

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

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Introduction

This article offers a number of U.S. regulatory considerations and preliminary observations for investment managers exploring or entering the cryptocurrency space. 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, 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 article provides a brief overview of the emergent 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. This section provides a baseline context for our article; therefore, it is optional for those familiar with cryptocurrencies and up-to-date on blockchain developments who can instead focus on other sections.

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.

Following Bitcoin’s introduction in 2008, numerous virtual currencies or “altcoins” have since been created, utilizing DLT for a variety of purposes.² By December 2017, there were more than 1,300 virtual currencies in existence, with a total market capitalization in excess of \$590 billion.³ More than half of the world’s largest corporations are reportedly actively considering or deploying blockchain.⁴ 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.⁵ Indeed, the United Nations has implemented and experimented with DLT to monitor the efficacy of foreign aid to refugees.⁶ 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.⁷ 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. Further, over the course of 2018, the Depository Trust Clearing Corporation (DTCC) is expected to roll out and complete its move to a blockchain-based platform for the post-trade processing and reporting services it provides for over \$11 trillion in credit default swaps.⁸

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 warnings about ICOs or ‘initial coin offerings’⁹) to healthy skepticism (frequently involving use of the term ‘bubble’), to outright denial or complete indifference (with the CEO of JP Morgan slamming Bitcoin as a ‘fraud’¹⁰). Some U.S. federal and state regulators are wholeheartedly embracing their role in regulation of new applications of the technology while others had, 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. The meteoric rise in the prices of Bitcoin and other prominent coins over the course of 2017, as well as the introduction of Bitcoin futures in December 2017, only increased attention from both new and existing investment managers. Reportedly, there were more than 100 U.S. or non-U.S. cryptocurrency hedge fund managers by mid-November 2017 with funds which have either launched or are planned.¹¹

What is blockchain?

Blockchain has been boiled down to a simple statement: connected computers reach agreement over shared data.¹² 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.¹³ “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.”¹⁴ As a result, blockchain has potential applications for financial asset settlement, asset title transfer, evidence capture, identity management, secure cloud storage, supply chain management, and healthcare, among other things.¹⁵ 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”), the Commodity Futures Trading Commission

(“CFTC”) and the Internal Revenue Service (“IRS”) have each identified virtual currency as a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value, but does not have legal tender status in any jurisdiction.¹⁶ 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

Blockchain has been boiled down to a simple statement: connected computers reach agreement over shared data.

(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 was approaching the size of Goldman Sachs.¹⁷ The prices of those two virtual currencies have grown dramatically since that report. The market value of all Bitcoin is estimated at over \$324 billion and the value of all Ether is over \$69 billion as of December 17, 2017, collectively surpassing the market value of Goldman Sachs by more than three times.¹⁸ 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. Following the launch of Bitcoin futures with the CBOE and CME exchanges at the end of 2017 and the expected launch of Ethereum futures in 2018, there is much anticipation as the extent to which greater visibility to the public and access to capital would affect the price of virtual currencies.¹⁹ 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.²⁰

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.²¹ The author's technological process for maintaining the ledger and its security features have

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 and resulting in the establishment of Bitcoin Cash.²⁴ Since

then, Bitcoin has endured additional further "hard forks", resulting in the alternative versions of Bitcoin such as Bitcoin Gold, Bitcoin, Diamond, United Bitcoin, BitcoinX and Super Bitcoin, among others.²⁵

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 \$900 in December 2016, rose to more than \$19,000 in early December 2017, and 'fell' to \$14,060 by December 24, 2017, representing an overall rise of more than 1,500% in roughly one year.²⁶ There were more than 300,000 Bitcoin transactions per day in December 2017.²⁷ Even though traditional payment systems currently handle many times more transactions (Visa alone handles an average of 2,000 per second),²⁸ the potential for continued growth of Bitcoin, as well as its volatility, have caught the attention of investors.

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).

been implemented successfully, lauded by many as revolutionary and influential in the development of other blockchains.²² 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.²³ 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 in a competition to solve mathematical problems which allow a new block of transactions to be created, a labored computing 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

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.²⁹ 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.³⁰ 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.³¹ There have also already been well-publicized examples of hacking leading to large financial losses, as highlighted by the SEC in its July 2017 investigation report about The DAO,³² which we discuss below.

Ethereum was originally developed in 2013 by Vitalik Buterin, a then-19-year-old computer programmer.³³ 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 200 companies and organizations such as industrial giants Toyota, Merck, and Samsung, global computing businesses like Microsoft, Intel and Hewlett Packard, as well as banks and other financial enterprises such as Santander, Bank of New York Mellon, Credit Suisse, ING and UBS.³⁴ 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 \$69 billion on December 17, 2017.³⁵

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.³⁶ For example, Ripple's XRP recently became the second-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.³⁷

What are ICOs?

ICOs or 'initial 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 ICO and token data is also readily available on other websites.³⁸ The recent number and scale of token sales took many by surprise. Indeed, reportedly more than 800 ICOs have raised approximately \$5.9 billion in 2017.³⁹ 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.⁴⁰ 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.⁴¹ 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. In fact, it has been asserted that there is no shortage of fraudulent ICOs. As the SEC's recent warnings (summarized below) point 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, SEC warnings and other regulatory uncertainties both in the U.S. and abroad. Efforts are now being made 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 which do not constitute a security under U.S. securities law. However, SEC Chairman Clayton recently reminded securities lawyers and other market professionals that "Merely calling a token a 'utility' token or structuring it to provide some utility does not prevent the token from being a security."⁴² In addition, the ICO market provides ample opportunities for class actions and other litigation to be filed. For instance, litigation has already engulfed the Tezos, a prominent ICO which raised more than \$230 million in 2017.⁴³ We examine the SEC's recent guidance and

introduce other U.S. regulatory considerations for investment managers below.

What is a SAFT?

A 'Simple Agreement for Future Tokens' (SAFT) is an agreement between a token developer and accredited investors in contemplation of a future 'utility token' sale, whereby the investor provides funding or capital to the token seller for rights to delivery of a future, fully-functional utility token.⁴⁴ The SAFT is one early illustration of efforts now being made to bring more token launches which are available to U.S. investors into compliance with federal securities law. Although the SAFT model has been used by certain developers to conduct significant offerings (including the pre-marketing of Filecoin tokens in August 2017), the approach has its fair share of critics, as we describe below. As more token launches utilize the SAFT framework or other approaches to compliance with federal securities laws, investors, developers and regulators will each seek to clarify the many open questions to establish greater stability, uniformity, and predictability concerning token launches.

Terminology

In this article, we use the term '**cryptocurrency**' only sparingly because its meaning can vary in common usage. 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, the IRS and the Financial Action Task Force.⁴⁵ 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 starting to become 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, some of which 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 service 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 or a place to store private keys.⁴⁶ These include hardware wallets (such as devices offering cold storage such as Trezor and Ledger), ‘hybrid wallets’ (which run the Bitcoin protocol but do not store the keys), external memory wallets (such as Ledger’s USB wallet), ‘software wallets’ which allow people to secure their own keys on a computer connected to the internet (such as Armory) and paper or metal-etched wallets.⁴⁷ There are also virtual currency payment systems and, at the retail level, there are also Bitcoin ATM manufacturers and operators.⁴⁸

Exchanges and trading platforms. While there are over 100 exchanges globally which facilitate 24-hour trading of virtual currencies every day of the year, the list used by U.S. institutional clients is far shorter.⁴⁹ Indeed, institutions have expressed concerns about many virtual currency exchanges and whether the technology many use will be able to keep pace with increasing volume.⁵⁰ A number of trading platforms also facilitate OTC trading of virtual currencies.⁵¹ 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 U.S. 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, the products they offer (e.g., whether they permit short trading), the functions they perform (e.g., whether they match orders between counterparties or stand as a central counterparty to each trade), 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. 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.⁵² 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.⁵³

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 in 2017 has taken many by surprise. For example, *New York Times* reported that, in the two weeks following the SEC’s investigation 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.⁵⁴ Indeed, as noted above, reportedly more than 800 ICOs have raised approximately \$5.9 billion in 2017.⁵⁵ It remains to be seen how many token sales will be structured to comply with U.S. and non-U.S. regulatory requirements. However, greater awareness about the cryptocurrency space and rising institutional interest in properly structured offerings indicate that token launches will remain a major source of fundraising for blockchain-based companies in 2018.⁵⁶

Some token issuers have taken steps to heed the SEC’s warning. As one early example, in preparation for its August 2017 ICO, the company behind Filecoin – a blockchain-based storage network – prepared a private placement memorandum (PPM) for a SAFT and elected to limit the offering to accredited investors. In the PPM,⁵⁷ the company asserted that its 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. Ultimately, Filecoin raised approximately \$52 million in its July 2017 preICO sale, in which SAFT were offered and sold only to well-known digital asset investors such as Winklevoss Capital and Digital Currency

Group.⁵⁸ Following such presale, Filecoin's ICO in August 2017 raised approximately \$200 million in 60 minutes, merely beset with technical issues (interested buyers were having trouble accessing the site), rather than regulatory scrutiny.⁵⁹

The Filecoin ICO was one of the first examples of the SAFT framework, 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 launched by the founder of the venture funding site AngelList, for pre-launch token sales in a standardized format. The SAFT approach is not without its critics, however.⁶⁰ *We further discuss the SAFT framework and certain criticisms of the approach in Section 3.*

Unlike the Filecoin preICO and ICO discussed above, certain token promoters may assert that their token is a utility token without undertaking any SAFT-based presales or otherwise. Earlier this year, the SEC halted the proposed ICO by Munchee Inc., a restaurant review company, with respect to its MUN coin because its tokens were issued "in order to raise capital to build a profitable enterprise" and were therefore considered securities.⁶¹ As a result, Munchee was forced to return approximately \$15 million to its ICO investors.⁶² Nonetheless, both critics and blockchain-based companies will seek additional guidance in 2018 to clarify the distinction between a security token and utility token, any characteristics of an ICO that would invite regulatory scrutiny, and the existence of an alternative framework to the SAFT method.

In addition to participation before or during a token launch, great care must also be taken to ensure such transactions comply with regulatory requirements in consideration of the secondary trading of tokens and coins. 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 has since stopped onboarding U.S. individuals as users on the exchange.⁶³

In Section 3 of this Article, we provide a brief introduction to the SEC's investigative report which found DAO tokens to be securities under the so-called Howey test and other SEC pronouncements, and then consider certain regulatory implications for investment managers.

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 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.⁶⁴ GBTC originally launched as a private fund and was later approved for public quotation on the OTC market OTCQX.⁶⁵ There are several non-U.S. exchange-traded products (ETPs) offering indirect exposure to Bitcoin and Ether. The advent of Bitcoin futures trading in December 2017 has led to a number of filings with the SEC to list exchange-traded funds (ETFs) which would trade Bitcoin futures (and other Bitcoin-related derivatives or stocks) and which include 'inverse' or short funds, such as those from ProShares, Rex and Van Eck.⁶⁶ Because these ETFs would not hold Bitcoin directly, it is feasible they will not face the same barriers to SEC approval as those encountered to date by commodity trust ETPs,

which would hold Bitcoin directly, such as The SolidX Bitcoin Trust (XBTC), Winklevoss Bitcoin Trust (COIN), and EtherIndex Ether Trust (ETHX). Initially, the SEC denied certain applications of exchanges to list commodity trust ETFs 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’s denials appeared 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). Therefore, the growth of Bitcoin derivatives markets in the U.S. is also important to the question of when Bitcoin ETFs will receive regulatory approval from the SEC. However, in December 2017, SEC Chairman Clayton noted that the SEC has not approved for listing and trading any cryptocurrency ETFs and said “[I]f any person today tells you otherwise, be especially wary.”

There is a limited number of private investment vehicles with a track record of investing in digital assets, with investment strategies ranging from passive crypto indexes, token baskets, and artificial intelligence/quantitative and fund-of-funds.⁶⁷ Some funds with track records in virtual currencies and digital assets invest in tokens at the pre-ICO stage, as described below. There is reportedly a number of new private fund launches with digital asset themes. Although there were reportedly more than 100 cryptocurrency hedge fund managers in mid-November 2017 (as noted above), many funds are not in the U.S. and the bulk of the assets are thought to be concentrated in the early movers.

Derivatives on virtual currencies. Derivatives on Bitcoin and other virtual currencies are starting to become available to U.S. investors. Among other things, these include U.S. exchange-traded futures contracts, options, swaps, non-deliverable forwards, and forwards. For instance, U.S. exchange-traded Bitcoin futures contracts began trading on both Chicago Mercantile Exchange (BTC) and CBOE Futures Exchange (XBT) in December 2017.⁶⁸ BTC futures are based on the once-a-day reference rate of the U.S. Dollar price of Bitcoin on several major ‘spot’ exchanges, while XBT futures rely on the auction price of Bitcoin in U.S. dollars on the Gemini Exchange. Both

BTC and XBT futures are cash-settled (meaning the conclusion of the transaction is a payment in U.S. dollars) rather than physically settled (where the conclusion of the transaction would ultimately involve actual delivery of Bitcoin). The margin requirements for BTC and XBT futures are currently quite high (40% or more in December 2017), thus limiting the amount of leverage which can be used. Other exchanges have launched or are expected to launch futures or other derivatives on virtual currencies. For instance, Cantor Exchange offers unleveraged Bitcoin swaps in the form of binary options, where the conclusion of the transaction is either a fixed payment in U.S. dollars or nothing at all. Because Cantor Exchange is a ‘designated contract market’ like CME and CBOE, these binary options are available to institutional and retail investors, in increments as low as \$100. Like CME and CBOE Bitcoin futures, Cantor’s Bitcoin swaps are cash-settled and centrally-cleared, meaning that a clearing house stands as the counterparty to every buyer and every seller, a function intended to reduce counterparty risk. Non-U.S. exchanges and trading platforms have been offering a variety of derivative products on virtual currencies but, in many 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 and day-ahead swaps, which are available to eligible contract participants (ECP), which, under the Commodity Exchange Act, is a non-retail designation based on regulated status or amount of assets.⁶⁹ 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 are centrally cleared and fully-collateralized, LedgerX holds the deliverable for every trade.

As noted above, 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 also help to pave the way for ETFs trading Bitcoin futures and, potentially, commodity trust ETPs holding virtual currencies directly.

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 (“VC”) 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).⁷⁰ While ICO funding for the second quarter of 2017 exceeded that of early stage VC funding for internet companies,⁷¹ the trajectory of ICOs as a means of capital formation in 2018 will certainly be affected by the changing regulatory landscape, increased awareness by both mainstream and institutional investors, as well as security risks.⁷² Additional investment considerations for ICOs involve the motivations of the founding company, the value of the token relative to the company’s product, and whether the “decentralized” nature of tokens and blockchain technology comports with existing corporate governance structures.

Others. The ways for an investment manager to obtain exposure to virtual currencies and other digital assets for its clients are changing rapidly. Institutional lenders and FinTech companies alike have expanded their research into implementing blockchain technology beyond cryptocurrency trading and payment settlements. Secured lending of U.S. dollars, for example, against virtual currencies as collateral appears to be a quickly emerging opportunity. Some estimate that holders of 10% of Bitcoin would

like to use it as collateral (rather than sell it, given rapid appreciation and other factors).⁷³ For example, the Secure Automated Lending Technology (SALT) token allows an individual or company to borrow money from lenders on the SALT platform, with any loan being secured by such borrower’s cryptocurrency. The borrower’s interest, held as a SALT token, can thereafter be traded or sold in the secondary market.⁷⁴

The SEC, the CFTC, and the IRS have each identified virtual currency as a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value, but does not have legal tender status in any jurisdiction.

Investment in cryptocurrency mining operations (or the infrastructure they use) is another means to obtain exposure which has garnered widespread attention, whether from investment managers, entrepreneurs or, recently, certain governments. Mining operations tend to vary greatly in size from household hobbies to major capital investments, although the amount of computing power required to earn one Bitcoin and certain other cryptocurrencies has increased dramatically over time. The hardware required for mining – such as computer graphics cards from Nvidia and AMD – has become scarce and is often available only for a premium.⁷⁵ Participation in mining operations can take many forms such as buying computing power (known as hash power) from cloud mines or acquiring working interests in mines (akin to non-participating working interests under a joint operating agreement).

While mining is expected to remain a key design element of many of today’s cryptocurrencies, in 2018, certain blockchain developers are expected to shift from ‘proof-of-work’ (i.e., mining for validating transactions) models to ‘proof-of-stake’ or similar validation methods,

whereby holders of certain tokens would ‘stake’ their tokens on a network for rights to validate transactions, vote for governance measures, and other benefits. This network participation (*i.e.*, staking coins for a return versus mining) is already evident in Dash’s masternode system,⁷⁶ and may be further developed as Ethereum releases its Casper protocol.⁷⁷ Cardano is one example of a virtual currency which relies on proof-of-stake to reach consensus and ‘mint’ a new block of transactions rather than using mining.

Traditional investment may also occur in companies researching ways of implementing blockchain technology in to further reduce escrow, supply chain, and other transactional costs in specific industries (*i.e.*, removing bills of lading,⁷⁸ establishing an alternative means of recording deeds of trust and UCCs for mortgages and secured transactions⁷⁹).

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 general 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 depend in large part on their design, the rights they represent, their intended use cases and the function(s) they actually perform.
- 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 emergent 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 also 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.⁸⁰ 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, a risk-based KYC and AML program, suspicious activity reporting, and recordkeeping requirements.⁸¹ There is debate about the application of these AML/KYC requirements for intermediaries in other types of virtual tokens and coins.⁸²

In 2013, FinCEN issued guidance distinguishing among the roles of 'users,' 'exchangers' and 'administrators.'⁸³ 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.⁸⁴

FinCEN has already demonstrated its willingness to act 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 a 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,⁸⁵ 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 programs, MSB registration, suspicious activity reporting, and recordkeeping requirements."⁸⁶

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.⁸⁷ In New York, GDAX has obtained the BitLicense, a special license from the New York Department of Financial Services (“*NYDFS*”) for companies with virtual currency business activities which operate and transact in New York. The BitLicense requires GDAX to comply with consumer protection, KYC/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.⁸⁸ 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 Code⁸⁹ or provide uniform *de minimis* exceptions referred to as ‘on-ramp’ thresholds.⁹⁰

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.⁹¹

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.⁹² 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.⁹³

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 general U.S. federal income tax treatment of virtual currencies?

The 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 (*i.e.*, the party exchanging Bitcoin for goods or services would recognize gain or loss equal to the excess of the fair market value of the goods or services received over their adjusted tax basis in the Bitcoin).⁹⁴ 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.⁹⁵ 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. Through 2017, some cryptocurrency investors suggested that Section 1031 like-kind exchanges might be available in connection with exchanging one virtual currency for another (for example, Bitcoin for Ethereum).⁹⁶ Some cryptocurrency traders relied on this theory to diversify their holdings

among multiple coins or tokens (especially given varying rates of growth among recently popular ‘altcoins’ such as Dash, Ripple or Cardano) with the goal of not triggering additional tax obligations. Effective January 1, 2018, 1031 exchanges were modified to only apply to ‘real property’ rather than the broader ‘property’ under the IRC.⁹⁷ Accordingly, there will be a greater onus for taxpayers and cryptocurrency exchanges to report their gains and losses in 2018.⁹⁸

The federal income treatment of other cryptocurrency transactions (whether as compensation to an employee or as a result of mining activities or hard forks) is beyond the scope of this article. However, in general terms, the general federal income tax principles which apply to ‘property’ also apply to virtual currencies.

With regard to enforcement, the IRS is now actively taking steps to increase tax reporting compliance for virtual currency transactions. Indeed, an earlier IRS investigation revealed that approximately 800 customers of Coinbase, Inc., one of the largest U.S. Bitcoin exchanges, reported any profits or losses on their annual returns via a Form 8949 in 2015.⁹⁹ For example, Coinbase repeatedly challenged the scope of a John Doe summons issued by the IRS to obtain customer information. Ultimately, a federal court narrowed the type of information which the IRS can request, as well as the number of customers from around 500,000 to the roughly 14,000 customers who brought, sold or traded over \$20,000 in certain virtual currency transactions over 12-month windows within a specified period.¹⁰⁰ In light of possible resistance from taxpayers and exchanges with respect to reporting, it appears that the IRS will continue to employ various means of enforcing reporting, including identifying owners’ digital wallets and identifying transactions made by such wallets on exchanges and individual blockchain networks.¹⁰¹ Given the origins of Bitcoin and Ethereum as ‘decentralized’ networks, this could prompt some blockchain developers to focus on transactions providing greater anonymity (*i.e.*, Ethereum’s collaboration with ZCash regarding the use of ‘zero-knowledge proofs’ or ZK-Snarks software, or the Monero network’s emphasis on being an ‘anonymous’ cryptocurrency).

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.”¹⁰²

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 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. This is a critical distinction under the Commodity Exchange Act. The CFTC’s jurisdiction over ‘commodities’¹⁰³ is generally limited to anti-fraud and anti-manipulation enforcement authority in interstate commerce, whereas the CFTC has full – and, in most cases, exclusive – jurisdiction over ‘commodity interests.’

Among other things, commodity interests include: commodity futures (and options on futures); swaps (which include options on commodities, as well as options on swaps, but which are not required to be based on an underlying commodity); retail commodity transactions (discussed below); and retail foreign exchange transactions (*i.e.*, leveraged, margined or financed transactions in foreign currency, in which at least one party is not an ECP, and no exception applies such as where the transaction does not result in actual delivery within two days).¹⁰⁴

In fact, the CFTC has taken a pro-active approach to explaining both virtual currencies and its own interpretations of its jurisdiction under the Commodity Exchange Act. For instance, the CFTC has a virtual currency resource page,¹⁰⁵ a customer advisory,¹⁰⁶ a primer,¹⁰⁷ podcasts,¹⁰⁸ and LabCFTC, which provides a dedicated point of contact for FinTech, with the goal of providing early regulatory feedback on new technology ideas.¹⁰⁹

Aside from the CFTC's ongoing educational initiatives, three enforcement actions established the CFTC's approach to asserting both its jurisdiction over fraud and manipulation of virtual currencies and its broad jurisdiction over virtual currency products which are commodity interests. These interpretations of law by the CFTC were made in settlements in administrative proceedings in 2015 and 2016, although they remain subject to statutory change and judicial interpretation.¹¹⁰ In 2015, 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.¹¹¹ The CFTC's reasoning in this action also seemed to indicate that the CFTC would treat Bitcoin as an 'exempt' commodity (much like precious metals, energy and weather) rather than an 'excluded' commodity (such as financial commodities like government currencies, interest rates and exchange rates). Shortly afterwards, a second enforcement action involved TeraExchange, which had applied for registration with the CFTC as a swap execution facility.¹¹² 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, one of the largest virtual currency exchanges. Bitfinex is located in Hong Kong but provided a trading venue for many U.S. investors. 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 or eligible commercial entity and (4) the Bitcoin was not 'actually delivered' within 28 days and no other exception applied.¹¹³

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 'retail commodity transactions' in the context 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 are within the CFTC's jurisdiction). In fact, retail commodity transactions are a special type of commodity interest which do not involve derivatives at all, which makes the concept of 'actual delivery' so important. For instance, the CFTC issued an interpretation in 2013 which applies to retail commodity transactions generally.¹¹⁴ However, the CFTC first squarely tackled this distinction in the context of virtual currency products in its 2016 *Bitfinex* enforcement action, where it looked at what 'actual delivery' means, even though with a Bitcoin transaction there is unlikely to be anything physical to deliver. In that action, the CFTC concluded that actual delivery could only occur with a 'real and immediate' transfer of 'possession and control' to the buyer within the time period. The CFTC reasoned that actual delivery did not occur because (i) at first, Bitfinex held possession and control of the Bitcoin in an omnibus settlement wallet and used book entries to track them, (ii) later, Bitfinex established multi-signature wallets with a third-party firm for each trader but Bitfinex retained control over the private keys and each trader had no separate contractual relationship with the third party firm and (iii) finally, Bitfinex could liquidate positions without a trader's consent if their equity fell beneath a preset level.

During the course of 2017, the CFTC acknowledged that exchanges and traders need more clarity in what constitutes 'actual delivery' of virtual currencies, given its meaning is key to set one of the boundary lines between 'commodities' and 'commodity interests.' In October 2017, CFTC Commissioner Brian Quintenz remarked "Obviously, 'actual delivery' in this context becomes an enormously important term. Would someone here like to tell me how to define the 'actual delivery'?"

of a virtual commodity?”¹¹⁵ Following a petition, the CFTC took a formal step before the end of 2017 to answer this question with a proposed interpretation on retail commodity transactions involving virtual currency.¹¹⁶ The interpretation, once finalized, should help inform investment managers whether they are merely trading ‘commodities’ or, instead, actually trading ‘commodity interests’ under the CFTC’s full jurisdiction. Likewise, the interpretation could significantly impact how virtual currency exchanges and trading platforms are structured, particularly if they offer leverage, margin or finance to ‘retail’ investors (meaning non-eligible contract participants). Many will seek to modify their product offerings and agreements so they are not at risk of trading or otherwise providing a marketplace for ‘retail commodity transactions.’ Failing to do so would trigger CFTC registration and oversight under the Commodity Exchange Act for exchanges as a designated contract market and for brokers to be futures commission merchants. In fact, the CFTC floated the idea of a distinct regulatory regime for those offering retail commodity transactions in virtual currency, which would involve exemptive relief.

The CFTC proposes two primary factors to demonstrate actual delivery of retail commodity transactions in virtual currency. At first, these two factors appear to be technology-neutral since they require, no later than 28 days from the date of the transaction (1) a customer having the ability to (i) take possession and control of the entire amount and (ii) use it freely in commerce (both within and away from any particular platform) and (2) neither the exchange nor seller (or their affiliates or agents) retaining an interest or control over any of the virtual currency. However, the CFTC also provides four examples to explain its proposed approach. Two examples show when actual delivery occurs while two other examples tackle situations in which actual delivery does not occur.

The first example provided by the CFTC requires ‘on-chain’ settlement, meaning the transaction is concluded on the blockchain, which must show all the virtual currency has been transferred to purchaser’s blockchain wallet. The seller must have no remaining interest or control. The purchaser must have title (i.e., they can prove they own the wallet). If there’s an intermediary, the ‘on-chain’ record must reflect a flow of funds from the purchaser’s wallet to the intermediary’s wallet and then to the purchaser’s wallet.

The CFTC’s second proposed example of actual delivery would occur if the entire quantity of virtual currency is delivered within 28 days to a wallet or other depository to which special conditions apply. The depository (whether it be a wallet provider, custodian or exchange) must agree to hold virtual currency as agent for the purchaser irrespective of any interest of seller or platform. The purchaser must also have ‘full control’ and no liens can continue after the 28 days.

Consistent with its previous positions,¹¹⁷ the CFTC indicates in its third proposed example that actual delivery would not result from mere book entries purporting to evidence delivery. In its final example, the CFTC indicates actual delivery would not occur if transactions are rolled, offset against or netted out within the 28-day period.

In the proposed guidance, the CFTC indicates it is considering whether to engage Congress to shorten the 28-day period in the virtual currency context. In other words, the CFTC acknowledges it cannot shorten the time period without Congress acting. The CFTC also says it is concerned about conflicts of interest in OTC trades where the platform or a related party takes the other side of a trade. Further, the CFTC asks whether possession of a private key (or other credential allowing full access) is sufficient to provide full control. The CFTC also invites industry input on how it should look at full control in light of current techniques for cybersecurity and money transmitter procedures. This invites discussion of multi-sig, splitting private keys and other security procedures. Comments on the proposed interpretation are due by March 20, 2018.

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. In addition, once a Bitcoin transaction has an element of optionality (e.g., whether a traditional option or 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.”¹¹⁸

Similarly, many private fund managers rely on an exemption from CFTC registration as a commodity pool operator (CPO) which applies when there is only a *de minimis* amount of trading of commodity interests.¹¹⁹ Among other things, this exemption requires that trading is, at all times, under at least one of two trading thresholds.¹²⁰ Fund managers and their chief compliance officers must be cognizant which virtual currency transactions and products to count as ‘commodity interests’ toward the limits. For instance, Bitcoin futures and options on futures, Bitcoin swaps (which include options on Bitcoin, as well as options on Bitcoin swaps) generally must be counted as ‘commodity interests’ toward the limits.¹²¹ On the other hand, Bitcoin transactions would not be counted toward the limits if they are simply purchases and sales of Bitcoin (*i.e.*, a ‘spot’ transaction).

In December 2017, National Futures Association imposed basic additional reporting requirements on its CPO and CTA members if they execute a transaction involving any virtual currency or virtual currency derivative for a fund or managed account.¹²²

In summary, the CFTC squarely has jurisdiction and oversight over markets trading ‘commodity interests.’ 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 oversight of the CFTC as a commodity interest under the Commodity Exchange Act. They must also be aware that the CFTC has asserted anti-fraud and anti-manipulation enforcement authority over virtual currencies and conduct trading and other virtual currency activities accordingly.

SEC. The Securities and Exchange Commission issued a stark warning on July 25, 2017 that illustrates the significant regulatory risks of investment in ‘initial 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.*¹²³ 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 laws.” 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 in the investigation report. For example, the SEC has issued trading suspensions for several stocks making claims about ICO investments or tokens or coins.¹²⁴

Additionally, SEC Chairman Jay Clayton echoed a similar sentiment on December 11, 2017, citing the SEC’s concern for protecting ‘Main Street’ investors but acknowledging ICOs can be effective means of raising capital for entrepreneurs and market professionals.¹²⁵ Chairman Clayton urged investors to exercise ‘extreme caution’ before participating in certain ICOs and noted that many offerings are susceptible to price manipulation and fraudulent marketing.¹²⁶ He also cautioned exchanges, trading platforms and broker-dealers to examine their own compliance with federal securities laws, as well as anti-money laundering and know-your-customer obligations. Among others, he directed his comments to securities firms and other market participants that:

- allow payments to be made in cryptocurrencies;
- set up structures to invest in or hold cryptocurrencies;
- extend credit to customers to purchase or hold cryptocurrencies;
- allow customers to purchase cryptocurrencies on margin; or
- use cryptocurrencies to facilitate securities transactions.

SEC Chairman Clayton also urged ‘gatekeepers’ – market professionals such as broker-dealers, investment advisers, exchanges, securities

lawyers, accountants and consultants – to focus on their responsibilities to protect investors, particularly ‘Main Street’ investors. In doing so, he singled out market professionals who, following the SEC’s investigative report, have attempted to highlight the ‘utility’ of a token whilst overlooking other “features and marketing efforts that emphasize the potential for profits based on the entrepreneurial or managerial efforts of others”.

The SEC’s cautions have been accompanied by the creation of a Cyber Unit of the SEC’s enforcement division in September 2017. The Cyber Unit is focused on misconduct involving DLT and ICOs, as well as the spread of false information through electronic and social media, hacking and threats to trading platforms. The Cyber Unit filed its first charges on December 4, 2017 in order to take emergency action to halt an ICO scam.¹²⁷ Many open questions remain about further SEC enforcement action and guidance to be proposed in 2018 and beyond.¹²⁸

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, code of ethics, personal trading, 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. As noted by SEC Chairman Clayton, “merely calling a token a ‘utility’ token or structuring it to provide some utility does not prevent the token from being a security.”¹²⁹

As noted above, the Simple Agreement for Future Tokens (SAFT) is one approach being used in an effort to bring ICOs in compliance with federal securities law. The SAFT originates from Y Combinator’s form of Simple Agreement for Future Equity (SAFE) used by venture capital firms and entrepreneurs seeking early stage capital. The developers of the SAFT legal framework intended that the sale of rights to future tokens would be an ‘investment contract’ available only to accredited investors under Rule 506(c) of the Securities Act.¹³⁰ The capital from the SAFT is meant to allow the token developers to pay for operating costs and development of the token project, but at the same time avoid the risk of scrutiny from the SEC under the *Howey* test that would otherwise arise if the developer had elected to sell pre-functional tokens to the public. Once the token is a completed product, the developers would deliver to the investors the functional tokens subject to the SAFT. Thereafter, each of the developers and the investors could sell the functional tokens to the secondary market. The SAFT’s creators contend that, as a fully-functional product, the tokens would not be considered securities under the *Howey* test because any sale would be based on the value of the token itself, rather than the ‘expectation of profit’ from an investment in the token.¹³¹ In addition, the creators of the SAFT framework posit that the developers and the investors would “probably not [be considered] money transmitters” by the Financial Crimes Enforcement Network (FinCEN), and that an ICO under such model could also result in a lower tax burden for the developers.¹³²

However, uncertainty remains as to whether the SAFT is a viable method of raising capital which can withstand scrutiny from its critics. To date, a court has not ruled as to whether any ICO involving a SAFT model constitutes a sale of securities.¹³³

Without guidance from courts or regulatory agencies, there are open questions as to both practical matters (is there a consensus form SAFT for developers to use?) and conceptual matters (at what point a token can be considered fully functional?).¹³⁴ Additionally, critics contend that the existing SAFT framework's emphasis on a token's 'speculative, profit-generating potential' may increase the risk that a token would be treated as a security and incentivize early investors to 'flip their holdings' and thereby 'fuel speculation'.¹³⁵ Further, it has been asserted that the SAFT approach may run afoul of commodities law, either as a non-exempt forward contract or a hybrid instrument.¹³⁶

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 emergent 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 securities 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 the U.K., 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.¹³⁷ Indeed, different countries are taking a variety of regulatory positions. In Asia, China has banned ICOs outright, at least for now,¹³⁸ South Korea is contemplating reversing its existing ICO ban,¹³⁹ and Russia is considering implementing a limit on the amount of funding that ICOs can raise.¹⁴⁰ Without additional certainty or transparency, one can expect cryptocurrency prices to remain highly volatile in 2018 as the blockchain industry continues to develop.

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. If holding virtual currencies, tokens or other digital assets directly, the investment manager must also conduct significant business, technical and legal due diligence on any third parties entrusted to hold or provide access to wallets or 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 futures, options, swaps or forwards. 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. For instance, SEC-registered investment advisers will need to

review their code of ethics and personal trading policies, consider how to treat securities tokens, virtual currencies and other digital assets under those policies, and ensure those covered by the policies are aware of their new obligations.

Furthermore, an investment manager will need to assess how the virtual currencies or other digital assets it wishes to trade will impact its registrations or exemptions, as well as those held by clients. 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), the manager must count virtual currency derivatives as 'commodity interests' toward the trading limits while spot and certain forwards on Bitcoin will not be counted.¹⁴¹ The distinction is also relevant for determining an investment manager's registration obligations as a commodity trading advisor (CTA). Further, an investment manager providing investment advice for compensation with respect to any digital assets deemed to be securities will need to register as an investment adviser under federal or state law or have an appropriate exemption in place.

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 two virtual currency exchanges are regulated as New York State-chartered limited purpose trust companies 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 also a broker-dealer registered with the SEC. Another trading and clearing platform 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). Further, NFA members are subject to additional basic reporting requirements if they trade any virtual currencies or virtual currency derivatives for a fund or managed account.

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 and deemed to have custody is required to maintain client 'funds and securities' with a 'qualified custodian.' The SEC has not addressed this issue in the context of virtual currencies as of the publication date. 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 handful 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, both under the custody rule and in light of cybersecurity best practices and fiduciary principles.¹⁴² 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 warnings about ICOs, as well as the potential for 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 issues such as custody, best execution, resale restrictions, short sale restrictions, proxy voting, and personal trading policies 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. In fact, SEC Chairman Clayton urged ‘gatekeepers’ – market professionals such as broker-dealers, investment advisers, exchanges, securities lawyers, accountants and consultants – to focus on their responsibilities to protect investors, particularly ‘Main Street’ investors.¹⁴³

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.

ENDNOTES

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