FINAL VERSION
Approved December 21, 2022

REPORT OF GOVERNOR SUNUNU'S COMMISSION ON CRYPTOCURRENCIES AND DIGITAL ASSETS

December 21, 2022

New Hampshire
GOVERNOR CHRIS SUNUNU
Commission on Cryptocurrencies and Digital Assets

Transmittal Letter

December 22, 2022

Dear Governor Sununu,

Pursuant to Executive Order 2022-1, I am pleased to transmit to you this Final Report of the Commission on Cryptocurrencies and Digital Assets (the "Commission"). Your Executive Order directed the Commission to:

> *"Make findings and determinations regarding the role and effectiveness of current state laws and regulations governing cryptocurrencies and other digital assets and the reasons why modifications and improvements to such laws and regulations are necessary, addressing factors such as: the effect on innovation, and the effect on the economic competitiveness of the State of New Hampshire and the United States; the effect on the use of and access to digital assets and the potential impacts on the financial system; and the effect on privacy and liberty rights of citizens and interests of taxpayers and other persons affected."*

Further, you directed the Commission to:

> *"Make recommendations for specific modifications and improvements to such laws and regulations and with respect to how to support the capacity of State departments and agencies to implement such recommendations."*

This Report presents the results of the Commission's work on these matters. It includes recommendations for law and policy actions that should be considered by the State of New Hampshire through its Legislature, Executive agencies, and Judiciary.

This effort involved a great deal of work by the Members of the Commission. I thank each Member for their excellent work. The Commission was blessed to have numerous expert presenters who agreed to provide their experience and insights to the Commission without compensation. On behalf of the Commission, I would like to express our deepest appreciation for each and every person who presented to the Commission.

Blockchain technologies and its applications, including Cryptocurrencies and Digital Assets, are new and evolving, and their uses and opportunities extend far beyond the more well-known popular examples of various forms of "crypto" or "NFTs." As described in the Report, the Commission concluded that these technologies and applications offer material opportunities to improve the efficiency and effectiveness of a broad range of human activities, including financial services. However, as demonstrated by developments throughout 2022 (including when one of the largest Crypto exchanges collapsed amid allegations that its founder and chief executive, previously one of the most prominent figures in the Crypto ecosystem, allegedly perpetrated criminal fraud resulting in the loss of billions of dollars of customer assets), applications of these technologies in real life, with real people, are subject to the same

human frailties (greed, jealousy, arrogance, ignorance, incompetence, carelessness, naivete) that have plagued human communities for centuries; and for which an enormous body of laws has been developed over centuries. Indeed, certain aspects of these technologies, including some of the aspects that make them potentially useful and important, may also render them particularly effective vehicles for fraud, although that behavior is not unique to these technologies, and an enormous body of laws have been developed over centuries to address abuses through a comprehensive system of legal incentives, costs and penalties.

The Commission acknowledges that these technologies and applications are dynamic and innovating before our eyes, and that this Report will only be an initial step in a long process of developing policies that will improve New Hampshire laws, enhance innovation and economic development, and protect rights and interest of New Hampshire citizens.

We hope that this Report will help policymakers move forward in this important arena.

Respectfully,

s/William F. J. Ardinger

William F. J. Ardinger, Chair

cc: Speaker of the House, the Honorable Sherman Packard
Senate President, the Honorable Jeb Bradley
Clerk of the House
Clerk of the Senate
New Hampshire State Library

Establishment, Members and Proceedings of the Commission

Governor Sununu issued Executive Order 2022-1 on February 9, 2022. This Executive Order established the Commission on Cryptocurrencies and Digital Assets.

On March 24, 2022, Governor Sununu announced the membership of the Commission. The announced Members of the Commission were:

- **Bill Ardinger**, Chair, appointed by and serving at the pleasure of the Governor;
- **Kevin P.J. Scura**, the Attorney General, or designee;
- **Raeleen Blaisdell**, the Commissioner of the Bank Department, or designee;
- **Senator Gary Daniels**, one state senator recommended by the Senate President;
- **Representative Keith Ammon**, one state representative recommended by the Speaker of the House;
- **Angela Strozewski**, one representative of the New Hampshire Bankers Association who is a resident of the State of New Hampshire, appointed by and serving at the pleasure of the Governor;
- **David Araujo**, one representative of the Cooperative Credit Union Association who is a resident of the State of New Hampshire, appointed by and serving at the pleasure of the Governor;
- **Andrew Schwab**, member of the public, with recognized experience with cryptocurrencies, digital assets and the provision of services to institutions or consumers with respect to digital assets, appointed by and serving at the pleasure of the Governor;
- **Nick Slaney**, member of the public, with recognized experience with cryptocurrencies, digital assets and the provision of services to institutions or consumers with respect to digital assets, appointed by and serving at the pleasure of the Governor;
- **Meltem Demirors**, member of the public, with recognized experience with cryptocurrencies, digital assets and the provision of services to institutions or consumers with respect to digital assets, appointed by and serving at the pleasure of the Governor;
- **Craig Stevens**, additional member, appointed by and serving at the pleasure of the Governor;
- **Vikram Mansharamani**, additional member, appointed by and serving at the pleasure of the Governor.

After this announcement, Member **Vikram Mansharamani** resigned his position due to his becoming a candidate for the U.S. Senate. (The Commission benefited from **Mr. Mansharamani's** continued support as a non-member friend of the Commission.) Member **Raeleen Blaisdell** resigned due to her moving out of New Hampshire, and was replaced by **Jameson Randall** by designation of the Commissioner of the New Hampshire Bank Department. Member Senator **Gary Daniels** resigned after the November 2022 election. Subsequent to the Executive Order, the Governor extended the date for this final Report until December 2022.

The Commission's work reflects valuable contributions from each of the Members of the Commission. These individuals devoted their own personal time to this very important effort. Each of them are employed by public and private sector agencies and companies. The findings and

recommendations in this Report are those of the Commission, and they do not reflect the views of any of the state agencies or private companies who employed the individual members and participants of the Commission.

The Commission held its first introductory meeting on April 1, 2022, at which Members provided their preliminary statements of their hopes and goals for the Commission's work. Including the introductory meeting, the Commission held 12 meetings:

- **April 1, 2022**: The Commission's introductory meeting, at which Members expressed their hopes and goals for the Commission's work.
- **May 27, 2022**: "*The Natures of Cryptocurrencies, Digital Assets and Digital-Ledger Technologies, and the Current Status of Commercialization*," with presenters: Member **Meltem Demirors** (NH resident, veteran of digital assets investing, widely-known expert on cryptocurrencies and related technologies and currently serves as Chief Strategy Officer of CoinShares, a digital asset investment firm that manages $5 billion in assets on behalf of a global client base); and **Dr. Matt Higginson** (NH resident, leader in distributed-ledger technologies and business development initiatives at a global consulting firm).
- **June 8, 2022**: "*The Status of Policy Activities at the State Level and in New Hampshire and a Beginning Discussion of State Regulatory Interests*," with presenters: **Heather Morton** (Program Principal at the National Conference of State Legislatures); **Vincente Martinez** (General Counsel for the North American Securities Administrator Association (NASAA)); and **Member and Representative Keith Ammon** (sponsor of key NH legislation addressing cryptocurrencies, digital assets and their regulation within NH).
- **June 16, 2002**: "*Another View of the Legal and Regulatory System for Digital Assets and Services: From the Private Sector Perspective*," with presenters: **Jonathan Mayers** (General Counsel at BlockFi, a leading fintech firm providing services to cryptocurrency owners); and **Alexander Grishman** (Partner at the law firm of Haynes and Boone who advises some of the largest financial institutions and some of the most well-known cryptocurrency players in all aspects of financial transactions).
- **June 29, 2022**: General discussion by Commission Members and friends regarding process and progress and future ideas.
- **August 3, 2022**: "*A Skeptical View of Current Cryptocurrency and Web3 Activities*," with presenter **Molly White** (software engineer and well-renowned commentator on concerns about cryptocurrency and Web3 activities).
- **September 16, 2022**: "*Blockchain Mining: Facts and Realities*," with presenters: **Dennis Porter** of Satoshi Action Fund (Bitcoin mining advocate focusing on state policy); Drew Armstrong, Isaac Fithian, and John Holt of Cathedra Bitcoin (Cathedra develops and operates bitcoin mining infrastructure with a manufacturing center in Berlin, NH); **Justin**

Orkney (Justin is an electric utility professional focusing on the dynamics of bitcoin mining as it pertains to the electric grid); and **Charles Schumacker**, VP of Corporate Communications for Marathon Digital Holdings (Marathon is a publicly traded bitcoin mining company with a significant percentage of hash power on the Bitcoin network.)

Following these seven introductory and informational meetings, the Commission met five more times (November 3, November 9, December 1, December 15 and December 21) to deliberate on the substance of this Report. The Chair of the Commission circulated several drafts of the Report reflecting these deliberations. At its final meeting on December 21, a final draft version of the Report was presented and discussed, with 9 of 10 members of the Commission present and speaking to the Report. (While the original Commission consisted of 12 members, resignations reduced the total number to 10.) Upon motion made and seconded, the Commission members present voted to approve the final form of the Report by a unanimous vote of 7 to 0, with 2 abstentions. (The two Members abstaining were **Jameson Randall** and **Kevin Scura**, both of whom expressed positive support for the Commission's work, but desired to avoid any implications that might constrain their work for the NH Bank Department and the NH Department of Justice.) This final form of Report included in Appendix A supplemental statements from three Members who desired to provide their personal views regarding any aspect of the Report. The Final Report was thereafter transmitted to the Governor, with copies to the Speaker of the House and the Senate President, in accordance with Executive Order 2022-1.]

Executive Summary

This Report is prepared and submitted by Governor Sununu's Commission on Cryptocurrencies and Digital Assets pursuant to Executive Order 2022-1.

As stated in the Governor's Executive Order, the main task of this Commission is to offer specific findings and recommendations regarding the role of the New Hampshire legal system with respect to innovations involving Blockchain technologies and their potential impacts on New Hampshire families and consumers. While Blockchain and applications like Crypto-assets are essentially rooted in complex technological systems, the Commission's task was importantly legal in nature – how might New Hampshire's laws be modified and improved to achieve positive outcomes for New Hampshire businesses, consumers and families.

This distinction – between the technological essence of the Crypto topic, on the one hand, and the applicability legal rules enacted by Legislatures and promulgated by Executive Branch agencies on the other – presents a very difficult challenge to policymakers. In order to propose and adopt effective legal rules, the policymakers must have a thorough understanding of the activity that is potentially subject to regulation. Because these new technologies are very specialized and complex, very few policymakers are likely to have the necessary knowledge to develop legal rules that properly balance conflicting goals of society – for example: innovation and growth vs. stability in our core labor, taxation and financial systems; good jobs vs. safe products for consumers; individual privacy vs. preventing fraud and money laundering, the ability to seek gain vs. the financial protection of consumers from staggering loss, etc. These tensions in our Western legal system are not new – they have been, and continue to be, resolved with respect to all of our basic human activities. But finding the "sound balance" with respect to such a new and developing technology as Blockchain which is still in its infancy is very challenging.

As summarized in the Report, the current state of regulatory treatment of Crypto-assets and related activities is unclear and therefore unsatisfactory. But this uncertainty is no reason to fail to pursue necessary clarification; in fact, it is a strong call to action by policymakers.

Important efforts to clarify how legal rules should apply to Cryptocurrency activities are underway at all levels of our legal system. The national Executive Branch is responding to President Biden's March 9, 2022 call to national agencies to develop clear rules for this growing set of activities, but very few detailed proposals have been advanced. And many early regulatory efforts by one agency are at odds with early treatments by other agencies. (See, for example, the U.S. Securities and Exchange Commission accounting staff guidance that requires all publicly-traded businesses to treat customer assets as owned by the Crypto firm, while national banking regulators have long traditions of authorizing regulated banks and trust companies to hold customer assets in custody, and not as owned assets.) The national Legislative Branch is in the early stages of evaluating legislative proposals to bring clarity to our federal laws regarding regulation and taxation of Cryptocurrencies, but these efforts are likely to take many years to complete.

This new area of our economy is not only suffering from legal uncertainty. It is also suffering uncertainty due to turmoil in the market for Crypto-assets and related services itself. As of the date of

this Report, we are following the collapse of one of the largest financial service providers in the Crypto-asset ecosystem and the consequences. The Commission was aware of these very current developments at the time this Report was finalized. During 2022, the global market capitalization of cryptocurrencies had fallen from about $3 trillion (in November 2021) to about $850 billion, reflecting adverse industry developments. It is safe to say that many of the same human frailties that led to the myriad of other human speculative boom and bust cycles will turn out to be present at the core of the current Crypto industry uncertainty.

Notwithstanding these current legal and industry uncertainties, which will continue to be addressed after the date of this Report, this Commission has concluded that ***New Hampshire should take strong pro-active and public steps to build a better legal infrastructure for sound development of Blockchain technologies and its applications.*** Many states, including New Hampshire, are moving ahead with initiatives to consider legal rules for these new activities involving Blockchain. This state level effort is very important. Since the founding of the United States, state governments have played a significant role in the system of legal rules that govern vital parts of our society and economy. (Other nations, like the U.K. or Finland are "unitary" systems where most power is exercised by the national government.) State governments often are able to develop regulatory rules that are more responsive and innovative than the national government. (Justice Louis Brandeis first wrote about the importance of the state government role in our federal system in a 1932 U.S. Supreme Court opinion, New State Ice Co. v Liebmann: "It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country." New Hampshire should be a leader with respect to supporting the development of sound Blockchain-based businesses and applications through enactment of clear and sound legal rules.

As stated below in the Report, the Commission makes the following general findings:

First, Blockchain technology (digital databases secured by cryptographic software protocols distributed across connected computers) appears to be an important technical innovation with many potentially important applications in our human societies and economies;

Second, the legal and regulatory status of Blockchain technologies and applications such as Cryptocurrencies and Digital Assets is highly uncertain, and this legal and regulatory uncertainty is materially undermining innovation and economic development of new technologies, activities, and industry, and protections for investors and consumers; and

Third, that our New Hampshire government (Governor, Legislature, Executive Branch agencies and courts of our Judicial Branch) should devote resources to establishing a state legal regime that will offer an attractive jurisdiction for the best responsible Blockchain innovators, entrepreneurs and businesses, while protecting investors and consumers who use their applications.

Importantly, the focus of New Hampshire's efforts should be in legal areas where states have traditionally played very important roles in our federal legal system. It is in these areas where state law

can have the greatest impact on the development of a sound Blockchain economy in the future. As discussed below in the Report, these areas include:

(1) Where states have traditionally taken the lead role in establishing rules for legal entities like corporations and limited liability companies, *establishing a path for legal entity status for decentralized governance systems in Blockchain protocols (referred to below as "Decentralized Autonomous Organizations) that affords limited liability to network participants and that offers a process for similar entities formed in other states to become authorized to do business in New Hampshire*;

(2) Where states have played important and indeed, leading, roles in resolving legal disputes among private actors in our economy, *establishing and funding an expertise to resolve disputes involving Blockchain activities within New Hampshire's state court system*; and

(3) Where states have played vital leading roles in regulating banks, trust companies and other financial institutions through the United States' "dual bank regulatory system," *encouraging New Hampshire Executive Branch agencies such as the New Hampshire Bank Department to establish clear, public and proactive guidance on how New Hampshire-chartered financial institutions may conduct activities involving Cryptocurrencies and other Digital Assets.*

The Governor's Executive Order instructed the Commission to make specific recommendations for action regarding laws and rules governing Cryptocurrency and Blockchain activities. Subject to our cautionary note that policymakers should not implement rules prior to developing a strong understanding of the underlying technologies and activities through public input of public and private stakeholders who are knowledgeable in this arena, the Commission adopts the following 12 specific recommendations as set forth in section 5 of the Report:

(1) *Enact a state legal enterprise law for Decentralized Autonomous Organizations to provide transparency, limited liability and legal status to those participating in such decentralized networks;*

(2) *Establish and fund a "Blockchain Dispute Docket" within the New Hampshire Superior Court;*

(3) *Continue to enact updates to the Uniform Commercial Code with respect to Blockchain technologies;*

(4) *Establish a legislative standing committee to examine important issues arising under current NH securities laws and federal law developments;*

(5) *Clarify through public guidance important issues under NH tax laws and that Decentralized Autonomous Organizations that serve investment intermediary functions are eligible for the current law exemption from the NH Business Profits Tax or NH Business Enterprise Tax as "Qualified Investment Companies";*

(6) *Clarify through Public Guidance that New Hampshire Banking Statutes and Regulations May Apply to Cryptocurrency and Related Services and Activities Performed by NH-Chartered Banks and Trust Companies;*

(7) *Establish and fund a task force to investigate whether and how Blockchain technologies may be used to improve current systems for filing and storing official government records;*

(8) *Establish and fund a Blockchain Quality Assurance Center at the University of New Hampshire's Interoperability Laboratory;*

(9) *Establish a priority to enhance communications infrastructure that can support applications of Blockchain technologies from locations within New Hampshire;*

(10) *Convene a public process within the NH Department of Energy to clarify rules promoting partnerships between electricity generation projects and Blockchain "mining" businesses within New Hampshire;*

(11) *Evaluate needs for specialized resources to enforce current laws with respect to Crypto-Assets and related activities and provide resources to support law enforcement recruitment and training efforts that will improve NH's ability to protect NH consumers and investors; and*

(12) *Consistent with the longstanding New Hampshire traditions of protecting private property and personal privacy, establish a Legislative Standing Committee to monitor developments that could impose disproportionate burdens on privacy or property Interests of NH citizens who conduct activities with respect to Crypto-assets, including transactions using Self-Custody technologies.*

Contents of Detailed Report

Detailed Report

1 Introduction and Structure of This Report

This Report is transmitted by Governor Sununu's Commission on Cryptocurrencies and Digital Assets to the Governor, the Speaker of the House and the Senate President pursuant to Executive Order 2022-1. The basic findings and recommendations of the Report are summarized in the Executive Summary above and presented in more detail below.

The Report reflects the findings and conclusions of the Commission based on its 12 meetings from its first meeting on April 1, 2022 through the date of this Report. In addition, the Appendix to the Report presents Supplementary Statements of three Commission Members who desired to submit their personal views on certain aspects of the Report.

The Report includes numerous hyperlinks to webpages relevant to the points addressed. The Report does not include any footnotes. The goal is to provide the reader with clear pathways to the information relied upon for the points addressed. The information and the hyperlinks are current as of the date of this Report, and the Commission is not undertaking any commitment to update this information or the hyperlinks.

The Commission and its work included contributions from individuals who are employed by public and private sector agencies and companies. The findings and recommendations in this Report are those of the Commission, and they do not reflect the views of any of the state agencies or private companies who employed the individual members and participants of the Commission.

We cannot emphasize enough that the topic of this Report (Cryptocurrencies and Digital Assets) is subject to rapid changes. These are very new technologies which are undergoing new innovations daily. More than almost any other topic, these technologies are not static and will require continuing attention and further examination based on developments that will undoubtedly come following the date of this Report. It is the hope of the Commission, however, that this Report can serve as starting point for New Hampshire policymakers as they develop legislative and regulatory proposals that address activities involving cryptocurrencies and digital assets.

The Report is divided into the following sections: 1 *Introduction and Structure of This Report*; 2 *Background on Blockchain, Cryptocurrencies and Digital Assets*; 3 *Reasons Supporting Legislative and Executive Change*; 4 *Recommendations and Proposals*; and 5 *Conclusions and Call to Action*. The Appendix follows the body of the Report.

We greatly appreciate the opportunity to engage with this very interesting and challenging topic, and we thank Governor Sununu for establishing the Commission and allowing us to present this Report to him and other New Hampshire policymakers.

2 Background on Blockchain, Cryptocurrencies and Digital Assets

2.1 Some Key Definitions

The Commission found that people approach the concepts of Blockchains, Cryptocurrencies and Digital Assets with different degrees of understandings and experiences. Some Commission Members had very deep technical experience with these concepts. Others had very little experience with the technical concepts, but had greater experience with various legal regimes that may, or may not, apply to transactions involving these Digital Assets.

During Commission discussions, Commission Members recommended that we should attempt to develop a list of definitions of key terms, with the intent that these definitions would facilitate a more effective communication across the wide range of people, with different experiences, who will need to come together and deliberate on these matters. Senator Gary Daniels indicated that we should make an attempt to draft these definitions in plain, non-technical language accessible by a broader range of legislators and other policymakers.

The following paragraphs provide definitions for certain key terms used in this Report. Many of these definitions were explored at the Commission's meeting on May 27, 2022. They are often interrelated. These definitions are not listed alphabetically. Rather, they are presented in a prioritization that allows for each definition to build on the prior ones. When these defined terms are capitalized and used in this Report, they have the meanings set forth below.

Two important caveats: *First*, because these definitions are drafted intended for a broader audience that does not include only technologists, they will necessarily fail to be comprehensive. They are not intended as a technically precise summary or a technical guide. *Second*, because these definitions represent only a selected number of terms, they will necessarily fail to provide a comprehensive contextual understanding of the basic, fundamental purpose and reason for the concept of "programmable money". For humans, contextual understanding often depends on a compelling story, and these itemized defined terms do not purport to achieve such a story. There are many resources (some good and some awful) that seek to provide such a comprehensible story (see, for example, this Ted Talk and this exceptional article "The Crypto Story" by Matt Levine as published in Bloomberg Businessweek), and interested readers are encouraged to seek out such resources.

We start with a foundational definition, "Distributed Ledger Technology."

2.1.1 Distributed Ledger Technology

"Distributed Ledger Technology" or "DLT" means technology that enables the operation and use of a database that:

(a) is shared across a set of distributed computers (sometimes referred to as *nodes*) that participate in a network and store a complete or partial replica of the ledger;

(b) is synchronized across all of the nodes;

(c) has data appended to the ledger by following a specific *consensus mechanism* implemented by the protocol establishing the ledger;

(d) may be accessible to anyone or restricted to a subset of participants; and

(e) may require participants to have authorization to perform certain actions or require no authorization.

DLTs are not a new concept. In fact, in our digital world, many human activities are tracked and recorded in DLTs. Many of our traditional institutions use computer databases in their operations that are used by many participants across computer networks. Banks use databases to record our deposit amounts. Brokers use databases to record our claim to shares of underlying investment holdings. Grocery stores use databases to keep track of inventories. Many of these traditional databases are distributed across numerous computers in a network. But when several additional concepts are added to DLT structures, the possibility for innovation from DLTs maintained by large institutions to DLTs among participants maintained across digital communication networks is created.

2.1.2 Cryptography

"Cryptography" means the practice and study of techniques for securing communications so that only authorized persons can understand the communications. *Encryption* is the process of converting human-readable information to incomprehensible data, known as ciphertext. The sender and intended receiver of a communication use a *cryptographic key* to transform the encrypted message back into a form that the receiver may understand. Practical applications of cryptography include e-commerce, chip-based credit and debit cards, computer passwords and military communications. Cryptography can also be used to prove ownership over a piece of information and that a message has not been altered since it was created.

2.1.3 Blockchain

"Blockchain" is a type of DLT where sequential information records, or *blocks*, are connected (*chained*) together using cryptography. Each block contains its own information and the Cryptographic fingerprint or "hash" of the block previous in time to it. This combination of DLT and Cryptography has the potential to enable market participants to engage in nearly immutable transactions without necessarily trusting the other transaction participant or involving an intermediary. Blockchain transactions are said to be immutable in that, once they are recorded, the data in any block cannot be altered retroactively without altering all subsequent blocks. New records may be appended to the Blockchain, but not overwritten. This process creates a perfect, auditable record of prior states. The Blockchain database may be maintained as either a *public network* or a *private network*. With a *public network*, once a developer has released the software platform to public internet access, every actor with a computer connected to the internet may participate in the network (this open access state is often referred to as *permissionless*). Bitcoin and Ethereum are viewed as examples of public, permissionless, decentralized Blockchains. In contrast, a *private network* is developed, sponsored, maintained, and administered by a single entity, or a group of entities, that establishes protocols for who may connect to the network (a *permissioned* Blockchain), and determines how and when

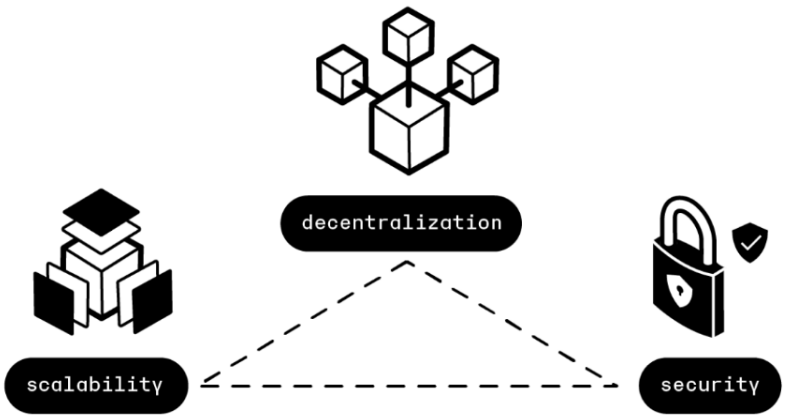
transactions are recorded to the ledger. Examples of private Blockchains are J.P. Morgan Onyx, Ripple and Goldman Sachs' GS DAP.

2.1.4 Permissionless Blockchain

"Permissionless Blockchain" means, as identified above, a public distributed ledger, allowing any entity to transact and produce blocks in accordance with the blockchain protocol, whereby the validity of the block is not determined by the identity of the producer. A Permissionless Blockchain may be contrasted with other Blockchains that are created and administered by a single entity (a *permissioned* Blockchain). An example of this contrast is to compare Bitcoin (a Permissionless Blockchain) to Libra, a product proposed by Facebook (now Meta) (a closed network offered to Meta app users). This comparison is examined in detail by Commission Member Meltem Demirors in recent testimony to the U.S. House Committee on Financial Services.

2.1.5 Consensus Mechanism

"Consensus Mechanism" means refers to the entire stack of protocols, incentives and systems that determine the conditions that must be satisfied to allow a network of nodes and validators to agree on the state of a Blockchain, including the addition of new blocks. Node validators are responsible for weeding out invalid transactions, and this function is achieved through the predefined rules set out in the Consensus Mechanism. Consensus Mechanisms, and the agreement they generate, allows a Blockchain to avoid "double-spending" of a Token or Cryptocurrency (using the same Token value more than once to facilitate transactions). Much of the innovation effort in Crypto-asset markets has been focused on increasing the number of transactions recorded to a Blockchain while preserving both security and decentralization. An example of a Consensus Mechanism is the "*proof-of-work*" protocol implemented with respect to the Bitcoin Blockchain. Point-of-work protocols limit scalability because "miners" must solve Cryptographic puzzles to validate new transaction records to the Blockchain, which typically uses a great deal of computational power. Another example is the "proof-of-stake" protocol recently adopted by the Ethereum network. In proof-of-stake mechanisms, validators "stake" Crypto-assets to a Blockchain for the opportunity to record transactions, reducing the need for immense computational power, thereby potentially increasing the number of transactions that can be recorded compared to proof-of-work. It is still unclear whether the proof-of-stake mechanism will allow greater scalability without sacrificing decentralization or security.



2.1.6 Digital Asset

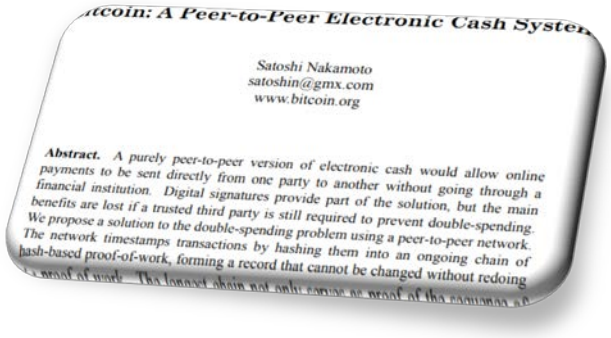
"Digital Asset" means a natively electronic asset that confers economic, proprietary, or other access rights, powers or entitlements and is recorded using Distributed Ledger Technology. This is an older and broader term than "Token" (see below) and has included items such as videos, images, audio, essays and other textual documentation rendered in digital form. These well-known forms of Digital Assets were accessed through many forms of databases. However, the rise of Blockchain technology has facilitated the creation of newer forms of Digital Assets, such as Tokens recorded and exchangeable on a Blockchain. The Uniform Law Commission refers to Digital Assets as "Controllable Electronic Records." These terms are largely interchangeable.

2.1.7 Token

"Token" means a digital record on a Blockchain, typically representing an asset, participation right, or other entitlement possessed by a distinct person or group of persons. The asset or entitlement rights are usually determined by underlying legal principles (for example, a motion picture file protected by copyright laws), but these legal entitlement rights may be represented in a Token that is subject to use or exchange in accordance with the terms governed by the code controlling the particular Blockchain record. Types of Tokens include: native Tokens that are typically issued every time a new block is added to a Blockchain to reward nodes maintaining the operation of the Blockchain (e.g., Bitcoin or Ether); governance Tokens entitling owners to voting rights on decisions pertaining to the Blockchain or associated enterprise; Non-Fungible Tokens, which are collections of uniquely identified Tokens similar to airline tickets that reference rights to occupy specific seats.

2.1.8 Cryptocurrency

"Cryptocurrency" or "Crypto" or "Virtual Currency" means a form of Token that entitles the person possessing it to use it as a medium of exchange to facilitate transactions. The ownership of a Cryptocurrency unit is recorded on a Blockchain, and an owner may transfer its ownership rights to another participant in the form of a new record that must be validated and recorded to the Blockchain. These *on-chain* Crypto transfers occur directly between sender and receiver, and do not require the use of traditional financial intermediaries such as banks or credit card companies. The rights of any Crypto owner are defined and determined by the software that establishes the Blockchain, and these rights are secured by the Cryptography used by the Blockchain. While these unique Tokens, such as Bitcoin and Ether, are referred to as Cryptocurrencies, they are different from traditional currencies issued by governments (*fiat currencies*). Cryptocurrencies, like Bitcoin and Ether, are sometimes referred to as native Tokens and are used as an incentive that rewards persons for their participation in operating the underlying Blockchain. These native Cryptocurrencies have proven to be highly



volatile compared to sovereign fiat currencies (such as the U.S. dollar). A number of governments are engaged in developing or evaluating a *Central Bank Digital Currencies* (*CBDCs*). Note that sometimes media refers to the entirety of activities using Blockchain technology as "Crypto;" for purposes of this Report, the term "Crypto" is limited to the narrower meaning expressed in this subparagraph.

2.1.9 Stablecoin

"Stablecoin" means a type of Cryptocurrency that is pegged to a reference value. (For a more thorough analysis of stablecoins, see this this paper published by the Federal Reserve Board.) The majority of outstanding Stablecoins are pegged to the U.S. dollar, but Stablecoins could also be pegged to other currencies, baskets of currencies, other Cryptocurrencies, or commodities such as gold. The reference value may be viewed as generally stable in value (such as the U.S. dollar), supporting the name "stable" coin. This perceived stability innovation is intended to support a broader adoption of activities using Cryptocurrencies, including trading, lending and borrowing. Stablecoins serve as a store of value and a medium of exchange for persons who are validated as owners on a Blockchain. The current traditional banking system offers a digital record of money, such as bank deposit accounts, but Stablecoins differ from these traditional digital rights in at least two ways. First, Stablecoin ownership and transaction records are cryptographically sequenced and secured on a blockchain, which allows settlement of digital transactions around the clock without any intermediary (such as a bank). Second, Stablecoins (as well as other Digital Assets) may be integrated into the rules system of a Smart Contract, effectively creating "programmable money." The Federal Reserve Board has identified three forms of Stablecoins: (1) "public reserve-backed Stablecoins" offered on Permissionless Blockchains and backed by cash-equivalent reserves such as bank deposits, Treasury bills, and commercial paper (examples include Tether and USD Coin); (2) "public algorithmic Stablecoins" which accomplish "pegging" to the reference value through Smart Contract rules systems that balance demand and supply of the Stablecoin (an example includes the TerraUSD Stablecoin which in May 2022 cost its owners $40 billion when its rules system failed to maintain its U.S. dollar peg causing a run that collapsed the value of the so-called "stablecoin"); and "private Stablecoins" implemented by private institutions on a private, or permissioned, Blockchain to support operations of the sponsoring institution.

2.1.10 Non-Fungible Token

"Non-Fungible Token" or "NFT" means a Token recorded on a Blockchain that represents usage or ownership rights with respect to a specific and unique (*non-fungible*) asset or other entitlement. Control of NFTs is defined by the records on a Blockchain, and NFT owners receive and transfer control through Blockchain transactions. NFTs may grant specific capabilities or rights directly on the Blockchain, such as the Ethereum Naming Service, which provides unique, programmable pointers that NFT owners maintain in a similar way they use a traditional domain name like nh.gov. The control granted by these types of NFTs is enforced by the Blockchain. NFTs may also represent rights that are not directly enforced by the Blockchain. In this second case, while the owner of an NFT can demonstrate that it owns the NFT by reference to the Blockchain, the ownership of an NFT on a Blockchain does not inherently convey legally enforceable rights to the underlying asset referenced by the NFT. Without consideration of existing legal rules external to the Blockchain (e.g., copyright), an NFT cannot prevent the sharing or copying of the underlying asset or the creation of additional NFTs that

reference the identical underlying asset. An example of an NFT marketplace is OpenSea. Even though ownership of most NFTs does not currently provide enforceable legal rights to the underlying asset, participants in the NFT market may still ascribe value to ownership of the unique NFT itself.

2.1.11 Central Bank Digital Currency

A "Central Bank Digital Currency" or "CBDC" means a digital form of a sovereign jurisdiction's (e.g., nation's) fiat currency issued and regulated by the central bank. It is designed to provide consumers and businesses with convenient, secure, and accessible financial transactions. CBDCs can reduce cross-border transaction costs, provide lower-cost options for those using alternative money transfer methods, and allow central banks to implement monetary policies to promote stability, control growth, and influence inflation. There are two types of CBDCs: wholesale, which would primarily be used by financial institutions; and retail, which consumers and businesses would use. CBDCs are distinguishable from Cryptocurrencies because CBDCs are issued and controlled by a central sovereign authority (such as a central bank). The central governing authority may program and regulate CBDCs to implement specific monetary policies or enhance prevention of financial crimes such as money laundering, tax evasion, and the financing of terrorism. Many countries worldwide are exploring or have already begun implementing CBDC initiatives, including the United States, the United Kingdom, Canada, Brazil, Russia, India, and China. The widespread adoption of CBDCs could eventually replace cash and require all transactions to be recorded digitally and tied to identification. China has made aggressive efforts to deploy a CBDC (the digital renminbi or yuan) with an express intent to expand China's influence in international markets, but recent trials have not attracted strong public adoption not only because of technical failings but also due to fears that Beijing intends to use the technology to exert greater state control over individuals and private financial transactions. The Commission notes that while there may be benefits from the adoption of CBDGs as noted above, CBDGs also pose many significant risks. In a January 2022 Report, the U.S. Federal Reserve has identifies these risks to include: providing unprecedented capability to governments to compile data about every user's financial transactions (enabling risks of potentially extensive government surveillance of citizen behaviors); potentially destabilizing the current financial system by reducing traditional private banking deposits and reserves; creating pressures that could exacerbate runs against private banks in times of crisis; and exposing the national payment system to enhanced operational and cybersecurity risks compared to existing payment services. In connection with this definition, the Commission notes that Member Representative **Keith Ammon** has provided a Supplemental Statement in Appendix A that addresses some of these concerns about adoption of a CBDC in more detail.

2.1.12 Self Custody

"Self-Custody" refers to ability of an owner of a Digital Asset (including Cryptocurrency) to hold, send, and receive Digital Assets they own (including Cryptocurrencies) independently and unilaterally without the use of, or enabling payments to, any third-party intermediaries. Self-Custody can be facilitated through a number of means, including downloading and using *wallet* software, purchasing or building a hardware *wallet*, as well as using a self-custodial *wallet* service. ("*Wallets*" do not hold the Crypto-assets themselves (the Crypto-assets exist only as records on the Blockchain); rather they hold the keys that empower the owner to conduct transactions on the Blockchain. Wallets may be "*hot*"

(connected to the internet via software on a computer, mobile device or cloud service) or "*cold*" (storing key off-line via several potential mechisms).) Self-Custody is distinguished from situations where the intermediary controls Digital Assets on behalf of the Digital Asset owner (such intermediary relationships are sometimes referred to as a "hosted wallet"). Advocates for Cryptocurrencies often point out that a Self-Custody status is more consistent with the ideals of a pure decentralized Cryptocurrency ecosystem because it enables owners to conduct transactions directly and independently with the Blockchain network without having to trust, use or pay third-party intermediaries ("*Not your keys, not your coin*" is a common statement, especially following collapse of third-party custodians). An owner has Self-Custody when they possess unilateral power to control deployment of the private cryptographic keys necessary to conduct transactions with their Digital Assets, with no other third party provider having unilateral power to move their Digital Assets.

2.1.13 Smart Contract

"Smart Contract" means computer code deployed to a Distributed Ledger Technology network that executes an instruction based on the occurrence or nonoccurrence of specified conditions. The execution of a Smart Contract may involve taking possession or control of a Digital Asset and transferring the Digital Asset or issuing executable instructions for these actions. Execution of a Smart Contract will produce a new record on the Blockchain. Possible efficiency benefits from Smart Contracts include security (encryption), speed of execution (computers are much faster than lawyers), accuracy (well-programmed computers make fewer errors than humans), reduced risks (fewer intermediaries); cost savings (autonomy and elimination of intermediaries leads to savings), and back-up (the records exist across all nodes on the network and may be easily restored). Of course, use of Smart Contracts involves special risks as well, including failures in software coding and lack of flexibility that may be allowed under traditional contracts under current law.

2.1.14 Web 3

"Web3" is a term whose meaning is in development. For purposes of this Report, the term "Web3" shall be defined as a new era in the development of the World Wide Web which seeks to incorporate greater uses of Blockchain technologies, Token incentives, and Smart Contracts, characterized by less concentration of Internet activity and more decentralized interactions. The term "Web3" was coined in 2014 by Ethereum co-founder Gavin Wood. A presentation made to the Commission at its May 27, 2022 meeting placed the Web3 era within the historical context of the Internet in the following graphic:

2.1.15 DeFi

"DeFi" or "Decentralized Finance" means a set of newly emerging financial products and services that operate in a decentralized manner using Blockchains to record and share data. DeFi products and services are conducted without a trusted central intermediary such as a bank or a broker. This is easy to say, but in practice the edges of this defined term are not always clear. In our traditional financial system, we look to traditional financial institutions – banks, brokers, insurers, venture capitalists and a myriad of others – to facilitate our needs for savings, investments, risk management and transfers. These institutions are organized as traditional limited liability organizations (*corporations, limited partnerships, LLCs*) where investors (*shareholders, partners*) delegate management authority to boards (*directors, managers*), which in turn delegate execution authority to others (officers, agents) to accomplish their financial intermediation functions. These structures are centralized, and necessarily require investors/customers/clients to trust them. Oversight by government agencies also is intended to enhance trust and confidence (*trust AND verify*). This traditional financial system is often distinguished from "*DeFi*" by using the labels "*CeFi*" (*centralized finance*) or "*TradFi*" (*traditional finance*). DeFi products and services are similar to those offered by CeFi institutions, but as opposed to transactions being executed by employees, agents and computers owned by the CeFi institutions, the DeFi transactions are conducted through the use of Smart Contract capacity on Blockchains like Ethereum, Avalanche and Solana. Smart Contracts are programmed to create decentralized applications (*dApps*) that allow Blockchain participants to engage in financial service transactions on a peer-to-peer basis. Crypto advocates often assert that such DeFi transactions are therefore "trustless." These advocates often blame events like the collapse of FTX on fact that FTX was a *CeFi* enterprise conducting *Crypto* transactions, and assert that pure peer-to-peer DeFi transactions would not be subject to such risks. Crypto skeptics often respond that DeFi is subject to many risks such as negligent or even intentionally bad coding, hacks, and uncertain legal system risks, among others (*trust in platform* as opposed to *trust in institution*). And further that it is often unclear whether specific persons (founders, developers, owners, consumers, persons offering a user-friendly website for non-technical investors/consumers (a *Graphical User Interface* or "*GUI*") may have a form of *de facto control* over the

conduct of operations on the DeFi platform (and therefore an impure DeFi system that requires trust in often opaque participants). This DeFi arena is experiencing intense innovation and development across the globe, and observers expect significant new applications in the near future.

2.1.16 Decentralized Autonomous Organization

"Decentralized Autonomous Organization" or "DAO" means the rule system embodied in a Smart Contract deployed on a Permissionless Blockchain that implements an enterprise, project or undertaking among multiple participants acting in a coordinated but decentralized manner. The Ethereum website defines a DAO as "*a collectively-owned, blockchain-governed organization working towards a shared mission*." The Smart Contract establishing a DAO may provide rules for maintaining assets (including Cryptocurrencies and other Digital Assets) for the purposes of the DAO. Some say a DAO is a trustless enterprise since once the Smart Contract is live, no one entity may change the rules except by action of the DAO membership through a governance process set forth in the code. Because any assets of the DAO are maintained by the Smart Contract rules, use of the assets may only occur based on the collective action of the DAO membership consistent with the encoded governance process. If these governance rules are not carefully written, they may be subject to errors or manipulation. Traditional hierarchal delegations of power to central actors (e.g., from shareholders to directors to officers) are not required because the Smart Contract initiates all approved actions. The legal status of various aspects of DAOs is uncertain. An example of a DAO that operates in the DeFi arena is the MakerDAO.

2.2 Current State of Technology, Industries, Markets and Regulation

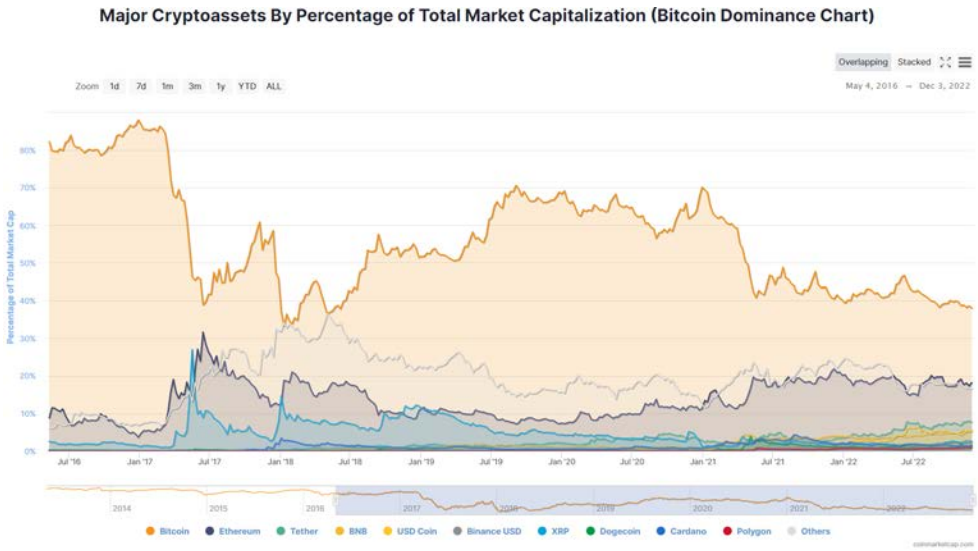
Since the publication of "Bitcoin: A Peer-to-Peer Electronic Cash System" in October 2008, the scale and volume of transactions involving Blockchains and cryptocurrencies has grown substantially. The following paragraphs provide general indicators that demonstrate the significant growth of Cryptocurrency and Blockchain activity and valuations.

2.2.1 Value of Cryptocurrency Markets

This graph shows the changes in total value of all Cryptocurrencies from 2016 to December 3, 2022 (a current version is found at Coinmarketcap.com). It also shows the volatility of this market, including the dramatic decline during 2022. As the graph demonstrates, global Crypto capitalization hit a peak of $2.9 trillion in November 2021, and stands at $851 billion in December 2022.

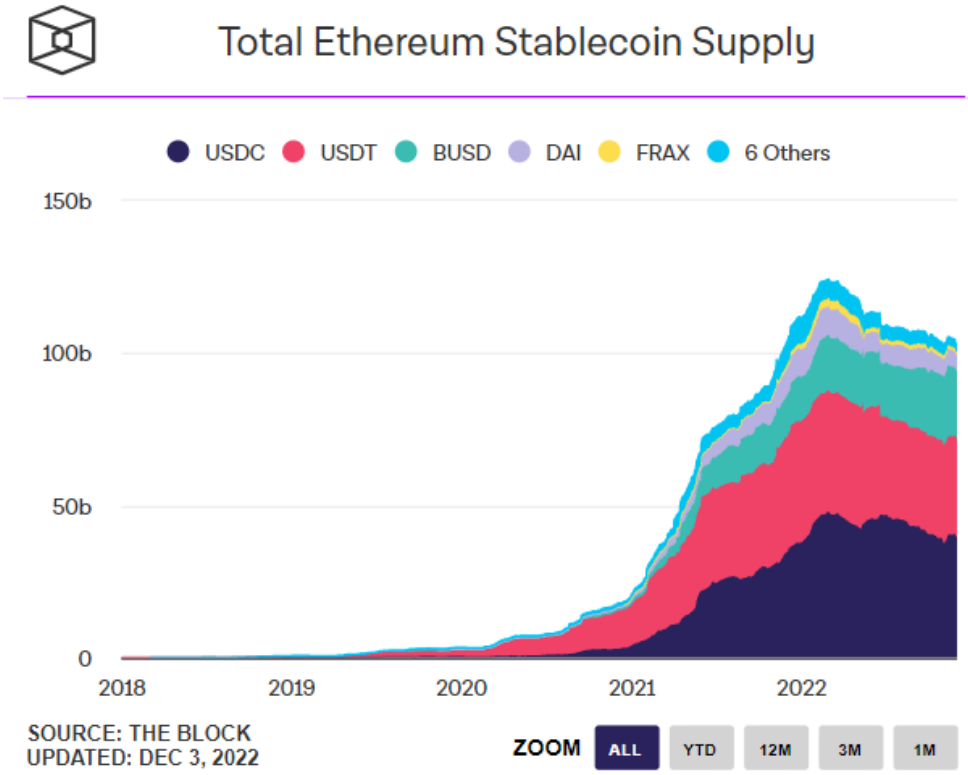
2.2.2 Share of Cryptocurrency Markets

This graph shows relative shares of the Cryptocurrency market represented by various coins from 2016 to December 3, 2022 (a current version is found at Coinmarketcap.com). This graph indicates that Bitcoin continues to be the largest Cryptocurrency by capitalization (almost 90% of total market capitalization in 2016, and at just under 40% as of December 3). Ether, the Cryptocurrency of the Ethereum network has risen to almost 20% of the total today.



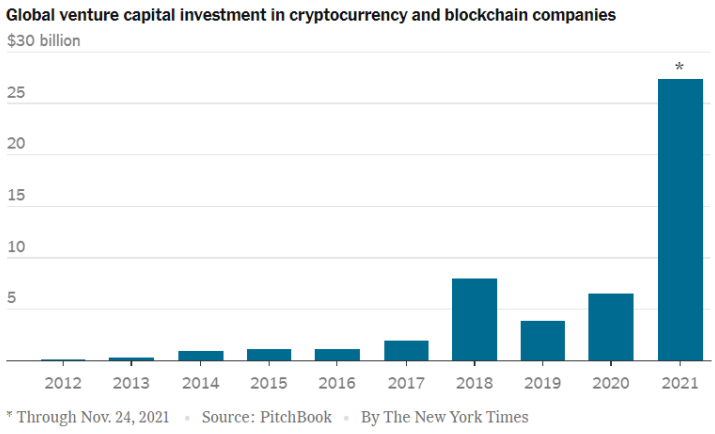
2.2.3 Value and Composition of Stablecoins in Circulation

As global capitalization of Cryptocurrencies has grown, so has the capitalization of Stablecoins in circulation (a current version of this graph is found at TheBlock.co.)



2.2.4 Other Indications of Growth

The following graph, from a New York Times Dealbook article from December 2021, also indicates the recent growth of venture capital investment in Crypto and Blockchain start-ups.



2.3 Legal System: Summary of National and State Regulatory and Policy Developments

The data cited above provide measures of the recent growth of activities in the Blockchain and Crypto-asset ecosystem. Much of that growth reflects the remarkable technical innovations achieved by exceptional technically-proficient computer scientists like the pseudonymous "Satoshi Nakomoto" (representing the person or persons responsible for Bitcoin) and Vitalik Buterin (Ethereum) and many others.

But technological innovations are not enough to build a broadly applicable system of human interactions. There must be a common understanding that governs expectations of humans who participate in these digital networks.

With Blockchain, there is no clear agreement on even the question of whether there should be basic "rules of the road" governing how humans interact over Blockchain networks. Some strong Crypto proponents are very skeptical of any government oversight or rules for a variety of reasons, including a belief that the technology is so revolutionary that it is impossible for a single geographically-based jurisdiction (i.e., a nation or a state), or a more practical desire to use the technology as a means to avoid existing regulatory regimes that they oppose such as securities laws, anti-money laundering rules, or taxation requirements. On the other side of the spectrum are strong Crypto opponents who go so far as to propose legal rules that would completely ban privately-created Cryptocurrencies (e.g., China or Qatar).

In general, it is safe to say that the approach in the United States to developing an appropriate legal framework has been somewhere in the middle of the extreme ends of this spectrum. Indeed, many proponents (including technologists) of Cryptocurrencies and Blockchain Technologies believe that a sound, well-structured set of legal rules for Crypto-asset activities is as important as sound and well-written software code, if there is to be any wide-scale adoption of Crypto technologies by a broader range of U.S. citizens.

The Commission heard input indicating that the federal government and many state governments are very actively reviewing the facts of Blockchain technologies and its applications such as Cryptocurrencies and Digital Assets, and that these governments are in the active process of developing legal rules with respect to these items. Further, many other international actors are trying to understand how these multi-jurisdictional activities should be regulated. The following sections provide references to some of these most recent activities.

2.3.1 National Executive Branch

On March 9, 2022, just one month after Governor Sununu announced the establishment of this Commission, President Biden issued Executive Order 14067 ("Executive Order on Ensuring Responsible Development of Digital Assets"). Pursuant to this Executive Order, federal Executive Branch agencies are conducting investigations. In September 2022, this process generated four reports:

- White House Office of Science and Technology Policy, "Technical Evaluation for a U.S. Central Bank Digital Currency System"
- U.S. Department of Justice, "The Role of Law Enforcement in Detecting, Investigating, And Prosecuting Criminal Activity Related to Digital Assets"
- U.S. Department of Commerce, "Responsible Advancement of U.S. Competitiveness in Digital Assets"
- White House, "Policy Objectives for a U.S. Central Bank Digital Currency System"

The significant growth of Cryptocurrency activities has also attracted the attention of federal regulators tasked with monitoring financial services to identify potential threats to U.S. financial stability. The Financial Stability Oversight Council ("FSOC") established by the Dodd-Frank Wall Street Reform and Consumer Protection Act recently issued its "Report on Digital Asset Financial Stability Risks and Regulation." Issued on October 3, 2022 (just before the November FTX collapse), this Report concluded at page 1:

> "Crypto-asset activities could pose risks to the stability of the U.S. financial system if their interconnections with the traditional financial system or their overall scale were to grow without adherence to or being paired with appropriate regulation, including enforcement of the existing regulatory infrastructure."

In addition to these agency inquiries, national Executive Branch agencies are pursuing a series of enforcement actions. A good example of the scope of these enforcement activities may be found at the U.S. Securities and Exchange Commission's website at this "Crypto Assets and Cyber Enforcement Actions" page. The recent U.S. Department of Justice Report identified above also lists significant enforcement activities by various federal Executive Branch agencies. Another federal agency, the Commodities Futures Trading Commission ("CFTC") has also asserted jurisdiction over various actors in the Cryptocurrency arena, including Kraken and most recently against a Decentralized Autonomous Organization (Ooki DAO and its founders). A final example occurred on December 13, 2022, when the the U.S. SEC and CFTC both filed suit against FTX co-founder Sam Bankman-Fried alleging fraud, and federal prosecutors also unsealed a federal indictment alleging that those and other frauds by Bankman-Fried violated criminal laws.

It is beyond the scope of this Report to provide a detailed analysis of these national government developments. However, consistent with this Report's focus on providing recommendations to New Hampshire policymakers, the Commission notes two important aspects.

First, it is very important that New Hampshire policymakers be aware of developments in this national arena, and that such developments are only at the very beginning. To be effective, state law must consider national legal developments. While some have asserted wishful thinking that state law is supreme and may supersede conflicting federal law, this is not accurate. Also, much of the most intense development work by well-staffed federal legislative committees and agencies and by highly competent and well-financed industry interests will take place at the national level. New Hampshire policymakers

should be prepared to adopt important achievements from the national level debates, while pursuing important and innovative state level initiatives that will be beneficial to the interests of New Hampshire.

Second, these national developments have been, as yet, notably silent on the role of state law in the development of an appropriate U.S. legal framework for Digital Asset activities. While one can understand why the President's executive order would not include directions for federal agencies to consider or propose state law policies, the lack of any acknowledgement that state laws will play important roles in the developing Blockchain ecosystem should be addressed. Some observers may press to have states defer any regulatory or policy actions with respect to Blockchain technologies until the federal government has completed its work. The Commission disagrees with this position. State governments have a very important role to play in the development of a sound legal regime to support a sound Crypto-asset ecosystem, especially in those areas where states have traditionally played a leading legal role (for example, with business enterprise laws and with regulation of state-chartered bank and trust companies). The Commission believes that New Hampshire should be a leader in these state efforts.

2.3.2 Federal Legislative Branch

As the Blockchain and Digital Asset activity has increased, and the uncertainty of how existing regulatory regimes has become more and more apparent, actions before Congress have also increased. On June 7, 2022, Senators Cynthia Lummis (R-WY) and Kirsten Gillibrand (D-NY) introduced S. 4356, the Responsible Financial Innovation Act ("Lummis-Gillibrand Bill"). This bill is recognized as one of the leading federal legislative efforts to provide greater certainty regarding regulation of Cryptocurrencies and Digital Assets.

In a press release announcing introduction of the bill, Senator Gillibrand stated:

> "Digital assets, blockchain technology and cryptocurrencies have experienced tremendous growth in the past few years and offer substantial potential benefits if harnessed correctly. It is critical that the United States play a leading role in developing policy to regulate new financial products, while also encouraging innovation and protecting consumers," said Senator Gillibrand. "The bipartisan Responsible Financial Innovation Act is a landmark bill that will establish a regulatory framework that spurs innovation, develops clear standards, defines appropriate jurisdictional boundaries and protects consumers. Importantly, the Lummis-Gillibrand framework will provide clarity to both industry and regulators, while also maintaining the flexibility to account for the ongoing evolution of the digital assets market."

A Forbes article commented on the Lummis-Gillibrand Bill, with a very clear explanation of the regulatory uncertainty it is trying to solve:

> Under both the Biden and Trump administrations, the SEC has been notable for its aggressive yet unpredictable behavior toward crypto businesses. Last September, for example, the SEC told Coinbase to end its effort to offer interest payments to its customers, arguing that such interest payments were "securities." Coinbase Chief Legal

> Officer Paul Grewal, in a lengthy blog post, expressed frustration that Coinbase's efforts to preemptively share their product design with the SEC were to no avail. "The SEC still won't explain why they see a problem," Grewal wrote. "Rather they have now told us that if we launch [the interest payment service] they intend to sue. Yet again, we asked if the SEC would share their reasoning with us, and yet again they refused."
>
> The SEC's approach to crypto regulation has been simply to say that projects must adhere to the Howey test, a vague standard based on a 1946 Supreme Court case called SEC v. W. J. Howey Co. Because so much of crypto innovation transcends 1930s-era securities law, and because the SEC has refused to give clear guidance about their approach to cryptocurrencies, many entrepreneurs operating in good faith have no idea whether they will wake up one day to find that the SEC wants to shut them down.
>
> The Responsible Financial Innovation Act would solve many of these problems, by creating clear legal definitions and regulatory lanes for digital assets.

Of course, the Howey test and its uncertainties are not unique to the conduct of Crypto activities. Nonetheless, the Lummis-Gillibrand Bill provides an important illustrative example of how to use legislative rules to provide an answer to various legal uncertainties that plague the development of beneficial technologies while still protecting consumers and investors. If enacted into law, the Lummis-Gillibrand Bill would, among other things:

- Provide a comprehensive regulatory structure for Digital Assets, differentiating between Digital Assets that are securities and those that are commodities.
- Provide the Commodity Futures Trading Commission ("CFTC") with new oversight of digital assets that qualify as commodities and Digital Asset spot markets.
- Create a new asset regulated by the Securities and Exchange Commission ("SEC"), termed "ancillary assets," the existence of which would trigger biannual SEC disclosures.
- Provide uniform definitions of native cryptocurrency and blockchain ecosystem terms, including "digital asset," "virtual currency," "smart contract" and "decentralized autonomous organization." The proposed definition of "virtual asset" includes algorithmic and crypto-backed stablecoins but not stablecoins backed by real-world assets or fiat, which qualify instead as "payment stablecoins."
- Address Digital Assets' environmental impact and critics' comments that proof-of-work mining (e.g., Bitcoin mining) is a significant contributor to climate change due to its energy consumption. Rather than regulate the industry, however, the bill calls for studies to explore the environmental impact of digital assets and the role of renewables in its ecosystem.
- Require Stablecoin issuers to keep 100 percent reserves and to provide detailed disclosures. An optional framework would be created to facilitate payment Stablecoin issuance by banks and credit unions.

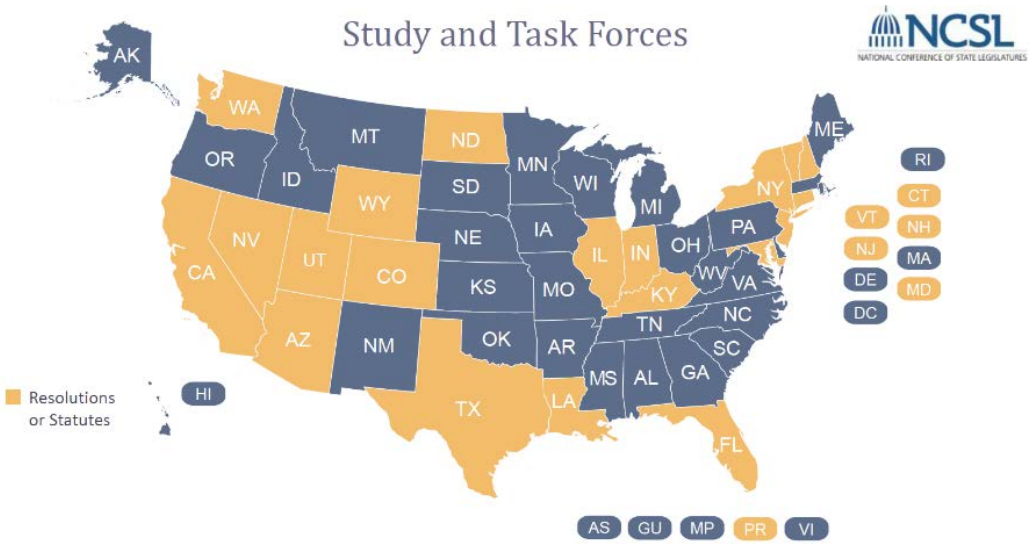
- Clarify U.S. federal income tax treatment of virtual currency and digital assets and modify the recently enacted digital asset broker information reporting rules.

Another piece of federal legislation is the Digital Commodities Consumer Protection Act of 2022, introduced by Senator Stabenow. This bill, including its most recent indicated format which would provide significant regulatory authority to the federal Commodities Futures Trading Commission, has become subject to greater scrutiny in the wake of the FTX bankruptcy.

As with most important and comprehensive federal legislation, the path to enactment will likely be long and involve substantial changes and revisions. The failure to provide the legal certainty that the bill seeks to provide may be viewed as an opportunity by States to "fill the vacuum" with creative, innovative and necessary reforms. New Hampshire should be a leader in this effort.

2.3.3 States

As in the case of federal executive branch and legislative branch developments, state governments have been increasingly active in developing legal frameworks for the conduct of Digital Asset activities and services. At its June 8, 2022 meeting, the Commission heard from **Heather Morton** of the National Conference of State Legislatures ("NCSL"), who described the current status of policy and legislative activity in state governments. Her conclusion: *There is very high interest in this topic across the country*. The following chart distributed by Ms. Morton indicates that New Hampshire is certainly not the only state conducting study of the crypto arena to develop an understanding of possible policy improvements to address the developing Blockchain and Digital Asset ecosystem:



NCSL maintains a chart of state legislative activity with respect to Blockchain technology and with respect to Cryptocurrency activities. The level of legislative and regulatory activity regarding Crypto-assets and Blockchain is substantially increasing across the country.

As in the case of National Executive Branch, state government agencies are also actively pursuing enforcement actions against Crypto activities that they believe are covered by existing laws. As one example, the Texas State Securities Board has been very active in prosecuting regulatory actions.

2.3.4 International: Developments and Differences

It is well beyond the scope of this Report to address specific developments regarding how other nations are addressing Blockchain and Crypto policies. Nations are actively evaluating such policies. Examples include: this discussion of DeFi policy from the European Commission; Lichtenstein's Token and Trusted Technology Service Provider Act; Bermuda's comprehensive Crypto regulatory framework; and Singapore's efforts to become a leader in Crypto regulation.

While this Report focuses on New Hampshire's policies regarding Crypto-assets and related activities, it is important for local policymakers to remember that they do not make policy in a silo. Indeed, opportunities for "regulatory arbitrage" (private players carefully selecting the jurisdiction that offers what they view as the most beneficial regime for their operations) readily exists in traditional settings (for example, New Hampshire is recognized as one of the leading jurisdictions in the world for laws governing trusts and trust companies), and it definitely operates in the very new and developing world of Crypto-assets. Policymakers should consider such international developments as examples of what policies may be possible (both positive and negative).

3 Highlights from Commission Proceedings

Each of the Commission's 12 meetings were video and audio recorded. The Commission is in the process of ensuring that these recordings are posted on a public website so that interested parties may view the entirety of the Commission's public work. All of our presenters were excellent contributors to the Commission, and we encourage interested parties to view their entire presentations. However, at the risk of failing to present every important aspect of these presentations, the following sections summarize highlights of each presentation.

3.1 Summary of the Presentations

3.1.1 Introduction to Key Concepts: "The Natures of Cryptocurrencies, Digital Assets and Digital Ledger Technologies, and the Current Status of Commercialization" (May 27, 2022)

Commission Member **Meltem Demirors** and **Dr. Matt Higginson** were our presenters. Both have substantial experience with Blockchain technologies and Crypto-asset and other Web3 ecosystems. They provided background regarding important terms (much of which is incorporated into the definitions above). An important takeaway is that potential use cases for Blockchain technology are far more extensive than simply Bitcoin or Cryptocurrency exchanges. They identified the very difficult problem of uncertain application of existing regulatory regimes to developing activities that use Blockchain technologies on a broader (more public) scale. Ms. Demirors indicated *that this legal uncertainty undermines the ability of the United States to compete for capital and jobs in this new industry*. The presenters identified that a very negative policy stance, from the perspective of

innovation and development, is one where governmental agencies do not issue any proactive guidance on how existing laws and regulations should be applied in the specific context of Blockchain and Cryptocurrencies. This passive stance (one where agencies simply declare that current law applies without guidance relevant to the differences arising from the new technologies, and then surprise the industry with announcements of various enforcement actions) is referred to as "*regulation by enforcement*." The presenters identified several national jurisdictions where positive work was being done to establish clear regulatory rules, including Singapore and Bermuda.

3.1.2 "The Status of Policy Activities at the State Level and in New Hampshire and a Beginning Discussion of State Regulatory Interests" (June 8, 2022)

Heather Morton (Program Principal at the National Conference of State Legislatures (NCSL)), Attorney **Vincente Martinez** (General Counsel for the North American Securities Administration Association (NASAA)) and Commission Member and NH Representative **Keith Ammon** were the presenters. In general, the presentations focused on current activities by state governments, including New Hampshire, with respect to building a legal system for Blockchain, Cryptocurrency and related activities. As noted above, many states are engaged in reviews, studies and task forces to example potential policy changes with respect to Blockchain technologies. Ms. Morton and Representative Ammon focused on current developments among states generally and New Hampshire, specifically. In the 2022 legislative session, New Hampshire enacted amendments to its Uniform Commercial Code law (NH RSA 382-A) that are recommended by the Uniform Law Commission, providing rules for transactions involving "controllable electronic records." Attorney Martinez offered his views on how current state securities laws apply to Cryptocurrencies, including an excellent summary of the longstanding "Howey" test (from the United States Supreme Court case of SEC v. W.J. Howey Co., 328 U.S. 293 (1946)) for determining whether an arrangement is an "investment contract" subject to securities regulation. In his view, these longstanding legal principles provided important guidance on these new technologies and activities, and he pointed to guidance issued by the Strategic Hub for Innovation and Financial Technology of the U.S. SEC regarding how the Howey test should be applied to certain Crypto-assets as one example. (Note that this document expressly disclaims being "a rule, regulation, or statement of the [SEC].")

3.1.3 "Another View of the Legal and Regulatory System for Digital Assets and Services: From the Private Sector Perspective" (June 16, 2022)

The Commission heard from two attorneys in the private sector regarding the state of uncertainty in legal regimes for Crypto-assets and related activities. Attorney **Alexander Grishman** (partner at the law firm Haynes and Boone) and Attorney **Jonathan Mayers** (General Counsel at BlockFi, which recently filed for bankruptcy as the result of the FTX collapse and bankruptcy). Attorney Mayers explained why his company had filed an application in early 2021 affirmatively seeking regulation as a state-chartered non-depository trust company by the New Hampshire Bank Department. While certain participants in the Crypto-asset industry press for an almost "zero-regulation" world, Attorney Mayers believed that sound and balanced regulation would play an important role in enhancing trust and confidence among investors and consumers and encouraging innovation and growth within the private sector. Attorney Grishman provided his experience that the lack of proactive, public guidance from

various regulators regarding application of existing laws to Crypto activities makes it very challenging to advise clients on how to legally conduct their businesses. Both presenters pointed to examples other jurisdictions that are taking such proactive steps (including Wyoming, Bermuda, Singapore, Kansas, Texas and Germany).

3.1.4 "A Skeptical View of Current Cryptocurrency and Web3 Activities" (August 3, 2022)

Mollie White, a software engineer and leading skeptic and commentator on Crypto and Web3 matters presented her views that a great deal of current activities in the Crypto world seems to pose very troubling risks to investors, consumers and users. Ms. White maintains a well-known website that chronicles negative Crypto developments and a weekly newsletter. Ms. White explained that, in her view, many failed Blockchain platforms operated as very opaque Ponzi schemes, with little effective oversight from regulators. Many investors/consumers are risking large portions of their savings on untested Crypto-assets instruments that they did not understand. Responding to a question whether the negative aspects of Crypto activities were so large that she would recommend that governments act to prohibit the private use of Blockchain, Ms. White said "no", she generally did not favor governmental actions to "outlaw" particular software code. Rather, she urged a ramp-up in enforcement of longstanding customer protection regulation, increases in transparency and disclosure requirements, and increases in investor and consumer education.

3.1.5 "Blockchain Mining: Facts and Realities" (September 16, 2022)

The Commission heard detailed presentations from a panel of experts with experience with Blockchain mining facilities and how they use energy and interconnect with the electricity networks where they are located. These presentations focused on the "interruptible" demand capacity of Blockchain mining, and suggested that Blockchain mining operations could produce benefits for electricity grids or systems, including renewable energy projects.

3.2 Summary of Commission's Discussion of Key Facts

The Commission held numerous discussions among Commission Members and members of the public attending meetings regarding the information received during presentations and other issues raised by the topic of Blockchain and Crypto-assets. These discussions covered many topics, but several themes were repeatedly addressed. The following paragraphs summarize key aspects of three of these discussion themes.

3.2.1 Centralization vs. Decentralization

Among the numerous benefits that are cited by proponents of Blockchain technology and Crypto-assets is the fact that the database of information on transactions and ownership is jointly managed across a distributed, or decentralized, network of computers. Decentralization means that no single person or entity has the power or control to modify or make decisions about the operation of the network. In contrast, traditional databases are owned and controlled by a single person or entity who has the power to modify the database, even reversing prior transactions.

While decentralization is an *ideal* that is touted by advocates, the reality is that most of the growth in volume of transactions involving Crypto-assets has occurred on platforms that cannot practically be considered decentralized. FTX, as one very large and recent example, was largely a centralized platform with respect to the financial services it provided to its customers. One response to the FTX debacle has been a move toward "decentralized" platforms. But while these so-called decentralized platforms do not appear to be subject to bad centralized decisions of an irresponsible manager (including bad governance, bad accounting, commingling of funds, and others), they still have numerous downsides, including slow execution of transactions, opaque operating systems (except for the most tech-savvy users), thin liquidities, and continued legal risks and uncertainties.

In fact, it is unclear exactly how to measure degrees of decentralization. Technically proficient observers such as a representative of a manufacturer of hard wallets was reported to approach the issue this way:

> "I would define decentralization as a technical inability for any one party to perform major changes in the system. In a decentralized system, it's impossible to change the critical parameters such as monetary policy," said Trezor Brand Ambassador Josef Tětek.
>
> The report continued:
>
> "For Tětek, this means there isn't really any decentralized cryptocurrency other than Bitcoin (BTC). 'If your favorite cryptocurrency undergoes hard forks regularly and promotes the ability to overhaul its monetary policy, it's not decentralized,' he added.

But if one assumes for the moment that Bitcoin is the only truly decentralized Blockchain operating on the Internet, then what does that mean for the treatment of all of the other Crypto activities, including the claims that "*Crypto is unique and therefore should not be subject to the traditional regulatory regimes that apply to traditional centralized financial activities*"?

This question came up several times in different forms during the Commission's deliberations. As one example, a participant raised an objection to imposing Anti-Money Laundering, Bank Secrecy Act, Know-Your-Customer ("AML/BSA/KYC") requirements with respect to "Crypto-systems" that offer financial services for Crypto-assets. The underlying concern was that imposing such requirements with respect to such "Crypto-systems" would directly contravene the fundamental privacy goals of an ideally decentralized Blockchain platform. A response to this concern was that the AML/BSA/KYC requirements had been duly adopted by national and state legislative and regulatory actions and reflect a balance between privacy interests and other important public policy interests such as preventing crime and money laundering. These requirements apply to traditional *centralized* financial institutions.

Indeed, while irresponsible actors at centralized institutions are a bug of the financial system, responsible actors in those same positions are a feature. Responsible intermediaries can offer protection on a wide scale to customers that automated Smart Contracts and decentralized platforms cannot (or at least at this stage do not), including reversing fraudulent transactions and performing legally-mandated obligations designed to prevent transactions that support criminal enterprises, terrorism and repressive regimes.

It may well be that Blockchain applications in their ideal, fully decentralized, peer-to-peer form represent fundamentally new systems that require an entirely new set of considerations with respect to AML/BSA/KYC rules, but an intermediate, practical question is whether *centralized* platforms that provide financial services with respect to Crypto-assets are any different, from a policy perspective, than centralized firms that provide financial services with respect to more traditional financial assets, and now including Crypto-assets.

New Hampshire policymakers and citizens need to address these questions about the impact of centralization vs. decentralization as they consider future legislative and regulatory policies. As a practical matter, it will be important to define various criteria that may be used to determine degrees of decentralization. These criteria might include: (1) the power of a person or controlled group of persons to exercise control over governance decisions with respect to a Blockchain through exercise of governance rights conferred by the Blockchain or Tokens; (2) the degree of ownership of the value of outstanding Tokens with respect to a Blockchain; and (3) the degree of compensation earned by a person or controlled group of persons through commissions, fees or other rights that are disproportionate to other persons having an interest in the Blockchain. As decentralization (as measured by criteria such as these) increases, it appears that the case for alternative regulatory regimes becomes more viable. As centralization increases, and platforms become less unique compared to existing "traditional" institutions, the burden on justifying significant alterations of existing regulatory regimes becomes greater. (It is interesting to note that the U.S. SEC has determined that Bitcoin is sufficiently decentralized and uncontrolled that it is not a "security" under applicable laws, resulting in a unique status relative to other Crypto-assets and platforms as of the date of this Report.)

3.2.2 The Nature and Roles of Government Regulation

During the Commission's deliberations, some participants expressed views about the nature and role of government regulation. Many proponents of Blockchain technologies and Crypto-assets describe themselves as libertarian who have substantial reservations about the role of a central government or other centralized institutions in society. Admittedly, this general view is not limited to government regulation of Crypto. It extends more broadly to many aspects of how civilized society balances the sometimes conflicting interests of the individual and the community.

Apart from this larger debate, a more practical discussion involved the question whether sound regulatory rules that resolved existing legal uncertainties would be "good" for the conduct of Blockchain and Crypto-asset activities. For example, as addressed in more detail below at Section 5.1, one uncertainty raised by the operation of Decentralized Autonomous Organizations is whether network participants are jointly and severally liable for losses charged against the DAO.

There was a time when English and American laws were unclear about whether shareholders of corporations were jointly and severally liable for corporate liabilities. But in 1811, New York became the first jurisdiction in the world to enact its general incorporation law including a provision that limited shareholder liability only to their investment in the corporation. This limited liability status for shareholders gradually became uniform across the U.S. and the world. Corporate law and economics

scholars have presented this legal innovation as an "essential precondition for the development of widely held corporations, stock markets and industrial economies."

The question for policymakers is whether laws and regulations that clarify important uncertainties or provide basic "rules of the road" for how larger-scaled Crypto activities should be conducted are always "bad" or may be "good" because they encourage more effective innovation and development. At the Commission's final meetings which occurred as the FTX collapse was unfolding, there was general consensus that smart and sound laws and regulations – that provide clear guidance on how they should be applied to various Crypto activities, that respect the unique aspects of decentralized Blockchain operations, that protect investors and consumers from fraud, and that do not treat Crypto operations worse than similar traditional activities – can be an advantage to the growing Crypto industry and to the State of New Hampshire.

3.2.3 The Need for Transparency and Public Education

Commission Member **Angela Strozewski** (representative of the New Hampshire Bankers Association) offered her first views very early on that state policy should encourage comprehensive education of Crypto investors and consumers, and that theme was uniformly continued throughout the Commission's deliberations. In fact, investor education and financial literacy programs have long been part of New Hampshire's policies to prevent fraud. A key to supporting Crypto-asset literacy is to develop a culture that supports complete and understandable transparency and disclosure regarding the risks of investing in any Crypto-asset. Many Crypto proponents, especially those who are technically proficient, assert that Blockchain, Crypto and Smart Contracts are completely transparent because the attributes of particular Digital Assets and all prior transactions are explicit in their native open-source Blockchain software platform. While this "technical transparency" may be effective for a limited number of computer experts, it is not adequate for investors or consumers who are not technically literate.

4 Identification of Challenges and Reasons for Action

4.1 Blockchain is an Important Technological Innovation

Many proponents of Crypto-assets and Web3 are convinced that these technologies will fundamentally transform the way the Internet operates and the way many sectors of human societies are structured. Bitcoin, which emerged out of the ashes of the 2008 financial crisis, first caught on among libertarian and anti-establishment-minded activists who believed that it could become the cornerstone of a new, incorruptible, beyond government, monetary system. Bitcoin evangelists or "maximalists," like Cameron Winklevoss of Winklevoss twin fame claimed that: "Bitcoin isn't just an asset. And it's not just a technology. It's a movement that offers the blueprint to dismantle traditional power structures." In a twist of fate, in 2022 financial abuses bearing many similarities to the 2008 traditional finance system crisis that served as Bitcoin's inspiration.

Opponents of these Crypto activities have often been just as vociferously negative about Cryptocurrencies and Web3. An example of such an opposing view is Charlie Munger (Warren Buffett's investment partner) who has said things like: "I wish they [Cryptocurrencies] had never been invented;" "I admire the Chinese, I think they made the correct decision, which was to simply ban them;" and "that the whole damn development is disgusting and contrary to the interests of civilization."

The Commission heard excellent presentations across the entire spectrum of supporters and skeptics. We heard cautionary views from presenter Molly White, who explained her work chronicling numerous cases where inappropriate uses of Blockchain technologies had resulted in many abuses and harms for regular citizens. But we also heard from other experts who believe that these Blockchain technologies offer real promise for human beings across the globe.

One way of thinking about the last century is that it has been characterized by remarkable technological change. In each case, the inventors/developers often characterized the impact of the new technology with some hope (though not always). An example is Thomas Edison's comment on Nicholas Tesla's invention of a machine that converted direct current electricity into alternating current electricity (used in all homes): "Fooling around with alternating current's just a waste of time. Nobody'll ever use it. Too dangerous!" Or Steve Ballmer's (Microsoft CEO) 2007 dismissal of the recently announced iPhone: "There's no chance that the iPhone is going to get any significant market share. No chance."

Based on the Commission's work, the Members determined that it would be unwise and imprudent to adopt the most extreme positions of commentators on Blockchain technologies (either the evangelical side or the "anti-civilization" side). During our meetings, we heard that Blockchain technologies offer potentially significant and functional improvements to traditional methods of recording transactions among humans, such as those reflected in the following graphic presented to the Commission at its May 27, 2022 meeting:

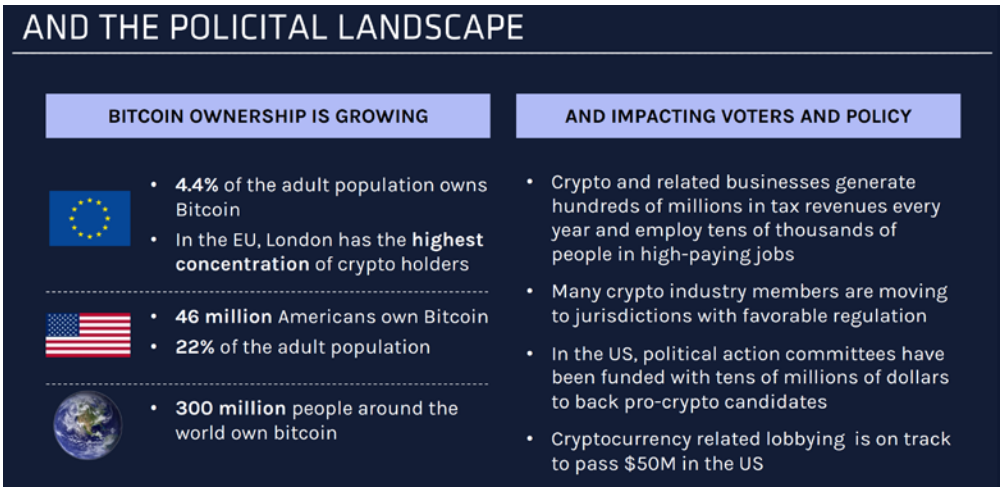
Powered by blockchain, smart contracts offer an automatized, secure solution for executing tasks

1	**Security**	Blockchain allows smart contracts to be fully encrypted
2	**Speed**	Tasks are automated using code, saving time on timely processes
3	**Accuracy**	Use of tech results in elimination of human errors (e.g., manual forms)
4	**Risk & autonomy**	By eliminating need for intermediaries, third part risk is mitigated
5	**Cost savings**	Autonomy and elimination of brokers leads to savings
6	**Back-up**	Documents are stored and duplicated on the blockchain, thus originals can be easily restored

Potential use cases of smart contracts

- Real estate transactions (e.g., escrow, title, mortgages)
- Trade finance (e.g., international trade)
- Supply chain management
- Government (e.g., payments)
- Insurance (e.g., processing claims)
- Financial services

Further, across the globe, the adoption of Blockchain technology and Cryptocurrency is advancing very rapidly, with the potential significant societal impacts indicated in this graphic presented to the Commission by Member Meltem Demirors:



In light of the facts presented to the Commission, this Commission concludes, based on current facts as of the date of this Report, that while Blockchain technologies and applications, including Cryptocurrencies, Digital Assets and other use cases, are in their early development phases, these technologies represent important technological innovations with potential applications in our human societies and economies. New Hampshire policymakers should adopt a proactive, deliberate, public and transparent approach to developing state laws and regulations that address the likely growing impact of Blockchain and Crypto-assets in our society and economy.

Commission Finding 1:
Blockchain technologies, including applications such as Cryptocurrencies, Digital Assets and other use cases, appear to be important technological innovations in their early development phases that are likely to offer potential applications for our society and economy.

4.2 The Problem: Governments Must Resolve Regulatory Uncertainties in Order for Blockchain Technologies to Become Better and More Effective

Commission Member Senator **Gary Daniels** stated in the Commission meeting on May 27, 2022 that a very important part of any Commission Report should be to identify "the problem that we are trying to solve."

In clearest terms, and as indicated above, the problem we are trying to solve is that current global, federal and state legal regimes are not clear with respect to how they apply to activities involving Digital Asset and Blockchain activities. This lack of clarity is an obstacle to the development and growth of Blockchain technologies, products and services, and therefore is harming the development of new economic activities that could benefit citizens through new products, services and jobs. Further, the lack of clarity creates obstacles to proper enforcement of laws intended to protect investors and consumers.

The negative effects of vague and unclear laws are aptly described in this summary on the website of the DAO Legal Collective:

> "The United States regulatory environment surrounding digital assets presents an extraordinary challenge for Blockchain and Smart Contract-based protocols. In the absence of comprehensive legislation addressing the complexities of this developing technology, individual regulatory agencies have been forced to provide their interpretations of how regulations should be applied to situations and technologies, well beyond what was considered when the current laws and regulations were enacted. Although it is universally agreed that comprehensive reform and new legislation is a necessity, the reality exists that the developers and users of blockchain technology have been left to navigate a patchwork regulatory environment insufficient to address relatively simple issues related to digital assets, let alone the additional complexity accompanying the decentralized alternatives to traditional financial service offerings available through smart contract-based protocols.
>
> The vast majority of blockchain networks and smart contract-based protocols are organized as, or intend to implement, DAOs, which are member controlled organizational structures that operate absent a centralized authority. While blockchain

networks utilize a number of different consensus mechanisms, DAOs of smart contract-based protocols are typically facilitated by a set of governance-related smart contracts that have specified control rights with respect to the smart contracts making up the underlying protocol, all of which are built on distributed ledger technology, most commonly the Ethereum blockchain. These governance smart contracts disintermediate transactions between counterparties by automating the decision-making and administrative processes typically performed by traditional management structures. Decentralization of a given protocol occurs when control (e.g., governance) of the non-immutable aspects of a protocol's smart contracts is passed from the developers to the members of a DAO via the activation of governance smart contracts.

Until such a time that comprehensive legislation and regulatory guidance exists specific to DAOs, many of the issues arising from DAO entity structural decisions cannot be definitively resolved. Although the smart contracts and functionality giving rise to the DAO exist solely on the internet and an argument can be made that their operations would be excluded from U.S. tax obligation, significant ties to the U.S. and the dominion and control over DAO treasuries establish a need for U.S. tax obligations to be met. Absent the adoption of a U.S. entity structure or a legal offshore structure, the developers and members of a DAO are at risk of potentially being (i) restricted from engaging in operations, (ii) held liable for any harm resulting from DAO activities and (iii) held liable for income tax liabilities associated with a protocol's operation and issuances of a treasury's governance tokens."

While these quotes are particularly directed at the problem of unclear legal status of DAOs, the same concerns also apply with respect to many aspects of the public and private use of various Blockchain technologies. The conclusions expressed in these quotes also were reflected by numerous presenters to the Commission, including **Alexander Grishman** and **Jonathan Mayers** who are attorneys with experience representing private sector entities operating in various parts of the Crypto ecosystem.

Based on these facts, the Commission concludes, based on current facts as of the date of this Report that the principal problem standing in the way of safe, sound and productive development of Blockchain technologies and Crypto-assets are uncertainties in the legal and regulatory system. These legal uncertainties undermine sound advancement of Blockchain technologies and businesses, as well as traditional legal protections for investors and consumers. New Hampshire policymakers should take affirmative steps to clarify how various New Hampshire legal regimes apply to these new technologies, assets and activities.

To be clear, the Commission is not concluding that financial regulation writ large is too onerous or uncertain. Existing regulations of traditional financial products and services reflect the push and pull of the democratic process in attempting to balance concerns about undue constraints on private market transactions and innovation with the desire to protect investors, consumers and the broader financial system. But while traditional financial products, even innovative ones, are typically subject to only one of the banking, commodities or securities legal regimes, the Commission heard presentations that companies seeking to innovate in the newer areas of Digital Assets and Cryptocurrencies can find

themselves struggling to comply with two or even all three of those regimes. It is this unique burden facing this new asset class, not the scope of existing regulation of the traditional financial industry, that the Commission finds poses a hurdle to further innovation and development of useful applications of these technologies.

Commission Finding 2:
The legal and regulatory status of Blockchain technologies and applications such as Cryptocurrencies and Digital Assets is highly uncertain, and this legal and regulatory uncertainty is materially undermining innovation and economic development of new technologies, activities, and industry, and protections for investors and consumers.

4.3 The Need for a Robust State Regulatory Role

The United States is a constitution-based federal system, meaning that sovereign powers are distributed between a national government and state governments (including local governments). In our legal system, state governments and state laws have always played a very important role in regulating social and economic activities.

The allocation of practical legal powers between federal and state governments differs by activity. Allocations often are not clear, leading to inevitable conflicts. But state governments play a very important role in many legal arenas. Examples include:

- **Insurance Regulation:** Insurance companies, brokers and products are primarily regulated by states, with exceptions for health insurance and variable life and annuity insurance policies, which are regulated by both national and state agencies.
- **Enterprise Registration and Governance:** Legal enterprises (including corporations, limited partnerships, limited liability companies, etc.) are often required to file charter documents with state governments to establish themselves under state law. Further, state laws typically require business entities that are organized in other states to file registrations to do business. Further, state laws are the primary source of rules regarding the formation, capitalization, operation, governance, and dissolution of business enterprises. Various national laws have important impacts on certain of these entities (e.g., the 1940 Investment Company Act and the Corporate Transparency Act), but the U.S. federal system allocates a primary legal role to state law.
- **Bank and Nondepository Institution Regulation**: The federal government and state governments exercise concurrent authority over depository institutions under their respective special incorporation laws, which enable them to charter and regulate commercial banks and

savings associations. This allocation of chartering and regulatory authority is referred to as a "dual banking system" because depository institutions can choose to apply for a state charter issued by a state, or a federal charter issued by the federal Office of Comptroller of the Currency. National banks are commercial banks chartered and regulated primarily by the OCC, while state banks are commercial banks chartered and regulated primarily by their state chartering authority in conjunction with either the Federal Depository Insurance Corporation ("FDIC") or the Federal Reserve System ("FRS"). National banks must become members of the FRS, while for state banks, FRS membership is optional. Federal Banking laws impose restrictions on the organizational structure, control, affiliation, merger and acquisition, and conversion of national and state banks. In the event of insolvency, depository institutions are subject to a special resolution regime outside of bankruptcy that involves seizure of insolvent or unsound banks and resolution through an FDIC receivership.

In contrast to this regime for depository institutions, for more than a century, states have regulated non-bank, non-depository financial activities by requiring all persons and corporations to obtain a state license to engage in such activities in a business capacity. The non-depository financial activities subject to licensing and regulation by states generally include mortgage lending and servicing, consumer lending and servicing, money-services businesses and money transmission, custody and custodial services, debt collection, credit service businesses, credit bureaus, payday lending, title lending, auto lending and auto loan servicing, and student lending and student loan servicing. Federal laws governing depository banks can and do in many cases pre-empt state laws. They do not pre-empt state laws governing non-depository institutions.

In these examples where state law has a primary, or at least dual, impact on the setting of legal requirements, state policymakers can and do have a very important role in the creation of policies for the nation. In other areas, the national government takes the lead role.

The Commission discussed the importance of state actions in the creation of federal policies to govern Blockchain technologies and Crypto-assets and concluded generally that states should continue to play leadership roles in setting policies in this arena. As noted above, many federal agencies are now engaged in their own review of policies regarding Cryptocurrencies and related activities. These federal efforts are largely silent as to the roles that state governments should play in this arena. The Commission concludes, based on current facts as of the date of this Report, that states generally should strongly pursue policies in areas where states have traditionally played an important role in setting policies for the United States. Specifically, our New Hampshire government (Legislature, Governor, Executive Branch agencies and the Courts) should devote material resources to establishing a state legal regime that will encourage sound development of businesses and applications that use Blockchain technology, protect investors and consumers who use such applications, and attract sound businesses and well-paying jobs to New Hampshire.

Commission Finding 3:
State laws and policies should continue to play a robust role in establishing regulatory rules for Blockchain technologies and applications such as Cryptocurrencies and Digital Assets, and New Hampshire should be a leader in establishing a better legal system for Blockchain technologies that will promote sound economic growth and protect investors and consumers.

5 Recommendations for Change

5.1 Enact a State Legal Enterprise Law for Decentralized Autonomous Organizations to Provide Transparency, Limited Liability, and Legal Status to Blockchain Networks

While this Report has attempted (in Section 2.1.16) to define the term "*Decentralized Autonomous Organization*," the reality is that the meaning of the term is developing and evolving as uses of Blockchain technologies are developing and evolving. Many commentators have concluded that the uncertainty about the legal status of DAOs poses a fundamental obstacle to future innovation of Blockchain technologies. Further, the uncertainty about the legal status of DAOs also undermines the capacity of policymakers and regulators to take a proactive view of clear legal rules in a structured, public rulemaking setting (as opposed to following a passive, ad hoc, case-by-case enforcement approach). One example of this legal uncertainty problem is found in a comment in a draft white paper on DAOs and code to automate organizational governance and decision-making:

> A word of caution, at the outset: the legal status of DAOs remains the subject of active and vigorous debate and discussion. Not everyone shares the same definition. Some have said that they are autonomous code and can operate independently of legal systems; others have said that they must be owned or operate by humans or human created entities. There will be many uses cases, and the DAO code will develop over time. Ultimately, how a DAO functions and its legal status will depend on many factors, including how DAO code is used, where it is used, and who uses it. This paper does not speculate about the legal status of DAOs worldwide. This paper is not intended to offer legal advice or conclusions. *Anyone who uses DAO code will do so at their own risk*.

Another example of exactly this "DAO legal uncertainty" problem occurred very recently when the CFTC simultaneously filed on September 22, 2022 a Settlement Order and an enforcement action against a DAO named "Ooki DAO" and its founders. While a full analysis of this case is beyond the scope of this Report, a controversial aspect of the CFTC actions involves treating the "DAO" as an

unincorporated association and asserting that active members of the DAO are jointly and severally liable for the debts of the association.

In her Dissenting Statement to these regulatory actions, CFTC Commissioner Summer Mersinger objected to the assertion of government sanctions (civil money penalties, a cease-and-desist order and a prohibition on future participation) against voting Token holders of the Ooki DAO. She objected to these positions being first asserted in an enforcement action, rather than in a structured, public rulemaking proceeding, with public notice and input. Commissioner Mersinger: "*It is regulation by enforcement, plain and simple*."

Interestingly, one of the cases cited in the Settlement Order was a 1984 New Hampshire Supreme Court case, Shortlidge v. Gutoski, which held that each member of an unincorporated association is jointly liable with other members for the association's debts, *and can have his or her personal assets reached by creditors of the association*. Subjecting all of a DAO participant's personal assets to the claims of creditors of the DAO disincentives use of DAOs and threatens their futher development and innovation. Commentators have identified this legal risk as one of the key impediments to development of DAOs as an alternative to traditional organizational structures.

Many legal scholars have characterized the "legal innovation" of limited liability for private business corporations as the essential foundation for the growth of Western private sector markets and economies. "Limited Liability" protects a corporation's shareholders from personal responsibility for corporate obligations. An example of such a limited liability provision is N.H. RSA 293-A:6.22(b) (stating "Unless otherwise provided in the articles of incorporation, a shareholder of a corporation is not personally liable for the acts or debts of the corporation except that he or she may become personally liable by reason of his or her own acts or conduct.")

It is surprising to find that the first codification of limited liability occurred relatively recently when New York state enacted its general business corporation statute in 1811. Since then, states have authorized the conduct of business by other business entities – such as limited liability partnerships, limited liability companies, and other entities – through further statutory enactments. In the U.S., states continue to be the primary source of laws governing the authorization, registration, capitalization, operation, governance, dissolution and limited liability for owners.

Other states have attempted to address the problem of "DAO Legal Uncertainty," including Vermont, Wyoming and Tennessee. These efforts, however, have been criticized as failing to find the right balance between establishing a statutory framework for establishing legal entity status for DAOs with limited liability for participants while still respecting the unique decentralized status of DAOs (at least in their ideal contemplation). Indeed, crafting a proper organizational law for DAOs will be tested by many challenges arising from the distinctly "non-centralized," "non-executive" nature of true DAOs. Top among these challenges will be defining the level of *decentralization* necessary for a DAO to qualify for the legal certainty benefits of the organizational statute (that is, if an organization has all of the attributes of a traditional business organization such as delegated management to a centralized executive, then maybe the DAO treatment is inappropriate). One example of a more academic attempt to craft a legal enterprise statute for DAOs is this effort by the Coalition of Automated Legal Applications

("COALA") which sets forth a "Model Law" with commentary regarding the numerous unique issues that are raised.

The current inadequacy of other state attempted solutions to the "DAO Legal Uncertainty" problem offers an opportunity to New Hampshire policymakers. The Commission identified this particular uncertainty as one of the greatest threats to sound innovation and development of truly decentralized Blockchain technologies in the United States. A state that can be creative in developing a legal framework that resolves this uncertainty could become a true hub for development and operation of new Blockchain technologies. (This is just another example where real innovation and progress of Blockchain use cases must be supported by *both* development of excellent software protocols *and* enactment of well-considered legal "rules of the road" for these activities.)

The Commission recommends that the Governor and Legislature pursue the enactment of a statutory legal enterprise law for DAOs. This legislative enactment process should involve numerous public hearings that encourages broad participation by public and private stakeholders, including technical experts in this developing field.

5.2 Establish and Fund a "Blockchain Dispute Docket" within the New Hampshire Superior Court

Related to the legal enterprise law recommendation described in Section 5.1, another contributor to legal uncertainties undermining innovation and development of beneficial Blockchain technologies is the status of treatment of Blockchain transactions, including disputes, in the court system. Because attributes of these technologies are so new, and potentially unique, the capacity of courts to address the specialized disputes that may come before them is uncertain.

States have taken steps in analogous situations to devote resources to develop a special expertise within their state court systems. Delaware has become the state of incorporation for over 60% of the nation's Fortune 500 business entities for two principal reasons. First, its laws governing business enterprise registration and operation are among the most modern and flexible in the nation. Second, the Delaware Court of Chancery is widely recognized as one of the nation's preeminent business courts. Its judges are among the most sophisticated in the country with respect to corporate and business litigation.

There is clear precedent in New Hampshire for the Legislature's support for developing a specialized competence in our state court system. In 2008, the Legislature enacted N.H. RSA 491:7-a, which authorizes the state Supreme Court to establish a special Business and Commercial Dispute docket within the state's Superior Court system. This docket has jurisdiction to "hear and determine business and commercial disputes," subject to certain restrictions.

The Commission recommends that the Governor, Legislature and the Supreme Court convene a public process to evaluate the establishment of specialized "Blockchain Dispute Docket." These deliberations should contemplate the appropriation of funds to support the recruiting, training and development of judicial capability to address the specialized issues that will arise among participants in Blockchain and related networks.

5.3 Continue to Enact Updates to the Uniform Commercial Code with Respect to Blockchain Technologies

The Commission heard from Representative **Keith Ammon** about the 2022 enactment of a new Article 12 to the state's Uniform Commercial Code ("UCC"), which provides rules for transactions involving certain Digital Assets, including Cryptocurrencies and NFTs. Representative Ammon was the sponsor of HB 1503, which codified the new Article 12 at N.H. RSA 382-A:12-101-107, effective January 1, 2023.

The UCC is a set of rules that govern commercial transactions. The UCC has been developed by the Uniform Law Commission of the National Conference of Commissioners on Uniform State Laws over the last 60 years and has been adopted in nearly identical form by every state. The new Digital Asset rules were published as part of the Uniform Law Commission's 2022 recommendations for UCC amendments. Adoption of the UCC, including the 2022 amendments, allows for the growth of commercial transactions in the United States because the law governing the transactions is substantially the same in each state.

The Commission recommends that the Governor and Legislature continue to follow the progress of the Uniform Law Commission with respect to further amendments to the UCC with respect to Blockchain and Digital Assets, and to be prepared to pursue prompt consideration and enactment of such recommendations in the future.

5.4 Establish a Legislative Standing Committee to Examine Important Issues Arising Under Current NH Securities Laws and Federal Law Developments

During the Commission's deliberations, the U.S. District Court for the District of New Hampshire issued an order in SEC v LRBY, Inc. This order granted the SEC's motion for summary judgment against LBRY Inc., concluding that LBRY offered its Digital Asset, called LBRY Credits or LBCs, as a "security" in violation of the registration requirements of the Securities Act of 1933.

An analysis of the issues involved in this litigation is beyond the scope of this Report. Further, unlike the business enterprise law or under our "dual banking" system (see below) where state law plays a leading role, the issues this case addresses arise under federal law and cannot effectively be impacted by policy actions taken at the state level.

However, like many states, New Hampshire's securities laws are often very similar to the national laws. Indeed, New Hampshire has adopted its version of the Uniform Securities Act (N.H. RSA Chapter 421-B), which includes a definition of "investment contract" (RSA 421-B:1-102(29)) that incorporates attributes of the SEC v. Howey case that were applied by the Court in the LRBY order.

As indicated by the LBRY case, the question of whether and how securities laws apply with respect to Digital Assets and Tokens is important. While the LBRY Court's order clearly concluded that the LBCs were securities under federal law, the Court's analysis was relatively brief for dispositive legal opinions (only 15 pages) and not surprisingly left continued uncertainties to be resolved. As one

example, the fact that the LBC Token clearly had a "consumptive use" (contrasted with an investment purpose) was not examined in detail.

The Commission benefitted greatly from the contributions made by representatives of the Bureau of Securities of the New Hampshire Secretary of State's Office who attended all of the Commission's meetings, even though the Bureau was not an official member of the Commission. The Bureau of Securities licenses various investment and financial actors, and is responsible for registering certain securities and approving exemptions from registration, in accordance with New Hampshire law. The Bureau also takes enforcement actions against persons who violate New Hampshire securities laws. Consistent with its very helpful participation, the Bureau has provided a statement regarding its role as both administrator and enforcer of New Hampshire's laws with respect to the application of the New Hampshire Securities Act (N.H. RSA Chapter 421-B) to various applications of Blockchain technology, including Crypto-assets. This statement is attached as Appendix B.

While the application of federal law may be "on the front burner," many Commission Members believed that it is still vital that businesses and developers have clarification regarding how existing New Hampshire securities laws apply to various Crypto-asset activities. One important example arises from the recent enactment of N.H. RSA 421-B:2-202(25), which exempts purchase or sale transactions involving an "open blockchain token" that serves a "consumptive purpose" if certain conditions are satisfied. This new exemption, enacted by HB 1503 sponsored by Commission Member Representative **Keith Ammon**, takes effect on January 1, 2023, and raises unique issues under its terms.

Some of the unique issues that may arise in certain fact circumstances include:

- How would the Bureau evaluate the degree of control exercised by various participants in a Blockchain network in determining whether participants are relying on others for potential increases in value of Digital Assets;
- In the case of Digital Assets which have multiple uses, what standards would the Bureau apply in evaluating the relative importance of each potential use;
- What factors would the Bureau use to evaluate whether a Digital Asset has a sufficient "consumptive" purpose to qualify for exemption from registration under the newly-enacted N.H. RSA 421-B:2-202(25); and
- If a Digital Asset would be treated as a "security" for purposes of N.H. RSA 421-B, whether a proposed transaction may be eligible for exemption from registration under current law exemptions.

The Commission notes that existing NH statutes require the Bureau to provide applicants with "interpretive opinions" or "determinations that the secretary of state will not institute an enforcement proceeding or commence an action under this chapter against a specified person for engaging in a specified act, practice, or course of business if the determination is consistent with the purposes intended by this chapter." (This process is authorized by N.H. RSA 421-B:6-605(d), and the resulting determination is often referred to as a "no action" letter.) This existing process applies with respect to

persons conducting Crypto-asset activities and is available to help address any uncertainties regarding application of existing NH laws.

Further, the Commission recommends that the Legislature initiate, perhaps through a legislative standing committee (see Section 5.12 below) a public process to evaluate whether any clarifications should be made to New Hampshire securities laws with respect to various assets and activities involved in the conduct of Blockchain activities and businesses. Such a process should involve public and private stakeholders. Some of the issues that should be addressed in such a process include:

- The role of written disclosures and disclaimers in public documents provided to investors and consumers of Digital Assets;
- What degree of control exercised by various participants in a Blockchain network is relevant to determining whether network participants are relying on others for potential increases in value of Digital Assets;
- In the case of Digital Assets which have multiple uses, what standards would the Bureau apply in evaluating the relative importance of each potential use;
- What factors would the Bureau use to evaluate whether a Digital Asset has a sufficient "consumptive" purpose to qualify for exemption from registration under the newly-enacted N.H. RSA 421-B:2-202(25); and
- How current statutory exemptions available for certain assets and transactions may apply to with respect to Digital Assets and Cryptocurrencies that are treated as "securities" under current law.

5.5 Clarify Through Public Guidance Important Issues Under NH Tax Laws and that DAOs that Serve Investment Intermediary Functions are Eligible for the Current Law Exemption from the NH Business Profits Tax and the Business Enterprise Tax as "Qualified Investment Companies"

As noted above, one of the material uncertainties that undermine sound development of Blockchain use cases is the lack of legal enterprise status of Decentralized Autonomous Organizations and limited liability for their network participants. Of course, many other areas of legal uncertainty exist.

Certainly, one of the most important areas of legal "infrastructure" for any business activity are the rules regarding taxation. New Hampshire's taxation of business organizations and enterprises is unique. The NH Business Profits Tax (N.H. RSA Chapter 77-A) and the NH Business Enterprise Tax (N.H. RSA Chapter 77-E) apply not only to businesses that are organized as corporations, but also to businesses organized as sole proprietorships, partnerships, certain trusts or other associations. As of the date of this Report, the New Hampshire Department of Revenue Administration had not yet issued any specific guidance regarding how it would apply the BPT and BET to activities involving Blockchain technologies, including Crypto-assets and Decentralized Autonomous Organizations.

The Commission recommends that the Governor and the Legislature direct the NH DRA to initiate a public process to develop and issue public guidance regarding the application of New Hampshire tax laws with respect to activities involving Blockchain technologies and Digital Assets. Such a process should involve public and private stakeholders. The Commission recommends that the NH DRA specifically focus on the application of the current exemptions for "qualified investment companies" (see RSA 77-A:5-b and RSA 77-E:5-a) should also apply with respect to Decentralized Autonomous Organizations that serve as financial intermediaries for their participants within the scope of these current law exemptions.

5.6 Clarify through Public Guidance that New Hampshire Banking Statutes and Regulations May Apply to Cryptocurrency and Related Services and Activities Performed by NH-Chartered Banks and Trust Companies

As noted above, one of the areas where state law plays a very important role in establishing policies for the nation is the regulation of banks, trust companies and other financial institutions. New Hampshire has established a reputation as a leading jurisdiction for state-chartered banks, trust companies, and laws governing trusts and fiduciary arrangements.

The New Hampshire Banking Department ("NHBD") has established a reputation as an effective and efficient regulator of state-chartered institutions. Two employees of the NH Banking Department (**Raeleen Blaisdell**, and then **Jameson Randall** when Ms. Blaisdell moved out of state) served as members of the Commission, and Commissioner **Emelia Galdiari** and other members of the NH Banking Department attended most of the Commission's meetings.

The NHBD prepared an excellent statement of certain activities conducted by the agency with respect to Cryptocurrencies and financial institutions that may provide services with respect to Cryptocurrencies. This document is attached as Appendix C. In summary, the NHBD statement indicates that "the Banking Department supervises several financial service providers who may choose to provide crypto-asset related services to New Hampshire consumers, including money transmitters and chartered entities (e.g., state banks, credit unions, and trust companies) providing custodian services." This regulatory authority applies to certain "money transmitters" and to certain state-chartered entities that engage in crypto-related activities, as described in the Statement. "New Hampshire chartered banks, credit unions, and trust companies may be able to provide certain services to customers holding crypto assets," subject to compliance with existing NHBD regulatory standards including that such services be conducted in a "safe and sound manner."

This NHBD statement concerning the applicability of current New Hampshire laws to Crypto-assets and activities is valuable and it should be supplemented by further public guidance adopted pursuant to public processes such as rulemaking. Among the issues that should be addressed in such a public process is the question of which accounting rules should apply to custody of Crypto-assets by NH-chartered banks and trust companies. In March 2022, SEC staff issued Staff Accounting Bulletin 121 ("SAB 121") which stated that public companies covered by SAB 121 should record a liability and a corresponding asset on their balance sheets at fair value. This on-balance sheet treatment, which was

adopted with lack of notice and without public input from accounting firms and banking regulators, conflicts with longstanding accounting requirements for the traditional custody of assets by regulated banks and trust companies. Indeed, an on-balance sheet treatment may pose material risks to customers with regard to the protection of their assets if a custodian suffers financial stress. The Commission believes that current chartered NH institutions and those that may seek to be chartered under New Hampshire law in the future would benefit greatly from public guidance adopted during public processes on technical, but important, issues such as this one.

Finally, the Commission expresses its support for expanding the capacity of the NHBD to address the likely increase in Crypto-related activity before the NHBD. The Commission supports this concluding statement by the NHBD in Appendix C:

> "Crypto assets are complex and the industry is rapidly evolving. In order to further explore the regulation of crypto assets at the New Hampshire state level, the Department believes it will be essential for the State to devote additional resources to these regulation efforts. Depending on the direction such regulation takes, the Department anticipates needing additional examiner and attorney positions to focus on crypto assets and training for examination staff in blockchain technology and crypto assets."

5.7 Establish and Fund a Task Force to Investigate How Blockchain Technologies May Be Used to Improve Current Systems for Filing and Storing Official Government Records

Government agencies may be able to use Blockchain technologies to improve the efficiency and effectiveness of current government processes. Improvements may include better protection of data, reduced risks of fraud and abuse, more secure recording of official records and increased public trust and accountability. Many government record processes – such as UCC financing statement filings, real estate deeds, registrations and other titling documents – are central to the functioning of important private markets and any changes should be carefully investigated through public processes that involve all stakeholders, including the agencies that currently administer the processes.

The Commission recommends that the Governor and the Legislature direct state agencies responsible for such processes to conduct a review of how Distributed Ledger Technologies may be used to reform and improve current processes for official government records.

5.8 Establish and Fund a Blockchain Quality Assurance Center at the University of New Hampshire's Interoperability Laboratory

"Interoperability" refers to the basic ability of computerized systems to connect and communicate with one another readily, even if they were developed by widely different manufacturers in different industries. (Interoperability is a ubiquitous concept that applies in many non-computer contexts – for example, when railroad track gauges were standardized, the flow of goods and commodities was revolutionized.)

Blockchain technology is still very much in development, and Blockchains are often developed with a focus on its own internal operation. This means that Blockchains are typically incompatible with each other and other software systems – that is, they lack *interoperability*.

Being able to exchange information between applications, databases, and other computer systems is crucial for the Internet, communications and networking systems, and the modern global economy. One of the very important actors in this "interoperability" arena is the non-profit University of New Hampshire InterOperability Laboratory ("UNH-IOL"). Based on its website:

- "The [UNH-IOL] tests networking and data communications products. Since 1988, the laboratory has fostered multi-vendor interoperability while preparing students for careers in the industry. The laboratory has grown steadily into one of the industry's premier independent proving grounds for new technologies."
- "The UNH-IOL maintains a strong reputation for independent, vendor-neutral testing with a focus on quality assurance rather than marketing or promotional goals. The confidential test reports the UNH-IOL provides to its members are recognized throughout the data communications industry as evidence of interoperability and conformance to technical standards."
- "The UNH-IOL is the only full-scale, non-profit test lab in the world that balances industry expertise with the real-world training of future engineers. More than 100 graduate and undergraduate student employees work with full-time UNH-IOL staff, gaining hands-on experience with developing technologies and products. The companies and organizations that work with the UNH-IOL benefit from cost-effective testing services, as well as the opportunity to recruit future engineers from the UNH-IOL workforce."

UNH-IOL's current networking and data communications equipment testing function is funded by its industry members who receive "high-caliber interoperability and conformance testing against other vendors' devices without having to incur the capital expense of setting up and operating their own test facilities." The testing work is conducted in the UNH-IOL's 27,000+ square foot facility located in Durham.

The Commission seeks to have New Hampshire become a leader in developing an attractive jurisdiction for Blockchain entrepreneurs, innovators, and businesses. One way to do so is to anticipate the needs of industry and provide possible solutions. The Commission believes that the UNH-IOL can extend its excellent reputation for networking and data communications interoperability testing to the arena of Blockchain interoperability.

The Commission recommends that the Governor and the Legislature establish and fund a new component of the UNH-IOP to focus on helping Blockchain businesses develop platforms with enhanced interoperability. By taking this leadership role, UNH-IOP and New Hampshire will attract both businesses and students interested in the developing Blockchain economy, improving opportunities to attract economic development with qualified labor resources. While the UNH-IOL current model is

operating on a self-funding basis, the Commission believes that the state budget should include sufficient resources to enable the UNH-IOL team to attract the experts necessary to commence this expansion program.

5.9 Establish a Priority to Enhance Communications Infrastructure that can Support Applications of Blockchain Technologies from Locations within New Hampshire

New Hampshire is in the active process of developing broadband and other communications infrastructure across the state, including expansion of broadband capacity for unserved and underserved communities. Many of these efforts have received federal funding support.

Developers and providers of Blockchain application services require access to reliable, ultra high speed connections to the Internet. The Commission recommends that the Governor and the Legislature direct the Office of Broadband Initiatives of the New Hampshire Department of Business and Economic Affairs to conduct a public review of how investments could be made to enhance the attractiveness of New Hampshire's Internet access infrastructure to Blockchain entrepreneurs, innovators and businesses. Such a specific focus would not only serve the unique interest of the Blockchain industry, but would also benefit the growing sectors of our economy that demands precisely the same high quality Internet connections.

5.10 Convene a Public Process Within the NH Department of Energy to Clarify Rules Promoting Partnerships Between Electricity Generation Projects and Blockchain "Mining" Businesses Within New Hampshire

Bitcoin mining (the use of intense computing power to perform the proof-of-work Consensus Mechanism) is an energy-intensive process. Some policymakers have asserted that when that process is powered by fossil fuel-generated electricity, it is bad for the climate and the environment.

The Commission invited presentations from persons who are expert in the bitcoin mining process to examine concerns about the environmental impact of Bitcoin mining. These presentations indicated that the unique, interruptible nature of bitcoin mining's electricity demand may actually offer stabilizing benefits to electrical grids and even encourage the development of new energy resources (including renewables).

Unlike, say, a hospital (which must run 24/7 and therefore has a continuous demand on the capacity of an electricity network), bitcoin mining may "turn on" and "turn off" (that is, "interrupt") its demand much more easily. This highly interruptible capacity means that mining might be integrated into an electricity network in a manner that allows its demand to be "turned down" when other demands on the network are very high. A hospital, or a manufacturing facility, does not have that same interruptible capacity. Presenters also reported on renewable energy projects (hydro and wind) that incorporated a bitcoin mining operation adjacent to its project with an interconnection (an "inside-the-fence" relationship) that would allow the mining consumption to support the overall economics of the project.

The Commission recommends that the Governor and the Legislature direct the NH Department of Energy to conduct a public review of how bitcoin mining operations might be integrated into a statewide energy plan with positive impacts for the electricity system, including contributing to more stable electricity grid, more sustainable generation projects, and lower costs for consumers generally. Such a review should include a focus on how New Hampshire law might enable "inside-the-fence" arrangements that would support the development of renewable energy projects within New Hampshire. The public review should invite local and national experts in bitcoin mining and their potential costs and benefits for electricity networks.

5.11 Evaluate Needs for Specialized Resources to Enforce Current Laws with Respect to Crypto-Assets and Related Activities and Provide Resources to Support Law Enforcement Recruitment and Training Efforts that Will Improve NH's Ability to Protect NH Consumers and Investors.

As noted throughout this Report, Blockchain technology and its applications are new and rapidly developing. New applications raise interesting and new issues that benefit from having specialized, technical expertise.

The Commission recommends that the Governor and Legislature convene a public process with input from public and private parties to evaluate the needs of Law Enforcement with respect to its efforts to properly enforce current laws, including the criminal code and laws preventing fraud and unfair and deceptive business practices, with respect to these new and developing activities. Based on this review, the Commission encourages the provision of sufficient resources to support law enforcement recruitment and training efforts that will improve New Hampshire's ability to protect our consumers and investors.

5.12 Consistent with the Longstanding New Hampshire Traditions of Protecting Private Property and Personal Privacy, Establish a Standing Committee to Monitor Developments that Could Impose Disproportionate Burdens on Privacy or Property Interests of NH Citizens who Conduct Activities with respect to Crypto-assets, including Conducting Transactions using Self-Custody Technologies

Federal laws (including the Bank Secrecy Act) impose record-keeping and reporting requirements on financial institutions (e.g., banks and money service businesses), chief among them requirements to report suspected criminal activities to law enforcement authorities and to maintain customer identification and "know your customer" records that can be obtained by law enforcement authorities with a subpoena or other legal process. These "anti-money laundering" ("AML") rules involve important balancing between very important social policies of national security, financial integrity, financial privacy, and financial inclusion.

While a full analysis of the current application of these rules is beyond the scope of this Report, it is important to note that these rules do not generally require financial institutions to collect information with respect to persons who receive cash withdrawn from an account or pursuant to a transfer instruction. Moreover, these rules do not generally prohibit such otherwise legal cash transfers.

Some observers, including regulatory agencies, have stated concerns about the use of Self-Custody of Cryptocurrencies and Digital Assets. For example, the Financial Crimes Enforcement Network ("FinCEN") of the U.S. Treasury Department stated in a December 2020 FAQ document:

> ***How are unhosted wallets being used for criminal activity and who is using them?***
> *Unhosted wallets enable terrorists, state-sponsored and transnational organized criminals and cyber hackers and extorters to quickly and covertly shift large sums of money across the globe to support their illegal activities.*

FinCEN proposed rules at the end of 2020 that would require financial institutions "to submit reports, keep records, and verify the identity of customers in relation to transactions involving [Cryptocurrencies] held in unhosted wallets …, or held in wallets hosted in a jurisdiction identified by FinCEN." As of the date of this Report, these proposed rules had not been finalized, but Senator Warren had introduced on December 14, 2022 the Digital Asset Anti-Money Laundering Act of 2022, which would, among other things, direct FinCEN to finalize the rules.

The Commission acknowledges that the various public policies that are balanced in the current BSA/AML regime are all important, including preventing crime and terrorism. However, the Commission notes that New Hampshire has had a longstanding and uniquely strong policy commitment to protect privacy interests of NH citizens, and believes that privacy issues must be carefully considered in any attempt by governmental interests, either state or national, to impose undue impositions on the ability of law-abiding NH citizens to protect their personal and financial data from public disclosures or public databases. It is important to note that New Hampshire voters approved a constitutional amendment in 2018 by an 81% affirmative vote, establishing an express right to individual privacy in the State Constitution at Part I, Article 2-b: "[*Right of Privacy.] An individual's right to live free from governmental intrusion in private or personal information is natural, essential, and inherent*."

Under current law, law-abiding NH citizens may generally transfer their cash to recipients without any personal data of the recipient being collected by any person, including financial institutions. As financial institutions or Money Service Businesses offer platforms to provide Crypto-asset services to clients that own Crypto-assets, these centralized organizations should be subject to the same BSA/AML rules as financial institutions that offer services to customers with cash. But there should be an exceptionally high standard of proof required before that BSA/AML regime is expanded in a manner that imposes greater burdens on Crypto-service businesses compared to traditional finance businesses.

Accordingly, the Commission recommends that the Governor and the Legislature support establishment of a standing legislative committee (see precedent for this at N.H. RSA 187-A:28-a, establishing a Public Higher Education Study Committee) with members who will be tasked with reviewing proposals, either national or state, that could impose disproportionate burdens on privacy

interests of NH citizens who seek to conduct activities with respect to Crypto-assets, including conducting transactions using Self-Custody technologies. Such a standing committee could also be tasked with reviewing the privacy aspects of any national process to adopt a Central Bank Digital Currency. (See the Supplement Statement of Member Representative Keith Ammon in Appendix A.)

6 Conclusion and Call to Action

In conclusion, the Commission believes that Blockchain technology and its applications are important developments that could have positive impacts on New Hampshire and its citizens. Accordingly, the Commission urges New Hampshire policymakers to focus on areas of state law that may have an important impact on the sound innovation and development of Blockchain technologies in New Hampshire and the United States. Policymakers should conduct public processes to promulgate clear guidance on the application of state law to Blockchain activities and Crypto-assets. This focus on improving state laws is necessary to establish a sound legal foundation that will encourage the best innovators and entrepreneurs to look to New Hampshire as a jurisdiction for the sound development of new and successful businesses and applications using Blockchain technologies. Indeed, the development of a sound legal foundation pursuant to transparent and public processes that educate the public will serve to protect investors and consumers from negative actions such as those occurring as of the date of this Report.

New Hampshire is a unique state. Our citizen legislature has proven itself to have the unique capacity to undertake prompt and regular modernization of legal systems that often take other states decades. We are also a political process that is very close to the voters and the public. Historically, these unique attributes have allowed New Hampshire to offer a safe, healthy and productive place for its citizens, but this requires a relentless focus on the future.

The Commission expects that Blockchain technologies will continue to evolve and develop, and become more integrated into our society and economy. The Commission believes that this next phase of development should be accomplished not only through innovations in computer software protocols, but also should be accompanied by improvements in the legal infrastructure that necessarily operates in parallel with these activities. Such legal and policy improvements should ensure that persons participating in this new arena are accountable for their actions. But consistent with good governance principles, they should also ensure that participants have clear notice and understanding of all legal rules that apply to their activities.

New Hampshire has played important roles with respect to worldwide economic developments in the past, including when it hosted the 44 allied nations at the Mount Washington Hotel in Bretton Woods where the post-war international economic system was structured. New Hampshire should play a leading role now as Blockchain technology continues to develop its place within our global economic system.

Appendix A

Supplemental Statements of Commission Members

The following paragraphs present Supplemental Statements of three Commission members: Representative Keith Ammon; Craig Stevens; and Assistant Attorney General Kevin Scura. The Commission thanks each of these members for their contributions to the work of the Commission and their thoughtfulness in these supplemental statements.

From Member Representative Keith Ammon (R-New Boston) (joined in by Members Craig Stevens and Nick Slaney):

Central Bank Digital Currencies (CBDCs) are digital versions of traditional fiat currencies managed and controlled by a central bank, such as the Federal Reserve in the U.S. See Report definition at Section 2.1.11. While the full implementation of CBDCs may be some years away, it is essential for state lawmakers, legal officers, and regulators to understand the potential benefits and risks of CBDCs.

One key difference between CBDCs and cryptocurrencies is that CBDCs are centrally programmed, managed, and controlled. The centralization of CBDCs could allow the central bank to surveil and control every transaction made using the digital currency, as every transaction is recorded in a permanent digital ledger and tied to a person's identity. In contrast, cryptocurrencies tend to be decentralized and not under the control of a single authority.

A CBDC would allow the central bank to program the currency in previously impossible ways with physical cash. These schemes could include imposing negative interest rates, restricting certain purchases, geofencing transactions to certain economic zones, or implementing monetary policies like Universal Basic Income. Implementing a CBDC would necessitate the phase-out and elimination of physical cash. Stimulus payments or bailouts could be set to expire if not used by a specific date or required programmatically only to be used for certain purchases. A person's financial assets could be severely restricted or turned off altogether if they do not comply with specific directives.

CBDCs can potentially eliminate retail banks, as people would have a direct line of account with the central bank. The digital currency would be tied to a digital ID, potentially allowing the central bank to monitor or control a person's movements, housing, and spending, which could hinder economic freedom. Transaction histories could also reveal personal information such as religious or political affiliation, health conditions, and travel routines and could even lay the groundwork for a Chinese CCP-style social credit system. A CBDC could also give the federal government an unprecedented view into business entities' essential and proprietary information, such as their cash levels, inventories, and strategic partnerships. A CBDC regime could lead to an unparalleled infringement on our citizens' right to privacy and threaten their way of life.

In 2018, our state legislature and voters overwhelmingly voted to enshrine our right to privacy in the New Hampshire State Constitution. That amendment states, "An individual's right to live free from governmental intrusion in private or personal information is natural, essential, and inherent." The amount

and detail of information held by a CBDC would be an unprecedented violation of the letter and the spirit of that amendment.

The state government should protect its citizens' rights from federal overreach. Therefore, lawmakers, legal officers, and regulators should consider taking action to ensure citizens are not forced into a CBDC system. Such actions taken could be to challenge such a system in court or outright prohibit a CBDC to the extent state authority allows. It could also be by ensuring citizens' continued access to competing methods of payment, such as privately managed, asset-backed stable coins and other forms of cryptocurrency, as well as gold, silver, and other precious metals. Ensuring alternative means for financial inclusion outside a CBDC regime would help safeguard our citizens' economic freedom.

From Member Craig Stevens (joined in by Member Representative Keith Ammon):

New and innovative technologies like the blockchain and cryptocurrencies have the potential to unleash a new wave of economic growth and prosperity for people around the world.

We are just beginning to see the benefits of smart contracts and tokens that can provide nearly frictionless economic activity. And while many established institutions will likely fight innovative uses and adoptions of cryptocurrencies, it's important that the United States establish a framework for their use and development, or we risk ceding the mantle of fiduciary leader to another country.

Today, the U.S. Securities and Exchange Commission has assumed a role as self- appointed "cop on the beat" of the crypto industry. However, its track-record is not good. According to court documents and testimony, innovative companies like New Hampshire's LBRY and San Francisco's Ripple met with the SEC in good faith attempts to forge a path forward only to be sued by the agency and - in LBRY's case - destroyed. (As of this report Ripple continues to fight its way through the courts.) The SEC also spiked the ball over a $1 million settlement with celebutant Kim Kardashian while it allowed one of the biggest frauds in U.S. history - costing investors billions of dollars - to happen unchecked under its watch. (As of this writing, Sam Bankman-Fried is under arrest, however enjoys the presumption of innocence as guaranteed by our nation's Constitution.)

Without specific guidance from Congress, regulators are relying on a 77 year old interpretation of a 90 year old law to regulate new technology. At best, it's a bad fit. At worst, it will end innovation - pushing it offshore and allowing entrenched government and banking interests to thwart progress.

I believe we need sound regulation for cryptocurrency, but - like the advent of e- commerce in the 1990s - there should be a light regulatory touch: protecting investors, fighting off scams, but allowing creative thinkers to develop applications and use cases to help societies and economies flourish.

There is some hope that Congress will begin to take crafting cryptocurrency and blockchain legislation seriously. However, recent history shows that the federal legislative process is interminably slow. That is why New Hampshire has an opportunity to be a leader in developing sound policy that can be replicated among other states and at used as a model for federal legislation.

As Justice Louis Brandeis said in 1932, states are the laboratories of democracy. New Hampshire has the opportunity to take a lead on developing guardrails that help the crypto world - and fintech more

broadly - grow. This panel has heard from innovative groups and individuals, educators, and policymakers, living right here in the Granite State who are taking advantage of our labor force, tax structure, and entrepreneurial spirit to build a crypto ecosystem that is ready to flourish, if we as a state and country can present clear, established rules of the road that spur good activity and punish bad actors.

Educating part time state lawmakers in one of the largest legislative bodies in the world will be a challenge. Without adequate information and expertise, legislators will likely default to the status quo. So I support State Representative Ammon's suggestion of a New Hampshire House Standing Committee on Cryptocurrency and Digital Assets that would be responsible for subject matter expertise in this evolving field.

I also would support the state legislature finding ways through tax credits, special training in our state's college system, and other means to attract and develop innovative individuals and companies looking to leverage the future of fintech, crypto, digital assets, and the blockchain.

It has been an honor to serve Governor Sununu and the people of New Hampshire on the Commission. And I am hopeful that the industry will find a welcomed home in New Hampshire.

From Member Assistant Attorney General Kevin Scura, (Attorney General's Designee):

The following statement reflects the individual views of Commission Member Assistant Attorney General Kevin Scura. The statement is not a policy statement of the New Hampshire Department of Justice or of Attorney General John M. Formella.

Summary

It has been a privilege to participate in the Governor's Commission on Cryptocurrency and Digital Assets. While the role of the Office of Attorney General prevents me from opining on Commission's final report, I commend my fellow Commission members for their dedication to grappling with these emerging technologies and applying their various areas of expertise to explore potential ways to benefit their fellow New Hampshire citizens. Cryptocurrencies and related blockchain technologies have the potential to provide various benefits to New Hampshire citizens, but they also involve risks of harm and criminality. Embracing potential benefits should not mean ignoring the crimes and frauds that these technologies have been used to perpetrate. Current law already largely provides the legal framework to punish fraud and other criminal activities involving cryptocurrency and digital assets, but law enforcement could use additional resources to overcome the knowledge-based hurdles to navigating this new and rapidly changing terrain and applying that legal framework in practice. The legislature should also continue to monitor ways in which these technologies are abused to harm New Hampshire residents or thwart enforcement of existing laws and consider marginal changes to current laws where appropriate, including considering restricting the "Bitcoin kiosks" that have become a preferred vector for scams on New Hampshire's elderly residents. Ultimately, if New Hampshire wants to make itself an attractive location for responsible blockchain innovators, it must create and provide resources for robust law enforcement in cryptocurrency and digital assets to protect consumers and honest businesses alike.

Full Statement

The Office of the Attorney General plays many roles in our State legal system, including serving as counsel to the State in a variety of legal disputes. That role presents the potential for both actual conflicts of interest and the appearance of conflicts of interest, and therefore prevents me from affirmatively voting to approve or disapprove of the Commission's Report. For example, the report recommends the establishment and funding of a "Blockchain Dispute Docket." If such a docket was established and funded, the Office of the Attorney General could appear in court representing the State as part of that docket. Having recommended the formation of the docket could create the appearance of a conflict of interest. As another example, the report recommends that "Important Issues Under Current NH Securities Laws" be clarified, but the Office of the Attorney General sometimes prosecutes conduct under the criminal securities fraud statutes, and affirmatively joining a statement that associated laws require clarification could complicate the Office's role in prosecuting those crimes.

Nonetheless, it has been a privilege to serve as a member of the Commission and I commend my fellow Commission members for their dedicated and open-minded work to understand these topics and for striving to be a leader in this complex and fast-changing area. While the role of my office prevents me from opining on their conclusions, their work is a credit to the spirit of the State and to the dedicated and responsive nature of New Hampshire's state government.

While cryptocurrencies, digital assets, and blockchain technologies represent significant innovations with potential benefits, these technologies also pose significant potential for harm to consumers and offer significant opportunity for criminality. Indeed, as one presenter to the Commission has exhaustively chronicled, in the years since Satoshi Nakamura published the original Bitcoin whitepaper, crypto has already been used to steal billions of dollars from the hundreds of millions of people who own cryptocurrencies worldwide. *See Web3 is Going Just Great, https://web3isgoinggreat.com, last visited Dec. 15, 2022.*

New Hampshire can and should position itself to take advantage of the future potential of blockchain technologies while simultaneously protecting its citizens from the reality that many crypto projects to date have been nothing more than frauds. Those frauds have come in different varieties, many of which violate existing laws. "Pump-and-dump" schemes use misleading hype to raise, or "pump," the price of a digital asset before the insiders sell, or "dump," the asset at its peak price, leaving the public holding the bag. See "Investor Alert: Public Companies Making ICO-Related Claims," U.S. Securities and Exchange Commission, SEC.gov | Investor Alert: Public Companies Making ICO-Related Claims, last visited Dec. 20, 2022. A related variety is a "Ponzi" scheme, in which a digital asset with little or no intrinsic value keeps going up in price as long as everyone is buying it, but once the music stops and people start selling, the asset quickly loses its value and late-stage investors in the asset can lose large sums of money. (At a high enough level of generality, this description could apply to every cryptocurrency and digital asset, although it might also apply to traditional currencies as well. Value is a social construct.) One particular crypto project called Olympus DAO basically advertised its Ponzi-scheme nature, explicitly telling its users that they should buy their tokens and hold them, and that if people sold their tokens, then everyone would lose money. *See Matt Levine, "The Crypto Story," Bloomberg Businessweek, The Only Crypto Story You Need, by Matt Levine (bloomberg.com), last visited Dec. 20, 2022.* Others, including allegedly FTX, have been more straightforward with their crypto frauds, simply lying about the terms of an investment in a digital asset or about what they're going to do with the money. All these schemes were exacerbated by advertising, including Super Bowl commercials featuring

comedian Larry David and basketball star Steph Curry that explicitly advised the public to invest in crypto assets even if they didn't understand crypto.

The recent FTX collapse alone has cost its customers multiple billions of dollars as a result of allegedly criminal conduct by its founder and chief executive who, up until shortly before FTX's collapse, was a widely-respected figure both in cryptocurrency circles and outside of them, testifying before the United States Congress on issues of financial regulation, proposing innovations that promised to modernize commodities and futures trading platforms, participating in marketing activities with widely-beloved celebrity figures including Curry, model Gisele Bundchen, and football star Tom Brady, and becoming a very public philanthropist and political donor.

The pseudonymous and irreversible features of Bitcoin and many other cryptocurrencies render them attractive tools for scammers and other criminals, and cryptocurrencies have become a popular way to buy illicit goods like drugs and child pornography. *See generally U.S. Department of Justice, Cryptocurrency Enforcement Framework: Report of the Attorney General's Cyber Digital Task Force, Oct. 2020, available at: Report of the Attorney General's Cyber Digital Task Force: Cryptocurrency Enforcement Framework (justice.gov)*. The borderless nature of cryptocurrencies makes it easy for wrongdoers and scammers operating outside of New Hampshire or the United States to harm New Hampshire citizens, but difficult for law enforcement to identify or punish those wrongdoers. Even some of the lauded use cases for cryptocurrencies today include activities designed to avoid laws and regulations: while it may represent a societal good to be able to get money to Venezuelan citizens or individuals trying to escape Russia, those transfers operate outside of legal regimes.

Furthermore, the lack of intermediaries, or "decentralization," that renders cryptocurrency attractive to many of its strongest proponents also poses significant risks. As the FTX case vividly demonstrates, irresponsible intermediaries can abuse their position of trust to defraud customers and inflict harm on the public. But responsible intermediaries are the source of many of the fraud protections that consumers enjoy in the modern economy. Credit card companies that perform chargebacks, or banks that insure deposits, often allow consumers that have experienced fraud or theft to get their money back, even before law enforcement gets involved. (Of course, these services are not available to everyone, especially marginalized groups and people in countries without strong economies or effective governance, and people without access to those services may have the most to gain from cryptocurrency and digital asset technologies.) In short, crypto cuts out the middle man, but sometimes the middle man is good.

Grift and criminality are not unique to these technologies and should not motivate New Hampshire to "ban" cryptocurrencies (even if that were possible), but any serious contemplation of the legal and regulatory regime governing cryptocurrencies and digital assets should emphasize ensuring adequate protections for consumers and providing law enforcement with tools to enforce existing laws against wrongdoers who would use cryptocurrency in an attempt to evade those laws.

Much of the legal framework already exists. Theft is theft, whether you're stealing a dollar or a diamond or a Dogecoin. *See generally RSA 637*. Using digital assets does not somehow exempt a business from New Hampshire's consumer protection laws. *See RSA 358-A*. Whether buying, selling, or possessing illicit goods like drugs or child pornography is a crime does not depend on whether it was bought with cash or crypto. *See, e.g., RSA 649-A*.

Still, some clarifications could be made to ensure that existing legal and regulatory regimes for banks and financial services firms map onto firms providing analogous services in the context of cryptocurrency and digital assets. While the cryptocurrencies themselves are not individual actors (you can't send a subpoena to Bitcoin), many users of cryptocurrencies interact with the technologies through third parties (like Coinbase) that handle the more complicated aspects of the technologies on the consumers' behalf (you can send a subpoena to Coinbase). These third parties act in many ways like banks: they hold customer assets, they perform transactions on their customers' behalf, sometimes they offer interest, and they keep records of transfers into and out of accounts and between various digital assets. They also serve as "on-ramps" or "off-ramps" between digital currencies on the one hand and dollars or other "fiat" currencies on the other. These third parties that operate like banks in the cryptocurrency sphere should be subject to the same requirements as banks in the traditional financial sphere including duties to report suspicious activities and obligations to respond to valid subpoenas and warrants, *see RSA 359-C*. They can also be used, and, in some cases, already are being used, to make it difficult for criminals to use ill-gotten cryptocurrency by preventing users from converting the cryptocurrency received in a transaction that is known to be fraudulent or criminal into fiat currency. When law enforcement investigations involve cryptocurrency and institutions providing these third-party services, New Hampshire law enforcement and New Hampshire law should both treat these institutions as traditional financial institutions would be treated in law enforcement investigations involving traditional banking or credit union services.

An example of a way that existing law could use a change on the margin is to examine the utility of Bitcoin "kiosks" or "ATMs" that are placed in locations such as shopping malls, gas stations, and bars. These kiosks allow individuals to use cash or a debit card to purchase Bitcoin, transfer the Bitcoin to others, or exchange owned Bitcoin for currency. The productive utility of these kiosks is hard for this author to fathom. Anyone with an internet connection and a laptop or a smartphone can purchase Bitcoin, either by using a bank account and third-party application, or by sending something of value to someone who has (some portion of) a Bitcoin in exchange for that person transferring the requested amount of Bitcoin to them. It seems that the primary purpose of these kiosks is to permit people who lack the technical sophistication to buy cryptocurrency from a laptop or smartphone to buy Bitcoin anyway, and to charge those people massive transaction fees in the process. Worse, the kiosks have become a preferred vector for scams against New Hampshire's growing population of elder citizens. Scammers will convince elderly residents that their grandchildren are in jail and need to be bailed out (a "grandparent" scam) or strike up an online relationship and then invent a scenario requiring money fast (a "romance" scam), and then ask the elderly resident to use a Bitcoin kiosk to send money to a specified wallet, never to be seen again. Even with New Hampshire's strong tradition of individual liberty, the legislature should consider whether these devices have any useful place in our state.

In many ways, the primary hurdles to enforcing existing laws in the crypto world are knowledge hurdles. These knowledge hurdles present themselves in three primary ways. First, as discussed in the Commission Report, many consumers lack familiarity with cryptocurrencies and digital assets. That lack of familiarity can make consumers vulnerable to scams, whether because marketing and a fear of missing out motivate them to invest in crypto assets without understanding the risks, or because they're more vulnerable to being scammed into sending cryptocurrency, often across borders, as part of scams such as the "grandparent" or "romance" scams. Providing educational opportunities for consumers to learn about

crypto assets and their potential uses, benefits, and dangers will be an important part of helping them avoid scams and frauds before they happen.

Next, law enforcement need training and specialized personnel to navigate this new and evolving space. The blockchain, by definition, contains an immutable public record of all the previous transactions in a given cryptocurrency (perhaps it would even be more accurate to say, at least in the case of Bitcoin, that the blockchain is a record of previous transactions). In theory, this should make it easy for law enforcement to trace money movement in cryptocurrency to track criminals: all you need to do is read the immutable public record. In practice, reading the blockchain can be difficult and requires specialized knowledge and training. To the extent that New Hampshire wants to make itself a hub for blockchain-related economic activity, New Hampshire law enforcement will need training to develop the required expertise, hiring to acquire personnel who have the required expertise, and resources to coordinate with other law enforcement agencies, including federal agencies, who have the required expertise.

Finally, knowledge and coordination are required to identify and stop wrongdoers. While the blockchain contains a public record of previous transactions, it is pseudonymous, in that it identifies the "wallet" into which cryptocurrency is deposited, but not the holder of the wallet. Nonetheless, the identities tied to certain wallets do sometimes become known, whether because the wallet is held by a third-party on a customer's behalf or through a previous investigation or prosecution in which an individual identified themselves as the owner of a particular wallet. New Hampshire law enforcement should coordinate with federal law enforcement to develop and maintain a database of digital wallets that have been identified as associated with criminal transactions, akin to a digital fingerprint database. While criminals are always free to open new wallets, such a database could nonetheless prove useful both in identifying perpetrators of previous criminal acts and, through coordination with third parties acting as money transmitters, preventing transfers to known bad accounts before they happen.

Protecting consumers and combating crime and fraud in digital assets and cryptocurrencies can largely be accomplished by enforcing existing laws in this new digital context, but law enforcement may need new resources and capabilities to accomplish that. Any efforts to make New Hampshire attractive to blockchain innovators should include efforts that help law enforcement overcome the knowledge hurdles described above and do in the digital world what it already does in the real world. Establishing a robust legal enforcement framework, including law enforcement personnel capable of navigating the particular challenges posed by these emerging technologies, would help to create stability, predictability, and trust in the digital asset space. As the staggering history of crypto frauds demonstrates, those qualities have largely been absent from the space to date, and effectively fostering them in New Hampshire would be essential to attracting beneficial economic activity in this area to New Hampshire. After all, one of the primary goals of effective consumer protection is to allow honest businesses to thrive.

Appendix B

Statement of the New Hampshire Bureau of Securities Regulation

The mission of the New Hampshire Bureau of Securities Regulation, part of the New Hampshire Department of State, is to provide equitable regulation for the protection of New Hampshire investors while facilitating responsible capital formation throughout the State of New Hampshire. A highly active and dynamic office, the Bureau not only licenses and examines broker-dealers and investment advisors, but investigates and when necessary, takes enforcement action against bad actors that inflict harm upon New Hampshire residents and businesses. Year after year, the Bureau succeeds in putting millions of dollars back in investor hands and stopping securities fraud in its tracks.

Securities regulation exists on an ever-changing playing field constantly involving new products, investments, and entities that fit the broad statutory definition of what makes a security a security. What has become increasingly clear over the past several years is that cryptocurrency has a role in securities regulation. Over the past few years, state, federal, and administrative statutes, case law, and regulatory regimes have repeatedly defined and clarified aspects of cryptocurrency to constitute an investment contract, and accordingly, a security under the New Hampshire Uniform Securities Act administered by the Bureau. As with any other security, the Bureau believes certain cryptocurrency products could be subject to the same exemptions as other securities. Recently and relevantly, the U.S. District Court of New Hampshire both recognized and applied cryptocurrency as a security.

As a regulator in the vast space of cryptocurrency, and securities in general, the Bureau recognizes, respects, and encourages business and investor innovation, growth, advancement, and market development. At the same time, the Bureau uniquely and equally values the need for both investor and business safeguards, regulation, and oversight in such a way that is responsible, balanced, and fair. As a consumer and investor-centric organization, the Bureau seeks to emphasize, promote and protect investor and consumer rights, particularly pertaining to fraud and misinformation. The Bureau carries out this mission through not only the licensing, registration, and examination of people who deal in securities, but through the active investigation of both consumer complaints and issues the Bureau uncovers on its own. When necessary, the Bureau's specialized team of investigators and attorneys take appropriate action to reverse fraudulent transactions, obtain restitution for investors, fine bad actors, and bar or suspend entities from the securities industry.

Furthermore, the Bureau is highly active in both national and international securities organizations and has formed close and productive partnerships with other states to investigate and when necessary bring enforcement actions against multi-state bad actors. Previous national efforts the Bureau has been involved in have resulted in millions back to New Hampshire consumers.

Cryptocurrency and securities regulation are rapidly evolving. Particularly in light of highly publicized recent events involving cryptocurrency, as well as the District of New Hampshire decision, the Bureau is more focused and committed than ever to keep up-to-date and informed on cryptocurrency products and actors, and to ensure that they are offered in a way that is honest, fair, and fully transparent. Doing so will not only serve to protect New Hampshire consumers just as the Bureau has done for years with other securities, but will also serve to promote trust in and encourage the growth of healthy cryptocurrency markets.

Going forward, it is the Bureau's hope that any report from this Commission will recognize, promote, and maintain the Bureau's investigative and regulatory authority in the fluid area of cryptocurrency, and will affirm the Bureau's ability to take action and help Granite Staters who are harmed by fraudulent, bad actors and offerings in the cryptocurrency space. Crypto currency is an exciting new industry that can provide numerous benefits to New Hampshire. A well regulated cryptocurrency market provides consumer protection, and trust in the market, which is a boon to investors, the general public, and businesses alike.

Appendix C

Statement of the New Hampshire Banking Department

The New Hampshire Banking Department's mission is to protect the public's interest through the professional supervision of the financial services it regulates. The Banking Department supervises several financial service providers who may choose to provide crypto-asset related services to New Hampshire consumers, including money transmitters and chartered entities (e.g., state banks, credit unions, and trust companies) providing custodian services. Set forth below is a general overview of the Banking Department's regulation of financial services providers in the crypto sphere.

Money Transmitters

Under current state law, money transmitters are companies that engage in the business of selling or issuing payment instruments or stored value, or receiving currency or monetary value for transmission to another location. Persons engaged in the non-exempt business of money transmission are subject to the Banking Department's jurisdiction and regulation.

For example, if you give Company A $20.00, and direct Company A to transmit that money to another person, Company A would qualify as a money transmitter and would require a license from the Banking Department. Because it is licensed with the Banking Department, Company A would be subject to regular examination by the Banking Department and the Banking Department could take action on any consumer complaint filed about Company A. As part of both the regular examination and the consumer complaint process, the Banking Department will evaluate the company's compliance with the applicable laws within the Department's jurisdiction.

Similarly, if you give Company A one Bitcoin, valued at $10.00, and direct Company A to give $10.00 (*i.e.*, in United States currency) to Person B, Company A would qualify as a money transmitter and would require a license from the Banking Department. Because it is licensed with the Banking Department, Company A would be subject to regular examination by the Banking Department and the Banking Department could take action on any consumer complaint filed about Company A. As noted above, as part of both the regular examination and the consumer complaint process, the Banking Department will evaluate the company's compliance with the applicable laws within the Department's jurisdiction.

In 2017, however, the New Hampshire legislature made a policy decision to exempt certain crypto-related activities from Banking Department regulation. Specifically, New Hampshire law exempts persons who engage in the business of selling or issuing payment instruments or stored value solely in the form of "convertible virtual currency"[1] and persons who receive "convertible virtual currency" for transmission to another location. For example, if you give Company A one Bitcoin, and direct Company A to give Person B one Bitcoin, this transaction would not be subject to Banking Department regulation and Company A would not require a license from the Banking Department to conduct this transaction.

[1] New Hampshire's money transmitter law defines "convertible virtual currency" as a digital representation of value that: (a) can be a medium of exchange, a unit of account, and/or a store of value; (b) has an equivalent value in real currency or acts as a substitute for real currency; (c) may be centralized or decentralized; and (d) can be exchanged for currency or other convertible virtual currency. RSA 399-G:1, VII.

Chartered Entities Providing Custodian Services

The extent to which chartered entities may engage in crypto-related activities is dependent on the entity's specific business model and the activities in which the entity proposes to engage. The Department's evaluation of an entity's ability to engage in such activities focuses primarily on the entity's capacity to conduct them in a safe and sound manner, as well as consumer protection and compliance with applicable laws within the Department's jurisdiction.

New Hampshire chartered banks, credit unions, and trust companies may be able to provide certain services to customers holding crypto assets. Services related to crypto assets may need to be reviewed and approved by the Banking Department through its application processes depending on: the type of entity providing the services, how long the entity has held a charter, and if the activities materially differ from currently authorized activities. The Banking Department encourages chartered entities to contact the Department to discuss potential issues related to providing crypto-related services, such as deposit services and custody services.

Taking and holding customer assets as deposits in a bank materially differs from holding assets in custody. Deposits must be insured by the FDIC and FDIC insurance does not apply to "non-deposit products, such as stocks, bonds, money market mutual funds, securities, commodities, or crypto assets."[2] Customer deposits may be used by the bank for operational purposes, including the issuing of secured and unsecured loans. Customer deposits are kept as a liability on the balance sheet of the institution and are backed by adequate capitalization of the bank based on FDIC and state requirements. Liquidity is monitored and evaluated through regular examination to ensure customers maintain adequate access to their assets.

Assets in custody are held in full except for limited circumstances. Customer assets are segregated from institutional assets and may not be used by the institution for its own purposes. When a financial institution holding customer assets in custody engages in securities lending with the customer's consent, any loaned securities must be collateralized at greater than 100% of their value (typically 102 – 105%) with cash or other securities. Collateralized assets are marked-to-market daily, which requires either a return of excess or contribution of additional collateral to maintain the collateralization ratio. Volatility of the value of securities creates risk to the collateral assets, which must be liquid enough to respond to daily market changes. This risk is greatly heightened by the historical volatility of crypto assets should customer holdings be loaned in a securities lending capacity.

Conclusion

The Banking Department supports innovation and economic development in the crypto industry that is conducted in a safe and sound manner and in compliance with applicable laws and regulations. As noted above, the Department encourages chartered entities, money transmitter licensees, and other potential applicants in the crypto industry to contact the Department to discuss their crypto-related activities. The Department will provide feedback as appropriate in response to such outreach.

[2] FDIC Advisory, "Advisory to FDIC-Insured Institutions Regarding FDIC Deposit Insurance and Dealings with Crypto Companies," https://www.fdic.gov/news/financial-institution-letters/2022/fil22035b.pdf.

Crypto assets are complex and the industry is rapidly evolving. In order to further explore the regulation of crypto assets at the New Hampshire state level, the Department believes it will be essential for the State to devote additional resources to these regulation efforts. Depending on the direction such regulation takes, the Department anticipates needing additional examiner and attorney positions to focus on crypto assets and training for examination staff in blockchain technology and crypto assets.