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## A CFTC Primer on Virtual Currencies

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- Overview
    - What is a Virtual Currency?
    - Bitcoin and Related Technologies
    - Potential Uses of Virtual Currencies and Blockchain Technologies
  - The Role of the CFTC
    - The CFTC's Mission
    - Sample Permitted and Prohibited Activities
    - ICOs, Virtual Tokens, and CFTC Oversight
  - Risks of Virtual Currencies
    - Operational Risks
    - Speculative Risks
    - Cybersecurity Risks
    - Fraud and Manipulation Risks
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# OVERVIEW OF VIRTUAL CURRENCIES

- Although precise definitions offered by others are varied, an IRS definition provides us with a general idea:
  - “Virtual currency is a digital representation of value that functions as **a medium of exchange, a unit of account, and/or a store of value.**
  - In some environments, it operates like ‘real’ currency . . . but it **does not have legal tender status** [in the U.S.].
  - Virtual currency that has an equivalent value in real currency, or that acts as a substitute for real currency, is referred to as ‘convertible’ virtual currency. **Bitcoin is one example of a convertible virtual currency.**
  - Bitcoin can be digitally traded between users and can be purchased for, or exchanged into, U.S. dollars, Euros, and other real or virtual currencies.”<sup>t</sup>

<sup>t</sup>IRS Notice 2014-21, available at <https://www.irs.gov/businesses/small-businesses-self-employed/virtual-currencies> (emphasis added). Please note that this definition is not a statement of the Commission’s view, and is instead offered as an aid to enhance public understanding of virtual currencies. We further note that one prominent type of virtual currency is cryptocurrency. Cryptocurrency has been described as “an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party.” Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System (Oct. 31, 2008), available at <https://bitcoin.org/bitcoin.pdf>.

- Bitcoin is currently the largest convertible virtual currency by market capitalization (close to \$72 billion in August 2017)<sup>†</sup>
- Bitcoin was created in 2008 by a person or group that used the name “Satoshi Nakamoto,” with the belief that:

*[w]hat is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party.*
- Bitcoin:
  - Is “pseudonymous” (or partially anonymous) in that an individual is identified by an alpha-numeric public key/address;
  - Relies on cryptography (and unique digital signatures) for security based on public and private keys and complex mathematical algorithms;
  - Runs on a decentralized peer-to-peer network of computers and “miners” that operate on open-source software and do “work” to validate and irrevocably log transactions on a permanent public distributed ledger visible to the entire network;
  - Solves the lack of trust between participants who may be strangers to each other on a public ledger through the transaction validation work noted in the sub-bullet above; and
  - Enables the transfer of ownership without the need for a trusted, central intermediary.

<sup>†</sup> Paul Vigna, *Bitcoin, Valued Like a Cool Blue Chip, Trading Like a Hot Small Cap*, Wall Street Journal (Aug. 29, 2017), available at <https://blogs.wsj.com/moneybeat/2017/08/28/bitcoin-valued-like-a-blue-chip-trading-like-a-small-cap/>. It is important to note that there are many other virtual currencies with sizeable market capitalizations that are built upon various Blockchain technologies, but may have different characteristics or functionalities than Bitcoin, including Ethereum (or Ether), Litecoin, and Ripple.

# What is the Difference between Public and Private Ledger Systems?

- Certain virtual currencies operate on public distributed ledger systems that capture “blocks” of transactions – there is no inherent trust in this decentralized system.
  - Virtual currencies create an economic incentive for dispersed, independent, computers, or groups of computers, around the world to confirm transactions and perform verifiable “work” (that creates consensus) to publish a new block of transactions on the public ledger in exchange for a payment of the applicable virtual currency.
- Private / permissioned distributed ledger networks typically have some degree of trust between participants.
  - Private ledger systems allow a network of known participants to share transaction information between themselves more efficiently.
  - While cryptography and consensus may still be involved in private ledger systems, these systems do not necessarily involve a virtual currency that may serve as the economic incentive for miner or validator participation in public networks.

- **Store of Value**
  - Like precious metals, many virtual currencies are a “non-yielding” asset (meaning they do not pay dividends or interest), but they may be more fungible, divisible, and portable
  - Limited or finite supply of virtual currencies may contrast with ‘real’ (fiat) currencies
- **Trading**
  - Trading in virtual currencies may result in capital gains or losses
  - Note that trading in virtual currencies may involve significant speculation and volatility risk (see Virtual Currency Risks section below)
- **Payments and Transactions**
  - Some merchants and online stores are accepting virtual currencies in exchange for physical and digital goods (i.e., payments)
  - Some public Blockchain systems rely on the payment of fees in virtual currency form in order to power the network and underlying transactions
- **Transfer / Move Money**
  - Domestic and international money transfer (e.g., remittances) in order to increase efficiencies and potentially reduce related fees

# Sample Potential Use Cases of Blockchain/DLT Technology

Blockchain, or distributed ledger technology,\* underpins many virtual currencies, but can also be used within private, permissioned ledger systems – versions of public and private systems may be used by:

- Financial Institutions
  - Trading & Payment Platforms / Clearing and Settlement
  - Regulatory Reporting, Compliance & Audit
  - Know Your Customer (KYC) / Anti-Money Laundering (AML)
  - Repurchase Agreement Transactions (“Repos,” i.e., short-term borrowing of securities)
- Governments
  - General Records Management
  - Title & Ownership Records Management (e.g., real property deeds and title transfer)
  - Regulatory Reporting and Oversight
- Cross-Industry
  - Smart Contracts (i.e., self executing agreements)
  - Resource / Asset Sharing Agreements (e.g., allowing rental of a personal car left behind during a vacation or allowing rental of excess computer or data storage)
  - Digital Identity (e.g., proof of identity when entering into a contract)

\* See generally Marco Lansiti and Karim R. Lakhani, *The Truth About Blockchain*, Harvard Business Review (Jan-Feb 2017), available at <https://hbr.org/2017/01/the-truth-about-blockchain> (for a general overview of how a public Blockchain works).



# THE ROLE OF THE CFTC

- The mission of the CFTC is to foster open, transparent, competitive, and financially sound markets. By working to avoid systemic risk, the Commission aims to protect market users and their funds, consumers, and the public from fraud, manipulation, and abusive practices related to derivatives and other products that are subject to the Commodity Exchange Act (CEA).
- To foster the public interest and fulfill its mission, the CFTC will act:
  - To deter and prevent price manipulation or any other disruptions to market integrity;
  - To ensure the financial integrity of all transactions subject to the CEA and the avoidance of systemic risk;
  - To protect all market participants from fraudulent or other abusive sales practices and misuse of customer assets; and
  - To promote responsible innovation and fair competition among boards of trade, other markets, and market participants.
- Responsible innovation is market-enhancing.

- The definition of “commodity” in the CEA is broad.
  - It can mean a physical commodity, such as an agricultural product (e.g., wheat, cotton) or natural resource (e.g., gold, oil).
  - It can mean a currency or interest rate.
  - The CEA definition of “commodity” also includes “all services, rights, and interests . . . in which contracts for future delivery are presently or in the future dealt in.”
- The CFTC first found that Bitcoin and other virtual currencies are properly defined as commodities in 2015.‡
- The CFTC has oversight over futures, options, and derivatives contracts.
- The CFTC’s jurisdiction is implicated when a virtual currency is used in a derivatives contract, or if there is fraud or manipulation involving a virtual currency traded in interstate commerce.
  - Beyond instances of fraud or manipulation, the CFTC generally does not oversee “spot” or cash market exchanges and transactions involving virtual currencies that do not utilize margin, leverage, or financing.

‡ See, In the Matter of: Coinflip, Inc., d/b/a Derivabit, and Francisco Riordan, CFTC Docket No. 15-29, available at <http://www.cftc.gov/idc/groups/public/@lrenforcementactions/documents/legalpleading/enfcoinfliprorder09172015.pdf>.

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- TeraExchange, LLC, a Swap Execution Facility (“SEF”) registered with the CFTC, entered into the virtual currency market in 2014 by listing a Bitcoin swap for trading. Trading on a SEF platform is limited to “eligible contract participants,” a type of sophisticated trader, which includes various financial institutions and persons, with assets above specified statutory minimums.
- North American Derivatives Exchange Inc. (“NADEX”), a designated contract market (“DCM”), listed binary options based on the Tera Bitcoin Price Index from November 2014 to December 2016. Retail customers may trade on NADEX.
- LedgerX, LLC (“LedgerX”) registered with the CFTC as a SEF and Derivative Clearing Organization (“DCO”) in July 2017. It plans to list digital currency options.

- Price manipulation of a virtual currency traded in interstate commerce.
- Pre-arranged or wash trading in an exchange-traded virtual currency swap or futures contract.
- A virtual currency futures or option contract or swap traded on a domestic platform or facility that has not registered with the CFTC as a SEF or DCM.
- Certain schemes involving virtual currency marketed to retail customers, such as off-exchange financed commodity transactions with persons who fail to register with the CFTC.

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<sup>‡</sup>Please note that this is not an exhaustive list of prohibited activities.



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# ICOs, Virtual Tokens, and CFTC Oversight

- The Securities and Exchange Commission (“SEC”) recently released a report about an Initial Coin Offering or “ICO” (the “DAO Report”).‡
- The DAO Report explains that “The DAO” is an example of a “Decentralized Autonomous Organization,” which is a “virtual” organization embodied in computer code and executed on a distributed ledger or blockchain.
- Investors exchanged Ether, a virtual currency, for virtual DAO “Tokens” to fund projects in which the investors would share in anticipated earnings. DAO Tokens could be resold on web-based platforms.
- Based on the facts and circumstances, the SEC determined that DAO Tokens are “securities” under the federal securities laws.
- There is no inconsistency between the SEC’s analysis and the CFTC’s determination that virtual currencies are commodities and that virtual tokens may be commodities or derivatives contracts depending on the particular facts and circumstances.
  - The CFTC looks beyond form and considers the actual substance and purpose of an activity when applying the federal commodities laws and CFTC regulations

‡ See Release No. 81207, Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, available at <https://www.sec.gov/litigation/investreport/34-81207.pdf>.



# RISKS OF VIRTUAL CURRENCIES

- While virtual currencies have potential benefits, this emerging space also involves various risks, including:
  - Operational Risks
  - Cybersecurity Risks
  - Speculative Risks
  - Fraud and Manipulation Risks
- Virtual currencies are relatively unproven and may not perform as expected (for example, some have questioned whether public distributed ledgers are in fact immutable).
- Investors and users of virtual currencies should educate themselves about these and other risks before getting involved.

- *Conduct extensive research before giving any money or personal information to a virtual currency platform.*
- The virtual currency marketplace is comprised of many different platforms where you can convert one type of virtual currency into another or into real currency, if offered.
- Many of these platforms are not subject to the supervision which applies to regulated exchanges. For example, if they engage in only certain spot or cash market transactions and do not utilize margin, leverage, or financing, they may be subject to federal and state money transmission and anti-money laundering laws, but they do not have to follow all the rules that regulated exchanges operate under.
- Some virtual currency platforms may be missing critical system safeguards and customer protection related systems; without adequate safeguards, customers may lose some or all of their virtual assets.



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# Virtual Currency: Cybersecurity Risk

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- *Keep your property in safe accounts and carefully verify digital wallet addresses.*
  - Some platforms may “commingle” (mix) customer assets in shared accounts (at a bank for real currency or a digital wallet for virtual currency). This may affect whether or how you can withdraw your currency.
  - Depending on the structure and security of the digital wallet, some may be vulnerable to hacks, resulting in the theft of virtual currency or loss of customer assets.
    - If a bad actor gains access to your private key, it can take your virtual currency with limited or no recourse
  - When transferring virtual currency, be sure to confirm the destination wallet address, even when using “copy and paste.” It is possible for hackers to change digital wallet addresses on your computer.
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- *Only invest what you are willing and able to lose.*
- The virtual currency marketplace has been subject to substantial volatility and price swings.
- An individual or coordinated group trading a large amount of virtual currency at once could affect the price, depending on the overall amount of trading in the marketplace.
- Periods of high volatility with inadequate trade volume may create adverse market conditions, leading to harmful effects such as customer orders being filled at undesirable prices.
- Some advertisements promise guaranteed returns – this can be a common tactic with fraudulent schemes.



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# **Virtual Currency: Fraud & Manipulation Risk**

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- *Carefully research the platform you want to use, and pay close attention to the fee structure and systems safeguards.*
- Unregistered virtual currency platforms may not be able to adequately protect against market abuses by other traders.
  - For example, recent news articles discuss potential “spoofing” activity and other manipulative behavior that can negatively affect prices
- Some virtual currency platforms may be selling you virtual currency directly from their own account – these types of transactions may give the platform unfair advantages and sometimes resemble fraudulent “bucket shop” schemes.
- There is also a risk of Ponzi schemers and fraudsters seeking to capitalize on the current attention focused on virtual currencies.