



Digital Assets Primer

December 2020

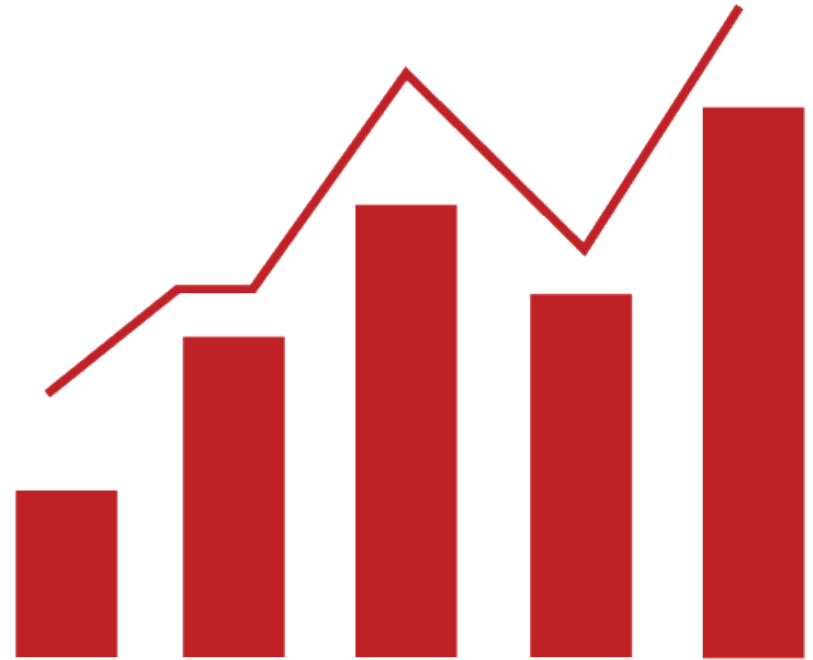
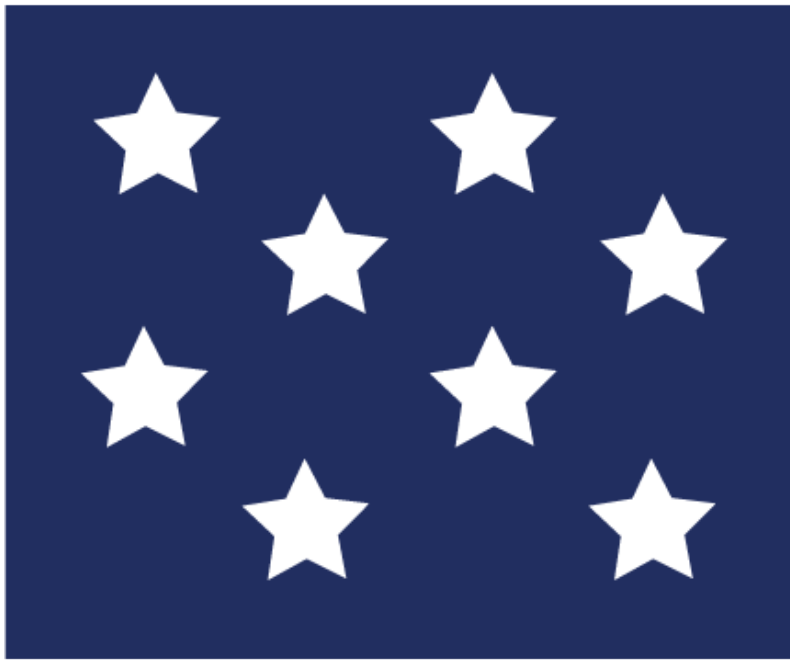
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This Primer is a publication of LabCFTC. In service to the CFTC's goal of encouraging innovation and enhancing the regulatory experience for market participants at home and abroad, LabCFTC's mission is to promote responsible innovation among financial industry, stakeholders, and policymakers.



OVERVIEW OF DIGITAL ASSETS

What is a “Digital Asset”?

Digital assets continue to evolve. They vary in terms of design and application. A single, widely-accepted definition of “digital asset” has yet to emerge. Conceptually, however, a digital asset can be understood as:

Anything that can be stored and transmitted electronically, and has associated ownership or use rights.



Digital Photograph*



Bitcoin



Smart Contract

* One of the world's first digital scans produced by NIST's Standards Eastern Automatic Computer in 1957, <https://www.nist.gov/image/5940462465bca0791f6dojpg>

Key Features of Digital Assets

- A digital asset can represent physical or virtual assets, a value, or a use right/service (e.g., computer storage space).
- Digital assets may take many forms and may utilize various underlying technologies, including distributed ledger technology (DLT).
- Digital assets have a varied set of features and applications that touch a range of regulatory domains.
- Digital assets are created and maintained with software (code), and exist as data on a network. The software and network together enable digital asset transactions.
- Depending on its design, function, and use, a digital asset may be characterized differently, including as a commodity, swap or other derivative.

Digital Asset Ecosystem

Digital assets require basic technology building blocks to function and they are inextricably linked to a broader ecosystem.

- A digital asset ecosystem consists of those elements that enable the creation, propagation, and use of digital assets.
- At a minimum, this ecosystem must include a digital platform to build upon, developers to create and support the code that defines a digital asset, a network to enable the transfer of the digital asset, and entities to track and verify transactions.
- Additional ecosystem components can facilitate the use, trading, and functionality of digital assets, for example, by providing links or connectivity to the physical world.

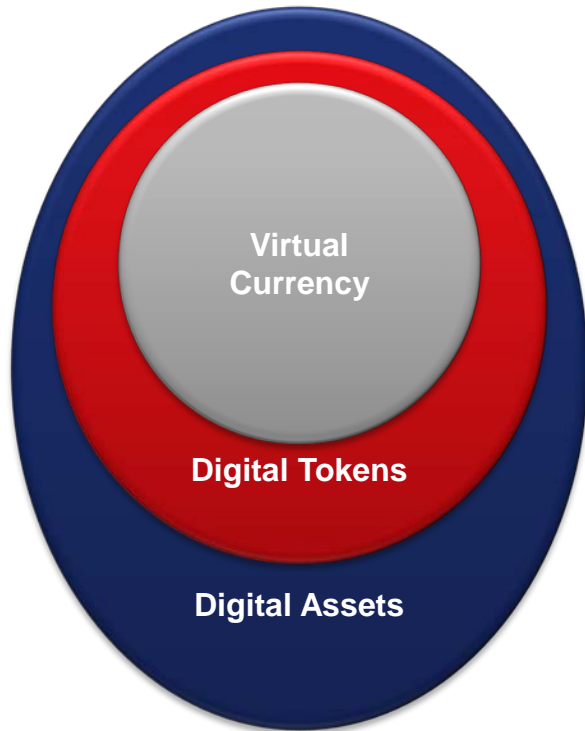
- On-/Off-ramps
- Exchanges
- Custodians
- Wallet providers
- Repositories
- Dealers
- Oracles
- Internet of Things (IoT) Sensors

Virtual Currencies

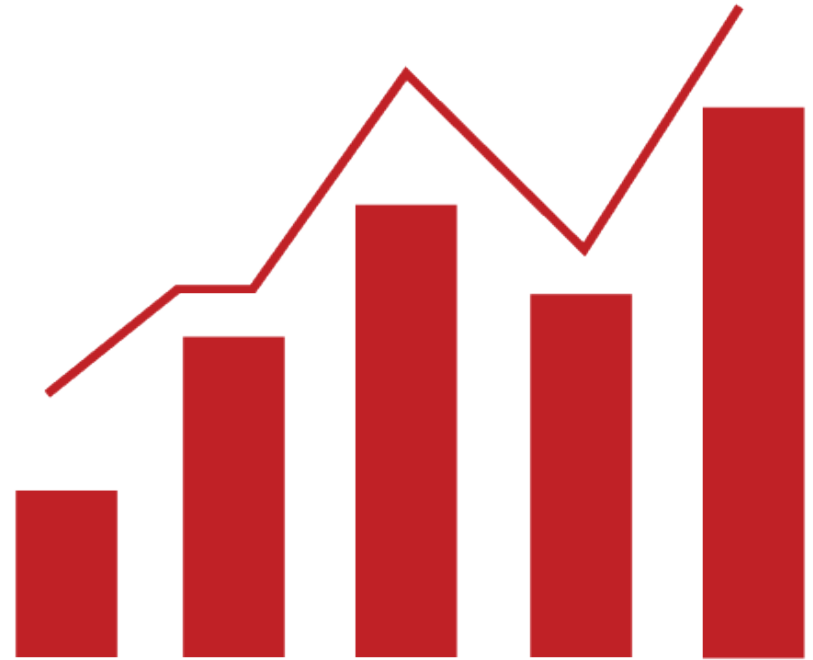
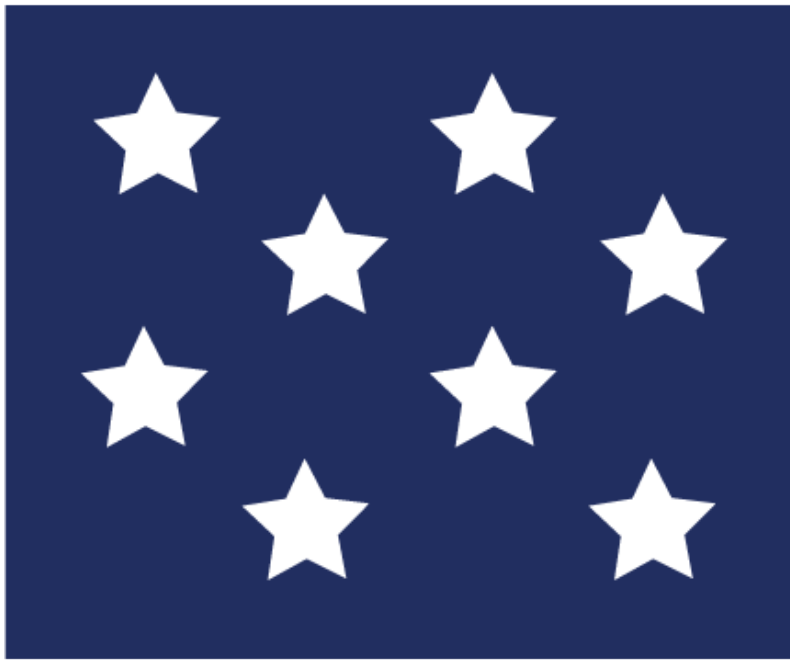
- A virtual currency is a digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value.*
- Launched in 2009, bitcoin was among the first virtual currencies to gain widespread public attention.
- Public virtual currency systems like the bitcoin platform seek to provide “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 described as “convertible” because it can be readily exchanged for fiat currency. Bitcoin remains the largest convertible virtual currency by market capitalization.

* See Retail Commodity Transactions Involving Certain Digital Assets (Final Interpretive Guidance), 85 FR 37734 (June 24, 2020), available at <https://www.cftc.gov/sites/default/files/2020/06/2020-11827a.pdf>. † Satoshi Nakamoto, [Bitcoin: A Peer-to-Peer Electronic Cash System](https://bitcoin.org/bitcoin.pdf) (Oct. 31, 2008), available at <https://bitcoin.org/bitcoin.pdf>.

Digital Assets vs. Virtual Currency



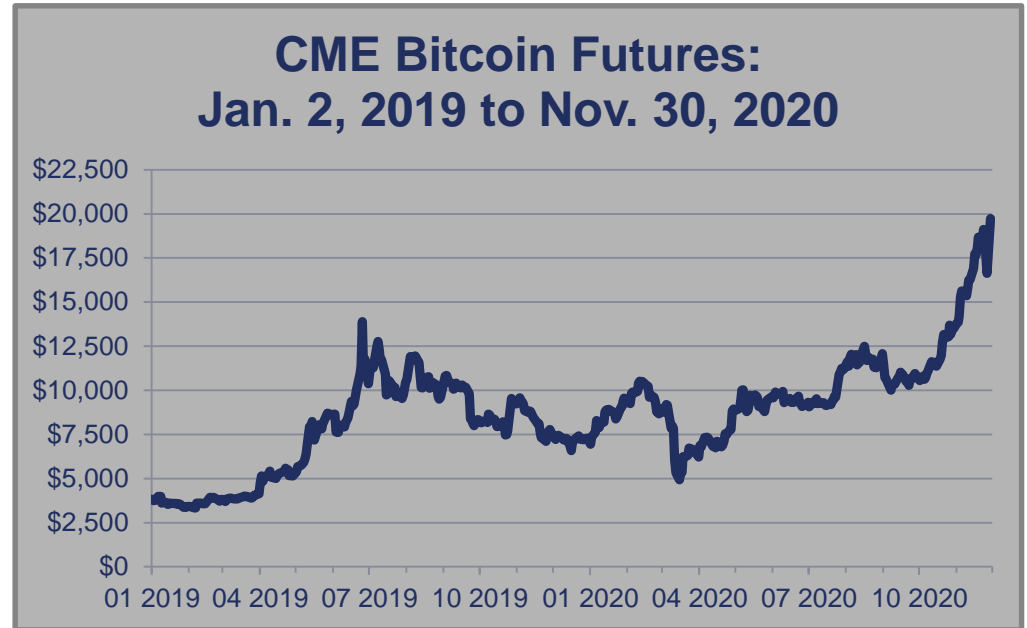
- Virtual currencies – sometimes called “coins,” “native tokens,” or “intrinsic tokens” – continue to be an important part of the digital asset landscape, which include markets the CFTC oversees. A common feature of virtual currencies is their intended purpose to serve as a medium of exchange.
- Digital token refers to a digital asset that requires another blockchain network to operate and may serve a variety of functions beyond virtual currency, e.g., utility tokens.
- Digital asset is a broader term that encompasses additional applications, including ownership, transaction tracking, identity management, and smart contracts. A digital asset may express characteristics of a commodity or commodity derivative.



DIGITAL ASSET MARKETS

The Digital Asset Marketplace

- In terms of market capitalization, bitcoin dominates. Its current market capitalization is many times that of other virtual currencies.
- The number of digital assets is growing. Tokens have been developed to address a wide range of uses. Many now trade through a variety of platforms.



The bitcoin price is based on daily settlements for the most active CME bitcoin futures contract. Source: CME and CFTC.

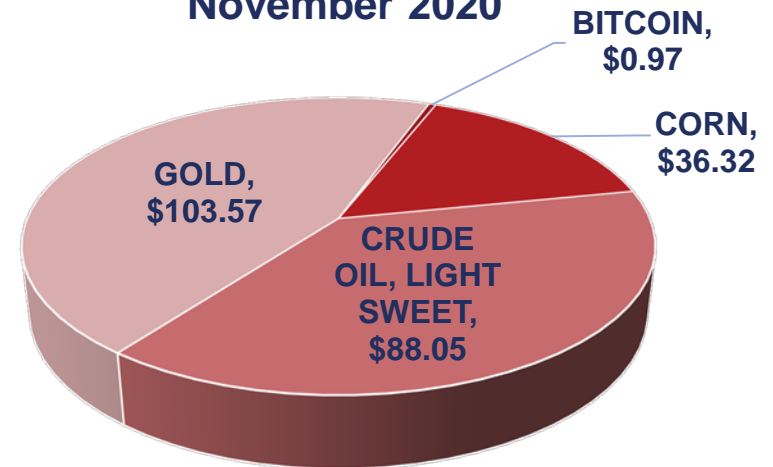
Digital Asset Market Development

Interest in trading digital asset derivatives is growing. Nevertheless, as a class, digital asset markets remain small relative to other traditional assets.

**Comparative Futures Open Interest
(\$bn notional value)
Jan. 2, 2019 to Nov. 30, 2020**

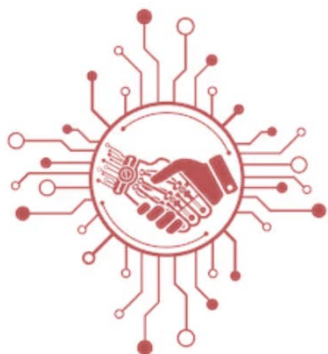


**Futures Open Interest
(\$bn avg notional value)
November 2020**



Source: CFTC analysis of daily futures settlement data.

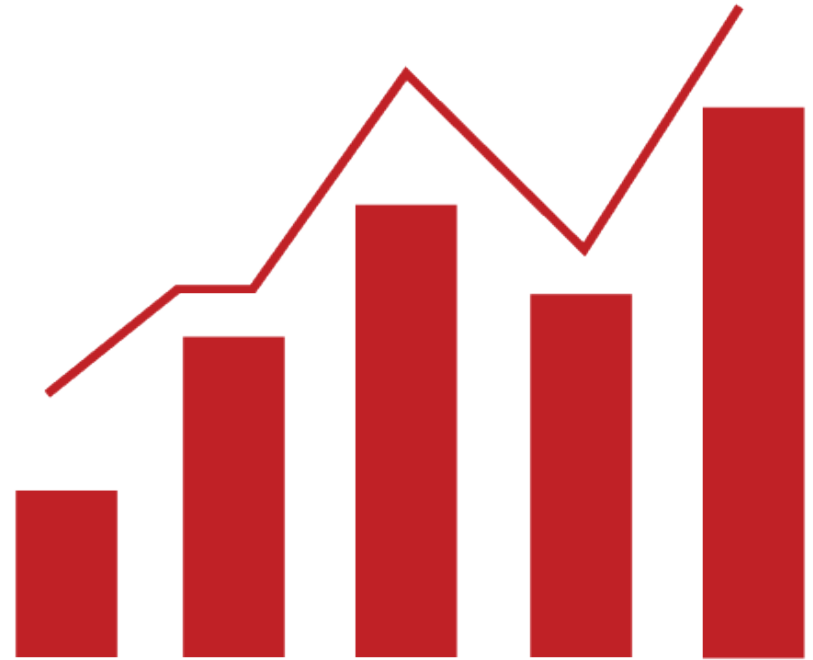
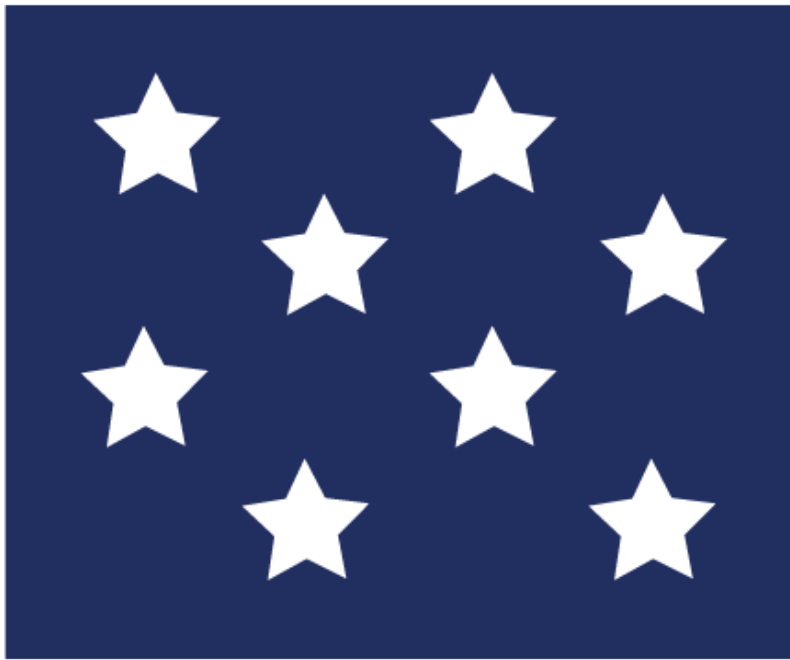
Measuring Digital Asset Markets



A variety of metrics can be utilized to evaluate digital asset markets. A non-exhaustive list of metrics includes:

- Digital asset values relative to currency or conventional assets.
- Number of digital asset users.
- Value of cash market and derivatives transactions.
- Transaction volumes in cash and derivatives markets.
- Overall market liquidity.
- Number of active or open digital asset derivatives contracts.
- Number of tokens and/or total value locked in smart contracts.
- Value of the marketplace (ecosystem) supporting digital assets.





REGULATORY RESPONSE

Digital Assets: Benefits and Risks

Digital assets offer significant potential. Yet, they also may present risks.

Benefits

- Increased transaction speed, efficiency, and certainty.
- “Democratization” of markets and financial inclusion.
- Automation through smart contracts.
- Simplified compliance.
- Enhanced security.
- Greater liquidity for assets.

Risks

- Market manipulation (e.g., insider trading, market corners, fraud).
- Lack of transparency, accountability and governance issues.
- Illicit transactions and activity.
- Cybersecurity, systems failure.
- Macroprudential economic risk.
- Resource consumption.

Reflecting its commitment to encourage and keep pace with innovation, the CFTC has set a goal in its Strategic Plan to develop a holistic framework to promote responsible innovation in digital assets.*

* See CFTC Strategic Plan 2020-2024, Goal 3.4, available at https://www.cftc.gov/media/3871/CFTC202024_2024StrategicPlan/download

Building Blocks for a Regulatory Framework

A number of elements may contribute to a robust regulatory framework for digital assets. These building blocks may include:

Native Governance

Mechanisms that determine how digital assets operate, including the coding process and the transaction verification process.

Community Standards and Best Practices

Standards and best practices governing digital assets and their ecosystems established by the user community.

Legal Agreements

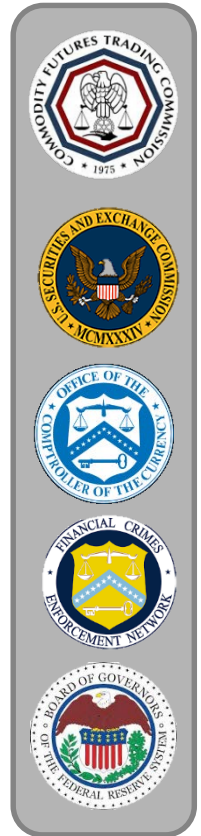
Legally enforceable agreements between two or more parties that can facilitate the adoption and use of digital assets.

Government Regulation

Principles, rules, and regulatory practice created and enforced by government authorities.

Key Builders: Government Authorities

- A variety of government authorities – federal, state, and international – are contributing to the regulatory framework for digital assets.
- In the U.S., many federal authorities are engaging. Examples include:
 - Commodity Futures Trading Commission (CFTC): Regulates futures and swaps markets, and certain other categories of commodity transactions.
 - Securities and Exchange Commission (SEC): Regulates U.S. capital markets and enforces federal securities laws.
 - Financial Crimes Enforcement Network (FinCEN): Oversees money service businesses and enforces anti-money laundering laws.
 - Office of the Comptroller of the Currency (OCC): Regulates national and foreign banks operating in the United States.
 - Federal Reserve System: Central Bank of the U.S. and regulates, among other areas, the payments industry.



Key Builders: Non-Government Stakeholders

- Working together with agencies like the CFTC, a variety of non-government stakeholders are contributing to the regulatory framework for digital assets.
- These stakeholders include a variety of representatives from within the digital asset industry as well as the broader financial services sector.
 - Developers and Developer Groups.
 - Digital Asset Businesses.
 - Industry and Digital Asset Users.
 - Financial Markets Participants.
 - Trade Associations.
 - Self-Regulatory Organizations.

Regulatory Engagement

- Regulatory authorities have a variety of tools to facilitate engagement:
 - Use of convening power to host internal, inter-agency, and public events.
 - Participation in working groups, task forces, and similar initiatives.
 - Contests, hackathons, and sandboxes.
 - Sponsored projects and partnerships.
 - Regulatory guidance on jurisdiction and applicable requirements.
- Proactive engagement benefits both regulators and stakeholders and promotes responsible innovation. It can enable:
 - Dedicated points of contact and mechanisms to provide non-binding guidance.
 - Opportunity to keep pace with innovation; insight on new products, technology, and services.
 - Understanding the existing regulatory framework and its application to digital assets; identification of potential friction points and risks.
 - Improved coordination among regulatory authorities and stakeholder groups.

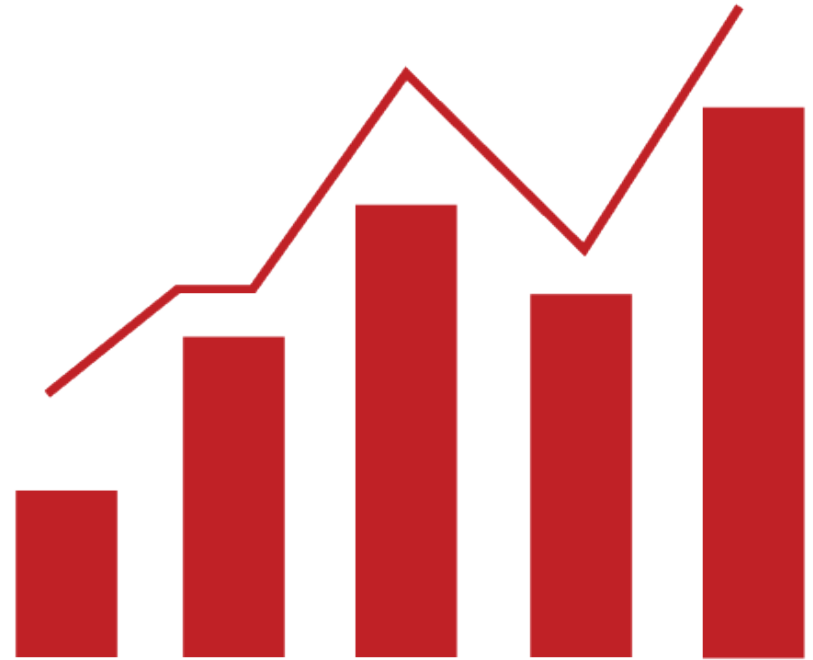
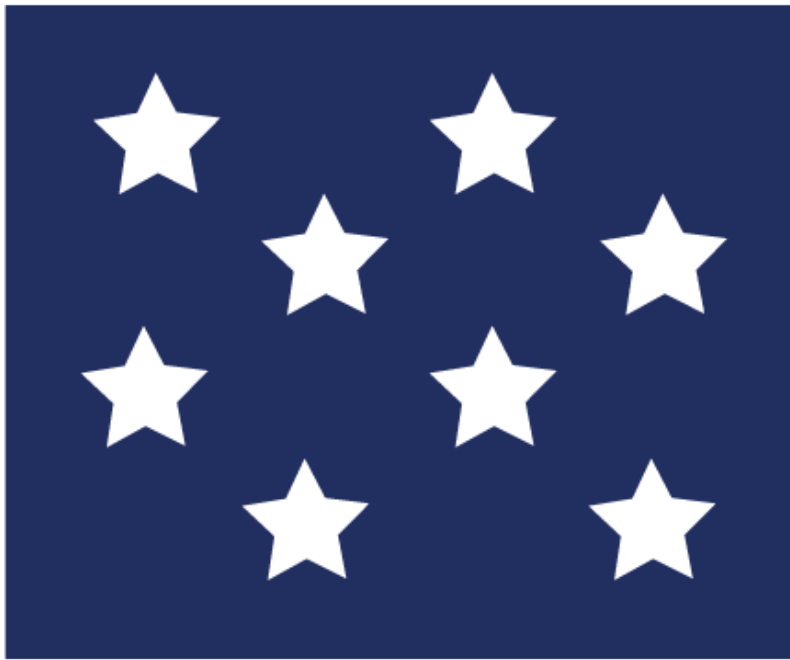
Regulatory Coordination

- Current rules largely originated before the advent of digital assets. Given their novel features and characteristics, digital assets expose gaps and overlaps in existing regulatory frameworks.
- Digital asset markets are global.
- Regulatory coordination is necessary for effective oversight and for the development of a coherent, harmonized framework.
- Effective coordination enables regulators to share information, advance common interests, and leverage resources. Coordination efforts also build trust and understanding among regulators.
- Mechanisms for coordination include formal agreements, inter-agency work groups, staff level initiatives, and multilateral organizations.

Classification of Digital Assets

- A deliberate evaluation of a digital asset can determine which regulatory frameworks may apply.
- The design, stated purpose, and observed use of a digital asset are each useful for an assessment.
 - Do existing regulations adequately apply to a particular digital asset?
- A taxonomy can help distinguish different groups of digital assets based on these criteria, and structure a regulatory framework.
 - Which digital assets or which aspects of their use should be subject to oversight? What rules or principles should apply?
 - How should oversight be implemented? Should multiple regulatory frameworks apply to a digital asset at the same time? Should a single regulator have primary authority?





DIGITAL ASSETS AND THE CFTC

CFTC + Digital Assets

- The Commodity Exchange Act (CEA) defines “commodity” broadly to include all “goods and articles, ... and all services, rights, and interests ... in which contracts for future delivery are presently or in the future dealt in.” 7 U.S.C. § 1a(9).
- The statutory definition of “commodity” is not limited to tangible (physical) commodities.
- Under the CEA, the CFTC has regulatory authority over most categories of derivatives transactions.
- Depending on their structure and use, digital assets may be deemed to be a commodity, swap, or other derivative.
- The CFTC also oversees certain derivatives market participants (e.g., dealers and intermediaries) and market infrastructure (e.g., exchanges and clearinghouses).*

* Note that clearinghouses may engage third party custodians to safeguard customer assets. The CFTC does not regulate or supervise these entities.

CFTC's Jurisdiction

- In 2015, the CFTC found: “Bitcoin and other virtual currencies are encompassed in the [commodity] definition and properly defined as commodities.” See *In the Matter of: Coinflip, Inc., d/b/a Derivabit, and Francisco Riordan*, CFTC Docket No. 15-29.*
- In 2016, the CFTC took action against a bitcoin exchange that was offering futures in the U.S. without registering with the agency. *In the Matter of: BFXNA INC. d/b/a BITFINEX*, CFTC Docket No. 16-19.†
- In 2017, the CFTC proposed guidance regarding its jurisdiction over certain types of retail transactions involving virtual currency. It finalized this guidance in 2020. See “Retail Commodity Transactions Involving Certain Digital Assets,” 85 FR 37734 (June 24, 2020).
- In 2018, federal courts affirm the CFTC’s jurisdiction over digital assets in two cases, *CFTC v. McDonnell*, 287 F. Supp. 3d 213 (E.D.N.Y. 2018) and *CFTC v. My Big Coin Pay, Inc. et al.*, 334 F. Supp. 3d 492 (D. Mass. 2018).
- In 2019, CFTC Chairman Heath Tarbert expressed his view that ether is a commodity, as defined by the CEA.†

* <https://www.cftc.gov/idc/groups/public/@Irenforcementactions/documents/legalpleading/enfcoinfliporder09172015.pdf>

† <https://www.cftc.gov/sites/default/files/idc/groups/public/@Irenforcementactions/documents/legalpleading/enfbfxnaorder060216.pdf>

† See, e.g., CFTC Press Release 8051-19, available at <https://www.cftc.gov/PressRoom/PressReleases/8051-19>.

Digital Asset Market Oversight

- To function as intended, digital asset markets must be transparent, safe, and resilient. A key objective of governance for digital assets is to promote and ensure market integrity.
- Market regulators like the CFTC have been committed to combatting fraud and abuse, as it relates to:
 - Unfair and deceptive sales practices.
 - Market manipulation.
 - “Pump and dump” and other fraudulent schemes.
- Digital asset stakeholders have also contributed by developing industry initiatives such as:
 - Codes of Conduct.
 - Compliance Protocols and Tools.
 - Market Surveillance Tools.

Joint Statement on Activities Involving Digital Assets

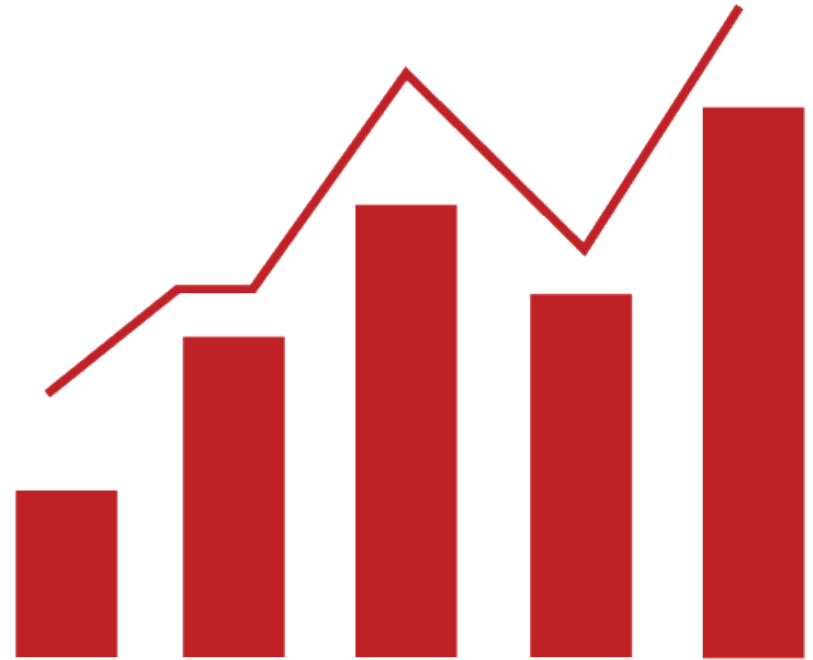
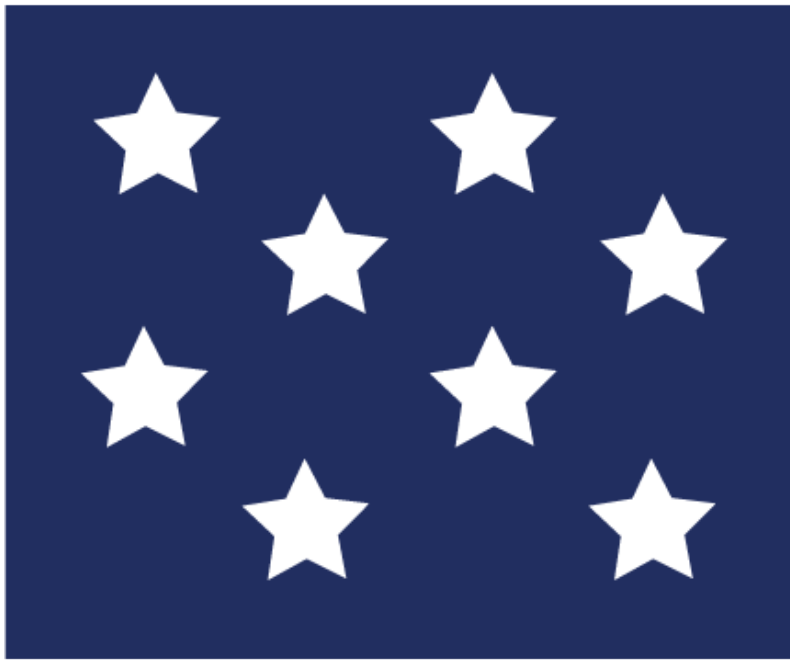
- Issued October 2019 by leaders of the CFTC, SEC, and FinCEN.*
- Reminder for entities engaging in digital asset transactions to comply with the anti-money laundering and countering the financing of terrorism (AML/CFT) requirements in the Bank Secrecy Act (BSA).
- The facts and circumstances of an entity’s digital asset-related activities is the key factor in determining whether and how that person must register with the CFTC, SEC, or FinCEN.
- The Joint Statement notes “any person ‘registered with, and functionally regulated or examined by, the SEC or the CFTC,’ would not be subject to the BSA obligations applicable to MSBs, but instead . . . would be subject to the BSA obligations of such a type of regulated entity.”†

* See <https://www.cftc.gov/PressRoom/SpeechesTestimony/cftcfincensecjointstatement101119>. † Id. ((citing 31 CFR § 1010.100(f)(8)(ii)).

Leveraged Retail Transactions

- In the Dodd-Frank Act, Congress extended CFTC jurisdiction to include leveraged retail commodity transactions entered into with, or offered to, parties that are not Eligible Contract Participants (ECPs).
- CEA Section 2(c)(2)(D) provides that such transactions, defined as "Retail Commodity Transactions," shall be treated as futures, except with respect to any contract of sale that results in "actual delivery" within 28 days.
- The Commission unanimously approved final interpretative guidance in March 2020 on the meaning of actual delivery for virtual currency transactions.[†]
 - Actual delivery means the transfer of possession and control and the ability to use the virtual currency freely.
 - Actual delivery would not be satisfied solely by a mere book entry by the counterparty seller or the offeror purporting to show delivery to the purchaser.
 - Nor is actual delivery satisfied merely by rolling or offsetting the transaction or settling the transaction in cash or another virtual currency.

[†] Retail Commodity Transactions Involving Certain Digital Assets, 85 FR 37734 (2020), available at <https://www.cftc.gov/sites/default/files/2020/06/2020-11827a.pdf>.



CFTC-REGULATED DIGITAL ASSET DERIVATIVES

Digital Asset Derivatives

- As digital assets continue to develop, market participants may find derivatives useful instruments for:
 - Hedging/Risk Management, e.g., a bitcoin miner or merchant that accepts bitcoin.
 - Speculation, directional, or volatility trading.
- Digital Asset derivatives offer a variety of potential benefits:
 - Provide a means to exchange value among different digital assets and fiat currencies.
 - May be cash-settled, enabling price exposure without having to own the virtual currency.
 - May be traded and cleared through CFTC-regulated platforms.
 - Help establish relative prices of digital assets, both limiting price fluctuations and providing a means to hedge the risk of price fluctuations.

Digital Asset Listed Products

- Digital asset derivatives markets are developing alongside the growth of underlying digital asset markets.
- A number of CFTC-registered platforms have listed digital asset derivative products, primarily based on bitcoin.
 - The first bitcoin derivative – a swap on its price – was listed for trading by TeraExchange in 2014. Other exchanges have also listed both cash settled and physically settled bitcoin derivatives.
 - In 2020, ErisX listed for trading the first futures contract based on ether.
- The number of products, listing exchanges, and aggregate average daily trading volume for digital asset derivatives listed on CFTC-registered platforms has increased over time.

Product Certification and Review Process

- Given their novel features, the CFTC released a staff advisory in 2018 that set out guidance for CFTC-registered entities seeking to list or clear virtual currency derivatives products.[†]
- That guidance stated trading platforms and clearinghouses should:
 1. Partner with spot market platforms that follow KYC/AML rules;
 2. Have information sharing agreements with spot market platforms;
 3. Monitor price settlement data from spot markets and identify/investigate anomalies and disproportionate moves;
 4. Set large trader reporting thresholds at five bitcoins or less;
 5. Regularly coordinate with CFTC surveillance staff and provide trade data; and
 6. Allow CFTC staff to review initial and maintenance margin for virtual currency futures.

[†] CFTC Staff Advisory No. 18-14, available at https://www.cftc.gov/sites/default/files/idc/groups/public/%40rlettergeneral/documents/letter/2018-05/18-14_0.pdf.

Self-Certification Process

- The Commodity Exchange Act provides designated contract markets (“DCMs”) and swap execution facilities (“SEFs”) with the option to either:
 - Submit a certification to the CFTC, or
 - Submit the contract for Commission approval.
- DCMs/SEFs bring the vast majority of new products to market through the certification process.
- When a DCM/SEF certifies a new contract it must determine that the offering complies with the CEA and Commission regulations, including that the new contract is not readily susceptible to manipulation (DCM/SEF Core Principle 3).
- To date, all virtual currency derivatives have been self-certified by trading venues.

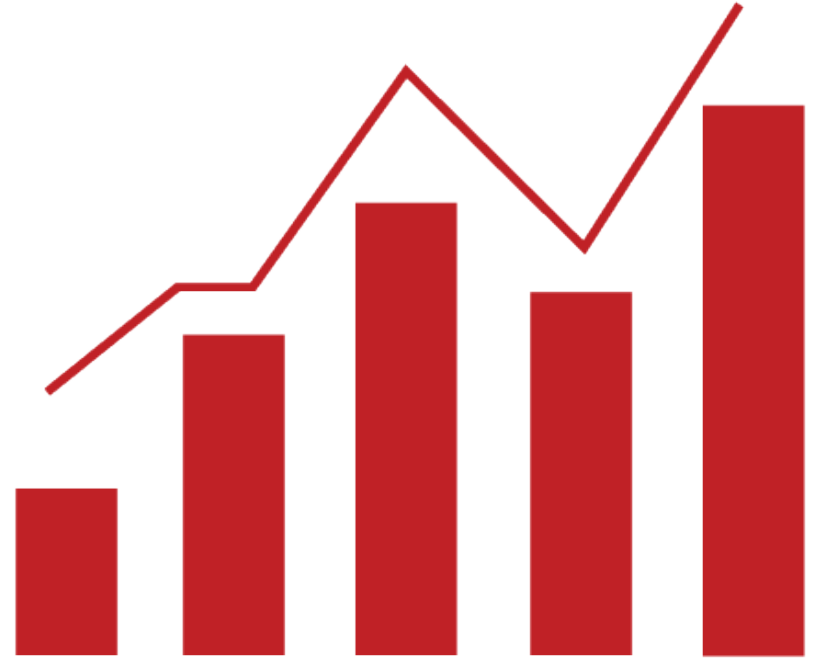
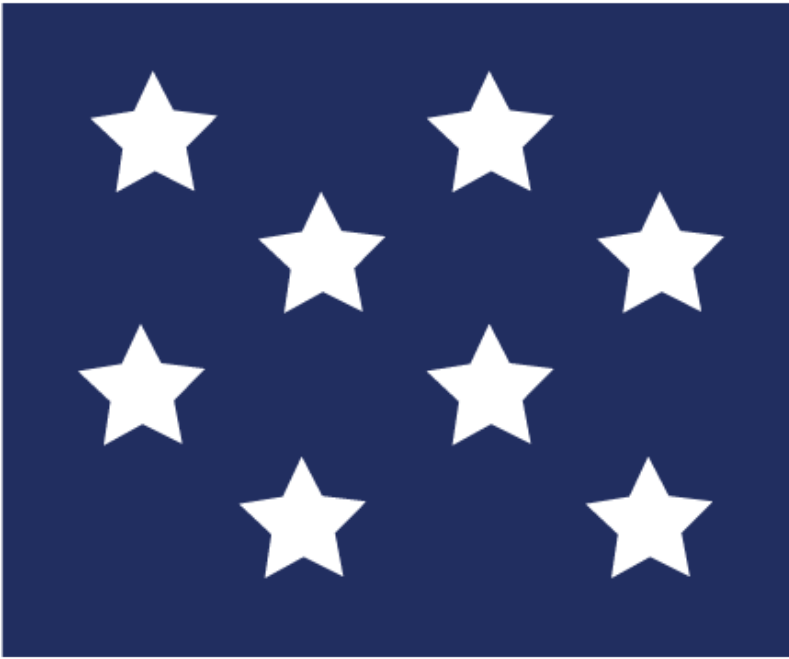
CFTC Staff Review of Listed Digital Asset Derivatives

For cash-settled digital asset derivatives, the primary focus is to ensure that the contract settlement prices are reliable. Among the issues, CFTC staff consider:

- What is the quality and liquidity of the underlying market and pricing data?
- Are there safeguards in place to ensure fraud and manipulation risk is mitigated?
- How robust is the methodology for calculating the settlement price?


For physically-settled digital asset derivatives, CFTC staff consider:

- Physical transfer and storage (custody). Are there appropriate protocols, safeguards, and security? Does the exchange have clear rules around the delivery process? Is it consistent with prevailing cash market practices?
- For cleared products, what is the role of the clearinghouse in the delivery process?
- What may be the impact of delivery on underlying cash markets? Could traders engage in squeezes, corners or other manipulative behavior?
- What protocols are in place to ensure fraud and manipulation risk is mitigated?




DIGITAL ASSETS MOVING FORWARD

Topics for Further Consideration




Digital assets are still new and evolving rapidly. How will digital assets and their ecosystems develop over time? What impact might decentralized finance have?



Digital assets offer potential in a range of contexts, as well as challenges and vulnerabilities. What are the opportunities and risks? What safeguards and protections are appropriate?



Good governance for digital assets is vital for their continued growth. What does an effective regulatory framework look like?



Digital asset markets are also rapidly developing. How can regulators support transparent, liquid markets and help ensure their integrity?



Questions? Contact Us

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