

United States House of Representatives
Committee on Financial Services
2129 Rayburn House Office Building
Washington, D.C. 20515

December 3, 2021

Memorandum

To: Members, Committee on Financial Services
From: FSC Majority Staff
Subject: December 8, 2021, “Digital Assets and the Future of Finance: Understanding the Challenges and Benefits of Financial Innovation in the United States”

The full Committee will hold a hybrid hearing entitled, “Digital Assets and the Future of Finance: Understanding the Challenges and Benefits of Financial Innovation in the United States” on December 8, 2021 at 10:00 a.m. ET in room 2128 of the Rayburn House Office Building, and on the virtual meeting platform Cisco Webex. This hearing will have one panel with the following witnesses:

- **Jeremy Allaire**, Co-Founder, Chairman and CEO, Circle
- **Samuel Bankman-Fried**, Founder and CEO, FTX
- **Brian P. Brooks**, CEO, Bitfury Group
- **Charles Cascarilla**, CEO and co-Founder, Paxos Trust Company
- **Denelle Dixon**, CEO and Executive Director, Stellar Development Foundation
- **Alesia Jeanne Haas**, CEO, Coinbase Inc. and CFO, Coinbase Global Inc.

Overview of Cryptocurrency Industry

Since 2008, financial technology and markets innovation have fostered a new digital asset class and introduced new forms of investing, trading, and payments. These new digital assets have been made possible by advances in cryptography and distributed ledger technology (DLT).¹ Digital assets, such as cryptocurrencies, stablecoins (a subset of cryptocurrencies pegged to a stable reserve asset), and central bank digital currencies are all digital representations of value.² The market value of the digital asset ecosystem expanded significantly from approximately \$500 billion in 2020 to almost \$3 trillion as of November 2021.³ Over the past few years, the cryptocurrency market composition has shifted from being overwhelmingly dominated by the cryptocurrency Bitcoin, to a host of new digital assets and technologies gaining market share, each with different structural and activity features, including Ether, stablecoins, non-fungible tokens (NFTs), decentralized finance platforms (DeFi), and others.⁴

Given the digital asset sector's growth and evolution, several questions have arisen as to how regulators can ensure investor protections, ensure consumer protections, and maintain market integrity. The House Committee on Financial Services has explored the emergence of cryptocurrencies as an asset class for investors,⁵ implications for consumer privacy and financial inclusion,⁶ and the promises and perils of central bank digital currencies (CBDCs).⁷ This hearing will examine some of the new products

¹ See Congressional Research Service (CRS), *Financial Innovation: "Cryptocurrencies"* (Feb. 7, 2018).

² Eva Szalay et al., *What are cryptocurrencies and stablecoins and how do they work?*, Financial Times (May 28, 2021).

³ CoinMarketCap, *Today's Cryptocurrency Prices by Market Cap* (accessed Nov. 28, 2021).

⁴ See appendix figure #1.

⁵ House Financial Services Committee (HFSC), *America on "FIRE": Will the Crypto Frenzy Lead to Financial Independence and Early Retirement or Financial Ruin?*, 117th Cong. (June 30, 2021).

⁶ HFSC, *Digitizing the Dollar: Investigating the Technological Infrastructure, Privacy, and Financial Inclusion Implications of Central Bank Digital Currencies*, 117th Cong. (June 15, 2021).

⁷ HFSC, *The Promises and Perils of Central Bank Digital Currencies*, 117th Cong. (July 27, 2021).

and services offered by major digital assets market participants, the role of cryptocurrency market exchanges in facilitating investments in cryptocurrency and related transactions, the growth of stablecoins and other digital assets, and the current regulatory landscape governing these new products and services.

Cryptocurrency Market Exchange Participants

Cryptocurrency market exchanges are market structures where digital asset buying, selling, lending, and borrowing can occur. These platforms facilitate the offer and sale of cryptocurrencies for other assets, including digital and fiat currencies, and set the rate for conversion between these currencies.⁸ Trading platforms can charge transaction fees for moving or withdrawing money from an account. Some industry observers perceive digital asset trading platforms as similar to national securities exchanges in functionality. However, without filing registration paperwork or seeking an exemption from registration with the SEC, some exchanges have unilaterally determined that they are not subject to the same regulatory regime, leading to policy debates on market integrity, investor protection, and innovation.⁹

Cryptocurrency exchanges have garnered scrutiny from regulators domestically and abroad over their rapid growth, as well as the complex and risky products they offer.¹⁰ Coinbase, one of the largest cryptocurrency market exchanges by market capitalization, became a publicly traded company on April 14, 2021.¹¹ Coinbase is also affiliated with USD Coin, the second largest stablecoin, issued by Circle.¹² Other large cryptocurrency exchanges with millions of users include Binance, FTX, and Kraken.¹³ FTX US recently acquired LedgerX, an entity registered with the Commodities Futures Trading Commission (CFTC) and is a designated contract market (DCM), derivatives clearing organization (DCO), and swap execution facility (SEF), which enables FTX to offer crypto futures, swaps, and options.¹⁴

While cryptocurrency exchanges remain the focal point for users to buy and sell cryptocurrencies, decentralized finance (DeFi) is another fast-growing area within the digital asset industry, reportedly reaching more than \$100 billion in size in November 2021, up from around \$21 billion a year before.¹⁵ DeFi does not yet have a standardized definition, but the term generally refers to the use of digital assets and blockchain technology in order to replicate and replace conventional delivery of financial services such as loans, asset trading, insurance, and other services, but without central financial intermediaries such as brokerages, exchanges, transfer agents, or banks.

Stablecoin Products and Services

Stablecoins are a type of digital asset generally designed to maintain a stable value by linking its value to a national currency or other reference assets.¹⁶ Stablecoins are used in the U.S. to buy or sell other cryptocurrencies, or to lend or use the stablecoin as collateral to borrow other cryptocurrencies or fiat currency.¹⁷ Stablecoins reached almost \$147 billion in market capitalization as of November 29, 2021,

⁸ Corporate Finance Institute, [Cryptocurrency Exchanges](#) (accessed Nov. 28, 2021).

⁹ See Congressional Research Service (CRS), [Crypto-Asset Exchanges: Current Practices and Policy Issues](#) (July 23, 2021).

¹⁰ See, e.g., Eva Szalay, [Binance warning highlights crypto risks for savers](#), Financial Times (Aug. 27, 2021); see also Sheelah Kolhatkar, [The Challenges of Regulating Cryptocurrency](#), The New Yorker (Oct. 6, 2021).

¹¹ CompaniesMarketCap, [Largest stock and crypto exchanges by Market Cap](#) (accessed Nov. 29, 2021). It should be noted that Coinbase is not registered with the SEC as a national stock exchange, an alternative trading system, or as a broker-dealer. See [Coinbase's S-1 Registration Statement](#), at p. 29, U.S. Securities and Exchange Commission (Feb. 25, 2021).

¹² "USDC is the brainchild of CENTRE, an open source technology project bootstrapped by contributions from Circle and Coinbase." CENTRE, [Introducing USD Coin](#) (accessed Nov. 28, 2021).

¹³ CoinMarketCap, [Top Cryptocurrency Spot Exchanges](#) (accessed Nov. 28, 2021).

¹⁴ [FTX US Finalizes Acquisition of LedgerX](#), FTX US via PRNewswire (Oct. 25, 2021).

¹⁵ DeFi Pulse, [Total Value Locked \(USD\) in DeFi](#), (accessed Nov. 3, 2021); see also, [North America: DeFi Drives Growth in World's Second-biggest Cryptocurrency Market But Ransomware Is Cause For Concern](#), Chainalysis (Oct. 14, 2021).

¹⁶ Congressional Research Service (CRS), [Stablecoins: Background and Policy Issues](#) (Nov. 10, 2021).

¹⁷ President's Working Group on Financial Markets, FDIC, and OCC, [Report on Stablecoins](#) (Nov. 2021).

with some of the largest issuers being Tether, Circle, Binance, and Dai.¹⁸ Technology companies such as Facebook have also entered the stablecoin market, most recently by unveiling a remittance service in the U.S. and Guatemala utilizing the Paxos coin with plans to expand later utilizing a Diem coin (previously referred to as Libra) that Facebook helped develop.¹⁹

Stablecoins can have vastly different operational structures and reserve compositions.²⁰ Reserve assets backing stablecoins could include fiat currencies, traditional financial assets, or other digital assets and algorithms. Although stablecoins represent a relatively small fraction (5%) of the digital asset industry's total value, they facilitate more than 75% of trading on all digital asset trading platforms as of October 31, 2021.²¹ Furthermore, stablecoins could find parallels in traditional payment systems, banking,²² or other forms of financial infrastructure service. Some have compared stablecoins to private currency issued by banks before the practice was curtailed with the National Bank Act of 1863, and a shift was made to a single sovereign currency.²³ Others have noted that stablecoins' management and structuring of the reserve funds resemble existing practices for registered securities products, such as money market funds (MMFs), exchange-traded funds (ETFs),²⁴ or security-based swaps.²⁵

Regulatory Concerns in Digital Assets Products and Services

Currently, cryptocurrency markets have no overarching and centralized regulatory framework, leaving investments in the digital assets space vulnerable to fraud, manipulation, and abuse. Some cryptocurrency market exchanges and stablecoin issuers have obtained state money transmitter and sale of checks licenses from multiple states, and a few cryptocurrency companies have obtained national charters, such as Paxos receiving preliminary conditional approval for a national trust bank charter.²⁶

Stablecoin-related policy concerns include issues related to market integrity, investor protection, consumer protection, financial stability, monetary policy, payments, and illicit activity prevention. Industry observers and regulators have voiced concerns about potential systemic risk posed by stablecoins—that losses or instability of stablecoins could generate instability throughout the financial system.²⁷ Stablecoins have attracted discussions regarding potential fraud and manipulation, and the need for disclosure and transparency. For example, investigations by the New York State Office of the Attorney General revealed that stablecoins issued by Tether, the largest stablecoin issuer, were not fully backed at all times, raising investor-protection concerns.²⁸

Digital assets and related service providers can present money laundering, terrorist financing, sanctions evasion, kleptocracy, and other illicit finance risks.²⁹ Criminal and terrorist activity utilizing cryptocurrencies may occur due to the speed of the payments and transactions, looser anti-money

¹⁸ CoinMarketCap, [Top Stablecoin Tokens by Market Capitalization](#) (accessed Nov. 29, 2021)

¹⁹ [Facebook pilots Novi crypto wallet with Coinbase, Paxos](#), CoinTelegraph (Oct. 19, 2021); see also [One currency to rule them all: Facebook's Diem has global ambitions](#), CoinTelegraph (Oct. 10, 2021); see also HFSC, [Examining Facebook's Proposed Cryptocurrency and Its Impact on Consumers, Investors, and the American Financial System](#), 116th Cong. (July 17, 2019); see also HFSC, [An Examination of Facebook and Its Impact on the Financial Services and Housing Sectors](#), 116th Cong. (Oct. 23, 2019).

²⁰ See appendix figure 2.

²¹ Figures cited by SEC Chair Gary Gensler in his statement, [President's Working Group Report on Stablecoins](#) (Nov. 1, 2021); see [Today's Cryptocurrency Prices by Market Cap](#) (accessed Nov. 28, 2021); see also The Block, [Spot](#) (accessed Nov. 28, 2021).

²² See, e.g., Howell Jackson and Morgan Ricks, [Locating Stablecoins within the Regulatory Perimeter](#), HLS Forum on Corporate Governance (Aug. 5, 2021).

²³ Gary Gorton and Jeffery Zhang, [Taming Wildcat Stablecoins](#), SSRN (Oct. 1, 2021).

²⁴ See, e.g., [Crypto Stablecoins and Prime Money Market Funds. If it walks like a duck...](#), Finextra (July 5, 2021).

²⁵ See Senate Committee on Banking, Housing, and Urban Affairs, [SEC Chair Gensler Testimony](#), *Oversight of the U.S. Securities and Exchange Commission*, 117th Cong. (Sept. 14, 2021).

²⁶ OCC, [OCC Conditionally Approves Chartering of Paxos National Trust](#) (Apr. 23, 2021).

²⁷ President's Working Group on Financial Markets, FDIC, and OCC, [Report on Stablecoins](#) (Nov. 2021).

²⁸ New York Attorney General, [Settlement Agreement: In the Matter of Tether Holdings, et al.](#), (Feb. 18, 2021).

²⁹ U.S. Department of Justice, [Cryptocurrency Enforcement Framework](#) (Oct. 2020).

laundering compliance,³⁰ access to jurisdictions with weak regimes allowing for money laundering, and the pseudonymity provided by certain cryptocurrencies.³¹ The lack of safeguards in parts of the market has contributed to the rise in ransomware attacks that demand payment in cryptocurrency, with the Financial Crimes Enforcement Network noting that \$590 million in suspected ransomware payments were reported by financial institutions in the first six months of 2021, compared to \$416 million in 2020.³² While the overall criminal share of cryptocurrency activity is estimated to be a small portion of the rapidly expanding cryptocurrency market, given the size of that market, the harm of the illicit funds can be impactful.³³ Cryptocurrency users may also be vulnerable to theft, fraud, and hacks.³⁴

As the digital assets market grows, certain cryptocurrency activities have raised environmental concerns.³⁵ For instance, crypto mining – the process of validating certain transactions for many cryptocurrencies such as Bitcoin – requires resource-intensive computing powers, with Bitcoin mining estimated to use energy rates of 120 terawatt-hours annually, similar to the annual electricity consumption of nation-states such as Sweden.³⁶ Cryptomining computers have also been criticized for their short lifespans and the amount of e-waste they generate.³⁷

Federal Regulatory Responses to the Rise of Cryptocurrencies

Central Bank Digital Currencies (CBDCs) – In May 2021, the Federal Reserve announced a study of the global payments landscape, including the possible development of a government-issued CBDCs.³⁸ CBDCs are a digital representation of fiat currency, and are monetary instruments that are direct liabilities of a central bank, making them distinct from traditional digital money (e.g., money held by commercial banks) or cryptocurrencies, including stablecoins.³⁹ Approximately 87 countries, accounting for 90 percent of global GDP, have looked into developing a CBDC.⁴⁰ Initially slated to be released in summer 2021, the Federal Reserve study is expected to examine the potential benefits and risks of CBDCs and its impact on the U.S. domestic payments system. CBDC advocates have noted that a CBDC may mitigate some of the risks posed by private digital currencies.⁴¹ However, the Federal Reserve, alongside other central banks around the globe, may have to consider privacy concerns regarding how closely a government can identify participants of CBDC financial transactions.⁴² While some have raised the possibility of CBDCs providing financial inclusion to the unbanked, others have pointed out that if CBDC users need to interact with banks, this may reduce the financial inclusion impact of these products.⁴³

Market Regulation from SEC and CFTC – Since June 2019, the SEC has announced approximately 55 enforcement actions against digital assets or initial coin offering-tied participants. Of those, 44 announcements included how much money was taken from investors, which collectively amounted to over \$8.24 billion.⁴⁴ During that same time, the CFTC announced 30 enforcement actions related to

³⁰ [ShapeShift Is Going Full DeFi to Lose KYC Rules](#), CoinDesk (Sept. 14, 2021).

³¹ RAND Corporation, [Terrorist Use of Cryptocurrencies: Technical and Organizational Barriers and Future Threats](#) (2019).

³² FinCEN, [Ransomware Trends in Bank Secrecy Act Data Between January 2021 and June 2021](#) (Oct. 15, 2021); see also [U.S. Treasury puts crypto industry on notice over rising ransomware attacks](#), Reuters (Oct. 15, 2021).

³³ Chainalysis, [The Chainalysis 2021 Crypto Crime Report](#) (2021).

³⁴ See [US Treasury: Yellen warns of 'explosion' of cybercrime risk](#), BBC (Feb. 11, 2021); see also CipherTrace, [Cryptocurrency Crime and Anti-Money Laundering Report](#) (Feb. 2021).

³⁵ See, e.g., [Elon Musk is right: Bitcoin mining is bad for the planet. Here's how bad](#), Fortune (May 13, 2021).

³⁶ Elizabeth Kolbert, [Why Bitcoin Is Bad for the Environment](#), New Yorker (Apr. 22, 2021).

³⁷ [Bitcoin mining producing tonnes of waste](#), BBC (Sept. 20, 2021).

³⁸ NCUA, [Request for Information and Comment on Digital Assets and Related Technologies](#) (July 27, 2021).

³⁹ Bank for International Settlements, [Central Bank Digital Currencies: Foundational Principles and Core Features](#) (2020).

⁴⁰ Atlantic Council, [Central Bank Digital Currency Tracker](#) (accessed Dec. 1, 2021).

⁴¹ See, e.g., [CBDC and stablecoins: Early coexistence on an uncertain road](#), McKinsey & Company (Oct. 11, 2021).

⁴² See, e.g., [Privacy concerns as EU seeks to regulate cryptocurrencies](#), The Irish Times (July 21, 2021).

⁴³ [Privacy issues seen reducing appeal of central bank digital currencies](#), Roll Call (Nov. 16, 2021).

⁴⁴ SEC, [Cyber Enforcement Actions](#) (accessed Dec. 1, 2021) (enforcement actions on file with House Financial Services Committee).

cryptocurrency and digital asset schemes and fraud. Of those, 21 announcements included how much money was taken from investors, which collectively amounted to \$380 million.⁴⁵

SEC Chair Gary Gensler has voiced concerns regarding the lack of a regulatory framework for cryptocurrency exchanges, stating, “exchanges trading these crypto assets do not have a regulatory framework ... right now there is not a market regulator around these crypto exchanges, and thus there’s really not protection against fraud or manipulation.”⁴⁶ As early as July 2017, the SEC advised the financial technology industry that they are not exempt from the federal securities laws where an entity is raising capital with market participants, and that they have registration and disclosure requirements.⁴⁷ The SEC has sought to protect investors by requiring offerings of digital assets to be registered as a national stock exchange or alternative trading system, and the offerings as securities. The SEC has also issued guidance on the application of the *Howey* test, a broad legal definition for securities structured as digital assets.⁴⁸

President’s Working Group on Financial Markets Report – In November 2021, the President’s Working Group on Financial Markets, comprised of Treasury, Federal Reserve, SEC, and CFTC, with the addition of the FDIC and OCC, released a report on stablecoins that identified prudential concerns and regulatory gaps regarding stablecoins. The report recommended limiting the authority to issue stablecoins to insured depository institutions, requiring digital wallet providers to be subject to federal oversight, restricting stablecoin and digital wallet providers from also being commercial entities, and requiring interoperability among stablecoins.⁴⁹ The report acknowledged the applicable existing regulatory frameworks by stating that the SEC and CFTC as market regulators have broad oversight authorities over digital assets. It also noted Treasury’s existing role in addressing AML/CFT-related illicit finance risks.

Select Rulemaking and Requests for Information from Federal Agencies – Other federal agencies have also conducted an examination of digital assets. In May 2021, the FDIC issued a request for information (RFI) about insured depository institutions’ current and potential digital asset activities.⁵⁰ In July 2021, the NCUA published an RFI on DeFi, digital assets and related technologies.⁵¹ In October 2021, the CFPB issued a series of orders to large technology companies that provide payments services, including those that allow cryptocurrency transactions, to explain how consumer payment data is used and safeguarded.⁵² In November 2021, the OCC released an interpretive letter clarifying that national banks must demonstrate they have controls in place prior to engaging in cryptocurrency, distributed ledger, and stablecoin activities.⁵³ Also in November 2021, the OCC, Federal Reserve, and FDIC issued a joint statement summarizing the interagency “policy sprint” on cryptocurrency, announcing initiatives “to provide greater clarity on permissibility, safety and soundness, consumer protection, and compliance with existing laws and regulations related to crypto-asset-related activities in which banks may engage.”⁵⁴

⁴⁵ CFTC, [Press Releases](#) (accessed Dec. 1, 2021) (enforcement actions on file with House Financial Services Committee).

⁴⁶ HFSC, [Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide, Part III](#), 117th Cong. (May 6, 2021).

⁴⁷ See U.S. Securities and Exchange Commission, [Report of Investigation Pursuant to Section 2\(a\) of the Securities Exchange Act of 1934: The DAO](#) (July 25, 2017).

⁴⁸ See [Framework for “Investment Contract” Analysis of Digital Assets](#), U.S. Securities and Exchange Commission (Apr. 25, 2017).

⁴⁹ “Insured depository institution” as defined in the Federal Deposit Insurance Act. See [12 U.S.C. § 1813\(c\)\(2\)](#).

⁵⁰ FDIC, [FDIC Issues Request for Information on Digital Assets](#) (May 17, 2021).

⁵¹ NCUA, [Request for Information and Comment on Digital Assets and Related Technologies](#) (July 27, 2021).

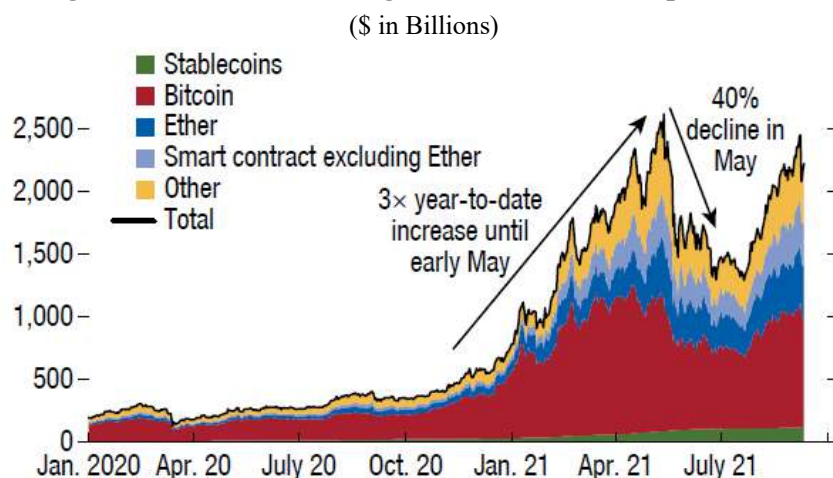
⁵² CFPB, [CFPB Orders Tech Giants to Turn Over Information on their Payment System Plans](#) (Oct. 21, 2021).

⁵³ OCC, [Chief Counsel’s Interpretation Clarifying: \(1\) Authority of a Bank to Engage in Certain Cryptocurrency Activities; and \(2\) Authority of the OCC to Charter a National Trust Bank](#) (Nov. 18, 2021).

⁵⁴ OCC, Federal Reserve, FDIC, [Crypto-Assets: Joint Statement on Crypto-Asset Policy Sprint Initiative and Next Steps](#) (Nov. 23, 2021).

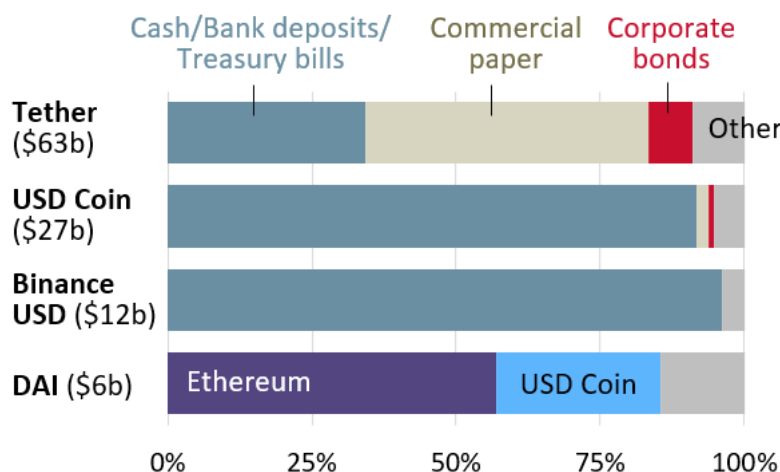
Appendix – Figures

Figure 1. Market Trend: Digital Assets Market Capitalization



Source prepared by Congressional Research Service: This chart originates from International Monetary Fund, [Global Financial Stability Report](#) (Oct. 2021). Market capitalization refers to the value of digital assets as measured by multiplying the total number of units in circulation by the present unit price.

Figure 2. Stablecoin Reserve Composition



Source prepared by Congressional Research Service: This chart originates from International Monetary Fund, [Global Financial Stability Report](#) (Oct. 2021). According to the IMF, reserves data are as of June 2021 for Tether, August 2021 for USD Coin, July 2021 for Binance USD, and August 2021 for DAI. At the time, DAI collateralization was more than 200%, while the other stablecoins had assets whose value was at least equal to their outstanding issuance. USD Coin consolidates cash and cash equivalents in its disclosure (accounting for about 60% of reserves), with cash equivalents defined as securities with an original maturity less than or equal to 90 days, in line with U.S. generally accepted accounting principles. Circle announced that, as of September 2021, 100% of USD Coin reserves would be moved to cash and cash equivalents. Binance USD is issued in collaboration with Paxos, with 4% of its reserves in Pax Dollar (USDP), a separate native stablecoin of Paxos with under \$1 billion in outstanding supply, itself secured by Treasury securities and Federal Deposit Insurance Corporation-insured bank deposits.