 U.S. 293 (1946), in which the Supreme Court state that "an investment contract for purposes of the Securities Act means a contract, transaction or scheme whereby a person [1] invests his money in [2] a common enterprise and is led to [3] expects profits [4] solely from the efforts of the promoter or a third party, ... it being immaterial whether the shares in the enterprise are evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise."

[62] See https://www.cftc.gov/digitalassets/index.htm

physical object or it may be virtual. Last year, over $500 million of virtual real estate was purchased.[54]

Some Legal Matters Relating to Cryptocurrencies and NFTs

The treatment of property for certain legal (including certain tax) purposes depends upon its characterization as property, the type of property, and the particular law.[55] For example, the United States imposes its estate tax on the estate of a non-resident alien (NRA) consisting only of real and tangible personal property situated in the U.S. It does not impose a gift tax on securities transferred by an NRA, even if issued by an American company, but does impose an estate tax upon such assets at the death of an NRA.[56] At one time, the gross estate for U.S. estate tax purposes of an NRA did not include "written evidence of intangible personable property itself, such as a bond for the payment of money, if it [was not] physically located in the United States."[57] See, also, *Walt Disney Productions, v. United States of America*,[58] in which it was held that film negatives were not intangibles and, therefore, were entitled to tax credits.

There seems to be considerable confusion (or at least significant lack of clarity) as to what type of property cryptocurrency is. "[T]he S[ecurities and] E[xchange] C[omission] [SEC] chief likened the asset class – digital coins that are pegged to a commodity or fiat currency – to poker chips in casinos. [He] reiterated his view that some stable coins[59] already may be securities that must be registered with the SEC and that the majority of cryptocurrencies are securities."[60] But note that, in 2018, former SEC Director of Corporate Finance Hinman stated that he did not believe that bit-

coin and ethereum should be treated as "securities" for SEC purposes.[61] The Commodities Future Exchange Commission view is that cryptocurrencies are a commodity.[62]

Whether cryptocurrency or an NFT is tangible or intangible is important for many reasons. For example, states may impose their estate taxes only on real and tangible personal property situated there or on intangibles owned by a

> **Due to the sheer volume of transactions and the value of cryptoasset holdings on exchanges, they become "honey pots" – attractive targets for hackers and malefactors. Although the most reputable exchanges take custodial security very seriously, security vulnerabilities have resulted in the loss of massive amounts of cryptoasset wealth over the years.**

domiciliary of the state. A state may not impose its tax on a tangible actually situated elsewhere whether owned by a domiciliary or not. For example, New York may not impose its estate tax on gold actually situated in Alaska or silver actually situated in Nevada whether owned by a decedent who was domiciled in New York or elsewhere. In any case, if a cryptocurrency or an NFT is a tangible asset,

it is extremely uncertain where it will be regarded as situated.[63] Also, rules for charitable deductions may be quite different depending upon whether the property is tangible or intangible.[64] On account of the uncertain nature of cryptocurrencies and NFTs, it may be appropriate to expressly exclude them from a disposition of "tangibles" in an instrument such as a Will.

IRS View of Cryptocurrencies

Just as there is a significant lack of clarity as to what type of property cryptocurrencies or NFTs are, there is considerable uncertainty about the tax consequences of acquiring, trading, and transferring them.[65]

The IRS has provided unofficial guidance[66] of some of the tax aspects of cryptocurrencies. In Notice 2014-21, 2014-16 I.R.B. 938 (referred to below as the "Notice"), the IRS set forth at least some of its views about such currencies.

The Notice, at its beginning, says in part that a cryptocurrency "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.*" [Emphasis added.] And the IRS position that bitcoin is not a currency is repeated in Revenue Ruling 2019-24.[67] It is clear, however, that the IRS views cryptocurrency received in payment for services, including as payment for "mining" cryptocurrency, as gross income upon receipt by the taxpayer.[68]

The IRS also states in the Notice that bitcoin and other "convertible virtual currencies" (a term the IRS uses in the Notice) are in fact not "currency," but are a form of property. This position may have significant consequences under U.S. tax law. For example, Section 988 provides for certain specific consequences for foreign (non-U.S.) currencies. For example, the Section treats gain or loss as ordinary, which is contrary to the position espoused in the Notice that cryptocurrencies can be a capital asset, entitled to tax treatment as such.

The declaration in the Notice that convertible virtual currencies do not have legal tender status in any jurisdiction was true in 2014. But on September 7, 2021, the nation of El Salvador made bitcoin legal tender, giving parity with the U.S. dollar in that country.[69] Whether this fact will impact the Service's views of bitcoin in particular (or other cryptocurrencies) is unknown.[70]

Whether or not cryptocurrency is treated as a currency for U.S. tax purposes, it assuredly seems to be property and there are consequences for estate planning, in general, and more specifically for wealth transfer (gift, estate, and generation-skipping transfer) tax purposes.

The Notice also states that for "U.S. tax purposes, transactions using virtual currency must be reported in U.S. Dollars." It seems the word "transactions" was aimed at the expenditures, sales, or receipts of cryptocurrencies, not necessarily as transfers for wealth transfer tax purposes. The IRS also directs taxpayers to determine the "fair market value of virtual currency in U.S. dollars as of the date of payment or

---

[63] See discussion in Jenson, supra.

[64] See, e.g., I.R.C. Section 170(a)(3).

[65] See, generally, Schwartz, "Taxation of Decentralized Finance," 147 Tax Notes Federal 767 (Feb 7, 2022).

[66] An IRS notice may not be entitled to the same judicial deference as a revenue ruling may. Nonetheless, a taxpayer generally may rely on Notices and may be subject to penalties for failing to follow them. See, generally, Blattmachr & Gans, *The Circular 230 Deskbook* (PLI), p. 1-24 n. 59. Note that IRS Notice 2014-21 merely sets forth the IRS position on the matters the notice covers but without any reasoning, which could mean it is entitled to no deference by the courts.

[67] 2019-44 IRB 1004. This revenue ruling deals with the tax effects of Hard Forks (generally, the substitution of a different or improved blockchain for a cryptocurrency) or Soft Forks (generally, the receipt of additional tokens). See, generally, Chason, "Cryptocurrency Hard Fork and Revenue Ruling 2019-24," William & Mary Scholarship Repository (Winter 2019), available at https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=3036&context=facpubs

[68] Notice 2014-21, A-8. An interesting case is pending which, if decided on its merits, will determine whether cryptocurrency received

as a reward for "staking," a validation method seen as an alternative to mining, should also be treated as gross income on receipt. Jarrett et al v. U.S., No. 3:2021cv00419, (M.D. Tenn., May 26, 2021).

[69] https://bitcoinmagazine.com/business/el-salvador-makes-history-with-bitcoin

[70] The IRS has changed its position on matters many times. A classic is its view of split-dollar insurance. Cf. Rev. Rul. 55-747 to Rev. Rul. 64-328 and both of those to Reg. 1.61-22 and Reg. 1.7872-15.

[71] It is understood that the IRS collects more estate and gift tax in audits by reasons of increases in valuation from that reported on a return. Also, probably most estate tax planning strategies turn on valuation discounting. See, e.g., Blattmachr & McCaffrey, "The Estate Planning Tsunami of 2020," 47 Estate Planning 3 (Nov. 2020).

[72] See, e.g., Reg. 20.2031-2 and Reg. 25.2512-2.

[73] Reg. 20.2031-2; Reg. 25.2512-2.

[74] Indeed, the first sentence in the abstract to Nakamoto's Bitcoin white paper proposes "[a] purely peer-to-peer version of electronic cash [to] allow online payments to be sent directly from one party to another without going through a financial institution." The white paper is available for download at: https://bitcoin.org/ en/bit-

coin-paper

[75] The phrase "not your keys, not your coins" has become a rallying cry within the broader cryptoasset community. It speaks to the disintermediated nature of bitcoin and most forms of cryptoassets. See, e.g., http://www.notyourkeysnotyourcoins.org/; https://www.forbes.com/sites/davidbirch/2021/10/15/not-your-keys-not-your-coins-whatever

[76] The most famous example of a breach of a major crypto exchange occurred on February 24, 2014, when Japan-based exchange Mt. Gox suffered a security exploit that resulted in customers losing more than 700,000 bitcoins in a single event. At bitcoin's most recent all time high value of over $67,500 on November 8, 2021, the total value of the stolen Mt. Gox bitcoin would be worth well over $50 billion.

[77] https://bitcoinmagazine.com/culture/mt-gox-bitcoin-hack-teaches-us-today

[78] At the time of this writing, most major institutional custodians charge custodial fees as a percentage of the value held in custody after a minimum initial fee. Fees typically range from $7,500 per year to up to 45 basis points (0.45%) on the total value of assets under custody. Custodial fees are often limited or waived altogether for cryptoassets held in lending pools – another topic well beyond the scope of this article.

receipt. If a virtual currency is listed on an exchange and the exchange rate is established by market supply and demand, the fair market value of the virtual currency is determined by converting the virtual currency into U.S. dollars (or into another real currency which in turn can be converted into U.S. dollars) at the exchange rate, in a reasonable manner that is consistently applied." Again, the specific phrasing (using "payment or receipt") does not seem to include wealth transfer tax transactions, such as a gift. However, it perhaps is likely that the same or similar "rules" might apply for wealth transfer tax purposes. Indeed, because the "name of the game" for estate and gift tax purposes is valuation,[71] determining how such currencies or NFTs are to be valued is critically important for estate planners and their clients.

However, there are long standing (essentially, a century old) valuation rules for wealth transfer tax purposes, especially for marketable securities, such as stocks and bonds that are traded on an exchange or over-the-counter.[72] For marketable securities. the regulatory valuation rule, for estate and gift tax purposes,[73] is the average quoted highest and lowest selling prices on the transfer date on the major exchange where they are traded, subject to exceptions for "thinly" traded securities or where the block to be valued is so large that placing them all on the market would depress the price. Perhaps, a similar valuation methodology would be used for cryptocurrencies. However, there are distinctions that might be taken into account such as that the New York Stock Exchange, which often is the major market for certain well-known securities, is open only 6.5 hours day, while bitcoin is traded on dozens and dozens of markets 24 hours a day. Perhaps, the IRS will attempt to value cryptocurren-

cies as of the moment of transfer. However, it is often difficult to determine the precise moment of death. And even for transfers during lifetime, determining the exact moment of transfer or what is then the "major" market for the currency

> **The uncertainty regarding digital assets and their future values may cause many reasonable trustees to be reluctant to retain a significant portion of these assets in trust holdings.**

may not be simple to determine. Moreover, it will be noted that the valuation of stocks and bonds does not allow a discount for the cost of "converting" them into U.S. dollars.

The Bitcoin system, as noted above, was originally designed as a peer-to-peer network in which participants may exchange value without intermediaries.[74] Despite what has become known as the "self-sovereign" nature of bitcoin,[75] directly managing the private keys to the encrypted wallets that access bitcoin is complex. This matter will be discussed in some detail below, but a full exposition of private keys and direct custody is well beyond the scope of this article. Most individuals who acquire cryptoassets do so through a central exchange. The options seem innumerable, but Gemini, Kraken, Coinbase, FTX, and Crypto.com are among the most popular options for U.S.-based buyers. Such exchanges not only

provide a 24/7/365 global market for the buying, trading, and selling of cryptoassets, but they also provide a simple means of holding cryptoassets within the user's account.

There are considerable risks to holding crypto on a centralized exchange. Due to the sheer volume of transactions and the value of cryptoasset holdings on exchanges, they become "honey pots" – attractive targets for hackers and malefactors. Although the most reputable exchanges take custodial security very seriously, security vulnerabilities have resulted in the loss of massive amounts of cryptoasset wealth over the years.[76] As a best practice, individuals should only have cryptoassets stored in exchanges if they plan to be exchanging those assets in the near term. Exchanges are not generally a recommended option for long term storage of crypto.[77]

Some exchanges, as well as a growing number of institutional-grade custodians such as Coinbase Custody, Anchorage, Fidelity Digital, BitGo, and others, provide long-term, structured custodial services, but these companies impose significant fees for storage and transfer.[78] Although the cost of conversion to U.S. dollars may qualify as deductible administration expenses for estate tax purposes under Section 2053, there is no comparable deduction for gift tax purposes.

The market for NFTs seems to be insufficiently developed and too thinly traded to determine how each would be valued. Perhaps, "regular" markets will develop for NFTs, but as indicated, each is unique and the "correct" method for establishing fair market value seems uncertain at this time. Rather, it may be based on the valuation of assets under the so-called "willing buyer/willing seller" methodology which has plagued taxpayers, the IRS, and the courts for decades.

Private Keys and Custodial Options

Possession of cryptoassets – more precisely, cryptographically-secured digital assets – is managed through control of a combination of "public keys" and "private keys." For purposes of oversimplification, a public key is somewhat like an email address. Anyone with the email address of the recipient can send email to the address. In the same way, anyone with access to the public keys of a user's cryptoasset wallet may send wallet-compatible crypto to the wallet. It is the *private key* – somewhat like password access to the email account – that allows a user to access the value deposited to the public address.

Private keys are generated from binary computer code. That binary computer code most commonly uses a series of human-readable words that, when entered into a compatible wallet device in a specific order, constructs and controls the private keys that can access the cryptoassets on the blockchain. Those human readable words constitute the "seed phrase" that control the private keys. That seed phrase truly becomes the keys to the client's "digital kingdom."

Cryptoassets are a form of digital "bearer" instruments.[79] As such, control over the private keys is tantamount to direct control over the underlying assets. It is thus imperative that the seed phrase for the private keys is kept secure. The seed phrase is used to backup or restore a client's wallet, a hardware device or software interface that stores the encrypted private keys to "unlock" or access the cryptoassets in the blockchain.

Perhaps, a useful metaphor is that the seed phrase is the treasure map to the client's "digital gold." For purposes of illustration, assume Matt has a bag of real-world, physical gold. He takes his shovel and his bag of gold and proceeds to bury that gold in a remote field. At this point, he alone knows that gold is buried, and he alone knows the location. Recognizing his own mortality and human frailty, he writes down the location of the gold. He has thus created the map to his tangible treasure. If he later wants to dig up some of his gold, perhaps to exchange it for silver, Matt will need to revisit the treasure map to remember where he buried it. But what if Matt becomes incapacitated or has died? How will his family ultimately access the value of the gold he buried in that long-forgotten field? Perhaps, Matt has entrusted his friends Jonathan and Vanessa each with copies of the map. But of course, if any single friend has a copy of the complete treasure map, the fealty of friendship alone may not be a strong enough bond to prevent either of those friends from digging up and absconding with Matt's gold.

He may then consider tearing his treasure map into several pieces and distributing fragments of the map to several people Matt trusts. Assuming he has told each person how to reach the others who hold pieces of the map, then when Matt becomes incapacitated or dies, those several individuals can come together with the complete map, recover the gold, and manage that for his family (or hand the gold to his fiduciary).

This is, in essence, the beginning of a "multisignature" – commonly called "multisig" – wallet framework. Rather than keeping exclusive control over the private keys, a cryptoasset owner distributes fragments of "key material" among several trusted individuals with a key signature protocol that requires the joinder of multiple key holders to move crypto out of the wallet.[80]

Understanding private keys is admittedly complex and as illustrated above, the consequences of mismanaging the digital treasure map can be severe, up to and including permanent loss of the cryptoasset wealth. As the value of a client's crypto increases, the strategy for managing private keys must become more robust.

A growing number of multisig wallet providers offer no- to low-cost solutions for bitcoin holders. Fragmenting and distributing private keys not only provides increased security for digital wealth during the owner's life, but it also helps to mitigate succession risk when the owner becomes incapacitated or dies. Casa wallet and Unchained Capital are two popular noncustodial multisig wallet options among bitcoin holders.[81] Such services are useful for individuals with a working understanding of private keys but may be inadequate for holders of large values of cryptoassets and for clients who require custodian-managed crypto solutions for other reasons.

As discussed below, cryptoassets may be the ideal asset type to contribute to tax leveraged strategies like GRATs, Irrevocable Grantor (dynasty) Trusts, CLATs, or other structured transactions that benefit from outsized asset appreciation. But in order to adequately sever dominion and control over the assets and shift the asset value and future appreciation out of the grantor's estate, the settlor must surrender unilateral controls over the private keys to their crypto. Because of the bearer asset nature of crypto, clients may be reluctant to entrust their private keys exclusively to a trustee. Cryptoasset custodians increasingly serve as a secure counterparty to allow a grantor to formally fund cryptoassets to a structured trust without

trusting a single individual with all the grantor's private key material.

More General Fiduciary Issues

Not only is there considerable uncertainty of those and other tax matters, there also is a lack of clarity on some fiduciary matters that relate to cryptocurrencies and NFTs. Several characteristics of cryptoassets present significant challenges both in drafting for and administering estates involving crypto:

Price volatility. As is widely known, cryptoasset markets are susceptible to dramatic swings in value. This fact, compounded by the fact that crypto markets never close, can be a source of both asymmetric opportunity and asymmetric risk for an investment portfolio heavily weighted with crypto.

Heavy concentration of wealth. While this may change as a growing number of traditional investors acquire marketable digital assets, many early adopters of crypto maintain large percentages of their wealth in digital assets. Whether clients are idealogues, founders of blockchain token projects, or simply have the personal risk profile to accept downward volatility in exchange for potential upside, many clients concentrate large percentages of their wealth in crypto. This concentration of wealth presents diversification risks for fiduciaries to manage.

Lack of regulatory clarity. Crypto markets have largely enjoyed a light regulatory touch in the United States to date. While there is some indication that bitcoin (and potentially ethereum and a few other cryptoassets) are not securities subject to regulation by the SEC, the constituent agencies of the Financial Stability Oversight Council[82] remain actively engaged to establish a U.S. regulatory framework for the rapidly-expanding universe of cryptoassets.

Growing diversity of cryptoasset markets. Bitcoin is the first blockchain-based cryptoasset to enjoy enduring success. Its success and the subsequent growth of token-backed blockchain projects has resulting in untold thousands of cryptoassets with significant circulating supply. At the time of this writing, Coinmarketcap, a leading aggregator of cryptoasset market data, identifies over 18,000 different cryptoassets across 460 global exchanges.[83] While many marketable assets are very thinly traded, the combined market capitalization of cryptoassets is estimated to be nearly $2 trillion.[84]

Rapid evolution of wallet and custodial options. Perhaps, indicative of a nascent market, there is a diverse and expanding number of companies and decentralized projects that offer options for the storage of private keys for digital assets. Moreover, different blockchain protocols require varying processes for storing private keys. For example, many bitcoin wallets cannot accommodate ethereum-based tokens, and vice-versa. This lack of uniformity means that many clients with cryptoassets will have multiple wallet solutions at any given time. The dizzying number of custody options is, perhaps, only surpassed by the sheer number of cryptoasset tokens.

These and other issues present significant challenges to fiduciaries seeking to marshal and manage assets in the estate of an incapacitated or deceased individual.

Certainly, the wide fluctuations in the values of cryptocurrencies means there may be danger (in the way of liability) for fiduciaries. It may be anticipated that at least some individuals or companies will refuse to be an executor of a Will (personal representative) or trustee of a trust where the estate or trust holds such virtual currencies, NFTs, or other digital assets that experience dramatic swings in value.

At a minimum, a fiduciary (and the advisors to the fiduciary) needs to be familiar with the Revised Uniform Fiduciary Access to Digital Assets Act, the Uniform Principal and Income Tax, and the Uniform Prudent Investor Act.[85] In many jurisdictions, "normal" duties (or at least liabilities) can be modified or waived.[86]

Maybe, a trust director could be appointed to instruct the fiduciary

[79] https://www.investopedia.com/terms/b/bearer-instrument.asp

[80] By contrast, a "multi-party computational" wallet framework is analogous to creating multiple copies of the complete treasure map, storing the treasure map in a safe deposit box, and then giving keys to the safe deposit box to multiple individuals. Rather than having fragments of the treasure map stored in multiple locations, the entire treasure map is kept in the safe deposit box. If the bank is robbed and the safe deposit box is compromised, the entire treasure map – or the totality of the private key material – may be forever lost.

[81] www.keys.casa; www.unchained.com

[82] The FSOC was created under the Dodd-Frank Wall Street Reform and Consumer Protection Act and is charged with identifying and addressing systemic risks to the U.S. financial system. FSOC is chaired by the Secretary of the Treasury and is comprised of the Chairman of the Federal Reserve, the Comptroller of the Currency, Chairs of the SEC, CFTC, FDIC, and several others. https://home.treasury.gov/pol-icy-issues/financial-markets-financial-institu-tions-and-fiscal-service/fsoc

[83] https://coinmarketcap.com/

[84] Id.

[85] For charitable entities, familiarity should include that of Uniform Prudent Management of Institutional Funds Act.

[86] The Uniform Trust Code allows a trust instrument to limit a trustee's liability except in cases of bad faith or "reckless indifference to the purposes of the trust or the interests of the beneficiaries." Uniform Trust Code, section 1008 (Unif. Law Comm'n, amended 2010). While many jurisdictions have adopted a version of the Uniform Trust Code, some jurisdictions are less restrictive in terms of limiting trustee liability. In Alaska, for example, under AS 313.36.192, the settlor of a trust may relieve the trustee from any or all of the duties, restrictions, and liabilities that would otherwise be imposed on the trustee by AS 13.36.105 — 13.36.220 other than certain ones relating to loans, deposits by a corporate fiduciary to itself, and certain other acts of self-dealing.

what action to take or not take with respect to blockchain assets (cryptocurrency and NFTs).[87] States that have adopted "directed trust" legislation allow a limitation on the trustee's liability for breach of trust to the extent the trustee acts at the direction of the trust director.[88] However, even in those states that expressly recognize directed trusts, the directed trustee is not completely absolved from liability for actions taken or not taken at the direction of a trust director.[89] The limitation on a directed trustee's liability may be particularly questionable in states that have not expressly adopted directed trust provisions. Moreover, even a direction in the instrument itself may not be sufficient to immunize the trustee from liability. In *Estate of Pulitzer*,[90] for example, the decedent directed that the stock in a corporation that published a specific newspaper never be sold. However, the courts held that it could grant what might be viewed as a variance or deviation, from the terms of the Will under which the trust was created, to permit the fiduciary to make the sale. So, at least in New York, a trustee may be liable because it could have petitioned the court for a variance or deviation [91] from a direction but failed to do so.[92]

Counsellors may wish to advise fiduciaries to insist upon special and specific authority to retain, hold, hedge, trade and dispose of cryptocurrencies and NFTs and broadly relieve fiduciaries from liability for doing what is authorized.

However, despite these provisions, a fiduciary may be wise to obtain the express consent of beneficiaries to keep, acquire, and sell such assets, or how the fiduciary will maintain custody of the assets. For example, the fiduciary may be able to realize certain efficiencies by maintaining cryptoassets in a single vault or wallet, pooling the beneficiaries' interests rather than maintaining separate wallets for each beneficiary.[93]

The value of these items may fluctuate so greatly that the assets in the estate (or trust) may be insufficient to pay creditors, including the government for taxes owed on pre-tax income and for estate taxes. Of course, an executor might be able to elect alternate valuation if the value of the assets drops on the

alternate valuation date (not more than six months after death[94]) but the retention of the assets may not stop other creditors from complaining (keeping in mind that a fiduciary not only owes a duty to the beneficiaries but also to certain creditors).[95] And, of course, there is no alternate valuation for gift tax purposes.

One option a fiduciary may have is to hedge the assets.[96] Another may be for the transferor to form an entity (such as a partnership) to hold or acquire such assets and transfer to the fiduciary an interest which the fiduciary cannot control (and which is extremely difficult to sell).[97] At least under the law of some states, a court cannot order the liquidation of a partnership unless the court having jurisdiction over it finds it can no longer operate.[98]

Fiduciaries managing private foundations (whether formed as a private foundation trust or a corporation) should also be aware of the excise taxes applicable to "investments which jeopardize the charitable purpose" under Section 4944. That tax applies to the foundation as well as the "foundation manager" (within the meaning of Section 4946(b)). It may also apply to a charitable lead trust (CLT) if more than 60% of the fair market value of the CLT assets are devoted to charitable purposes.[99]

Estate Planning Strategies Using Cryptocurrencies or NFTs

As mentioned above, a tremendous amount of lifetime estate tax planning turns on valuation. One common strategy has been grantor retained annuity trusts (commonly, called GRATs) described in Reg. 25.2702-3. "To maximize short-term upside, more volatility within the GRAT is better."[100] If the value of the taxable remainder can be made small, as many planners apparently believe,[101] a GRAT funded with a cryptocurrency or an NFT may transfer many times the value of any gift made in creating the GRAT. In fact, several GRATs might be created, each with a different cryptocurrency or NFT. If just one of those appreciates enormously, as some have, the gift/estate tax avoidance could be enormous, with little risk of significant tax.

An alternative is simply to give away many different such currencies or tokens and have the donee qualifiedly disclaim the "losers" but keep the big winners.[102] It may even be possible to take advantage of this disclaimer strategy by gifting the cryptocurrency or NFTs in trust.[103] Note, however, that a qualified disclaimer must be made no later than nine months after the date of the gift (unless the beneficiary is a minor, in which case it must be made no later than nine months after the beneficiary attains age 21).

If a client is charitably inclined, it may be appropriate to consider a gift of cryptocurrency or NFTs to a charitable remainder trust (CRT). Although not appropriate for every client, the deferred income stream can be beneficial in terms of leveraging the CRT's income tax-exempt status to defer the tax on the cryptocurrency or NFT once it is sold. In particular, a Net Income with Makeup Charitable Remainder Unitrust (NIMCRUT) may be particularly advantageous in terms of

[87] A trust director "means a person that is granted a power of direction by the terms of a trust to the extent the power is exercisable while the person is not serving as a trustee. The person is a trust director whether or not the terms of the trust refer to the person as a trust director and whether or not the person is a beneficiary or settlor of the trust." https:// www.lawinsider .com/dictionary/trust-director. See, generally, "Trust Protectors, Trust Directors, and the Uniform Directed Trust Act" at https://www .jdsupra.com/legalnews/trust-protectors-trust-directors-and-t-70204/ ("The public policy that would be implemented by the Act is that a trust director is a fiduciary with an affirmative duty to act").

[88] See, e.g., AS 13.36.375(c); see also the Uniform Directed Trust Act, section 9 and Comment to section 9 (Unif. Law Comm'n 2017).

[89] See, e.g., 12 Del. Law section 3313(b) (applying a "willful misconduct" to trustees acting at the direction of an adviser); see also Uniform Directed Trust Act, section 9 (applying a similar "willful misconduct" standard) and section 10 (under which the trustee has a duty to provide the trust director with information "reasonably related" to the powers or duties of the trustee and the powers or

duties of the director).

[90] *Matter of Pulitzer*, 139 Misc. 575 (Surr. Ct. NY Cty 1931), aff'd without opn., 237 App. Div. 808 (1st Dept. 1932).

[91] "Trusts: Deviation of Trustee from Terms of Trust," 28 California Law Review 785 (Sep. 1940)

[92] *Matter of Pulitzer*, supra.

[93] Consolidating balances for beneficiaries may allow the estate or trust to pay lower custodial fees or earn higher yield on balances in a pooled account.

[94] See I.R.C. Section 2032.

[95] See Uniform Probate Code (UPC) section 3-711 (Unif. Law Comm'n, amended 2019) (providing that a personal representative has power over property of the estate equal to that of the title owner, "in trust, however for the benefit of the creditors and others interested in the estate"); and also UPC Section 3-712 (providing that a personal representative is liable to interested persons for damage or loss resulting from breach of fiduciary duty) and 1-201(23) (which defines "interested person" to include creditors).

[96] See, e.g., "Beginner's Guide: How to Hedge Your Crypto Portfolio," available at https://

cryptobriefing.com/beginners-guide-how-to-hedge-your-crypto-portfolio/

[97] As a side note, blockchain technology is also being used in entity formation and management, in the form of Decentralized Autonomous Organizations (DAOs). See https://en.wikipedia .org/wiki/Decentralized_autonomous_organization. Wyoming now expressly authorizes the formation of a DAO LLC. See W.S. 17-31-101 through 17-31-116.

[98] See, e.g., Alaska Statute 10.50.405.

[99] I.R.C. Section 4947(b)(3).

[100] Jenson, supra, citing to Blattmachr, Bramwell & Zeydel, "Drafting and Administration to Maximize GRAT Performance," 20 Probate and Property 17 (November/December 2006).

[101] See discussion in Blattmachr & Zeydel, "Evaluating the Potential Success of a GRAT Against Competing Strategies to Transfer Wealth," 31 Tax Management Estates, Gifts & Trusts Journal 115 (2006).

[102] See I.R.C. Section 2518.

[103] See Boehmcke, Bush & Kanaga, "Avoiding the No Returns Policy," 48 Estate Planning 4 (May 2021), for a discussion of reversionary disclaimers by a trust beneficiary or, alternatively, by a trustee.

allowing tax-free growth and income tax deferral.[104]

Finally, for lifetime gifts of cryptocurrency or NFTs to an irrevocable trust (other than a CRT), it may be important to consider giving the grantor a power of substitution, or "swap power" over the trust property. This would allow the grantor to "swap" the cryptocurrency or NFTs for other low-basis assets prior to the grantor's death in order to take advantage of the "step-up" in basis currently available under Code Section 1014. To the extent that the IRS continues to take the position that cryptocurrency is not currency, this may be an effective way to reduce the income tax burden on the client's beneficiaries when the cryptocurrency or NFTs are eventually sold. Of course, other factors should be taken into consideration with such a plan, including the potential for the IRS to change its position in terms of the tax treatment of cryptocurrency, and the fact that the power of substitution would make the trust a "grantor trust" for

income tax purposes.[105] This could prove undesirable if recent proposals to cause inclusion of grantor trusts in the grantor's estate for estate tax purposes are revived.[106]

Conclusions

Tokenized blockchain technology is likely to continue to play an increasingly large and important role in our society, both in the U.S. and globally. Given its growing presence in our economy, estate planners will need to be familiar with blockchain and blockchain assets, including cryptocurrency, NFTs, and other assets that may develop in the future. They need to be able to advise clients on potential issues involved in managing, protecting, and transferring these assets during a client's life, through incapacity, and after death. This will include a discussion of potential tax consequences, as well as matters such as ensuring private keys are accessible to fiduciaries and beneficiaries at the appropriate time, and that they are legally authorized to access these assets and manage them according to a settlor's wishes.

In addition, estate planners should become familiar with these assets in order to advise clients regarding potential opportunities for leveraging them as part of the estate plan. Blockchain assets that are expected to increase significantly in value may be prime assets for funding a GRAT or for gifting to an irrevocable trust in order to freeze their current value for estate

and gift tax purposes. Clients who are charitably inclined may wish to consider a charitable remainder trust or holding cryptoassets in the portfolio of a charitable lead trust.[107] The planner needs to be up-to-date on rulings, cases, and pronouncements regarding the tax treatment of these assets in order to understand the potential pitfalls and benefits of this planning.

Also important, particularly for those who advise fiduciaries, are the issues involved in handling blockchain assets as part of trust and estate administration. The fiduciary duties of care and loyalty, including obligations relating to trust investments under the Uniform Principal and Income Act, Prudent Investor Act, and other applicable rules may cause many trustees to be hesitant to serve without some form of direction in the trust instrument or by a trust director, or without exculpation to the greatest extent possible. Even then, the uncertainty regarding these assets and their future values may cause many reasonable trustees to be reluctant to retain a significant portion of these assets in trust holdings.

Unfortunately, at this time there may be more questions than answers when it comes to cryptocurrency, NFTs, and the blockchain in general. However, as professionals who serve a wide variety of clients, estate planners must at least be prepared to discuss these assets with their clients and continue to stay abreast of developments in the law that impact their treatment. ■

---

[104] For additional discussion of CRTs and NIM-CRUTs, see Blattmachr, Blattmachr & Richard L. Fox, "Using a Charitable Remainder Trust as the Recipient of Qualified Plan and IRA Interests," 47 Estate Planning 3 (May 2020).

[105] I.R.C. Section 675(4)(C).

[106] See H.R. 5376 (commonly known as the "Build Back Better Act"), section 138209 (117th Cong. 9/27/2021).

[107] It should be noted that a charitable lead trust (and its trustee) may be subject to tax under I.R.C. Section 4944 for making a jeopardizing investment. See I.R.C. Section 4947 (b)(3). It seems likely that an investment in cryptocurrencies or NFTs might well be deemed to fall under that section.