

Bitcoin and Blockchain: Certain U.S. Regulatory Considerations for Investment Managers

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Introduction

Bitcoin is the first blockchain or distributed ledger technology (“*DLT*”) to successfully solve a problem succinctly described by Marc Andreessen: “Bitcoin gives us, for the first time, a way for one Internet user to transfer a unique piece of digital property to another Internet user, such that the transfer is guaranteed to be safe and secure, everyone knows that the transfer has taken place, and nobody can challenge the legitimacy of the transfer.”¹ Blockchain transactions, which need not involve a central authority or middleman, were first used to make payment transfers without the involvement of any financial institution (or in some cases, any government currency). Entrepreneurs, businesses and governments are now seeing the possibilities for public and private blockchains to be applied to a host of activities and industries in which intermediaries control the process of transfers and maintain the necessary systems in exchange for a fee. They also see the potential to reach new customers and markets.

More than half of the world’s largest corporations are reportedly actively considering or deploying blockchain.² In FinTech, there is excitement about the potential for payment systems to reach millions of the so-called ‘unbanked’ (not only in the U.S. but particularly in emerging markets) who might be able to use DLT and other new technologies with mobile phones.³ Even Delaware corporate law now expressly authorizes the use of distributed ledgers or blockchain for tracking share issuances and transfers, as well as maintaining corporate records.⁴ This July 2017 change in Delaware law is part of a broader, ongoing blockchain initiative in Delaware, which may extend to official documents ranging from company filings, land titles, professional licenses, collateral claims and birth and death certificates.

As often accompanies the introduction of any new technology, reactions to digital assets and blockchain range from wild optimism (leading to the SEC’s recent warning about ICOs or ‘internet coin offerings’⁵) to healthy skepticism (frequently involving use of the term ‘bubble’), to outright denial or complete indifference. Some U.S. federal and state regulators are wholeheartedly embracing their role in regulation of new applications of the technology while others have, at least until recently, been observing from the sidelines, gathering data and considering their next move. Similarly, mindful of both potential rewards and pitfalls, investment managers are considering whether (and, if so, when) to invest client assets in, or obtain exposure to, virtual currencies (such as Bitcoin and Ether) or other digital assets.

This News Alert provides a number of U.S. regulatory considerations and preliminary observations for investment managers. We first provide a basic introduction to blockchain or distributed ledger technologies, looking at the examples of the virtual currencies Bitcoin and Ether, as well as virtual tokens and coins, the offering of which is now under tighter U.S. regulatory scrutiny. We then look at opportunities to acquire assets in these technologies, which vary from trading virtual currencies directly, participating in token launches structured to comply with regulatory requirements or secondary trading of such tokens, acquiring exposure through equity vehicles and derivatives to the extent available to U.S. persons, making more traditional venture capital or other investments in companies building the infrastructure to use the new technology (such as protocols or trading platforms), or participating in blockchain networks and pursuing opportunities in specific sectors. Third, this News Alert provides a brief overview of the nascent state of U.S. regulation of these virtual currencies and other digital assets, and our preliminary observations on the impact of this regulation on investment managers. Fourth, we seek to address the steps an investment manager should consider before a private investment fund acquires exposure to virtual currencies or other digital assets. Among other things, we note that great caution should be exercised in preparing to advise clients on investments in virtual currencies and other digital assets. Significant due diligence should be undertaken and investment managers should be prepared to provide clients with additional counseling and disclosures with respect to the significant risks facing these technologies.

SECTION 1

What is blockchain or distributed ledger technology? What is Bitcoin and what is Ethereum? What are ICOs?

In this section, we discuss the recent development of blockchain and other DLT, as well as Bitcoin and Ethereum, explaining briefly what they are and how they are currently being used.

What is blockchain? Blockchain has been boiled down to a simple statement: connected computers reach agreement over shared data.⁶ In essence, blockchain is just a database or ledger. However, blockchain and other DLT use public key cryptography and certain other technologies to maintain the integrity of the ledger on a decentralized “peer-to-peer” computer network. Blockchains and other DLT can be used in novel and powerful ways because they rely less — or sometimes hardly at all — on a central authority and require no central server or database to function. Instead, each ‘node’ or computer on the network runs the same protocol or software (which is often open-source) and has an identical copy of the ledger. For a new block of transactions to occur, each node must verify the proposed transactions. Once the appropriate level of consensus occurs between nodes, the transactions are recorded on the ledger, as further explained below for Bitcoin. In other words, no centralized server controls or stores the ledger and no manual process, human verification or ‘trusted’ intermediary is required at any point of each blockchain transaction or, generally speaking, to maintain the ledger on an ongoing basis.

Many believe that applications of blockchain have the potential to reduce transaction costs and the need for intermediaries in entire industries. For instance, fees charged by many existing payment systems are 1% to 3%. The potential to reduce transaction costs in payment systems has led many to invest in Bitcoin infrastructure or develop other DLT. There are so many types of DLT and potential uses for DLT that one U.S. Federal Reserve study simply refers to the technology as some combination of components including peer-to-peer networking, distributed data storage, and cryptography that, among other things, can potentially change the way in which the storage, recordkeeping, and transfer of a digital asset is done.⁷ “It is a tool for building an authoritative public record that records the chain of title for any current Bitcoin holdings, and prevents individuals from creating fraudulent entries in that record.”⁸ As a result, blockchain has potential applications for financial asset settlement, asset title transfer, evidence capture, identity management, secure cloud storage, supply management, and healthcare, among other things.⁹ Importantly, many but not all DLT use the blockchain process and some DLT do indeed rely on a central authority.

What is a virtual currency? The Securities and Exchange Commission (“**SEC**”) and the Commodity Futures Trading Commission (“**CFTC**”) share the same definition of virtual currency: “a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value, but does not have legal tender status in any jurisdiction.”¹⁰ Sometimes, virtual currencies are also called cryptocurrencies or digital currencies. There are many different virtual currencies in use today. Some are decentralized while others rely on a central authority. The two most prominent decentralized virtual currencies are Bitcoin and Ether (on the Ethereum network), which we briefly profile below. In June 2017, the *New York Times* reported that the value of all Ether and Bitcoin is approaching the size of Goldman Sachs.¹¹ The market value of all Bitcoin is estimated at over \$75 billion and the value of all Ether is over \$34 billion as of August 29, 2017.¹² While this obviously pales in comparison to the overall market values of traditional stock markets, futures markets, swaps markets and foreign currency markets, the rate of growth of virtual currencies in market value, trading volume and price appreciation is significant. There are literally hundreds of other virtual currencies, a few of which also have backing from industry consortia drawn from global corporations and banks, as well as prominent venture capital groups. Even some central banks are exploring the use of cryptocurrencies, which would be centralized but use some of the same underlying technology such as DLT.¹³

What is Bitcoin? Bitcoin is the original implementation of the blockchain. It is used widely as a virtual currency. In 2008, an anonymous author published an 8-page paper outlining a peer-to-peer version of electronic cash which would allow payments to be sent directly from one party to another without going

through a financial institution.¹⁴ The author's technological process for maintaining the ledger and its security features have been implemented successfully, lauded by many as revolutionary and influential in the development of other blockchains.¹⁵ In fact, Bitcoin's inventor was later nominated for a Nobel Prize in economics but was not eligible to receive it due to his or her continued anonymity.¹⁶ Among other things, each computer in the network (called a node) maintains a complete history of every transaction completed on the Bitcoin blockchain. Bitcoin relies on 'miners' who utilize great amounts of computing power to compete and solve mathematical problems before a new block of transactions can be created, a labored process known as 'proof-of-work.' The mining process results in a new coin and a transaction fee for the successful miner (but this incentive will eventually transition entirely to transaction fees once a certain number of coins are in circulation). Once proof-of-work for a block of transactions is found by one node, the proposed block is broadcast to all nodes to be verified, ensuring there is no double-spending. Each block of transactions is time-stamped using a cryptographic 'hash,' a long string of numbers and letters which is unique to the data in the block and which ensures no alteration may occur unnoticed and thus helps to ensure the integrity of the ledger. As its inventor explains "Each time-stamp includes the previous time-stamp in its hash, forming a chain, with each additional time-stamp reinforcing the ones before it." Transactions and accounts are also encrypted, which generates a public address or key. For every public key, which is available to anyone, there is also a private key, the holder of which has complete control over the Bitcoin. Importantly, Bitcoin is completely de-centralized and consensus-based, meaning that miners and others in the community must make decisions about changes to the protocol, leaving open the possibility for 'hard forks' in which no overall consensus can be reached and a split occurs in which two different protocols and coins emerge. The first hard fork for Bitcoin occurred on August 1, 2017 following disagreement primarily about its scalability.¹⁷

Despite Bitcoin's early poor reputation stemming from its use in funding illicit activities and money laundering, Bitcoin has begun to enjoy wider adoption as a virtual currency for other uses and is traded on many exchanges and trading platforms, which are often outside the U.S. Bitcoin prices have appreciated rapidly and are volatile. They were under \$600 in August 2016 and have risen to more than \$4,500 by August 29, 2017, representing a rise of more than 681% in roughly one year.¹⁸ There were more than 200,000 Bitcoin transactions per day in July 2017. Even though traditional payment systems currently handle many times more transactions (Visa alone handles an average of 2,000 per second),¹⁹ the potential for continued growth of Bitcoin, as well as its volatility, have caught the attention of investors.

What is Ethereum? Ethereum is perhaps the most well-known example of 'Blockchain 2.0,' which refers to protocols which allow for 'smart contracts.' Smart contracts are executable computer code stored on the blockchain—in other words, broadcast to all the computers connected to a distributed ledger.²⁰ The code is triggered by blockchain transactions and reads or makes entries on the distributed ledger. Essentially, the contracts self-execute when certain triggers occur. These smart contracts have potential for use in almost any industry, whether as legally binding agreements or otherwise.²¹ Although Ether (which is the basic token on the Ethereum network) can be used as a virtual currency like Bitcoin, Ethereum's use of smart contracts gives it many potential applications. Many smart contracts are tokenized, meaning that a blockchain network such as Ethereum can be used to launch and operate coins and tokens (discussed below), each with their own purposes and uses, many of which are far beyond payments and money. The combination of the blockchain network and smart contracts is designed to allow for 'distributed autonomous organizations,' entire systems which can function independently. There is plenty of development in use cases for smart contracts, although there is disagreement over the practicality of their real world implementation.²² There have also already been well-publicized examples of hacking leading to large financial losses, as highlighted by the SEC in its recent investigation report about The DAO,²³ which we discuss below.

Ethereum was originally developed in 2013 by a then-19-year-old computer programmer.²⁴ The Ethereum blockchain launched in June 2015 following the 'crowdfunding' of approximately \$25 million in the previous year. Ethereum now has the support of the Ethereum Enterprise Alliance, a non-profit with backing from over 150 companies and organizations such as industrial giants Toyota, Merck, and Samsung, global computing businesses like Microsoft and Intel, as well as banks and other financial enterprises such as Banco Santander, Bank of New York Mellon, Credit Suisse, ING and UBS.²⁵ A primary attraction of Ethereum is that,

because it combines open source software with smart contracts, businesses can use the technology as a global computing network running on Ether rather than simply as money. For instance, many are using the software to build decentralized applications and also private blockchains, some of which might be reconnected to the public network at a later date. The Ethereum blockchain has been gaining momentum. Its total market value was over \$34 billion on August 29, 2017.²⁶

The level of commitment demonstrated to commercialization of the Ethereum network and other DLT from many companies and industries is noteworthy. Other industry consortiums are working on other DLT, some of which use distributed ledgers but not blockchains.²⁷ For example, Ripple's XRP is the third-largest virtual currency by market capitalization. It operates very differently from Bitcoin and is centrally controlled by the Ripple payments platform, which is focused on banks, scalability, settlement time and international payments. Ripple has backing from Google Ventures and the venture capital arms of financial institutions like CME Group, Santander and Standard Chartered.²⁸

What are ICOs? ICOs or 'internet coin offerings' is the rather unfortunate moniker given to events in which virtual tokens or coins are first launched publicly and typically in exchange for funding. Others prefer to call them 'token generating events,' 'token launches' or 'token sales.' Smith + Crown lists ICOs, Coindesk tracks cumulative ICO funding and token data is also readily available on other websites.²⁹ The recent number and scale of token sales has taken many by surprise. All-time cumulative ICO funding is estimated at \$1.75 billion as of August 10, 2017 (of which over \$1.3 billion of such ICO funding is since May 1, 2017).³⁰ Many ICOs have been made by developers of smart contracts on a blockchain network such as Ethereum. Each virtual token or coin has a different set of attributes and uses. For instance, 'Gene-Chain Coin' is an ICO from EncrypGen, which is intended to help researchers and patients to securely store and share genomic data on a private blockchain, and to lessen the risk of hacking.³¹ The 'Basic Attention Token,' which raised \$35 million in less than 30 seconds in an ICO in June 2017, is meant to change the way digital advertising works by creating a new token that can be exchanged between publishers, advertisers, and users.³² Basically, each virtual token or coin represents a bundle of rights or uses on a network. For instance, virtual tokens or coins might represent a right (or some combination of rights) to profits, voting, property or other assets, membership or services.

ICOs are often issued at a very early stage in the development of the relevant blockchain network or company. They are often accompanied by a brief whitepaper explaining the properties of the coin or token and the intended use case for the blockchain. However, many whitepapers to date have contained little explanation of the use of proceeds of the offering and most have not had disclosures comparable to those provided in public or private U.S. securities offerings. In addition, many ICOs to date have not limited U.S. purchasers to accredited investors or taken other steps to comply with U.S. securities laws. As the SEC's recent warning (summarized below) points out, a token or coin used for capital raising which offers rights similar to a traditional security is indeed a security under U.S. securities laws, regardless of the virtual aspects of the transaction. Great caution must be exercised with respect to ICOs and secondary trading of such tokens and coins given current market practice and regulatory uncertainties both in the U.S. and abroad. However, efforts are now being taken by some developers and businesses to structure the launch and use of tokens and coins (1) to comply with U.S. securities laws and other regulatory requirements, (2) to prohibit participation by U.S. persons entirely or (3) so that, under the facts and circumstances, the token or coin offered represents a bundle of rights and uses less likely to constitute a security under U.S. securities law. We examine the SEC's recent investor bulletin and introduce other U.S. regulatory considerations for investment managers below.

Terminology. In this article, as noted above, 'virtual currency' refers to Bitcoin, Ether and other tokens and coins used as a medium of exchange, unit of account and/or store of value, which do not have legal tender status in any jurisdiction. This definition is used by the SEC, the CFTC and the Financial Action Task Force.³³ Many virtual currencies are 'convertible,' meaning they have equivalent value in U.S. Dollars or another government currency or act as a substitute for U.S. Dollars or other government currency. We use the term '**securities token**' to refer to tokens or coins used for capital-raising which have the features of a

security under U.S. securities law. 'Utility tokens' refers to tokens or coins which serve a particular function or consumptive use on a network such as tracking information or goods or giving membership or access. Finally, we use 'digital assets' very broadly to encompass virtual currencies, securities tokens, utility tokens and other digital tokens or coins used in DLT.

SECTION 2

How can an investment manager obtain exposure to virtual currencies and digital assets? How are virtual currencies and other digital assets traded?

The ways for an investment manager to obtain exposure to virtual currencies and other digital assets for its clients are changing rapidly. If, despite their novelty and volatility, an investment manager believes that there is a potential role for virtual currencies and digital assets in the investment portfolio of a private fund or other client, the methods for exposure ultimately chosen by the investment manager will depend on, among other things, its trading expertise and research capabilities, its appetite for regulatory and technological complexities that come with investing directly in virtual currencies and digital assets, its investment strategy and mandate for a newly formed or existing private fund or other client, and factors outside its control such as the timing of the availability of new products.

In this section, we briefly explore several ways to obtain exposure to virtual currencies and digital assets. These include: (1) trading virtual currencies (such as Bitcoin and Ether) directly, whether on the blockchain network or, more commonly, using digital asset exchanges and trading platforms to facilitate purchases and sales for government currencies and other virtual currencies; (2) investing in tokens pre-ICO, participating in token launches or secondary trading of such tokens post-ICO, to the extent such transactions are structured to comply with regulatory requirements; (3) acquiring indirect exposure through equity vehicles and derivatives to the extent they are now available; and (4) making more traditional venture capital or other investments. The ways for an investment manager to obtain exposure to virtual currencies and other digital assets for its clients are changing very rapidly.

In Section 4, we note that an investment manager should exercise great caution before acquiring exposure to virtual currencies and other digital assets for a private investment fund or another client. We also provide some important steps which an investment manager should consider taking before a private investment fund or other client acquires exposure to virtual currencies or other digital assets, particularly if planning to trade them directly.

Direct trading of virtual currencies. Some investment managers with the requisite expertise may prefer to trade virtual currencies such as Bitcoin and Ether directly, either through transactions on the blockchain network or, more commonly, through virtual currency exchanges and trading platforms which facilitate over-the-counter (OTC) trading.

We first explain in very broad terms how virtual currencies are owned and traded directly. In theory, any person can download the open-source software necessary for transactions in Bitcoin and other virtual currencies on public blockchain networks. As a practical matter, most people use the services of exchanges, trading platforms, custodians or other service providers to store or facilitate transactions in virtual currencies, as well as to convert them to U.S. Dollars or other traditional government currencies. Some (but not all) service providers offer the same services with respect to other digital assets such as virtual tokens and coins, which may raise significant issues highlighted recently by the SEC (*see Section 3 below*). While there are several U.S.-based exchanges, trading platforms and custodians, many are located outside the U.S. and some serve U.S. customers from those non-U.S. jurisdictions. Several service providers have chosen to locate only part of their operations in the U.S., while others have elected not to serve U.S. customers (or customers located in certain U.S. states) for regulatory reasons. *We introduce the regulation of these intermediaries in Section 3.*

Custodians and wallets. Custodians offer cloud-based or hosted 'hot' wallets, as well as offline 'cold storage' in wallets or vaults, to store and secure the public and private keys necessary for transactions. 'Hot' wallets are stored on computers connected to the internet for accessibility while 'cold storage' is usually

intentionally inaccessible and subject to higher levels of security, with private keys stored and retrieved from computers offline (i.e., which are not connected to the internet). Some cold storage repositories are in highly secure physical locations on different continents and use additional multi-signature, cryptographic, biometric and other security measures. There may also be a time delay involved in retrieving virtual currencies from these vaults, which is intended to provide additional security. Other service providers do not serve as custodian for the keys; instead they offer hardware or software to provide a gateway to the peer-to-peer network hosting the protocol used for transactions in virtual currency and other digital assets.³⁴ These include 'hybrid wallets' (which run the Bitcoin protocol but do not store the keys) and 'software wallets' which allow people to secure their own keys.³⁵ There are also virtual currency payment systems and, at the retail level, there are also Bitcoin ATM manufacturers and operators.³⁶

Exchanges and trading platforms. There are more than 30 Bitcoin exchanges globally which facilitate 24-hour trading of virtual currencies every day of the year. A number of trading platforms also facilitate OTC trading of virtual currencies.³⁷ Unlike traditional exchanges, virtual currency exchanges tend to facilitate the whole process of the exchange of virtual currencies for government currencies and other virtual currencies: they match orders, clear trades, settle trades and some offer custody. Some exchanges transfer customer funds in U.S. dollars or other government currencies to bank accounts at FDIC-insured banks. There are currently significant differences in the ways these exchanges operate, how they are regulated and insured and, to some extent, in the prices of the virtual currencies.

There are also a number of trading platforms which facilitate OTC trading of Bitcoin and other virtual currencies using bilateral agreements on a principal-to-principal basis, several of which are U.S. based. We have spoken to some in the course of due diligence on behalf of clients. For U.S. dollar Bitcoin trading globally, the over-the-counter market is estimated to be roughly half the volume of such trading on U.S. dollar-denominated exchanges.³⁸ In other words, the OTC market for trading Bitcoins for U.S. dollars is very significant. OTC counterparties include hedge funds, family offices, private wealth managers and high net-worth individuals.³⁹

We briefly address U.S. regulation of virtual currency exchanges and trading platforms under Section 3 and due diligence implications for investment managers under Section 4.

Direct investment pre-ICO, in token launches or in secondary trading post-ICO. As noted above, the number and scale of token sales has taken many by surprise. The *New York Times* reported that, in the two weeks following the SEC's report on July 25, 2017, over 46 new ICOs were announced and only 3 had canceled or postponed their ICO in response to the SEC's warning.⁴⁰ It is too early to speculate how many token sales will be structured to comply with U.S. and non-U.S. regulatory requirements. However, at least some token issuers are already taking steps to heed the SEC's warning.

For instance, in preparation for an ICO in August 2017 for Filecoin, a decentralized storage network powered by blockchain, the company behind Filecoin prepared a private placement memorandum (PPM) for a simple agreement for future tokens (SAFT) and elected to limit the offering to accredited investors. In the PPM,⁴¹ the company noted that it believes the tokens are not securities because, among other things, the tokens are utility tokens having a specific consumptive use allowing participants to obtain and make file storage available. Under the offering, the tokens will only be delivered to an investor once a defined network launch occurs. In addition, investors are only able to sell the tokens after a vesting period which starts after the network launch. There was also a pre-ICO in July 2017 in which SAFT were offered and sold only to well-known digital asset investors such as Winklevoss Capital and Digital Currency Group.

The Filecoin ICO provides one illustration of a novel process in which (1) investment managers and other digital asset groups already very familiar with the ICO market participated in a pre-ICO, which was followed soon thereafter by (2) an ICO in which the parties acknowledged the SEC's recent warning and sought to structure the ICO to comply with securities law requirements, while expressing the view that the

token was a utility token and not a security. Unlike the tokens from many ICOs, Filecoin tokens will not be available for trading post-ICO until a defined blockchain network launch has occurred and only pursuant to a vesting period which starts on launch of the network. Filecoin's use of SAFT and its ICO process are being facilitated by CoinList, a website platform for pre-launch token sales in a standardized format.

In addition to participation before or in a token launch, there is secondary trading of tokens and coins, for which great care must also be taken to ensure such transactions comply with regulatory requirements. It should also be acknowledged that some opportunities for secondary trading of tokens and coins may not be available to U.S. investors for a number of regulatory reasons. For instance, Bitfinex, a large exchange based in Hong Kong, announced in August 2017 that it would no longer permit U.S. customers to trade most major 'app' tokens on the Ethereum blockchain and would gradually phase out service to all U.S. individuals.⁴²

In Section 3 of this News Alert, we provide a brief introduction to the SEC's recent investigative report which found DAO tokens to be securities under the so-called Howey test and consider certain regulatory implications for investment managers stemming from this conclusion.

Indirect exposure through equity vehicles and derivatives. Due to complexities involved in direct trading of virtual currencies and other digital assets, some U.S. investment managers would prefer to obtain indirect exposure to virtual currencies and other digital assets indirectly through equity vehicles and derivatives to the extent such products are available to U.S. persons. The availability of such equity vehicles and derivatives to U.S. persons has thus far been limited but is changing rapidly, with many entrepreneurs investing significant resources to obtain regulatory approvals for new products. Below are several examples.

Equity vehicles. Equity vehicles offering exposure to Bitcoin and other virtual currencies and digital assets have generally been few and far between. One well-known equity vehicle offering exposure to Bitcoin is Grayscale's Bitcoin Investment Trust (GBTC), the shares of which have historically traded at a very significant premium to the net asset value of its Bitcoin holdings.⁴³ GBTC originally launched as a private fund, was later approved for public quotation on the OTC market OTCQX and has a pending application for the public listing of its shares on NYSE Arca, Inc.⁴⁴ There are several non-U.S. exchange-traded products (ETPs) offering indirect exposure to Bitcoin and Ether. In addition, several U.S. commodity trust ETPs have applications to list their shares pending with the SEC. Among others, these include The SolidX Bitcoin Trust (XBTC), Winklevoss Bitcoin Trust (COIN), and EtherIndex Ether Trust (ETHX). Initially, the SEC denied certain of these applications on the basis that "when the spot market is unregulated—there must be significant, regulated derivatives markets related to the underlying asset with which the Exchange can enter into a surveillance-sharing agreement." The SEC has since agreed to do another review, which is pending. While the outcomes of the SEC's latest reviews are unknown, they appear to turn on whether the exchange has surveillance sharing agreements with significant, regulated and established markets in the spot commodity (or in futures or other derivatives on the commodity).

There are a limited number of private investment vehicles with a track record of investing in digital asset investment themes, although it is difficult to obtain and share precise data on their number, size and investment strategies. Many funds with track records in virtual currencies and digital assets invest in tokens at the pre-ICO stage, as described below. There are reportedly a number of new private fund launches with digital asset themes.

Derivatives on virtual currencies. Derivatives on Bitcoin, Ether and other virtual currencies are now becoming available to U.S. institutional clients. Among other things, these will include options, swaps, non-deliverable forwards, as well as forwards. U.S. exchange-traded futures contracts are likely to follow shortly since Chicago Mercantile Exchange and Intercontinental Exchange Inc. have been preparing index market data important to creating futures contracts. Chicago Board Options Exchange announced a similar agreement in August 2017, although the precise timing is not known. Non-U.S. exchanges and trading platforms have been offering a variety of derivative products on virtual currencies but, in most instances, they are not available to U.S. persons for regulatory reasons.

In July 2017, LedgerX reportedly became the first U.S. regulated exchange and clearing house for 'physically-settled' Bitcoin options, which are available to eligible contract participants.⁴⁵ The whole process of seeking regulatory approvals took several years for LedgerX. It first applied to the CFTC in September 2014. In July 2017 it became registered with the CFTC as a swap execution facility and as a derivatives clearing organization. Because the options will be centrally cleared and fully-collateralized, LedgerX will hold the deliverable for every trade. Well-developed derivative markets also serve as a price discovery mechanism, providing measures of implied volatility for further trading, as well as giving the CFTC important data to police for fraud and manipulation in both the derivative and underlying markets. As a result, established U.S. Bitcoin and Bitcoin derivative markets might also help to pave the way for other products such as the pending commodity-trust ETPs.

Certain forward and spot trading. In addition to offering unleveraged spot trading of virtual currencies, certain non-U.S. exchanges offer forward contracts, as well as certain leveraged, margined or financed trading of 'spot' virtual currencies. Whether these products are commodity interests subject to CFTC jurisdiction depends on several factors which we explore in Section 3. As a result, many non-U.S. exchanges prohibit such trading by U.S. customers. *We provide a brief introduction to the U.S. regulation of certain Bitcoin and Ethereum products and derivatives in Section 3.*

Traditional venture capital or other investments. Investment managers have been active in advising funds and helping other clients make more traditional venture capital or other investments in companies building blockchain infrastructure (such as protocols or trading platforms), companies developing commercial applications of blockchain in specific sectors, and companies participating in blockchain networks. Venture capital investment into blockchain start-ups is estimated at over \$350 million for the first seven months of 2017 and over \$1.7 billion over an 8-year period (which compares to estimates of over \$1.2 billion raised in ICOs in the first seven months of 2017).⁴⁶

Others. The ways for an investment manager to obtain exposure to virtual currencies and other digital assets for its clients are changing very rapidly. Secured lending of U.S. dollars, for example, against virtual currencies as collateral appears to be a quickly emerging opportunity.

SECTION 3

How are exchanges, trading platforms and custodians regulated in the U.S.? How are virtual currencies and other digital assets regulated in the U.S.? What is the U.S. federal income tax treatment of virtual currencies?

Virtual currencies and other digital assets have certain characteristics which make it more difficult to apply current U.S. federal and state law. Among other things:

- The novel and multiple attributes of digital assets have led to uncertainty over the licensing and registration requirements for those holding digital assets, participating in digital asset transactions and serving as intermediaries.
- The speed of innovation in blockchain has presented practical issues for regulators and, while a number of different regulations have come into effect, the regulation of digital assets is evolving.
- It can require significant effort to determine the jurisdiction(s) that apply to a digital asset transaction. The parties may be located in multiple jurisdictions and a number of intermediaries may be involved. As a result, digital asset transactions tend to implicate not only U.S. federal and state law considerations but also non-U.S. laws.
- There is a wide variety of functionality and use cases for digital assets which, in the U.S., can implicate different U.S. federal and state authorities. In other words, the blockchain has potential applications in many industries, sectors and other areas. As a result, the laws which apply to particular digital assets depends in large part on their design, the rights they represent, the function(s) they perform and their intended use cases.
- Some digital assets may have attributes similar to more than one ‘real world’ function such as, for example, property, commodity, currency, security, voting or membership or rights to utilize on a particular network.
- The functionality, use case and rights linked to a token or other digital asset may evolve over time, which may have important implications for the regulations which apply.

Notwithstanding some of these inherent difficulties, we briefly survey the current nascent state of U.S. federal and state law for virtual currencies and digital assets, starting with regulation of the service providers facilitating transactions. Investment managers wishing to trade virtual currencies and other digital assets directly should have a general awareness of these regulatory requirements in order to conduct enhanced due diligence and risk assessments on prospective service providers such as exchanges, trading platforms and custodians, given the higher risk of these businesses and the fact that the technology and regulations are evolving.

How are exchanges, trading platforms and custodians regulated in the U.S.? Investment managers must be aware that there are currently significant differences in the current licensing and registrations of U.S.-based virtual currency exchanges, trading platforms and custodians. By way of example, The Gemini Exchange, which serves as both an exchange and custodian of Bitcoin and other digital assets, is regulated as a New York State-chartered limited purpose trust company under New York banking law. itBit, another U.S.-based exchange and OTC desk for Bitcoin, is regulated in a similar manner. Their status might have important implications for, among other things, SEC-registered investment advisers and certain other investment advisers subject to the custody rule, as noted below. Like many other virtual currency intermediaries, GDAX (which is Coinbase’s exchange for professional traders to trade digital assets) is regulated on a state-by-state basis under state money transmitter laws, which we address in more detail below. Genesis Global Trading, a trading platform making a market in virtual currencies, is a broker-dealer registered with the SEC. As previously discussed, LedgerX is a new CFTC-regulated exchange for centrally cleared and fully collateralized Bitcoin options and certain other derivatives on virtual currencies, which are

available to institutional clients. These differences in primary U.S. regulator and regulatory framework increase complexity for investment managers performing due diligence and selecting service providers for private funds and other clients.

FinCEN. Many of these service providers are also subject to federal regulation under anti-money laundering (“**AML**”) and know-your-customer (“**KYC**”) laws and regulations. Specifically, virtual currency exchanges and certain other intermediaries operating as an ‘exchanger’ or ‘administrator’ of convertible virtual currencies operating in the U.S. generally qualify as ‘money transmitters’ and ‘financial institutions’ under the Bank Secrecy Act.⁴⁷ A money transmitter must register with U.S. Treasury Department’s Financial Crimes Enforcement Network (“**FinCEN**”) and comply with AML laws and regulations as a money services business, which entails, among other things, AML program, suspicious activity reporting, and recordkeeping requirements.⁴⁸ There is debate about the application of these AML/KYC requirements for intermediaries in other types of virtual tokens and coins.⁴⁹

In 2013, FinCEN issued guidance distinguishing among the roles of ‘users,’ ‘exchangers’ and ‘administrators.’⁵⁰ FinCEN subsequently issued interpretive letters addressing Bitcoin mining operations and other Bitcoin investment activities. Another FinCEN administrative ruling indicates that investment in Bitcoin or other convertible virtual currency by a company for its own account (such as a fund trading Bitcoin) would *not* be regarded as money transmission (since it would then be acting as a user of that virtual currency) unless accompanied by additional investment-related or brokerage services in connection with such investment.⁵¹

FinCEN recently demonstrated its willingness to take action against virtual currency exchanges doing business in the U.S., regardless whether they operate online or are located outside of the U.S. On July 27, 2017, FinCEN announced civil fine of over \$110 million against BTC-e, a non-U.S. money services business, for willfully violating U.S. anti-money laundering laws. FinCEN worked in conjunction with federal prosecutors in California and a host of U.S. federal agencies in a criminal investigation,⁵² which resulted in, among other things, the arrest of one of BTC-e’s operators while in Greece and the seizure of the BTC-e domain. In announcing the fine, FinCEN indicated that BTC-e was one of the largest virtual currency exchanges in the world and exchanges both traditional government currency and virtual currencies such as Bitcoin and Ether. FinCEN stated that BTC-e had facilitated ransomware and dark net drug sales, as well as over 300,000 Bitcoin transactions traceable to the Mt. Gox theft. BTC-e had customers in the U.S. both sending and receiving funds. FinCEN noted that BTC-e had advised customers to use correspondent accounts held by foreign financial institutions and other services outside the U.S. to conceal the customer’s location in the U.S. FinCEN stated: “Regardless of its ownership or location, the company was required to comply with U.S. AML laws and regulations as a foreign-located money services business including AML program, MSB registration, suspicious activity reporting, and recordkeeping requirements.”⁵³

State licensing of money services businesses. As noted above, a number of virtual currency intermediaries are regulated as ‘money transmitters,’ which requires them to obtain licenses in the states in which they operate, or to become otherwise regulated under state banking law. Under this state-by-state approach, service providers must determine the requirements of each state, how they apply to their business, obtain licenses where required and then not accept customers located in states where a license is required but has not been granted. For example, GDAX (Coinbase’s exchange for professional traders to trade digital assets) lists money transmitter licenses in 38 states on its website, offering its USD wallet only in states where it is licensed to engage in money transmission, where it has determined that no such license is currently required, or where licenses are not yet being issued for its business. Wyoming, Hawaii, and Minnesota are currently excluded from its services.⁵⁴ In New York, GDAX has applied for the BitLicense, a special license from the New York Department of Financial Services (“**NYDFS**”) for digital currency companies operating and transacting in New York. The BitLicense requires GDAX to comply with consumer protection, AML, cybersecurity and other rules.

Other states have adopted or are considering similar virtual currency-specific licensing requirements. Some have pointed out definitional uncertainties under New York's BitLicense and confusion arising from troublesome differences among state money transmitter laws, some of which purport to regulate even non-custodial developers of open source blockchain networks.⁵⁵ This led to approval by the Uniform Law Commission ("**ULC**") on July 14, 2017 of a Uniform Regulation of Virtual Currency Act to promote uniformity in state law regulation of virtual currency businesses. The uniform law would determine whether a product is a 'virtual currency,' whether the relevant service is a 'virtual currency business activity' and, if so, whether exemptions from registration are available. If a business is required to register under the uniform law, it must obtain licenses from each state adopting the uniform law with whose residents the business conducts virtual currency business activity. The uniform law also outlines a framework of remedies for non-compliance or engaging in unsafe, deceptive, fraudulent acts or misappropriation of customer property. The uniform state law does not currently mandate application of Article 8 of the Uniform Commercial Code⁵⁶ or provide uniform *de minimis* exceptions referred to as 'on-ramp' thresholds.⁵⁷

Not all state banking regulators concluded they have broad jurisdiction over virtual currency businesses. For instance, the Texas Department of Banking took the position in 2014 that, absent legislative change, decentralized virtual currencies are not 'money' or 'monetary value' under the Texas Money Services Act. As a result, whether a money services license is required for a virtual currency exchange in Texas depends on whether and how sovereign currency is used, and the type of involvement of the third party.⁵⁸

Office of the Comptroller of the Currency. The Office of the Comptroller, an independent bureau of U.S. Department of the Treasury ("**OCC**"), is considering offering special purpose national bank charters to virtual currency businesses and other FinTech companies to provide a framework for uniform standards and supervision.⁵⁹ It has also issued a draft licensing manual for such applicants. The proposal, which has not yet resulted in any rulemaking, has met with strong opposition and a legal challenge from state bank regulators who argue that states possess the jurisdiction over lenders that are not banks.⁶⁰

Other jurisdictions. If these intermediaries are located outside the U.S., it is necessary to ensure that such businesses have also complied with the money transmitter or equivalent laws and regulations of their local jurisdiction.

What is the U.S. federal income tax treatment of virtual currencies? The Internal Revenue Service ("**IRS**") released guidance in 2014 noting that Bitcoin and other virtual currencies should be treated as property for U.S. federal income tax purposes, and transactions involving the exchange of Bitcoin in return for goods and services should be treated as barter.⁶¹ Such guidance generally preserves beneficial capital gains treatment for Bitcoin transactions, as long as the virtual currency is a capital asset in the hands of the taxpayer. New York has published its own guidance that adopts the guidance issued by the IRS.⁶² The treatment of virtual currencies as property results in taxation on the use of virtual currency and triggers significant recordkeeping obligations because, for most taxpayers, every sale of such property requires calculation and recognition of a gain or loss.

As a practical matter, the number of tax filings actually reporting gains or losses from virtual currencies is thought to be minimal. Reports indicate that there is also widespread confusion about the availability of Section 1031 like-kind exchanges where one virtual currency is exchanged for another (for example, Bitcoin for Ethereum), as well as tax reporting requirements applying to like-kind exchanges.⁶³

The IRS is actively taking steps to increase tax reporting compliance for virtual currency transactions. For example, the scope of a John Doe summons issued by the IRS to Coinbase, Inc., one of the largest U.S. Bitcoin exchanges, to obtain customer information was narrowed in July 2017 to, among other things, customers with at least \$20,000 in certain virtual currency transactions over 12 months within a specified

period.⁶⁴ Coinbase again objected on July 27, 2017 to the continued breadth of the summons and the matter is ongoing.⁶⁵

The IRS treatment of Bitcoin as property – as an asset of value – is in sharp contrast to the way that foreign currency transactions are treated by the IRS, and also to the tax treatment of Bitcoin in the EU and some other jurisdictions. The European Court of Justice has declared that Bitcoin transactions “are exempt from VAT under the provision concerning transactions relating to currency, bank notes and coins used as legal tender.”⁶⁶

U.S. investment managers must bear in mind that selection of a custodian in a non-U.S. location would require the investment manager to consider whether virtual currencies in foreign financial accounts are subject to FBAR (Report of Foreign Bank and Financial Accounts) reporting to FinCEN. In general, a U.S. person with a financial interest in or signature authority over foreign financial accounts is required to file an FBAR if the aggregate value of the foreign financial accounts exceeds \$10,000 at any time during the calendar year. IRS staff stated in 2014 that, for the 2014 reporting year, Bitcoin holdings did not need to be reported. However, the IRS has not issued guidance on this point for reporting years after 2014.

How are virtual currencies and other digital assets regulated in the U.S.?

CFTC. Investment managers considering indirect means of exposure to virtual currencies or other digital assets must be cognizant that the Commodity Futures Trading Commission (“*CFTC*”) has asserted its jurisdiction over derivatives and certain other transactions in virtual currencies, as well its related right to police for fraud and manipulation in underlying spot and forward markets.

Three enforcement actions illustrate the CFTC’s approach. The first enforcement action against Coinflip, Inc. involved Derivabit, then a U.S.-based trading platform for Bitcoin options and futures. The CFTC asserted that virtual currencies such as Bitcoin are commodities and, therefore, options on Bitcoin are commodity interests subject to CFTC jurisdiction.⁶⁷ One week later, a second enforcement action involved Teraexchange, which had applied for registration with the CFTC as a swap execution facility.⁶⁸ The CFTC noted that swaps on Bitcoin are commodity interests subject to CFTC jurisdiction and enforced its rules against wash trading and pre-arranged trading. The third enforcement action by the CFTC involved Bitfinex, a significant Bitcoin exchange in Hong Kong. The CFTC asserted that certain off-exchange Bitcoin spot and forward transactions were “retail commodity transactions” subject to CFTC jurisdiction because they (1) involved a commodity, (2) were leveraged, margined or financed, (3) at least one party to each trade was not an eligible contract participant and (4) the Bitcoin was not actually delivered within 28 days.⁶⁹

In doing so, the CFTC relied upon recent changes made to the Commodity Exchange Act by the Dodd-Frank Act, which have already permitted the CFTC to be successful in asserting jurisdiction over retail off-exchange transactions in precious metals. As a result, a number of lessons can be learned from the way the CFTC has already dealt with regulation of precious metals.

The concept of “actual delivery” versus constructive delivery is a critical distinction between a spot/forward (which are generally outside the CFTC’s jurisdiction except for fraud and price manipulation) and a retail commodity transaction (which is generally within the CFTC’s jurisdiction). In the Bitfinex enforcement action, the CFTC tackled this issue squarely even though with a Bitcoin transaction there is unlikely to be anything physical to deliver. It concluded that actual delivery could only occur if the Bitcoin wallet was transferred to the buyer or the buyer’s agent and the buyer maintained possession of the private keys. This has implications for how Bitcoin spot/forward transactions are structured. However, it must also be understood that no one factor determines “actual delivery” because the CFTC applies a “whole picture” approach to determine actual delivery.

Essentially, the CFTC can be expected to bring enforcement actions to police for fraud and manipulation in spot and forward markets in Bitcoin and other virtual currencies. The CFTC was very active in

doing this in high profile LIBOR manipulation cases, resulting in several billions of dollars in fines paid by large institutions. For example, once a Bitcoin transaction has an element of optionality (e.g., an embedded right to cancel) or is leveraged, margined or financed (assuming one party is not an Eligible Contract Participant and actual delivery will not occur within 28 days), the CFTC has demonstrated it is more than willing to exercise its jurisdiction. As the SEC noted “Although the CFTC can bring enforcement actions against manipulative conduct in spot markets for a commodity, spot markets are not required to register with the CFTC, unless they offer leveraged, margined, or financed trading to retail customers. In all other cases, including the relevant Bitcoin exchange, the CFTC does not set standards for, approve the rules of, examine, or otherwise regulate Bitcoin spot markets.”⁷⁰

In summary, the CFTC squarely has jurisdiction over markets trading “commodity interests.” Among other things, these include: futures and options on futures; swaps (which include options on commodities, as well as options on swaps); retail commodity transactions (i.e., leveraged, margined or financed transactions in commodities in which at least one party is not an ECP); and retail foreign exchange transactions (i.e., leveraged, margined or financed transactions in foreign exchange currency in which at least one party is not an ECP). In fact, off-exchange transactions in precious metals and foreign exchange currency are illegal in the U.S. if one party is not an ECP unless conducted with an entity regulated by the CFTC or, in the case of foreign exchange currency, a U.S. bank.

Anyone seeking to trade or make a market in spot Bitcoin or Bitcoin forwards must be sensitive to the fact that a proposed transaction could fall outside being a spot/forward and instead fall within the purview of the CFTC as a commodity interest -- for example, as a retail commodity transaction (such as a leveraged Bitcoin transaction), a swap (such as an option on Bitcoin) or a futures contract.

SEC. The Securities and Exchange Commission (“**SEC**”) issued a stark warning on July 25, 2017 that illustrates the significant regulatory risks of investment in ‘internet token offerings’ or ICOs, as well as resales of tokens and coins issued in ICOs. The SEC’s press release that day bore the unambiguous title ‘*U.S. Securities Laws May Apply to Offers, Sales, and Trading of Interests in Virtual Organizations*.’⁷¹ The press release cautions “market participants that offers and sales of digital assets by ‘virtual’ organizations are subject to the requirements of the federal securities.” The SEC’s warning was accompanied by an 18-page investigation report which, after performing a detailed analysis of DAO tokens under *SEC v. W.J. Howey Co.*, concluded that DAO tokens are securities. Depending on the facts and circumstances, offers and sales of digital tokens may be subject to U.S. federal securities laws regardless whether (1) the offering purports to be for a virtual organization, (2) payment for a token or coin is made in virtual currency, U.S. Dollars or another government currency or (3) the terminology or technology used. The SEC has already taken a number of actions to follow up on its warning. For example, the SEC has issued trading suspensions for several stocks making claims about ICO investments or tokens or coins.⁷²

Investment managers evaluating an investment in a token will need to make their own assessment under *Howey*, based on the facts and circumstances and the economic realities of the transaction, “whether a token is likely to be deemed to be a security under U.S. securities law. The issuer of a securities token, as well as token exchanges and other intermediaries, are subject to a number of additional regulatory obligations and compliance costs with respect to a securities token. For instance, the investment manager would need to be comfortable that the issuer has taken the appropriate steps. First, the company or virtual organization issuing the token must ensure compliance with U.S. securities laws in the offering and sales of such token or face the potential for rescission, as well as significant penalties and other consequences. The investor base for the securities token launch would be limited to accredited investors, absent registration under the U.S. Securities Act. Second, intermediaries for the securities token would generally be limited to registered broker-dealers. Third, secondary trading of the securities token would be subject to limitations on resales. In addition, the investment manager would need to ensure it has the appropriate investment adviser registration or exemption in place, as well as compliance procedures addressing custody (which is discussed below), best execution, short sale restrictions, resale restrictions, proxy voting, insider trading and other matters. As a practical matter, it may be challenging to apply some of these procedures in the context of securities tokens

and coins. Furthermore, the investment manager must factor in the additional risks that attach to holding a token with an uncertain regulatory status or one later found to be a security.

Finally, under Advisers Act Rule 206(4)-2, an investment adviser registered with the SEC is required to maintain client “funds and securities” with a “qualified custodian.” To the extent that virtual currencies and other tokens or coins are treated as either “funds” or “securities” for purposes of the Advisers Act, those digital assets over which the adviser has custody must be maintained in a segregated account in the name of the client with an institution satisfying the Advisers Act’s definition of ‘qualified custodian.’ However, only a limited number of digital asset custodians may meet this definition at the current time. Such a custodial service may come at a premium price. As a result, the selection of a custodian is extremely sensitive and must be handled with care in light of an SEC-registered investment adviser’s regulatory obligations under the Advisers Act. State-registered investment advisers and certain exempt reporting advisers are generally subject to similar custody requirements so must exercise similar care in selecting custodians for virtual currencies and other digital assets.

Given the nascent state of regulation of digital assets and their differing uses and characteristics, as well as the regulatory uncertainties surrounding ICOs, investment advisers must exercise great caution and be cognizant of these issues while planning for client investment in virtual currencies or other digital assets, which we discuss in Section 4.

General consumer protection laws and common law fraud. Investment managers must be cognizant that general consumer protection laws and general anti-fraud principles under both federal and state law may apply under certain circumstances, particularly where tokens or coins are found not to be security under U.S. securities laws.

Other laws that may apply. There is a wide variety of functionality and uses cases for digital assets which, in the U.S., can implicate different U.S. federal and state regulations. In other words, the blockchain and digital assets have potential applications in many industries, sectors and other areas. As a result, the laws applying to particular digital assets will depend in large part on their design, the rights they represent, the function(s) they perform and their intended use cases. For example, if a token is used for gambling, then U.S. federal and state gambling laws need to be considered. It can also require significant effort to determine the jurisdiction(s) that apply to a digital asset transaction. The parties may be located in multiple jurisdictions and a number of intermediaries may be involved. Digital asset transactions tend to implicate not only U.S. federal and state law considerations but also non-U.S. laws. For instance, following the lead of the SEC in the U.S., regulators in non-U.S. jurisdictions such as Canada and Singapore have also issued warnings concerning ICOs which do not comply with local law; and other jurisdictions are considering taking action to limit ICOs.⁷³

SECTION 4

What steps should an investment manager consider taking before a private investment fund or other client acquires exposure to virtual currencies or other digital assets?

Overview. An investment manager should exercise great caution before acquiring exposure to virtual currencies and other digital assets for a private investment fund or another client. Assuming an investment manager has the expertise necessary to trade virtual currencies and other digital assets, it will need to conduct significant due diligence and consider a number of other important legal and compliance steps before proceeding. Among other things, an investment manager will need to review the documentation for an existing fund or account to determine the scope of permissible investments given the current disclosures, as well as assess other policies or procedures which may need to be changed. The investment manager must also conduct significant business, technical and legal due diligence on the third parties entrusted to hold or provide access to critical private keys. It must also understand how a particular digital asset is regulated, whether the exchange and custodian have the appropriate registrations in the relevant jurisdictions and what implications these factors may have for the investment manager's own registrations and exemptions, as well as compliance obligations and operational procedures. Further, the investment manager should provide investors in a private investment fund and other clients with additional counseling and disclosures with respect to the significant risks facing these technologies.

Great caution should be exercised in preparing to advise clients on investment in virtual currencies and other digital assets. An investment manager will need to assess whether the virtual currencies and other digital assets it wishes to trade (both now and in the future) are within the investment mandate and risk profile of an existing investment fund or another client. The investment manager will also need to consider whether its exposure to the asset class will be obtained directly or indirectly, through equity vehicles or derivatives such as forwards, futures, options and swaps. An existing fund or account might have investment restrictions which require or suggest a maximum allocation or other limit be placed on such positions. Other changes to fund or account documents may also be required. For instance, the current valuation policy of a private fund might not address these types of assets adequately. In addition, operational and compliance policies (such as those addressing valuation, custody and information security) may need to be revisited.

Furthermore, an investment manager will need to assess how the virtual currencies or other digital assets it wishes to trade will impact the registrations or exemptions currently held by the investment manager or the client. For instance, if an investment manager currently relies on the limited trading exemption from registration as a commodity pool operator under CFTC Rule 4.13(a)(3), an investment in certain options on Bitcoin will be 'commodity interests' required to be counted towards the thresholds under that rule, while spot and certain forwards on Bitcoin that are not 'commodity interests' will not be counted. As a result of these considerations, in certain instances, it might be appropriate for an investment manager to an existing private fund to offer investors a special right of redemption before proceeding with investments in virtual currencies and other digital assets. These issues need to be considered carefully on a case-by-case basis in consultation with counsel.

Significant due diligence should be undertaken to select digital assets, exchanges and custodians. Because most virtual currencies and other digital assets are relatively novel, tend to be volatile and are subject to unique investment, regulatory, technological and heightened cybersecurity risks, investment managers should undertake significant due diligence before trading them. Among other things, investment managers will need to assess carefully not only which virtual currencies and digital assets they intend to trade for clients but also the exchanges, trading platforms, custodians and other service providers that facilitate such trading. These third parties play a critical role because, while it is possible to acquire the software to trade virtual currencies directly, most rely on third parties to hold or facilitate the holding of the private keys, the possession and safekeeping of which are so vital to most current blockchain technology.

Due diligence can be time-consuming because service providers tend to vary widely in both their service offerings and the technology they employ. For example, some services custody digital assets in hosted ‘hot’ wallets and offline ‘cold’ storage, while others take non-custodial approaches to facilitate transactions and storage of private keys. Because there is currently an absence of recognized technical and security standards, investment managers need to rely heavily on their own technical due diligence assessments and industry reputation. For instance, some exchanges and custodians are willing to provide a certain level of detail about their technical and physical security safeguards such as multi-factor authentication, multi-signature procedures and, with respect to cold storage, the use of geographically dispersed locations with built-in time delays associated with retrieving private keys from cold storage.

In addition, the insurance coverage offered, if any, varies widely among service providers. Further, the operations of service providers, such as how exchanges match orders, clear and settle trades, whether they provide more than temporary custody, and whether they transfer customer funds in U.S. dollars or other government currencies to bank accounts at FDIC-insured banks, differ dramatically. Finally, these service providers also vary widely both in terms of where they are located and how they are regulated. For example, Zug, Switzerland has acquired the name “Crypto Valley,” having emerged as a hub for blockchain development in part due to a favorable regulatory environment. Many exchanges or custodians located outside the U.S. either do not serve U.S. customers or serve them from a different subsidiary.

Even among U.S.-based operators, trading platforms and custodians, there are significant differences between the current licensing and registrations actually obtained by these digital asset exchanges and other intermediaries. By way of example, at least one virtual currency exchange is regulated as a New York State-chartered limited purpose trust company under New York banking law (which might have important implications for SEC-registered investment advisers and certain other investment advisers under the custody rule, as noted below). Others are regulated on a state-by-state basis under state money transmitter laws. Another trading platform making a market in virtual currencies is a broker-dealer registered with the SEC. Another exchange offering options and other derivatives on virtual currencies to institutional clients is regulated by the CFTC (see *Section 3 for a brief discussion of LedgerX*). Moreover, recent SEC guidance concerning the regulation of certain tokens and coins as securities is also likely to lead to other exchanges and other intermediaries seeking the appropriate registrations under U.S. securities laws or, instead, significantly altering the tokens or coins available for trading or ceasing U.S. operations entirely.

Investment managers must also consider how the selection of digital assets and custodians will impact filing and reporting obligations and taxation with respect to funds and accounts. For instance, selection of a custodian in a non-U.S. location would require the investment manager to consider whether virtual currencies in foreign financial accounts are subject to FBAR reporting. In addition, holdings of digital assets also need to be taken into account in certain periodic filings (such as the SEC Form PF and the CFTC/NFA Form PQR, particularly for NFA’s schedule of investments).

The investment manager will also need to ensure that other service providers, such as the auditing firm, administrator and legal counsel are also sufficiently well-versed and prepared to address accounting, valuation, operational, legal and compliance issues relating to virtual currencies and digital assets.

Undertaking enhanced due diligence obviously cannot prevent the risk of loss arising from cybersecurity and other incidents or eliminate regulatory risk associated with virtual currencies and digital assets. However, keeping a record of the due diligence undertaken with respect to exchanges, custodians and other intermediaries may have significant value in the event the investment manager is ever called upon later to demonstrate – whether in a regulatory examination or litigation – that it took active steps to diligently supervise its agents, reasonably designed its compliance procedures and fulfilled its duty of care under fund or account documents.

In selecting custodians for virtual currencies and other digital assets, registered investment advisers must consider their obligations under the custody rule of the Advisers Act. Similar requirements apply to certain other advisers. An investment adviser registered with the SEC is required to

maintain client 'funds and securities' with a 'qualified custodian.'^a To the extent that virtual currencies and other tokens or coins are treated as either 'funds' or 'securities' for purposes of the Advisers Act, those digital assets over which the adviser has custody must be maintained in a segregated account in the name of the client with an institution which satisfies the Advisers Act's definition of 'qualified custodian.' However, only a limited number of digital asset custodians may meet this definition at the current time. Such a custodial service may come at a premium price, at least for a while. As a result, the selection of a custodian is extremely sensitive and must be handled with care in light of an investment adviser's regulatory obligations under the Advisers Act. Many state-registered investment advisers (including those registered with the Texas State Securities Board) and certain exempt reporting advisers are subject to the same custody requirements (or a subset of them) and they should exercise similar care in selecting custodians for virtual currencies and other digital assets.

In summary, investment managers need to conduct significant technology, operational, risk and legal due diligence on the third parties entrusted to hold or provide access to critical private keys. They must also understand how a particular digital asset is regulated, whether the exchange or custodian has the appropriate registrations in the relevant jurisdictions and what implications these factors may have for the investment manager's own registrations and exemptions, as well as compliance obligations and operational policies.

Investment managers should be prepared to provide clients with additional counseling and disclosures with respect to the significant risks facing these technologies. If a private investment fund or another client will invest in virtual currencies or other digital assets for the first time, an investment manager should provide additional counseling and disclosures to clients and fund investors with respect to the significant risks facing these technologies. Advisers should be prepared to discuss the technical applications of these new technologies and the associated risks. Among other things, specific disclosures should be made to address regulatory risks, technology and cybersecurity risks, as well as investment risks such as liquidity, volatility and valuation difficulties.

Regulatory risks arise from the general characteristics of virtual currencies and other digital assets. For example, digital assets are subject to regulatory risks simply because of their novelty, the speed of innovation, multiple functionalities and use cases, not to mention the multiple jurisdictions which may be at play. These factors increase regulatory uncertainty and make it difficult to predict and summarize regulatory risk. However, there are at least certain known regulatory risks (as well as so-called "known unknowns") for an investment manager to disclose. Intermediaries such as exchanges and custodians for virtual currencies and other digital assets face regulatory and other risks to be disclosed because they might impact the holdings of the fund or other client.

If one type of digital asset is to become an investment focus, the regulatory risks that apply to those digital assets should be addressed, at least in general terms and to the extent they are known. A U.S. fund manager intending to make an allocation to securities tokens or utility tokens would need to prepare disclosures addressing the SEC's recent warning about ICOs, as well as the potential for future enforcement actions or private litigation involving ICOs. As noted above, great caution must be exercised with respect to token launches given current market practice and regulatory uncertainties both in the U.S. and abroad. Token launches might also not be available to a fund or account if U.S. persons are restricted from directly participating in them; such offerings and trading might take place outside the U.S. and only be available to non-U.S. persons (or the residents of only certain states). Investment in tokens characterized as a security under U.S. securities law could significantly impact the legal and compliance obligations of the fund or account and the investment manager (giving rise to a host of potential issues such as custody, best execution, short sale restrictions, resale restrictions, proxy voting, and insider trading). They could also increase the regulatory risks to those involved in offering, secondary trading and custody of such securities tokens, which in turn could impact the market for such tokens and result in losses for the fund or other client.

Aside from regulatory risks, investment managers should consider appropriate disclosures about the technology and other factors creating heightened cybersecurity risks for digital assets. As just one common example, a technological risk associated with a decentralized peer-to-peer blockchain network such as Bitcoin is that the blockchain could be manipulated by a malicious actor obtaining control in excess of 50% of the active processing power on the network. Cybersecurity risks also arise from the fact that the possessor of the private keys to the public address associated with a digital asset transaction or account generally has complete control over holdings of and transactions in virtual currency and other digital assets. If the private keys are lost or stolen, there is generally no way to obtain the virtual currency.

In addition to investment risks, regulatory risks, technology risks and cybersecurity risks, investment managers should consider the appropriate disclosure to investors in private funds or other clients of contractual arrangements with digital asset exchanges, custodians and other service providers, such as insurance and limitations on liability. Finally, the risks to be disclosed must also take into account whether the investment manager intends to obtain exposure to virtual currencies and other digital assets directly or indirectly, through equity vehicles or derivatives such as forwards, futures, options and swaps.

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Certain information presented in this news alert is derived from third-party sources, including regulatory guidance, white papers and other published materials. Recent events and examples of products currently available are included to provide readers with context for the relevant U.S. regulatory developments and considerations. The marketplaces and regulatory requirements – both U.S. and non-U.S. – for virtual currencies and other digital assets are likely to evolve rapidly.

We encourage readers to refer to future news alerts and our [Web site](#).

References:

- ¹ Marc Andreessen, *Why Bitcoin Matters*, DEALBOOK, Jan. 21, 2014. Marc Andreessen is the Silicon Valley venture capitalist who help found the early web browsers Mosaic and Netscape.
- ² Press Release, Juniper Research Ltd., Nearly 6 in 10 large corporations considering blockchain deployment (July 31, 2017), <https://www.juniperresearch.com/press/press-releases/6-in-10-large-corporations-considering-blockchain>. Ryan Browne, *Blockchain technology being considered by more than half of big corporations, according to study*, CNBC (July 31, 2017, 6:56 AM), <https://www.cnbc.com/2017/07/31/blockchain-technology-considered-by-57-percent-of-big-corporations-study.html>.
- ³ BNY MELLON, INNOVATION IN PAYMENTS: THE FUTURE IS FINTECH (2015), <https://www.bnymellon.com/global-assets/pdf/our-thinking/innovation-in-payments-the-future-is-fintech.pdf>.
- ⁴ The approved changes to Delaware law are shown in Senate Bill No. 69 (2017), <http://legis.delaware.gov/json/BillDetail/GenerateHtmlDocument?legislationId=25730&legislationTypeId=1&docTypeId=2&legislationName=SB69>.
- ⁵ SEC. & EXCHANGE COMM'N, INVESTOR BULLETIN: INITIAL COIN OFFERINGS (July 25, 2017), https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_coinofferings.
- ⁶ Peter Van Valkenburgh, *What is "Blockchain" anyway?*, COIN CENTER BLOG (Apr. 25, 2017), <https://coincenter.org/entry/what-is-blockchain-anyway>. Put another way, Blockchain or DLT is defined as a "peer-to-peer network that maintains a public, or private, ledger of transactions that utilizes cryptographic tools to maintain the integrity of transactions and some method of protocol-wide consensus to maintain the integrity of the ledger itself." Josias N. Dewey & Michael D. Emerson, *Beyond Bitcoin: how distributed ledger technology has evolved to overcome impediments under the Uniform Commercial Code*, 47 UCC L.J. 105, 107 (July 2017). For an excellent, plain-English summary of the entire process of a Bitcoin transaction, see Stephen McJohn & Ian McJohn, *The commercial law of Bitcoin and blockchain transactions*, 47 UCC L.J. 187 (July 2017).
- ⁷ David Mills et al., *Distributed ledger technology in payments, clearing, and settlement* (Fed. Reserve Bd. Fin. & Econ. Discussion Series 2016-095), <https://doi.org/10.17016/FEDS.2016.095>.
- ⁸ Lloyd's of London.
- ⁹ Notice of Filing of Amendment No. 1 to a Proposed Rule Change Relating to the Listing and Trading of Shares of SolidX Bitcoin Trust under NYSE Arca Equities Rule 8.201, Exchange Act Release No. 34-80099, 82 Fed. Reg. 11674 (Feb. 24, 2017), <https://www.sec.gov/rules/sro/nysearca/2017/34-80099.pdf>.
- ¹⁰ SEC. & EXCHANGE COMM'N, *supra* note 5.
- ¹¹ Nathaniel Popper, *Move Over Bitcoin. Ether is the virtual currency of the moment*, N.Y. TIMES, June 29, 2017, <https://www.nytimes.com/2017/06/19/business/dealbook/ethereum-bitcoin-digital-currency.html>.
- ¹² CoinMarketCap, *Cryptocurrency market capitalizations*, <https://coinmarketcap.com> (last visited Aug. 15, 2017).
- ¹³ Alexandria Arnold, *Some central banks are exploring the use of cryptocurrencies*, BLOOMBERG, June 28, 2017, <https://www.bloomberg.com/news/articles/2017-06-28/rise-of-digital-coins-has-central-banks-considering-e-versions>.
- ¹⁴ SATOSHI NAKAMOTO, BITCOIN: A PEER-TO-PEER ELECTRONIC CASH SYSTEM (2008), <https://Bitcoin.org/Bitcoin.pdf>.
- ¹⁵ The paper proposed to create "a network which timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work." *Id.* at 1.
- ¹⁶ P.H. Madore, *Satoshi Nakamoto not eligible for Nobel Prize*, CRYPTOCOINS NEWS (Nov. 17, 2015), <https://www.cryptocoinsnews.com/satoshi-nakamoto-not-eligible-nobel-prize/>.
- ¹⁷ Justina Lee & Camila Russo, *Bitcoin Soars to Record as Buyers Look Beyond Miners' Split*, BLOOMBERG TECH. (Aug. 7, 2017, 12:29 AM), <https://www.bloomberg.com/news/articles/2017-08-07/Bitcoin-soars-to-record-as-buyers-look-beyond-miners-split>.
- ¹⁸ Coin Dance Bitcoin Statistics, *Historical Bitcoin Prices in USD*, <https://coin.dance/stats> (last visited Aug. 15, 2017).
- ¹⁹ Jamie Condliff, *Bitcoin has avoided tearing itself apart (for now)*, MIT TECH. REV. (July 24, 2017), <https://www.technologyreview.com/s/608332/Bitcoin-has-avoided-tearing-itself-apart-for-now/>.
- ²⁰ Dewey & Emerson, *supra* note 6.
- ²¹ FINTECH NETWORK, SMART CONTRACTS – FROM ETHEREUM TO POTENTIAL BANKING USE CASES (Apr. 2017), http://blockchainapac.fintecnet.com/uploads/2/4/3/8/24384857/smart_contracts.pdf.
- ²² Gideon Greenspan, *Why many smart contract use cases are simply impossible*, COINDESK (Apr. 17, 2016, 1:00 PM), <https://www.coindesk.com/three-smart-contract-misconceptions/>.
- ²³ Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, Release No. 81207 (July 25, 2017), <https://www.sec.gov/litigation/investreport/34-81207.pdf>.
- ²⁴ Vitalik Buterin.

²⁵ Press Release, Enterprise Ethereum Alliance, Enterprise Ethereum Alliance becomes world's largest open-source Blockchain initiative (June 23, 2017), <https://entethalliance.org/enterprise-ethereum-alliance-becomes-worlds-largest-open-source-blockchain-initiative/>.

²⁶ CoinMarketCap, *supra* note 12 (last visited Aug. 15, 2017).

²⁷ Another example is the industry consortium R3 CEV LLC, which is working on a DLT called Corda for more than 70 global financial institutions from clearing houses to asset managers and central banks. A further example is Hyperledger, which has more than 130 members such as American Express, CME Group and Accenture.

²⁸ Certain well-known investors in Ripple are listed at Ripple, *Our Company*, <https://ripple.com/company/>.

²⁹ Smith + Crown's list of ICOs is available at Smith + Crown, *ICOs, Token Sales, Crowdsales*, <https://www.smithandcrown.com/icos/>. Coindesk's ICO tracker is available at <https://www.coindesk.com/ico-tracker/>. Token data is also available at Token Date, *ICO Calendar*, <https://www.tokendata.io/upcoming>.

³⁰ Similarly, Forbes reported on July 12, 2017 that there have been 43 projects raising \$1.2 billion in ICOs since May 1, 2017. Laura Shin, *Crypto Boom: 15 New Hedge Funds Want In On 84,000% Returns*, FORBES, July 12, 2017, <https://www.forbes.com/sites/laurashin/2017/07/12/crypto-boom-15-new-hedge-funds-want-in-on-84000-returns/#3db1f330416a>.

³¹ ENCRYPTGEN, <https://www.encryptgen.com/>.

³² BASIC ATTENTION TOKEN, <https://basicattentiontoken.org/>.

³³ FINANCIAL ACTION TASK FORCE, FATF REPORT, VIRTUAL CURRENCIES, KEY DEFINITIONS AND POTENTIAL AML/CFT RISKS (June 2014), <http://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf>.

³⁴ Douglas King, *Banking Bitcoin-related businesses: a primer for managing BSA/AML risks* (Retail Payments Risk Forum Working Paper, Fed. Reserve Bank of Atlanta, Oct. 2015, revised Feb. 2016), https://www.frbatlanta.org/-/media/documents/rprf/rprf_pubs/2016/banking-Bitcoin-related-businesses.pdf.

³⁵ Lloyd's, *Bitcoin: Risk factors for insurance* (Emerging Risk Report – 2015, June 12, 2015), <https://www.lloyds.com/~media/files/news-and-insight/risk-insight/2015/bitcoin-final.pdf>.

³⁶ King, *supra* note 34, at n.1.

³⁷ *Id.*

³⁸ Notice of Filing of Amendment No. 1 to a Proposed Rule Change Relating to the Listing and Trading of Shares of SolidX Bitcoin Trust under NYSE Arca Equities Rule 8.201, Exchange Act Release No. 34-80099, *supra* note 9.

³⁹ *Id.*

⁴⁰ Nathaniel Popper, *Despite SEC warning, wave of Initial Coin Offerings Grows*, N.Y. TIMES, Aug. 7, 2017, <https://www.nytimes.com/2017/08/07/business/dealbook/initial-coin-offerings-sec-virtual-currency.html>.

⁴¹ PROTOCOL LABS, INC., CONFIDENTIAL PRIVATE PLACEMENT OFFERING MEMORANDUM, PURCHASE RIGHTS FOR TOKENS PURSUANT TO SIMPLE AGREEMENT FOR FUTURE TOKENS, <https://coinlist.co/static/media/Protocol%20Labs%20-%20SAFT%20-%20Private%20Placement%20Memorandum.15a80058.pdf>.

⁴² Wolfie Zhao, *Bitfinex to bar US customers from exchange trading*, COINDESK (Aug. 11, 2017, 11:20 PM), <https://www.coindesk.com/bitfinex-suspends-sale-select-ico-tokens-citing-sec-concerns/>.

⁴³ Memorandum from the Office of the Chairman regarding a July 7, 2017, meeting with representatives of Grayscale Investments, LLC and the New York Stock Exchange (July 7, 2017), <https://www.sec.gov/comments/sr-nysearca-2017-06/nysearca201706-1839743-154945.pdf>.

⁴⁴ Bitcoin Investment Trust, Registration Statement (Form S-1) (Jan. 20, 2017), <https://www.sec.gov/Archives/edgar/data/1588489/000119312517013693/d157414ds1.htm>.

⁴⁵ Among other things, an Eligible Contract Participant includes entities with more than \$10 million in assets and individuals with more than \$10 million invested on a discretionary basis, although there are a number of other categories.

⁴⁶ Jen Wiczner, *Cryptocurrency ICOs are making Bitcoin startups richer than VCs ever did*, FORTUNE (July 28, 2017), <http://fortune.com/2017/07/28/Bitcoin-cryptocurrency-ico/>.

⁴⁷ Fin. Crimes Enf't Network, *Application of FinCEN's regulations to persons administering, exchanging, or using virtual currencies*, FIN-2013-G001 (Mar. 18, 2013), <https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf>.

⁴⁸ Certain exchanges are exempt from FinCEN registration because of their regulatory status under state banking law as limited purpose trust companies, but still file compliance reports with FinCEN. See, e.g., Gemini, *Help Center, Is Gemini licensed and regulated?*, <https://gemini24.zendesk.com/hc/en-us/articles/204734485-Is-Gemini-licensed-and-regulated->.

⁴⁹ Peter Van Valkenburgh, *Securities laws aren't the only rules token sales have to consider*, COINDESK (May 20, 2017, 10:55 PM), <https://www.coindesk.com/securities-laws-arent-rules-token-sales-consider/>.

⁵⁰ “A *user* is a person that obtains virtual currency to purchase goods or services. An *exchanger* is a person engaged as a business in the exchange of virtual currency for real currency, funds, or other virtual currency. An *administrator* is a person engaged as a business in issuing (putting into circulation) a virtual currency, and who has the authority to redeem (to withdraw from circulation) such virtual currency.”

⁵¹ Fin. Crimes Enf't Network, *Application of FinCEN's regulations to virtual currency software development and certain investment activity*, FIN-2014-R002 (Jan. 30, 2014), <https://www.fincen.gov/sites/default/files/shared/FIN-2014-R002.pdf>. See also King, *supra* note 34, at n.1.

⁵² In taking regulatory action against BTE-e, FinCEN cooperated with the U.S. Attorney's Office for the Northern District of California, as well as criminal investigators at the FBI, the IRS, the U.S. Secret Service and the Department of Homeland Security. Press Release, Fin. Crimes Enf't Network, FinCEN fines BTC-e virtual currency exchange \$110 million for facilitating ransomware, dark net drug sales (July 27, 2017), <https://www.fincen.gov/news/news-releases/fincen-fines-btc-e-virtual-currency-exchange-110-million-facilitating-ransomware>.

⁵³ *Id.*

⁵⁴ Coinbase, *What countries & US states are supported for GDAX and the USD wallet?* (Nov. 22, 2016), <https://support.coinbase.com/customer/en/portal/articles/1826671-what-countries-us-states-are-supported-for-coinbase-exchange->.

⁵⁵ Peter Van Valkenburgh, *The Uniform Law Commission has given states a clear path to approach Bitcoin*, COINDESK (July 27, 2017, 12:30 PM), <https://www.coindesk.com/uniform-law-commission-given-states-clear-path-approach-Bitcoin/>.

⁵⁶ Article 8 of the UCC provides a framework for determining the rights of customers versus creditors of an intermediary holding the ‘financial asset’ of customers. In general, a customer who acquires a ‘security entitlement’ under Section 8-501 for value and without notice of the adverse claim can recover its property if the intermediary becomes insolvent. There is disagreement over whether Article 8 of the UCC should be applied to virtual currency transactions. On the one hand, it is uniform for all states, in contrast to common law such as bailment. On the other hand, there is concern that the application of Article 8 would hamper the development of virtual currencies in the U.S.

⁵⁷ There has been disagreement over the “on-ramp” exceptions. For example, some believe that *de minimis* dollar thresholds should vary by the type of service offered such as for custodians storing digital assets in cold storage for longer periods. Katherine Cooper, *Uniform regulation for virtual currency businesses: coming to a state near you*, COINDESK (July 2, 2017, 7:55 PM), <https://www.coindesk.com/uniform-regulation-virtual-currency-businesses-coming-state-near/>.

⁵⁸ Supervisory Memorandum from Charles G. Cooper, Tex. Banking Comm'r, to all Virtual Currency Companies operating or desiring to operate in Texas (Apr. 3, 2014), <http://www.dob.texas.gov/public/uploads/files/consumer-information/sm1037.pdf>.

⁵⁹ OFFICE OF THE COMPTROLLER OF THE CURRENCY, *EXPLORING SPECIAL PURPOSE NATIONAL BANK CHARTERS FOR FINTECH COMPANIES* (Dec. 2016), <https://www.occ.treas.gov/topics/responsible-innovation/comments/special-purpose-national-bank-charters-for-fintech.pdf>.

⁶⁰ Lalita Clozel, *State regulators sue OCC over Fintech charter*, AM. BANKER (Apr. 26, 2017, 10:00 AM), <https://www.americanbanker.com/news/state-regulators-sue-occ-over-fintech-charter>.

⁶¹ Press Release, Internal Revenue Serv., IRS virtual currency guidance: virtual currency is treated as property for U.S. federal tax purposes; general rules for property transactions apply, IR-2014-36 (Mar. 25, 2014), <https://www.irs.gov/uac/newsroom/irs-virtual-currency-guidance>.

⁶² N.Y. State Dep't of Taxation & Fin. Techn. Mem., *Tax Department Policy on Transactions Using Convertible Virtual Currency*, TSB-M-14(5)C, (7)l, (17)S (Dec. 5, 2014), https://www.tax.ny.gov/pdf/memos/multitax/m14_5c_7i_17s.pdf.

⁶³ Robert A. Green, *Cryptocurrency traders risk IRS trouble with like-kind exchanges*, FORBES (Aug. 15, 2017, 11:28 AM) <https://www.forbes.com/sites/greatspeculations/2017/08/15/cryptocurrency-traders-risk-irs-trouble-with-like-kind-exchanges/#137895a826a8>.

⁶⁴ United States' Notice of Narrowed Summons Requests for Enforcement, USA v. Coinbase, Inc., No. 3:17-cv-01431-JSC (N.D. Calif. filed July 6, 2017), <https://www.scribd.com/document/353433981/Narrowed-Summons>.

⁶⁵ Respondent's Opposition to Petition to Enforce Internal Revenue Service Summons, USA v. Coinbase, Inc., No. 3:17-cv-01431-JSC (N.D. Calif. filed July 27, 2017), <https://www.scribd.com/document/355174497/46-main>.

⁶⁶ Case C 264/14, Skatteverket v. Hedqvist, <http://curia.europa.eu/juris/document/document.jsf?docid=170305&doclang=EN>.

⁶⁷ *In re Coinflip, Inc., d/b/a Derivabit, and Francisco Riordan*, CFTC No. 15-29 (Sept. 17, 2015), <http://www.cftc.gov/idc/groups/public/@lrenforcementactions/documents/legalpleading/enfcoinfliporder09172015.pdf>.

⁶⁸ *In re* TeraExchange LLC, CFTC No. 15-33 (Sept. 24, 2015), <http://www.cftc.gov/idc/groups/public/@lrenforcementactions/documents/legalpleading/enfteraexchangeorder92415.pdf>.

⁶⁹ *In re* BFXNA Inc., d/b/a Bitfinex, CFTC No. 16-19 (June 2, 2016), <http://www.cftc.gov/idc/groups/public/@lrenforcementactions/documents/legalpleading/enfbfxnaorder060216.pdf>.

⁷⁰ Order Disapproving a Proposed Rule Change, as Modified by Amendments No. 1 and 2, to BZX Rule 14.11(e)(4), Commodity -Based Trust Shares, to List and Trade Shares Issued by the Winklevoss Bitcoin Trust, Exchange Act Release No. 34-80206, 82 Fed. Reg. 14076 (Mar. 16, 2017), <https://www.sec.gov/rules/sro/batsbzx/2017/34-80206.pdf>.

⁷¹ Press Release, Sec. & Exch. Comm'n, SEC issues investigative report concluding DAO Tokens, a digital asset, were securities (July 25, 2017), <https://www.sec.gov/news/press-release/2017-131>.

⁷² SEC. & EXCHANGE COMM'N, INVESTOR ALERT: PUBLIC COMPANIES MAKING ICO-RELATED CLAIMS (August 28, 2017), https://www.sec.gov/oiea/investor-alerts-and-bulletins/ia_ico-relatedclaims.