

Accounting for Digital Assets: Key Considerations

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INTRODUCTION

This paper explores the accounting implications of recent investment in and use of digital assets, including, but not limited to, cryptocurrencies. The paper aims to identify and illustrate how digital assets are accounted for and reported under US Generally Accepted Accounting Principles (US GAAP), as upheld by the Financial Accounting Standards Board (FASB), including comparisons with the International Financial Reporting Standards (IFRS), as upheld by the International Accounting Standards Board.

As use of digital assets becomes more pervasive, alternative approaches to accounting for digital assets should be introduced under US GAAP and IFRS to create more useful financial reporting information. At present, many market participants believe the existing accounting frameworks do not provide decision-useful information to users of financial statements.

The US Securities and Exchange Commission (SEC) has received a number of questions relating to digital asset-related transactions or business models. The topics covered include: (1) when digital assets represent an asset or liability of the registrant; (2) determining the cost basis for digital assets; and (3) revenue recognition considerations¹. The FASB issued a consultation in 2021 to invite stakeholder feedback about the future standard-setting agenda of the FASB, and the vast majority of respondents identified digital assets as a top priority. Out of 522 responses received by the FASB, 445 responses from a variety of stakeholders focused solely on accounting for digital assets. Those respondents included academics, holders of digital assets, individuals, investors and other preparers, practitioners and users of financial statements².

In this paper, it is proposed that the framework for accounting for digital assets should allow for such assets to be accounted for at fair value.

¹ Statement on OCA's Continued Focus on High Quality Financial Reporting in a Complex Environment, SEC, December 6, 2021, www.sec.gov/news/ statement/munter-oca-2021-12-06

² Feedback Summary on the 2021 Invitiation to Comment, FASB, fasb.org/page/showpdf?path=AGENDACONSULT-_bmho_-20211215. pdf&title=Agenda%20Consultation%20-%20Invitation%20to%20Comment%20Feedback%20Summary

EXECUTIVE SUMMARY

Digital assets have the potential to transform the way in which financial markets operate and how investors interact with the traditional financial system. The market capitalization of cryptocurrencies, the most common subset of digital assets, is approximately \$2 trillion, and this market has seen unprecedented growth in recent years. This paper provides an overview of the digital assets market today, explores the accounting and financial reporting challenges that have become pervasive in the market and explores potential accounting models that could resolve those challenges.

The digital asset landscape has continued to evolve across various types of market participants, products and technologies. New financial technology institutions have developed platforms to give users access to digital markets. Traditional financial institutions such as banks and exchanges have also started to offer a variety of products to provide their customers with exposure to digital assets such as derivatives, including futures and options, and structured products that reference underlying digital assets. These products are being offered to both institutional and retail investors that may be seeking to trade and invest in digital assets (see pages 6-8 for more detail on business activity in the market today).

The types of digital assets, technology and market participants are evolving rapidly. This paper categorizes digital assets into two groups:

1. Native digital assets that exist solely as a digital asset and do not represent any legal or proprietary interest in other assets;

2. Asset-referencing digital assets that reference an underlying asset or right through a legal or operational mechanism.

The type of digital asset will be a major factor in the accounting and financial reporting of the instrument under existing accounting rules. US GAAP does not specifically address the holder's accounting for digital assets. When applying the existing US GAAP guidance by analogy, native digital assets generally do not meet the definitions of cash, inventory or financial assets and as such are accounted for as intangible assets. However, for asset-referencing digital assets there are various nuances that holders need to consider. Accounting for asset-referencing digital assets will largely depend on the underlying asset (see pages 8-11 for more detail on the types of digital asset).

Under US GAAP, because digital assets are often accounted for as intangible assets, this could result in challenges for market participants that treat digital assets as a means for investment and active trading and may not appropriately reflect the economics of the assets in financial statements. If the fair value of the digital asset is less than the carrying amount, an impairment loss is recognized in an amount equal to the difference, but any subsequent increase in the fair value cannot be recognized until the digital asset is sold. The inability for companies to reflect this change in the fair value of the asset could be misleading to users of financial statements. Additionally, different cost identification methodologies can be applied under US GAAP, such as Last In First Out (LIFO) and First In First Out (FIFO). Without any specific guidance, there could be diversity in practice in the approaches applied that could ultimately impact the amount and timing of revenue or loss recognition (see pages 12-16 for more detail on US GAAP).

The accounting and financial reporting under IFRS is similar to US GAAP. However, there are other accounting models under IFRS that can be applicable, such as inventory that requires the assets to be measured at the lower of cost or net realizable value and is required if companies are actively trading digital assets with the objective of earning profit on increases in price in the short term (see pages 17-20 for a comparison between US GAAP and IFRS).

This paper explores alternative approaches to accounting for digital assets that could be considered by standard setters in order to resolve operational issues and provide transparent financial reporting for users of financial statements. This paper proposes that those matters can be resolved through standard setting and outlines different methods that provide for fair value measurement that would mitigate the accounting and reporting challenges. The preferred alternative is to allow for the fair value option to be declared for digital assets.

Accounting for digital assets at fair value would provide users of financial statements with more relevant and understandable information as to the fair value of the digital assets and liabilities at the time of the financial statements, as opposed to historical data based on a cost-less impairment model. It would also better reflect the economics and intent for why companies are transacting and investing in these products.

BACKGROUND AND SCOPE

The digital assets market and underlying technology are evolving at a rapid pace. There are a wide variety of digital assets in the market such as cryptocurrencies, asset- or fiat-backed stablecoins, and non-fungible tokens. The market capitalization for cryptocurrencies, the most common subset of digital assets, is approximately \$2 trillion, with unprecedented growth³. The size of the market for digital assets has expanded significantly in recent years. For example, Bitcoin and Ethereum, the two most common cryptocurrencies, had a market capitalization of approximately \$874 billion⁴ and \$440 billion⁵ respectively, as of the end of 2021. Combined, this is approximately 12% of gold's total market capitalization (around \$10 trillion), and an increase from \$215 and \$44 billion, respectively, from October 2020.

Business Activity: Market Participants and New Digital Asset-Linked Products

Not only has the digital asset market been growing substantially, but the breadth of market participants has also been expanding. Market participants come from a wide variety of industries and have begun to offer new products linked to digital assets.

Financial Technology Providers

The number of financial technology providers, or fintechs, offering digital asset-related services has been steadily increasing. Fintechs are generally thought of as start-ups and technology companies trying to supplement or amplify financial services provided by traditional financial institutions. These fintechs provide access to digital assets through electronic trading platforms that allow individuals to buy, hold, sell and transfer digital assets similar to traditional exchanges such as CME Group. Coinbase, the largest crypto exchange in the US, went public on April 14, 2021 and as of March 31, 2022, it has a market capitalization of around \$45 billion. Additional services are being offered to the users of digital asset platforms such as credit and debit card type products in order to use the digital assets held in their accounts to make purchases for everyday transactions. In addition, over the past few years there has been growing acceptance of initial coin offerings (ICOs), which is the digital asset industry's equivalent to an initial public offering. Fintechs use ICOs as a way to raise funds to create a new coin or app, or to help launch a new product or service.

Banks

The number of traditional banks and financial institutions offering digital asset-related products and services continues to grow. Banks are setting up trading desks to provide customers with exposure to digital assets, including digital asset referencing funds, as well as derivatives, structured notes and other transactions that reference digital assets. For example, Deutsche Bank plans to create a trading and digital asset issuance platform, bridging digital assets with traditional banking services, and managing the array of digital assets and fiat holdings in one easy-to-use platform⁶. Certain companies have also starterd to offer digital asset lending, whereby the holder of digital assets can lend its digital assets to a counterparty for a fee (similar to collateralized financing). Several global banks have worked together to participate in private blockchain networks for the execution of activities including trading repurchase agreements⁷. Not only have new products and financial arrangements linked to digital assets been introduced to institutional clients, but consumer products are also being made available.

³ Total Cryptocurrency Market Cap, CoinMarketCap, coinmarketcap.com/charts/

⁴ Bitcoin Price, CoinDesk, www.coindesk.com/price/bitcoin/

⁵ Ethereum Price, CoinDesk, www.coindesk.com/price/ethereum/

⁶ Deutsche Bank Quietly Plans to Offer Crypto Custody, Prime Brokerage, CoinDesk, February 13, 2021, www.coindesk.com/business/2021/02/13/ deutsche-bank-quietly-plans-to-offer-crypto-custody-prime-brokerage/

⁷ DLT: The future is distributed, KPMG, home.kpmg/xx/en/home/insights/2022/01/dlt-the-future-is-distributed.html

Custody Business

In July 2020, the Office of the Comptroller of Currency issued a statement allowing national banks to provide custody services for digital assets⁸. Banks are also beginning to offer their customers the ability to trade custody exchange-traded products, such as exchange-traded funds and notes that reference digital assets.

Derivatives and Exchange Activity

Digital asset derivatives increase transparency and liquidity in the digital assets market by facilitating price discovery and allowing market participants to hedge their risk⁹. Although there is some level of standardization, most participants are using their own bespoke contractual documentation (based on ISDA definitions and templates). ISDA is working to develop contractual standards for digital asset derivatives¹⁰.

CME offers entities the ability to manage digital asset risk with Bitcoin futures and options¹¹. In October 2021, CBOE Global Markets agreed to acquire crypto spot and derivatives marketplace ErisX, which will allow CBOE to offer a new set of digital asset derivatives offerings through ErisX's Bitcoin and Ether futures products, as well as spot digital asset trading¹².

The types of derivatives contracts seen in the market has grown beyond futures to include options and interest rate swaps. Banks and fintechs have also expanded their services to enable clearing of customer derivatives trades such as futures, including cash-settled Bitcoin or Ether contracts¹³. As illustrated in the following table, the cryptocurrency derivatives market continues to grow, making up a bigger share of the overall crypto market¹⁴.



Chart 1: Monthly trading volumes (\$ trillions)

Source: CryptoCompare, Financial Times

⁸ Interpretive Letter 1170, Authority of a National Bank to Provide Cryptocurrency Custody Services for Customers, Office of the Comptroller of the Currency, July 22, 2020, www.occ.gov/topics/charters-and-licensing/interpretations-and-actions/2020/int1170.pdf

- ⁹ Contractual Standards for Digital Asset Derivatives, ISDA, December 14, 2021, www.isda.org/2021/12/14/contractual-standards-for-digital-asset-derivatives
- ¹⁰ The Swap, Episode 18: Advancing Crypto Derivatives, ISDA, February 15, 2022, www.isda.org/2022/02/15/episode-18-advancing-crypto-derivatives
 ¹¹ Bitcoin Futures and Options, CME Group, www.cmegroup.com/markets/cryptocurrencies/bitcoin/bitcoin.html
- ¹² Cboe Agrees to Acquire ErisX, Entering Digital Asset Space with Spot, Derivatives and Clearing Platform, October 20, 2021, ir.cboe.com/news-andevents/2021/10-20-2021/cboe-agrees-acquire-erisx-entering-digital-asset-space-spot-derivatives-and-clearing-platform; Cboe acquires ErisX in Return to Crypto Derivatives Market, CoinDesk, October 20, 2021, www.coindesk.com/business/2021/10/20/cboe-reenters-crypto-derivatives-market-with-erisx-acquisition
- ¹³ Banks offer crypto clearing but, shhh, don't tell, Risk.net, February 8, 2022, www.risk.net/risk-management/7926971/banks-offer-crypto-clearing-butshhh-dont-tell
- ¹⁴ Crypto industry makes push into regulated derivatives markets, Financial Times, February 22, 2022, www.ft.com/content/364dee59-fb51-400b-acd2-808d4ec41ab3

Regulatory

There are ongoing discussions in the market around the regulation and oversight of digital assets. For example, regarding ICOs, there is a question as to whether digital assets should be subject to regulation and investor protection as investment securities from the SEC. Gary Gensler, chairman of the SEC, stated at the Aspen Security Forum on August 3, 2021, "Right now, we don't have enough investor protection in crypto. Frankly, at this time, it's more like the Wild West"¹⁵. More recently, on February 3, 2022, Gensler reiterated that he believes crypto exchanges should be registered with the SEC for the purposes of investor protection¹⁶.

On March 9, 2022, President Biden signed an executive order outlining the first ever whole-ofgovernment approach to addressing the risks and harnessing the potential benefits of digital assets and their underlying technology. The executive order sets out a national policy for digital assets across six key priority areas: consumer and investor protection; financial stability; illicit finance; US leadership in the global financial system and economic competitiveness; financial inclusion; and responsible innovation¹⁷.

Types of Digital Assets

There is currently no precise definition of a digital asset. There are broadly two forms of digital assets – native digital assets and asset-referencing digital assets.

1. Native digital assets exist solely as a digital asset and do not represent any legal or proprietary interest in other assets. An example of a category of native digital assets is cryptocurrencies. Cryptocurrencies are a medium for exchange that are digital and represented by an encrypted data string. Cryptocurrencies are commonly monitored and organized on blockchains or a peer-to-peer network for use as a publicly distributed ledger, which serves as a tamper evident ledger of transactions (eg, buying, selling, and transferring). For example, Bitcoin, the most common cryptocurrency, is solely a digital currency (ie, there is no central bank or administrator), and can only be transferred or transacted on the blockchain. Ownership in Bitcoin does not convey or represent a legal or proprietary interest in other assets. Normally, assets often have increasing values driven by opportunities and constraints (eg, scarcity). However, in the digital world, there is an 'artificial scarcity' issue because digital files can be duplicated and have diminished value unless they are protected by law or encryption/blockchain technologies.

2. Asset-referencing digital assets reference an underlying asset or right through a legal or operational mechanism. An example of a category of asset-referencing digital assets is fiat-backed stablecoins. Fiat-backed stablecoins are digital assets where the price is pegged to fiat money, can be traded on exchanges, and are often redeemable from the issuer for the underlying fiat currency. For example, US Dollar Coin (USDC) is a fiat-backed stablecoin that is pegged to the US dollar. Circle, the founder of USDC, claims that each USDC is backed by a US dollar held in reserve, or other assets (for example, treasuries) and therefore convertible on a one-to-one basis for cash. Unlike the example of Bitcoin above, ownership in USDC does reference an underlying asset (US dollar).

¹⁵ Remarks Before the Aspen Security Forum, Gary Gensler, SEC, August 3, 2021, www.sec.gov/news/public-statement/gensler-aspen-securityforum-2021-08-03

¹⁶ SEC's Meme Stock Response Coming Next Week, Gensler Says, Bloomberg, February 3, 2022, www.bloomberg.com/news/videos/2022-02-03/sec-smeme-stock-response-coming-next-week-gensler-says-video

¹⁷ Executive Order on Ensuring Responsible Development of Digital Assets, The White House, March 9, 2022, www.whitehouse.gov/briefing-room/ presidential-actions/2022/03/09/executive-order-on-ensuring-responsible-development-of-digital-assets

Recently, central banks and governments have been contemplating the use of central bank digital currencies (CBDCs) and how this could affect their economies and policies. A CBDC is a digital currency that is a virtual form of the country's fiat currency, or the government-issued currency. For example, the Federal Reserve Board has issued a discussion paper that examines the pros and cons of a potential US CBDC. As part of this process, the Federal Reserve is seeking public feedback on a range of topics related to CBDCs¹⁸. The importance of a potential CBDC was further reinforced by President Biden's executive order, which placed the "highest urgency on research and development efforts into the potential design and deployment options of a United States CBDC". CBDCs are different from other digital assets because they are intended to replace physical currencies, and this paper therefore does not consider CBDCs.

¹⁸ Central Bank Digital Currency (CBDC), Board of Governors of the Federal Reserve System, www.federalreserve.gov/central-bank-digital-currency.htm

The following table summarizes various types of digital assets by class, with definitions, examples, and other considerations:

Class	Definition	Examples	Other Considerations
Cryptocurrencies (native)	The type of digital assets that have all of the following characteristics: a. Function as a medium of exchange b. Not issued by a jurisdictional authority (eg, a sovereign government) c. Do not give rise to a contract between the holder and another party d. Are not considered a security ¹⁹ . Put another way, cryptocurrencies can be defined as digital assets that operate independently from a central bank and are intended to function as a medium of exchange or store of value ²⁰ .	Decentralized cryptocurrency (eg, Bitcoin*, Ethereum) operating in a public blockchain network.	 Produce Cashflows No; market participants primarily intend to act as a medium of exchange between different participants on a network. Changes in Price / Observability²¹ Price changes may be observable based on an active market for certain cryptocurrencies such as Bitcoin. Gain/Loss on Sale Yes. Contract price less cost/carrying value. Cash Consideration Cryptocurrencies can be purchased with fiat, but certain types may need to be purchased with other digital assets. Investor Protection or FDIC insured Not subject to specific regulatory requirements, governance and controls.
Stablecoins (asset referencing)	 Stablecoins are generally created, or 'minted', in exchange for fiat currency that the issuer receives from a user or third party²². Crypto assets peg their value to a traditional asset, such as fiat money. They are often backed by collateral (or a variety of 'reserves') and offer a promise or expectation that the coin can be redeemed at par upon request. 	 Algo-driven autonomous algorithm executing transactions (eg, Metronome), generally underpinned by a public blockchain network General asset backed (eg, Tether) Digital representations of fiat currency (eg, USDC*, Gemini dollar) 	 Produce Cashflows No; market participants can use stablecoins to earn yield by transferring stablecoins into digital asset trading platforms, or by using stablecoins to serve as collateral for loans and margined transactions, in exchange for interest or returns, or can be used as a means of payment. Changes in Price / Observability Same considerations as cryptocurrencies above. Gain/Loss on Sale Not expected due to intended price stability. For example, the price of Tether on February 18, 2022 was \$1.00²³. While no expected gain/loss in fiat currency, there is potential for FX risk, similar to FX-denominated currency. Cash Consideration Stablecoins can be purchased with fiat, but certain types may need to be purchased with other digital assets. Redemption rights vary considerably in terms of both who may present a stablecoin to an issuer for redemption and whether there are limits in the quantity of coins that may be redeemed²⁴.

¹⁹ Accounting for and auditing of Digital Assets practice aid, Association of International Certified Professional Accountants, www.aicpa.org/resources/ download/accounting-for-and-auditing-of-digital-assets-practice-aid-pdf

- ²⁰ Definitions are sourced from PwC's Crypto assets guide, unless otherwise noted, viewpoint.pwc.com/dt/us/en/pwc/accounting_guides/crypto-assets-guide/aboutthecryptoassets.html
- ²¹ PwC's Crypto assets Guide states: "It should be noted that the hierarchy level of a crypto asset might evolve over time. For example, it is possible that a crypto asset that was previously valued using Level 3 inputs [unobservable inputs] might become traded in an active market, or vice versa." ASC 820 fair value hierarchy level one and level two are considered observable. ASC 321-20-55-8 provides the following guidance on determining observable prices: "To identify observable price changes, an entity should consider relevant transactions that occurred on or before the balance sheet date that are known or can be reasonably known. To identify price changes that can be reasonably known, the entity should make a reasonable effort (that is without expending undue cost and effort) to identify any observable transactions that it may not be readily aware of. The entity need not conduct an exhaustive search for all observable price changes"
- ²² Report on Stablecoins, President's Working Group on Financial Markets, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency, November 2021, home.treasury.gov/system/files/136/StableCoinReport_Nov1_508.pdf
- ²³ CoinMarketCap, Tether, coinmarketcap.com/currencies/tether/
- ²⁴ Report on Stablecoins, President's Working Group on Financial Markets

Accounting for Digital Assets: Key Considerations

Class	Definition	Examples	Other Considerations
Tokens (asset referencing)	 Asset-backed token – a digital asset that derives its value from something that does not exist on the blockchain but instead is a representation of ownership of a physical asset (eg, natural resources, such as gold or oil). Utility token – Digital assets that provide users with access to a product or service. 	 Specific asset-backed tokens (eg, gold, diamonds, precious metals, real property) DeFi/Exchange tokens (eg, Uniswap, Chainlink, Binance) Non-Fungible Tokens (eg, Beeple, Top Shots) Utility tokens (eg, ZRX, BAT) 	 Produce Cashflows No Changes in Price / Observability Price changes may be observable based on the prices of the referenced assets. Gain/Loss on Sale Yes. Contract price less cost/carrying value. Cash Consideration Tokens can be purchased with fiat, but certain types may need the purchased with other digital assets.
Digital securities (asset referencing)	Digital assets that provide an economic stake in a legal entity. Sometimes it is a right to receive cash or another financial asset, which might be discretionary or mandatory. Sometimes it conveys the ability to vote in company decisions and/or represents a residual interest in the issuer entity. May be referred to as a security token.	 Equity tokens – digital representation of equity. Security tokens – expected return; debt instrument. Derivatives tokens – oil rights; derivative of traditional security or digital asset. 	 Produce Cashflows Yes, depending on the specific digital security. May provide a right to receive cash in the form of dividends or debt principal and interest payments. Changes in Price / Observability Similar considerations as the underlying. For example, a derivative token backed by an exchange-traded oil future could have observable price changes, whereas an equity token in a private company may not if it is a level-three instrument. For derivatives transactions involving venue-based price observations, it may be prudent to avoid limiting valuation of the digital asset to the price observed at only one particular trading venue and ensure the venues used for price observation purposes are supported by appropriate volumes. It may also be sensible for digital asset derivatives contracts to cater for the possible exclusion in certain circumstances of some categories of data or valuation sources, including trading venues, for price observation purposes. Similarly, index price sources for digital assets may derive their benchmarks from aggregated observed prices from a number of trading venues and may not provide transparency on their methodologies²⁵. Gain/Loss on Sale Yes. Contract price less cost/carrying value.

* Given their prevalence, Bitcoin and USDC are specifically addressed in the scope of the accounting analysis in this paper.

²⁵ Contractual Standards for Digital Asset Derivatives, ISDA, December 14, 2021, www.isda.org/2021/12/14/contractual-standards-for-digital-asset-derivatives

EXISTING ACCOUNTING MODELS

As explained in this paper, the size of the market and scope of products and participants have increased substantially. As the market continues to grow, the accounting and reporting of these products, services and activities will impact a larger number of companies. The following section addresses a number of important accounting and financial reporting issues for all digital assets. ISDA has also published a separate paper that explores issues relating to contractual standards for digital assets²⁶.

Balance Sheet Classification for Holders of Digital Assets

US GAAP does not specifically address the holder's accounting for digital assets and, therefore, various frameworks within the guidance must be applied by analogy.

As explained earlier in this paper, digital assets can be broadly defined in two categories: native digital assets and asset-referencing digital assets. This section examines the accounting framework under US GAAP and applies that framework to a native digital asset such as Bitcoin and an asset-referencing digital asset such as USDC.

When applying US GAAP, native digital assets do not generally meet the definitions of cash, inventory, or financial assets. However, there are certain nuances that will need to be considered for asset-referencing digital assets. These are explored in the decision tree and tables below. Stakeholders often refer to the American Institute of Certified Public Accountants (AICPA) Practice Aid²⁷ when determining the appropriate accounting treatment for digital assets.



²⁶ Contractual Standards for Digital Asset Derivatives, ISDA, December 14, 2021, www.isda.org/2021/12/14/contractual-standards-for-digital-asset-derivatives

²⁷ Accounting for and auditing of digital assets, AICPA, CIMA, us.aicpa.org/content/dam/aicpa/interestareas/informationtechnology/ downloadabledocuments/2104-39790-da-pda-update-web.pdf

Classification	Additional considerations for balance sheet classification under US GAAP
Cash and Cash Equivalents	Cash and cash equivalents include currencies backed by sovereign governments, demand deposits held with depository financial institutions, other accounts that have the general characteristics of demand deposits, or short-term, highly liquid investments that are readily convertible to cash with insignificant risk to changes in value.
Inventory	Inventory is tangible property held for sale in the ordinary course of business, in process of production for sale or to be consumed in the production of goods or services. However, for broker-dealers or investment companies applying Accounting Standards Codification (ASC) 940 or ASC 946, positions held for investment or trading purposes are generally marked to market.
Financial Instrument	A financial instrument is cash, an ownership interest in an entity, or a contract that imposes an obligation to deliver or a right to receive cash or another financial instrument.
Intangible Assets	Intangible assets are assets (not including financial assets) that lack physical substance.

In the following analysis, which uses publicly available information such as the AICPA Practice Aid, the considerations outlined above are applied to Bitcoin, the most common native digital asset in the market, and USDC, an asset-referencing digital asset.

Digital asset	Cash and Cash Equivalents	Inventory	Financial instrument	Intangible
Bitcoin	N/A – not legal tender and does not have a maturity date	N/A – lacks physical substance	N/A – not a contractual right to cash or another financial instrument	Default category. If an entity is unable to meet the other accounting definitions, the digital asset must be classified here
USDC	N/A – not legal tender and does not have a maturity date	N/A – lacks physical substance	USDC is a financial instrument because it is redeemable for cash	N/A

The terms of asset-referencing digital assets can vary widely and, therefore, the accounting framework to be applied under US GAAP needs to be considered on a case-by-case basis. For example, as described under Question 22 of the AICPA Practice Aid, Accounting for and Auditing of Digital Assets, stablecoins differ from native digital assets in that they include mechanisms designed to minimize price volatility by linking their values to the value of a more traditional asset, such as a fiat currency, a commodity, or with an ownership interest in the issuing entity. In the case where the stablecoin represents an ownership interest, it should be evaluated under relevant GAAP (for example, ASC 321, Investments — Equity Securities; ASC 323, Investments—Equity Method and Joint Ventures; or ASC 810, Consolidation). Other types of stablecoins may be financial assets or financial instruments containing an embedded feature that should be evaluated under ASC 815, Derivatives and Hedging.

Initial Recognition and Measurement

When digital assets are being held by a custodian, there are accounting considerations regarding whether the digital assets should be recognized on the financial statements of the depositor or the custodian. This will depend on which entity has present rights to the digital assets, which is one of the characteristics of an asset as defined by Concepts Statement No. 8. (CON 8) The party that has the present right will be based on the agreement between the depositor and custodian and applicable laws and regulations.

According to CON 8, the two essential characteristics of an asset are:

a. It is a present right; and

b. The right is to an economic benefit

According to CON 8, the combination of those two characteristics allows an entity to obtain the economic benefit and control others' access to the benefit. If it is determined that the depositor has control over the digital asset, then the depositor should recognize the digital asset in its financial statements. This is usually the case for other types of assets (such as equity and debt securities) held in custody.

If it is determined that the depositor does not have control over the digital asset – that is, the custodian has control – then the depositor should recognize a right to receive the digital asset from the custodian as an asset in its financial statements. The custodian should recognize the digital asset as its asset and recognize a corresponding liability to return the digital asset to the depositor in its financial statements²⁸.

The initial recognition and measurement of the digital asset will depend on whether it is classified as an intangible asset such as Bitcoin or a financial asset such as a stablecoin, and whether the entity applies the industry specific guidance in ASC 940 or ASC 946.

Classification	Guidance
Intangible asset	Acquired for cash The cash paid, including transaction costs, represents the cost of the digital asset for the buyer. Acquired in exchange for goods or services from a customer Transactions involving the receipt of digital assets in exchange for goods or services provided in the ordinary course of business with customers follows the non-cash consideration guidance in ASC 606. The entity should also determine whether there is an embedded derivative in the contract with the customer
	Acquired in exchange for non-financial assets from a non-customer ²⁹ Transactions involving the receipt of digital assets from a non-customer for non-financial assets follows the guidance in ASC 610-20.
Financial asset	Could be accounted for as a debt security (ASC 320), equity security (ASC 321), or receivable (ASC 310), depending on the specific facts and circumstances. ASC 825 permits fair value accounting for financial assets. Equity method (ASC 323), consolidation (ASC 810), and derivative (ASC 815) accounting considerations should also be considered. The digital asset should initially be measured at the purchase price, including transaction costs, or the exit price if the asset is accounted for at fair value.
Broker-dealer or investment company applying ASC 940 or ASC 946	Whether a native digital asset or an asset-referencing digital asset, positions held for investment or trading purposes are generally marked to market. Should initially be measured at the purchase price, including transaction costs, or the exit price if the asset is accounted for at fair value.

Initial recognition and measurement are summarized in the following table.

²⁸ Accounting for and auditing of digital assets, AICPA, CIMA, us.aicpa.org/content/dam/aicpa/interestareas/informationtechnology/ downloadabledocuments/2104-39790-da-pda-update-web.pdf

²⁹ As demonstrated, digital assets can be monetized for cash or in a non-cash exchange

On March 31, 2022, the SEC published Staff Accounting Bulletin number 121 (SAB 121). This bulletin adds interpretative guidance for entities when they have obligations to safeguard crypto assets held for their platform users. The staff believes the technological, legal and regulatory risks associated with safeguarding client crypto assets warrants recognition, measurement and disclosure due to the significant impact these risks can have on the entity's operations and financial condition. In line with SAB 121, the staff believes it is appropriate for these entities to measure this safeguarding liability at initial recognition and each reporting date at the fair value of the crypto assets the entities are responsible for holding. The staff also believes it would be appropriate to recognize an asset at the same time that it recognizes a safeguarding liability, measured at initial recognition and each reporting date at the fair value of the crypto assets the same time that it recognizes a safeguarding liability, measured at initial recognition and each reporting date at the fair value of the crypto assets held for its platform users. As a result, the profit and loss impact would be between the change in the fair value of the safeguarding liability and the asset that will be offset.

Subsequent Measurement and Impairment

As shown by the analysis above, the current accounting framework under US GAAP can result in digital assets being accounted for as indefinite-lived intangible assets. Under that current model, if the fair value of the digital asset is less than the carrying amount, an impairment loss is recognized in an amount equal to the difference, as stated by ASC 350.

For example, if a company purchased Bitcoin on September 1, 20XX for \$50,000 and the price drops to \$43,000 on September 30, 20XX, the company needs to recognize a loss and impair the Bitcoin on the balance sheet by \$7,000. On December 31, 20XX, the next balance sheet date, the price of Bitcoin has increased to \$47,000. As companies can only recognize decreases in the value of digital assets resulting from impairment, the company will not be able to recognize the \$4,000 increase in this example until the assets are transferred to another party, because subsequent reversals of a previously recognized impairment are prohibited.

Comparison to IFRS

Under IFRS, similar to US GAAP, for many entities, the accounting for native digital assets will fall into the category of intangible assets. However, as explained in the table below, an inventory classification may be more appropriate for entities reporting under IFRS. For certain entities, it is also possible under IFRS that accounting for digital assets at fair value would be appropriate. The table shows the accounting analysis for Bitcoin and USDC, similar to the analysis under US GAAP above.

Classification	Analysis under IFRS		
	Bitcoin (which may apply for other native digital assets)	USDC (which may apply for other fiat-backed stablecoins, a subset of asset-referencing digital assets)	
Cash and Cash Equivalents	Bitcoin will not meet the definition of cash as it is not accepted as either a form of legal tender or backed by a sovereign government, nor would it be viewed as a cash equivalent as it does not have a maturity and can experience significant price volatility.	USDC will not meet the definition of cash as it is not accepted as either a form of legal tender or backed by a sovereign government, nor would it be viewed as a cash equivalent as it does not have a maturity.	
Inventory	Under IAS 2, if companies are actively trading Bitcoin with the objective of earning profit on increases in price in the short term, they should consider accounting for digital assets as inventory. This conclusion results in accounting for Bitcoin at the lower of cost or market.	Under IAS 2, if companies are actively trading digital assets with the objective of earning profit on increases in price in the short term, they should consider accounting for digital assets as inventory. IAS 2 does not apply to financial instruments. See below for the analysis of USDC as a financial instrument.	

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Classification	Analysis u	Analysis under IFRS		
	Bitcoin (which may apply for other native digital assets)	USDC (which may apply for other fiat-backed stablecoins, a subset of asset-referencing digital assets)		
Financial Instrument	Bitcoin is not a financial instrument because it does not represent a right to receive cash or another financial instrument from a second entity. Owning Bitcoin does not provide the holder with the right to exchange it for legal currency.	USDC is collateralized and redeemable on a one-for-one basis for US dollars. USDC does not meet the definition of a derivative because it does not meet the no initial or small initial net investment criteria under IFRS 9. However, it would be considered a financial asset because USDC can be redeemed for cash.		
Intangible Assets	Because none of the above classifications are met and Bitcoin, and many other native digital assets, are assets that lack physical substance, they are accounted for as intangible assets.	Not applicable.		

As described above, under both US GAAP and IFRS, Bitcoin is accounted for as an intangible asset and USDC is accounted for as a financial instrument. However, under IFRS, there are other accounting models that can be applicable to more market participants, such as inventory that requires the assets to be measured at the lower of cost or net realizable value, which is required if companies are actively trading digital assets with the objective of earning profit on price increases in the short term.

As noted above, under US GAAP, investment companies as defined under ASC 946, Financial Services - Investment Companies, should account for their digital asset investments as 'other investments' and subsequently measure these assets at fair value through earnings. Additionally, broker-dealers within scope of ASC 940, Financial Services – Broker-Dealers, should measure digital assets held in their proprietary trading portfolio at fair value, with changes in fair value recognized in profit and loss. Similarly, under IFRS, digital assets could be held for sale in the ordinary course of business, for example, by a commodity broker-trader. Normally International Accounting Standard 2, Inventories, requires measurement at the lower of cost and net realizable value for inventory. However, commodity broker-traders that acquire and sell digital assets principally to generate profit from fluctuations in price or broker-traders' margin have the choice to measure their digital asset inventories at fair value less costs to sell. As a result, under existing IFRS there are models that would allow for the accounting of digital assets at fair value for any company that holds digital assets for sale in the ordinary course of business as compared to just investment companies or broker-dealers as defined under ASC 946 and ASC 940, respectively, for US GAAP.

Additionally, under IFRS, there is a revaluation model for intangible assets if the fair value can be determined by reference to an active market, which is defined by IFRS 13, Fair Value Measurement, as "a market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis". Under the revaluation model, intangible assets are measured at their fair value on the date of revaluation less any subsequent impairment losses and amortization, though generally no amortization is expected for digital assets. Movements in value above cost and recorded in other comprehensive income and movements below costs are measured through profit and loss. There is no recycling of gains or losses upon derecognition in this model.

Due to the significant potential changes in valuation of digital assets, the financial reporting results could vary significantly between US GAAP and IFRS for similar or even the same entities holding the same digital assets.

PROPOSED ACCOUNTING MODELS

The lack of specific standards under US GAAP and IFRS for digital assets has led companies with digital asset holdings to apply GAAP to determine the accounting model that can result in outcomes that discourage companies from buying and holding digital assets. It is essential that businesses and investors of all types are able to clearly reflect the value of their assets on their balance sheets.

Issues with Existing Accounting Models

The existing accounting model under ASC 350 is not aligned with the economics of digital assets and, therefore, current accounting will not reflect the true nature and value of these assets. The following example illustrates the issue with accounting for digital assets as indefinite-lived intangible assets.

MicroStrategy Incorporated held a total of 70,469 Bitcoins as of December 31, 2020, which had an approximate market value of \$2.0 billion, yet the Bitcoin were reflected on its year-end balance sheet as having a carrying value of only \$1.1 billion, due to the accounting treatment under existing US GAAP. The inability for companies to reflect this change in value of the asset could be misleading to users of financial statements, particular in this case as the position was held for trading purposes. Further, if this entity met the definition of an investment company under ASC 946, it would present the digital asset at fair value. This difference in accounting does not allow for comparability among different company types that hold a similar instrument.

There are different measurement bases that can be applied under US GAAP, such as LIFO and FIFO. Without any specific guidance, there could be diversity in practice in the approaches applied, which could ultimately impact the amount and timing of revenue or loss recognition. There is also an operational burden for entities that frequently transact in digital assets to determine the unit of account when assessing impairment. As described in question seven of the AICPA Practice Guide, entities usually have the ability to sell or otherwise dispose of each unit (or a divisible fraction of a unit) of a digital asset separately from any other units, and therefore entities will generally reach the determination that the individual unit (or a divisible fraction of a unit) represents the unit of account for impairment testing purposes. Entities could consider impairment testing on batches of digital assets with the same acquisition date and carrying value, and it is possible for the price of a digital asset to materially change over the course of a single day.

In addition, under the existing framework some market participants consider applying hedge accounting to digital assets accounted for as intangibles to hedge the total price risk. The use of different costing methodologies and interaction with impairment could result in complexity in the application of hedge accounting and provide confusing results to users of financial statements.

The institutional adoption of digital assets is leading more companies to seek ways to hedge the risk associated with the volatility in digital asset prices. The launch of Bitcoin and Ether futures by CME, which now have daily trading volumes regularly exceeding \$1 billion, represents a significant step forward in this respect, with many digital asset-linked products (eg, Bitcoin exchange-traded funds) referencing the futures price. Under US GAAP, ASC 815, derivatives must be accounted for at fair value, with changes in fair value reported through earnings, while the underlying digital asset is measured at cost less impairment. Companies that enter into derivatives for hedging purposes will be exposed to earnings volatility when marking the derivative to fair value without any offsetting mark-to-market on the digital asset.

Meanwhile, companies that enter into digital asset derivatives to gain exposure to that digital asset will have different accounting and financial reporting results to companies that own the underlying digital assets. As the digital asset derivatives market continues to grow, companies will face challenges in the subsequent measurement model for digital assets as compared to derivatives. Companies are more commonly using derivatives to hedge the risk associated with the significant price volatility of digital assets, or speculatively to take advantage of that volatility.

Another complexity in the existing accounting model exists where companies may be required to recognize a digital asset on the balance sheet and bifurcate an embedded derivative liability to return the digital asset. As discussed above, this issue will commonly occur in digital asset lending transactions or in custodial relationships where the custodian retains control of the digital asset.

An accounting model should be considered to properly reflect the nature, liquidity and value of the digital assets that is consistent with the economic reality that entities and individuals are trading and investing in these products for their inherent value.

Other models that may be more appropriate, depending on the circumstances, could be accounting for digital assets at fair value through the fair option model under ASC 820, or through a model akin to the guidance for equity securities that requires all securities to be measured at fair value unless the security does not have a readily determinable fair value under ASC 321.

Fair Value Option

An accounting model that could be considered for digital assets would be to allow the fair value option (FVO) resulting in similar treatment as derivatives instruments. From the Basis for Conclusions from the Statement of Financial Accounting Standards No. 159, the board decided to permit entities to elect the FVO for financial assets and liabilities for the following reasons:

a. A FVO would enable entities to mitigate the volatility in earnings that results from different measuring attributes in reporting related to financial assets and liabilities;

b. A FVO would enable entities to achieve consistent accounting and, potentially, an offsetting effect for the changes in the fair value of related assets and liabilities;

c. The board believes fair value for financial assets and financial liabilities provides more relevant and understandable information than cost or cost-based measures. The board considers fair value measurement of financial instruments to be more relevant to financial statement users than costbased measurements because fair value reflects the current cash equivalent of the entity's financial instruments rather than the price of a past transaction. The board also believes that, with the passage of time, historical prices become irrelevant in assessing an entity's current financial position.

Digital assets should have the option to be measured at fair value for the same reasons the board permitted the FVO for financial assets and liabilities. The FVO would enable entities to mitigate volatility in earnings from different measuring attributes in assets and liabilities. The FVO for digital assets would also provide more consistent accounting for the offsetting changes between digital assets and digital liabilities. Finally, accounting for digital assets at fair value would provide users of financial statements with more relevant and understandable information as to the value of the digital assets and liabilities at the time of the financial statements, as opposed to historical data based on a cost less impairment model.

The FVO provides a reliable and faithful representation at a point in time given the price volatility and is a more simplified model, as shown in the Bitcoin example.

If a company purchased Bitcoin on September 1, 20XX for \$50,000 and the price drops to \$43,000 on September 30, 20XX, the company needs to recognize a loss of \$7,000. On December 31, 20XX, the next balance sheet date, the price of Bitcoin has increased to \$47,000. If the FVO were permitted, the company would be able to write the Bitcoin back up to \$47,000 and recognize a gain of \$4,000 for the period between September 30 and December 31, 20XX.

Another benefit of allowing a FVO approach to digital assets would be to resolve the accounting issues identified above. If digital assets are accounted for at fair value, there will be no need to select a costing methodology as positions will be marked to market each reporting period or more frequently. The FVO would also resolve challenges when entering into lending and borrowing arrangements with digital assets where the digital asset is measured at cost less impairment, whereas the liability to return the digital asset has a bifurcated embedded derivative that is marked to market through earnings. Allowing the digital assets to be accounted for at fair value would avoid this mismatch in accounting between the asset and liability side of the balance sheet.

In addition, allowing entities the option to account for digital assets at fair value will enable them to economically hedge their risk without applying hedge accounting, for example, because a FVO would allow both the digital asset and derivative to be marked to market with gains or losses recognized in the same period. While many market participants believe having the ability to apply the FVO is preferable to the existing accounting model, ISDA acknowledges that it could be operationally burdensome for companies that do not choose FVO for all holdings, as they will have to separately track each individual digital asset where the choice has been made, and document that choice. Entities will also need to consider the fair value hierarchy when disclosing their digital assets.

The hierarchy includes:

- Level 1: Quoted prices (unadjusted) in active markets for identical assets and liabilities that the reporting entity can access at the measurement date;
- Level 2: Inputs other than quoted prices in active markets for identical assets and liabilities that are observable either directly or indirectly;
- Level 3: Unobservable inputs.

Entities will need to consider the facts and circumstances for each digital asset they hold when determining the appropriate level.

Subsequent Measurement at Fair Value Unless There is Not a Readily Determinable Fair Value

An alternative model would be to account for all digital assets at fair value unless the assets do not have a readily determinable fair value, in which case they could apply an alternate model. This model is analogous to the guidance for equity securities without readily determinable fair values in ASC 321-10-35-2. Under this guidance, an entity may elect to measure an equity security without a readily determinable fair value that does not qualify for the practical expedient to estimate fair value in accordance with ASC 820-10-35-59 at its cost minus impairment, if any. If an entity identifies observable price changes in orderly transactions for the identical or a similar investment of the same issuer, it shall measure the equity security at fair value as of the date that the observable transaction occurred.

This model would require all digital assets with readily determinable fair values to be accounted for at fair value unless there is no readily determinable fair value. For assets without a readily determinable fair value, entities have an option to apply the cost less impairment model as noted above. Similar to the FVO option model, this alternative would also resolve the challenges around the cost basis, digital asset lending and hedging previously discussed. However, a potential downside is that the alternate model for those digital assets without a readily determinable fair value would require entities to set up a process for monitoring observable price changes in orderly transactions that may be operationally burdensome.

In summary, because digital assets are new and unique from other assets, the existing accounting guidance has not fully contemplated the financial reporting of these assets. A framework should be developed that will better reflect the economics of holding and trading digital assets. As discussed in this paper, a fair value model could be considered where changes in price will be immediately reflected in earnings if the entity holds digital assets for the purposes of generating a profit from fluctuations in price in the near future. Accounting for digital assets in one of these proposed models would better reflect the economics and objectives for companies transacting and investing in these products.

These views are consistent with the letter from Congress to the FASB on May 12, 2021, on the need for authoritative guidance in accounting for these assets. Under both approaches, we believe fair value through profit and loss is the best approach when fair value is used. Other comprehensive income is not appropriate as the fair value fluctuations do provide decision-useful information to investors and would not be an item that investors would remove from net income³⁰.

³⁰ Paragraph BC7.21 of Concepts Statement 8, Chapter 7 *Presentation* acknowledges the lack of conceptual basis for other comprehensive income (OCI) and states: In developing the proposed chapter, the Board concluded that it was not possible to identify a consistent set of circumstances in which components of comprehensive income should be reported in OCI. In other words, there is no conceptual basis for OCI. For every item that is currently reported in OCI, there is an item of similar nature that is included outside OCI as well. The basis for conclusions of each standard that allows or requires items to be included in OCI rarely suggests why the item has been included in OCI. It is also important to note that a discussion of OCI in the conceptual framework would not be complete without mentioning recycling. Because there is no conceptual basis for excluding items from net income, there is no conceptual basis for reclassifying those items into net income at a later date. After reconsideration, the Board affirmed the conclusions stated in this paragraph

CONCLUSION

This paper has identified and illustrated the accounting and financial reporting challenges associated with various types of digital assets due to the lack of specific guidance and existing accounting models under both US GAAP and IFRS.

As adoption of digital assets continues to rise, these issues will only become more pervasive. Standard setters should explore alternative approaches to accounting for digital assets in order to resolve operational issues and provide transparent financial reporting for users of financial statements.

This paper proposes that these issues can be resolved through standard setting and outlines two methods that could mitigate the accounting and reporting challenges. These methods include a FVO approach or requiring subsequent measurement at fair value unless there is not a readily determinable fair value.

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