The Asset Management Industry
SERVING INDIVIDUAL INVESTORS
INVESTMENT COMPANY INSTITUTE

MEMO# 34333

October 31, 2022

FSOC Releases Recommendations to Address Digital Asset Financial Stability Risks

[34333]

October 31, 2022

TO: ICI Members
Investment Company Directors SUBJECTS: Alternative Investments
Bank Regulation
Derivatives
Financial Stability
Operations
Settlement
Trading and Markets RE: FSOC Releases Recommendations to Address Digital Asset Financial Stability Risks

Earlier this month, the Financial Stability Oversight Council issued a report reviewing financial stability risks and regulatory gaps from digital assets,[1] and providing recommendations to address such risks.[2] The report focuses mainly on crypto-asset risks and classifies them in two broad categories (i) interconnections between the crypto-asset ecosystem and the traditional financial system and (ii) risks within the crypto-asset ecosystem. It adds that, while small now, the scale of the crypto-asset market could pose additional financial stability risks. In addition, the report identifies three main gaps in the regulation of the crypto-asset ecosystem: (1) limited direct federal regulation for the spot markets for crypto-assets that are not securities; (2) the lack of a consistent or comprehensive regulatory framework for crypto-asset businesses that can lead to regulatory arbitrage; and (3) financial stability and investor protection implications arising from retail investors' exposure to certain practices commonly proposed by crypto-asset trading platforms. Finally, the report provides several recommendations to address digital asset risks.

I. Background

The report provides an overview of distributed ledger technology (DLT) and related financial innovations, details the crypto-asset market, and describes key features of crypto assets.[3] Many of the innovations in the crypto-asset market have focused on increasing the scale of transactions while maintaining security and decentralization. Other innovations include

smart contract and associated activities, automating the implementation of an agreement without the need for third-party action, and creations of additional opportunities and methods for speculation on different trading platforms.

Although volatile price fluctuations, high fees, reliance on crypto miners, and concerns with illicit activity have inhibited the use of crypto assets for payments, crypto assets have grown in total market capitalization. They reached a peak of nearly $3 trillion in November 2021 (approximately one percent of global financial assets), leading to more entities conducting financial activities and services in the crypto-asset market.[4]

The report describes key features of crypto-asset activities, which provide economic, social, or security-related benefits but also raise areas of concern that need to be addressed. These features, include: the use of novel technology; the transactions' near immutability; the automation of such transactions; the ability to engage in transactions at any time; the anonymity of users; the liquidity fragmentation of transactions across trading venues; the ability of entities to combine, within a single entity, financial activities that typically are performed by separate entities in traditional financial markets (e.g., lending and investing); the ability of consumers and retail investors to access products in the crypto-asset market that typically are not available in traditional financial markets; and the decentralization of activities, reducing the single points of failure or reliance on intermediaries.

II. Financial Stability Risks

The report notes that, with respect to crypto assets, financial stability risks fall within two broad categories. The first is interconnection between the crypto-asset ecosystem and the traditional financial system. The second is within the crypto-asset ecosystem itself. In addition, FSOC reiterates that crypto assets could pose financial stability risks directly if they were to attain large enough scale.

A. Interconnections with the Traditional Financial System

Given the importance of the US financial markets, the report states that interconnections between crypto assets and the traditional financial system are perhaps the most important crypto-asset financial stability consideration. These interconnections could occur with: (1) stablecoins;[5] (2) banking products and services; (3) publicly offered investment products; (4) private investments; (5) other means for consumers and retail investors to access crypto assets; (6) insurance companies; and (7) other interconnections with the traditional financial system.

1.Stablecoins

The report states that traditional asset markets could experience dislocations if stablecoin activities gained significant scale and if runs on stablecoins lead to fire sales of the traditional assets backing the coins (including money market funds). Additionally, runs could put pressure on a traditional financial institution holding the stablecoin issuer's assets. Further, the growth of stablecoin could create additional demand for short-term assets and affect short-term money markets. These potential concerns are exacerbated by stablecoin issuers that do not adequately disclose their asset holdings. Finally, stablecoins have been promoted as a means of payment, which could lead to additional interconnections with the traditional financial system.

2. Banking Organization Products and Services

Banks provide services to select participants in the crypto-asset ecosystem through traditional banking services or crypto-asset activities. The level of involvement has remained low, but FSOC notes that small exposures have the potential to grow rapidly.[6] FSOC expresses concern regarding earnings volatility, liquidity risk to the extent that banks offer, for example, deposit services for crypto-asset firms, and exposure to loans.

3. Publicly Offered Investment Products

In addition to direct holdings in crypto assets, investors now may invest in publicly traded Bitcoin and Ether futures, swaps, and options on futures, which also are offered through exchange-traded products and mutual funds. Investors also can purchase shares in trusts that hold a pool of crypto assets or they could receive indirect exposure by purchasing equity shares of public companies (some of whom have issued securities in crypto-asset form) who are engaged in crypto-asset activities.

4. Private Investments

The report notes that firms permitted to hold other risky assets, including asset managers, hedge funds, venture capital funds, private funds, family offices, private corporations, and others have invested in crypto-asset entities and activities. It highlights that this is a growing area with more than 300 crypto-focused hedge funds with $4.1 billion in assets under management.[7]

5. Other Means for Consumers and Retail Investors to Access Crypto-Assets

Consumers and retail investors can interact with the crypto-asset ecosystem through crypto-asset platforms, through "Bitcoin ATMs," or directly from other crypto holders through unhosted wallets. Consumers and retail investors also can access crypto assets through the traditional financial system using publicly offered crypto products, by using a broker-dealer platform, through retirement plans, or by using a credit, debit, or prepaid card.

6. Insurance Companies

A small number of US insurance companies have reported crypto-asset holdings. Prospectively, some crypto-asset firm insurance policies may raise interconnectedness issues with policies for cybersecurity risk or coverage of digital wallets.

7. Other Potential Interconnections with the Traditional Financial System

There are other potential interconnections with the traditional financial system, including through municipalities and other non-financial corporations that accept crypto assets for payment and hold crypto assets or mortgage finance companies with mortgages collateralized by crypto assets who may eventually pool these mortgages to offer to investors as bonds in a securitized format.

The report notes that correlations of crypto assets with prices of risky assets in the traditional financial system have generally been high, showing a broad link rather than a source of potentially diversified investments.

B. Risks Within the Crypto Asset Ecosystem

The report also lists several vulnerabilities within the crypto-asset ecosystem under several

categories: (1) pricing; (2) financial exposures via interconnections within the crypto-asset ecosystem; (3) operational vulnerabilities; (4) funding mismatches and risks of runs; and (5) leverage. The report notes that each of the vulnerabilities may operate independently but more likely would show evidence of common procyclicality in which several vulnerabilities build simultaneously and interactively.[8] In addition, while the vulnerabilities inside the crypto-asset ecosystem are acute, the financial stability risks would be substantial if the vulnerabilities remain in place while the scale of crypto-asset activities and interconnectedness with the traditional financial system were to grow rapidly.[9]

1. Pricing

The report notes that crypto-asset prices, such as spot Bitcoin prices, are far more volatile than traditional asset classes and that speculation, fraud and manipulation, and liquidity fragmentation heavily influence those prices. Investors who experience losses in their crypto-asset exposures may feel pressure to withdraw their investments. Moreover, heavy losses in crypto assets can prompt withdrawal of capital from investments in the traditional financial system and run risks can materialize, which threaten financial system stability.[10]

First, the report indicates that speculation, rather than economic use cases, appears to drive crypto-asset prices, and that sentiment and future expectation appear to be large drivers.[11]

Fraud and manipulation also shape crypto-asset prices. For example, the SEC has identified several possible sources of fraud and manipulation, which are harmful to investors because investors may interpret price increases to mean that the crypto asset has increased investor interest when in reality the increases are the result of manipulative market activity.

Finally, fragmentation of liquidity across multiple crypto-asset platforms may result in asset price dislocations. Without sufficient liquidity, crypto-asset holders may sell assets at lower prices than in markets with adequate liquidity. This may make exiting positions more difficult, pushing sales prices down and even putting downward pressure on prices for other crypto assets.[12]

2. Financial Exposures via Interconnections within the Crypto-Asset Ecosystem

Interconnections in the crypto-asset ecosystem could spread losses if a shock causes the default of an interconnected entity (e.g., a crypto-asset platform, investor, or counterparty) and others incur knock-on losses. Major crypto-asset platforms may offer several services and have significant interconnections, and the failure of such a platform could impact the crypto-asset ecosystem and the broader traditional markets significantly, including causing: downward liquidity spirals in the crypto assets (e.g., if it acts as a market maker or provides significant leverage); deterioration in short-term wholesale crypto-asset funding conditions (if it acts as a conduit between borrowers and lenders); losses for persons and businesses with which it transacts; or disruptions to other platforms.

"Whales," which are investors or counterparties that hold concentrated exposures, also create the potential for significant interconnections, including to trading, lending, or borrowing platforms. These entities could come under significant financial pressure if a whale faces extreme losses or liquidation.

3. Operational Vulnerabilities

Operational vulnerabilities involve key market activities or infrastructure that are likely to be disrupted in response to a shock. These generally refer to disruptions to market participants' ability to conduct normal activities. Operational vulnerabilities exist with respect to DLT broadly; mining, validation, and blockchain maintenance; providers of infrastructure;[13] key operational services provided by platforms;[14] stablecoins; and wallet and custody services.

4. Funding Mismatches and Run Risk

Runs can occur in response to a shock if investors reassess the safety of their funds and abruptly seek to withdraw their investments. To meet such requests, financial institutions may need to sell assets quickly at "fire sale" prices, particularly if there are no sufficient liquidity backstops and/or appropriate regulation. FSOC points out that regulators have implemented controls relating to financial reporting, prudent governance, risk management, audit and internal controls, liquidity regulations, and prudential supervision. These regulations, however, have not been implemented for the crypto-asset ecosystem, which FSOC views as increasing run risk and associated stability risks.

Custody providers are also vulnerable to run risks. If a platform becomes bankrupt, it is possible that customer assets would not be part of the bankruptcy estate, but that depends on the nature of the custodial relationship and the court's view of the crypto assets, as some courts could view customers as unsecured creditors in a bankruptcy proceeding.

5. Leverage

Leverage, which is available to crypto-asset market participants through different venues, amplifies the effects of asset price volatility. Price shocks may cause assets owned by market participants to fall in value or cause counterparties to demand that their leveraged positions be unwound, and abrupt or forced deleveraging can cause liquidations that further propagate shocks.[15] Leverage also could involve the practice of rehypothecation, which generates additional leverage by reusing the same collateral to secure multiple instances of leverage, and could create larger risk exposures. In addition, underwriting standards are fairly weak compared to the traditional financial sector, and generally focuses on collateralization, not credit checks on the market participants.

The report states that leverage can be found through crypto-asset platforms,[16] CFTC-registered exchanges,[17] prime brokerage types of services, miners and loans to miners. It notes that opacity regarding the actual use of leverage makes it challenging to quantify the leverage present in the crypto-asset market, but high levels of leverage likely are present based on the impact that widespread deleveraging appears to have had on crypto-asset market conditions.[18]

III. Regulation of Crypto-Asset Activities

The report discusses, at a high level, the US regulatory system for crypto assets. It organizes this discussion on regulations around the financial stability risks discussed above and, in particular, as follows: (A) the traditional financial system's interaction with crypto assets; (B) crypto-asset pricing; (C) interconnections within the crypto-asset ecosystem; (D) operational vulnerabilities; (E) funding mismatches and risk of runs; and (F) leverage.

A. Regulations Relating to the Traditional Financial System's Interaction with Crypto-Assets

The report discusses regulations relating to entities in the traditional financial system (i.e.,

banking organizations;[19] trust companies and national trust banks;[20] credit unions;[21] state-licensed entities;[22] third-party service providers;[23] insurance companies;[24] and funds, commodity pools, and advisers[25]).[26] It also describes regulations relating to financial products, including in the securities markets,[27] which govern "securities," and in the commodities markets,[28] which govern commodity derivatives. In so doing, it highlights that a regulatory gap exists in spot markets that are commodities but not securities.

B. Regulations Relating to Crypto-Asset Pricing

The report highlights that one of the primary goals of market regulation is to support accurate price discovery.[29] The CFTC, SEC, Consumer Financial Protection Bureau, and the Federal Deposit Insurance Corporation have warned crypto-asset consumers about the market integrity and investor protection concerns that crypto assets raise, including the potential for asset price volatility. Additional regulations could impact prices, including regulations on leverage, transparency, and enhanced disclosures about interconnections within the crypto-asset ecosystem. Finally, the report notes that accounting standards may assist market participants in pricing assets by providing them with decision useful and consistent information.

C. Regulations Relating to Interconnections within the Crypto-Asset Ecosystem

The report highlights that most crypto-asset platforms are not currently registered under the securities laws or the CEA. Registration under the securities laws as an exchange, investment company, clearing agency, or broker-dealer would subject a crypto-asset intermediary to additional regulatory requirements that could reduce the extent and risks of interconnections between the crypto-asset ecosystem and the traditional financial system. In addition, registration under the CEA as a DCM, SEF, or DCO may also affect the risks of interconnections within the crypto-asset ecosystem by acting as a screen that limits both the impact of noncompliant activities and the risks posed by compliant actors. These regulations include prohibitions on permitting trading in products that are readily susceptible to manipulation and minimum adjusted net capital requirements. Clearing through a DCO also could limit the risks of interconnections by reducing the likelihood that the shock of a single counterparty's default will be amplified.

Other regulations may help limit interconnectedness to some degree. Regulations as money services businesses (MSBs) at the federal and state level are designed to provide consumer protection related to money transmissions. Subjecting entities to these regulations might affect the capital positions of platforms through requirements to maintain a minimum net worth or surety bonds (though those typically form only very limited loss absorbing buffers). In addition, some large platforms have emphasized their status under other specific state-level regulatory regimes, such as state-level licenses or charters that impose prudential standards that may reduce the risk of interconnectedness (e.g., the New York Department of Financial Services (NYDFS) has grant "BitLicenses" to entities that engage in "virtual currency" business activity and imposes capital and surety bond requirements).

D. Regulations Relating to Operational Vulnerabilities

The current lack of technical standards complicates efforts to control for the operational risks of the crypto-asset ecosystem. Certain regulations governing operational and technology risks could mitigate risks related to DLT and disruptions to key services. For

example, the SEC or CFTC could impose an array of operational risk requirements to their registrants similar to the "safe and sound" standards that banks and credit unions are subject to. These could require that such entities adequately address the operational risks of their activities (including on information security).

Subjecting other entities, such as miners, validators, blockchain maintainers, and other infrastructure providers to requirements would mitigate the risks of service disruptions. These requirements, if not directly applicable, could be extended to third-party relationships with traditional financial institutions that engage with such entities.

E. Regulations Relating to Runs

The report discusses regulations related to run risks[30] in two categories—those for crypto-asset platforms and those for stablecoins.

Platforms. US laws and regulations include provisions designed to mitigate run risks, but many crypto-asset platforms are not registered or chartered under regulatory frameworks that would address these risks. The framework for exchange and broker-dealer registration would require registered platforms to take certain actions to protect customer actions and reduce the risk of runs.[31] The framework for derivatives intermediaries, such as future commission merchants, introducing brokers, swap dealers, major swap participants, security-based swap dealers, and major security-based swap participants also addresses run risk.[32] Banks also are subject to safety and soundness requirements designed to address the risk of runs and protect customer assets held in custody.[33] Other crypto-asset-specific licenses or charters also contain provisions that address funding mismatches and run risk.[34]

With the growing number of platforms that custody crypto assets, the SEC staff released a staff accounting bulletin stating that an entity responsible for safeguarding crypto assets for platform users should present a liability on its balance sheet to reflect its obligation to safeguard the crypto assets. The entity also should recognize a corresponding asset, measured at initial recognition and each reporting date, at a fair value of the crypto assets held for its platform users.[35]

Stablecoins. Regulations relating to runs on stablecoins depend on the framework under which a stablecoin operates. The report notes that, to the extent that a stablecoin issuer falls within SEC and/or CFTC jurisdiction, it must comply with applicable securities laws and/or the CEA. It notes that some stablecoin issuers are subject to regulation as MSBs, which generally are intended to address consumer protection related to money transmission activities and illicit finance. Some stablecoins also are regulated by the NYDFS, which issued guidance requiring certain stablecoin issuers to reserve assets, have redemption policies, manage liquidity risks, and provide regular attestations. It adds that some run risk regulations have come through legal agreements with specific companies.[36]

F. Regulations Relating to Leverage

The report notes that regulations on leverage depend on how the leverage is obtained. In securities markets, the Federal Reserve's Regulations T, U, and X govern extensions of credit in crypto assets that are securities and establish margin limits on securities.[37] For margined commodity, futures, or derivative products, significant guardrails exist for leverage embedded in such products and traded on regulated exchanges. The amount of

leverage an investor can take on in a particular contract is limited by exchange rules or the clearinghouse, and generally the exchange of leverage is subject to SEC or CFTC oversight. The report notes that, to the extent that leveraged transactions do not take place on registered exchanges or are not handled by registered intermediaries, the products may not be bound by comprehensive leverage restrictions.[38] It adds that, if banks were to engage in lending related to crypto-asset activities, prudential regulation and supervision could affect the amount of leverage they would provide.[39]

IV. Recommendations

FSOC finds that crypto-asset activities could pose risks to the stability of the US financial system if their interconnections with the traditional financial system or their overall scale were to grow without appropriate regulation. It notes that large parts of the crypto-asset ecosystem are covered by existing regulations. It also identifies three major gaps in the regulation of crypto-asset activities:

- Limited direct federal oversight of the spot market for crypto assets that are not securities;
- Opportunities for regulatory arbitrage; and
- Whether integrated market structures can or should be accommodated under existing laws and regulations.

Finally, it aims to bolsters its members' capacities related to crypto-asset data, and to the analysis, monitoring, supervision, and regulation of crypto-asset activities.

Therefore, the Council proposes the following 10 recommendations:

- Recommendation 1: Regulators should consider the following general principles in deliberating about the applicability of current authorities to crypto assets:
    - Same activity, same risk, same regulatory outcome;
    - Technological neutrality;
    - Leveraging existing authorities where appropriate;
    - Transparency in technology, including through potential future adoption and implementation of federal agency software bill of materials requirements by industry;
    - Addressing financial stability risks before they impair the economy;
    - Monitoring mechanisms through which crypto assets could become more interconnected with the traditional financial system or increase in overall scale;
    - Bringing transparency to opaque areas, including through disclosures and documentation of key issues such as interconnectedness;
    - Prioritizing timely and orderly transaction processing and legally binding settlement;
    - Facilitating price discovery and fostering market integrity; and
    - Obtaining, and sharing with other agencies, relevant market data from the crypto-asset market.
- Recommendation 2: Regulators should continue to enforce existing laws across the entire financial system.
- Recommendation 3: Congress should pass legislation that gives explicit rulemaking, enforcement, and examination authority to federal financial regulators over the spot markets for crypto assets that are not securities. This authority should not interfere with regulators' current jurisdiction, and it should cover, among other things: conflicts of interest; abusive trading practices; public trade reporting; recordkeeping;

governance; cybersecurity; customer asset segregation; capital and margin; custody, settlement, and clearing; orderly trading, transparency; any necessary anti-fraud protection; investor protection; dispute resolution; operating norms; and authority to address future unanticipated problems.

- Recommendation 4: Regulators should coordinate with each other in the supervision of crypto-asset entities. Regulators also should coordinate with law enforcement where appropriate.
- Recommendation 5: Congress should pass legislation that creates a comprehensive federal prudential framework for stablecoin issuers that also addresses associated market integrity, investor and consumer protection, and payment system risks. The legislation should address the financial stability risks of stablecoins consistent with the principles in Recommendation 1. Regulators should coordinate on the supervision of stablecoin issuers.
- Recommendation 6: Congress should pass legislation that would "create authority for regulators to have visibility into, and otherwise supervise, the activities of all of the affiliates and subsidiaries of crypto-asset entities" to address gaps in regulators' present authorities. This authority should cover, for example, "authority for regulators to address regulatory arbitrage . . . restrictions on entity and affiliate activities; capital and liquidity requirements across a crypto-asset entity and all of its affiliates and subsidiaries; safety and soundness; cyber and data security practices, including third-party risk management; licensing, applications, and charters; data and disclosures; competition; and supervision, examination, and enforcement."
- Recommendation 7: The FDIC, Federal Reserve Board, OCC, and state bank regulators should, pursuant to their existing authority, examine services provided to banks by crypto-asset service providers. Over time, these regulators should evaluate whether their existing authorities are sufficient. Congress should also pass legislation that "ensures . . . other relevant agencies have adequate examination and enforcement authorities to oversee such entities and third-party service providers more generally."
- Recommendation 8: FSOC member agencies should assess the impact of vertical integration (i.e., direct access to markets by retail investors) on conflicts of interest and market volatility, and whether vertically integrated market structures can or should be accommodated under existing laws and regulations.
- Recommendation 9: Government-wide agencies should coordinate on an approach to data collection and analysis, monitoring, supervision, and regulation of crypto-asset activities. Member agencies should consider their current data collection powers to facilitate assessments of financial risks related to crypto assets.
- Recommendation 10: Council members should continue to build their capacity to analyze and monitor crypto-asset activities and allocate sufficient resources to do so. Members should prioritize investment in enforcement capacity for crypto-asset activities, including coordinating efforts with members, state regulators, law enforcement, and state Attorneys General. Congress also should appropriate necessary resources to member agencies to facilitate supervision and regulation of crypto-asset activities. Members should continue to add and train staff and engage with government, private sector, and academic partners to build expertise with regard to technological innovation in the crypto-asset space.

Kenneth Fang
Associate General Counsel

Thomas Archer
Legal Intern

Notes

[1] The term "digital assets" refers to central bank digital currencies and crypto assets. "Crypto assets" are private sector digital assets that depend primarily on cryptography and distributed ledger or similar technology, which encompass many assets commonly referred to as "coins" or "tokens."

[2] FSOC, Report on Digital Asset Financial Stability Risk and Regulation (Oct. 3, 2022), available at https://home.treasury.gov/system/files/261/FSOC-Digital-Assets-report-2022.pdf. FSOC issued the report in response to an executive order asking the Secretary of the Treasury to convene the Council and produce a report outlining the specific financial stability risks and regulatory gaps that various types of digital assets pose and provide recommendations to address such risks. See Exec. Order No. 14067, 87 Fed. Reg. 14143 (Mar. 9, 2022), available at www.federalregister.gov/documents/2022/03/14/2022-05471/ensuring-responsible-development-of-digital-assets.

[3] DLT, which underlies the universe of crypto assets and includes blockchain technology, allows parties to enter into transactions that are nearly immutable and feature transaction validation without relying on intermediaries.

[4] For example, crypto-asset platforms have engaged in market making, custody, trade facilitation, and borrowing and lending activities. To date, however, financial institutions in the traditional financial system have had limited interconnections with the crypto-asset ecosystem.

[5] Stablecoins are digital assets designed to maintain a stable value relative to a national currency or other reference asset or assets.

[6] Some banks have indicated that they are waiting for further regulation before offering crypto-asset products and services, and some crypto-asset firms have expressed a desire to open chartered banks at the state and federal level.

[7] PricewaterhouseCoopers, Global Crypto Hedge Fund Report 2022 (June 8, 2022), available at https://www.pwc.com/gx/en/news-room/pressreleases/2022/pwc-global-crypto-hedge-fund-report-2022.html.

[8] The report notes that shocks to the crypto-asset ecosystem are difficult to predict or describe in advance, but that certain sources of shocks are likely to come from: malicious acts (e.g., fraud, theft, or misappropriation); technology breakdowns; and governance or decision-making breakdowns. Other sources could include: macroeconomic or financial developments; shocks to the traditional financial system; operational disruptions; and market participant confusion (e.g., if market participants realize that products are not as regulated or insured as they had perceived).

[9] At scale, the report notes many additional policy issues beyond financial stability could gain prominence, including: issues related to investors and consumer protection and market integrity; illicit financing risks and risks to national security; risks to international monetary and payment system integrity; macro-financial risks; energy security risks; and climate-related financial risks from crypto-asset mining.

[10] The report states that, when combined with leverage or funding mismatches, market losses can lead to material risks to financial stability.

[11] For example, although debated, the report states that crypto assets known as "non-fungible tokens" (NFTs) strike many observers as having little to no real value, and the market for NFTs exhibits classic characteristics of an investment mania and bubble.

[12] Interoperability across crypto- and non-crypto-networks may exacerbate liquidity concerns, particularly if market participants favor one asset type over the other.

[13] Many parts of the crypto-asset ecosystem rely on infrastructure providers for key services. For example, firms may offer developer tools and application interfaces that are necessary because DLT often tends to build on top of other existing activities.

[14] These may include custody and safekeeping of private keys, trade facilitation, maintaining order books, market making, and margin lending.

[15] Forced or automated liquidation (e.g., those associated with futures contracts or collateralized loans subject to margin calls) may heighten financial stability risks. Automated liquidations without appropriate regulatory guardrails are likely procyclical, exacerbating balance sheet distress when asset values are falling, potentially creating a cascade of automated liquidations. The report also highlights "borrowing spirals" in which lending protocols encourage borrower participation by distributing new crypto assets to users (e.g., investments in a stablecoin may generate the issuance of a "governance token" which then can be invested in another protocol to earn another return). These borrowing spirals may heighten the risk of an abrupt liquidation if any link were to be forced into liquidation.

[16] Crypto-asset platforms may provide leverage to their customers through several products, including margin loans, futures, other derivatives, and "leveraged tokens." The report notes that products on overseas crypto-asset platforms that provide high leverage are reportedly very popular.

[17] These include exposure to futures on crypto assets and options on crypto-asset futures.

[18] Evidence of leverage use in the crypto-asset market can be found in the correlation between major crypto-asset price drops and unusually large levels of liquidations on large crypto-asset platforms. See Sirio Aramonte, et al., DeFi risks and the Decentralisation Illusion, BIS (Dec. 2021), available at www.bis.org/publ/qtrpdf/r_qt2112b.pdf.

[19] The report describes two fundamental features of banking law that govern banking system risk from interconnections with crypto assets. First, banks only can engage in activities that are permissible under law and conducted in a "safe and sound" manner, subject to banking regulator limits. Second, banks are subject to prudential oversight of their engagements in permitted activities (e.g., through capital and liquidity requirements). It also describes the Basel Committee on Banking Supervision's proposed approach to the

prudential treatment of crypto-asset exposures, which would classify crypto assets into groups, with capital and liquidity requirements for each group that reflects their respective risks.

[20] These entities have obtained charters as state trust companies or national trust banks and are limited to activities that are authorized by state or federal law, consistent with applicable prudential requirements, and conducted in a "safe and sound" manner, as applicable.

[21] Credit unions are subject to restrictions on their activities and prudential requirements. For example, they only may engage in activities for which authority is granted to them as federal and state law or regulators determine.

[22] Certain states, such as Wyoming, Nebraska, and New York, have chartered certain bank and trust companies or other entities to engage in various business activities connected to crypto assets.

[23] Banking regulators have tools to limit vulnerabilities arising through banks' third-party service providers, thereby providing visibility into the risks arising from interconnections through such service providers.

[24] Insurance companies are primarily regulated at the state level with some federal jurisdiction and monitoring.

[25] The report specifically discusses private funds, family offices, and commodity pools.

[26] For example, banking regulators have issued several communications evaluating the risks involved with crypto-asset activities while assessing the application of existing laws to crypto assets, including on the scope of permissible activities related to crypto assets and associated prudential requirements.

[27] The report notes that the Securities and Exchange Commission and state regulators have jurisdiction over securities-related conduct and that the SEC has stressed that this may include DLT and decentralized organizations depending on facts and circumstances. Regulation may include registration of offerings or sales, requirements for issuers to provide periodic and current reporting, and the requirement to meet exchange-listing standards.

[28] The report notes that the Commodity Exchange Act (CEA), as the Commodity Futures Trading Commission oversees, establishes a federal regulatory regime over most transactions involving commodity derivatives, which are financial instruments whose values are based on the prices of underlying commodities. Most derivatives are required to be traded on a Designated Contract Market (DCM) or Swap Execution Facility (SEF) and the trades must be cleared through a Derivatives Clearing Organization (DCO), each registered with the CFTC.

[29] The crypto-asset market presents significant concerns related to market integrity and investor protection that, while distinct from financial stability vulnerabilities that amplify shocks and spread financial loss, may be related to financial stability. The amplification of shocks may impact consumers, for example, if crypto-asset prices fall in response to fraud or if a shock leads to the freezing of withdrawals at a major platform.

The report generally describes how securities laws and the SEC generally are designed to

protect market integrity and investor protection; how the commodity laws and the CFTC promote integrity, resilience and vibrancy of the commodity derivatives markets; and how consumer protection laws may apply to crypto-asset products and services at the federal and state level.

[30] These include protections related to the possibility of rapid customer withdrawals, the loss of short-term funding, or risks that arise from failure to properly custody customer assets.

[31] For example, broker-dealers must comply with the SEC's net capital rule (designed to address these risks) and the customer protection rule (requiring segregation of customer assets). In addition, the SEC places limits on rehypothecation of client assets. The Securities Investor Protection Corporation also insures up to $500 thousand of assets in brokerage accounts, limited to $250 thousand of cash, reducing the incentive for customers to run.

[32] These entities are subject to minimum capital requirements and, to the extent they hold customer funds, are subject to segregation requirements for such funds.

[33] The Office of the Comptroller of Currency has released an interpretive letter discussing the application of traditional bank custody principles to crypto assets.

[34] New York BitLicensees, for example, must hold "virtual currency" in the same amount and type as the BitLicensee stores, holds, or maintains custody or control of on behalf of another person. They also must maintain capital in the form of cash, "virtual currency," or high-quality, highly liquid, investment grade assets in an amount and composition that the Superintendent of NYDFS determines sufficient to ensure the BitLicensee's financial integrity.

[35] See SEC, Staff Accounting Bulletin 121 (Mar. 31, 2022), available at https://www.sec.gov/oca/staff-accounting-bulletin-121. In addition, the bulletin clarifies that platforms should disclose the nature and amount of crypto assets held for users, risks involved with holding cryptographic keys, and their methods of valuing such assets.

[36] For example, the NYDFS reached a settlement with Tether to provide information quarterly on its asset holdings.

[37] Exchanges, self-regulatory organizations, national securities associations, and creditors may impose additional requirements on broker-dealer extensions of credit.

[38] These risks may be compounded by poor auditing or disclosure standards. Offshore platforms also provide opportunities for high leverage outside of the United States, which may impact US customers because of the cross-border nature of the crypto-asset market.

[39] Banks are subject to "safe and sound" underwriting of loans (e.g., banks assess the value of collateral and the loan purpose, which could affect the availability and terms of any funding provided by a bank).