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BLOCKCHAIN: A POTENTIAL DISRUPTION TO FINANCE AND REGULATION

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I. INTRODUCTION: UNDERSTANDING BLOCKCHAIN, DIGITAL ASSETS, AND CRYPTOCURRENCIES

Blockchain is a type of distributed ledger technology (“DLT”) that leverages multiple nodes to verify, approve, and store data within the ledger which keeps those records across multiple computers, also known as a decentralized peer-to-peer network.¹ Blockchain, while not new, is different from traditional web 2.0 data storage, which utilizes centralized servers.² Blockchain organizes information added to the ledger in groups of data, known as “blocks” with a unique cryptographic identifier, known as a “hash,” and once the information is added to the blockchain and encrypted with a hash, its permanent and immutable.³

Digital assets, such as cryptocurrencies, are a medium of exchange, created and stored electronically on the blockchain using cryptography and algorithms to verify transfer of funds,⁴ and control the creation of monetary units.⁵ Generally, digital assets lack intrinsic value,⁶ have no physical form, and its supply is determined by the protocol, not a central bank. In fact, for many digital assets, no central authority exists, as many are self-governed through on-chain voting by token holders.⁷

While some believe digital assets are “money without a purpose,”⁸ there are others that strongly disagree and would argue digital assets’ purpose “is to pay for the security and services—such as smart-contract execution—rendered by a

¹ Kendall Little, *What Is Blockchain and How Does It Work*, TIME (May 3, 2022), <https://time.com/nextadvisor/investing/cryptocurrency/what-is-blockchain/#:~:text=Blockchain%20is%20the%20underlying%20technology,a%20type%20of%20distributed%20ledger>.

² *Id.*

³ *Id.*

⁴ This is known as trustless. Cryptopedia defines trustless as: “not need[ing] to place your sole trust in any one stranger, institution, or other third party in order for a network or payment system to function.” Cryptopedia Staff, *What Does Trustless Mean?* CRYPTOPEDIA (June 28, 2022), <https://www.gemini.com/cryptopedia/trustless-meaning-blockchain-non-custodial-smart-contracts>.

⁵ PWC, *Making Sense of Bitcoin, Cryptocurrency and Blockchain*, <https://www.pwc.com/us/en/industries/financial-services/fintech/bitcoin-blockchain-cryptocurrency.html> (last visited Feb. 6, 2023).

⁶ *But see* Adam Hayes, *Stablecoins: Definition, How They Work, and Types*, INVESTOPEDIA (Oct. 4, 2022), <https://www.investopedia.com/terms/s/stablecoin.asp> (explaining stablecoins can be gold backed or tied to another value).

⁷ U.S. GOV’T ACCOUNTABILITY OFF., GAO-22-104625, BLOCKCHAIN EMERGENCY TECHNOLOGY OFFERS BENEFITS FOR SOME APPLICATIONS BUT FACES CHALLENGES 1, 13 (2022).

⁸ Todd H. Baker, *Crypto Is Money Without a Purpose*, WALL ST. J. (Dec. 19, 2022, 6:08 PM), https://www.wsj.com/articles/crypto-is-money-without-a-purpose-ftx-crash-trading-banking-finance-exchanges-brokers-lenders-money-profit-11671479669?mod=article_inline.

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decentralized network.”⁹ This thinking is more akin to the web 2.0 world—where users pay subscription fees to utilize a license for software—which is the system that currently dominates. In a blockchain-leveraged web 3.0 world, those subscription fees won’t be annual or monthly, they occur per transaction, known as gas fees, and pricing could be a standard flat rate, or fluctuate based on the networks demand at the time of transaction.¹⁰

If the point of traditional finance (“TradFi”) is to help “businesses, people and governments raise, save, transmit and deploy money for socially and economically useful ends,”¹¹ it could be argued that a trustless, transparent system which utilizes a decentralized public ledger and on-chain governance would better serve the traditional finance mission. If banks exist to facilitate the flow of money by helping families purchase homes and allow savings to be pooled and turned into business loans for the greater benefit to society, then a decentralized finance (“DeFi”) lending protocol could better serve that purpose without the need for the bank as an intermediary. However, the leap from TradFi to DeFi is significant and marred by an unclear regulatory landscape. Companies such as Celsius and FTX rise and fall during this period of innovation and regulatory navigation.

II. UNDERSTANDING THE REGULATORY LANDSCAPE AND ITS CHALLENGES

The regulatory landscape for blockchain and digital assets is rapidly evolving and unclear in many jurisdictions. As with any emerging technology or advancements, regulation lags behind the innovations. In response to the stock market crash of 1929, the Securities Act of 1933 was enacted to protect investors.¹² The following year, the Securities Exchange Act created the Securities and Exchange Commission (“SEC”) with broad federal authority over all aspects of the securities industry, including prohibiting fraud, imposing severe penalties for those who defraud investors, and establishing parameters for how entities can raise

⁹ Jeremy Epstein, letter to Todd H. Baker, *What Is the Real Purpose of Cryptocurrency?* WALL ST. J. (Jan. 3, 2023, 9:49 AM), <https://www.wsj.com/articles/crypto-currency-real-purpose-services-crime-11672684082>.

¹⁰ Raghav Dudeja, *Ethereum Gas Fees Explained Why is ETH Transaction Fee So High?*, COINDCX BLOG (Sept. 14, 2022), <https://coindcx.com/blog/cryptocurrency/what-is-ethereum-gas/>.

¹¹ Todd H. Baker, *Crypto Is Money Without a Purpose*, WALL ST. J. (Dec. 19, 2022, 6:08 PM), https://www.wsj.com/articles/crypto-is-money-without-a-purpose-ftx-crash-trading-banking-finance-exchanges-brokers-lenders-money-profit-11671479669?mod=article_inline.

¹² U.S. SEC. & EXCH. COMM’N, *Investor Bulletin: An Introduction to the U.S. Securities and Exchange Commission – Rulemaking and Laws* (Aug. 20, 2015), https://www.sec.gov/oiea/investor-alerts-and-bulletins/ib_rulemaking.

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funds.¹³ The US Securities Act along with the Securities Exchange Act of 1934, the Investment Company Act of 1940, the Investment Advisers Act of 1940, the Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, and the Jumpstart Our Business Startups Act (JOBS) comprises the pertinent current governing laws for the securities industry in the United States.¹⁴ It is pivotal to determine whether a digital asset is deemed a security, and thus subject to the above regulations and certain registration requirements.

In making that determination, it must be assessed whether a digital asset fits under one of the broad definitions of the term "security" found within the Securities Act and Securities Exchange Act. Under these Acts, the term "security" includes several common investment instruments such as notes, stocks, bonds, and investment contracts. For digital assets, the focus seems to be on whether it is an "investment contract," in which case, the *Howey Test*, created by the Supreme Court in 1946, is most applicable.

A. *Guidance from the Judicial Branch and Legislators*

The *Howey Test* is a legal standard employed to ascertain whether an investment is a security. According to the test, an investment contract is established when the following four elements are met: (1) money is invested, (2) there is an expectation of making a profit, (3) the investment is in a common enterprise, and (4) the profit is generated from a promoter or third party's efforts, or "efforts of others." While initially the term "money" was used, it has since been extended to include other assets. The meaning of "common enterprise" is not concretely defined, and courts have used a variety of interpretations.¹⁵ In order to be deemed a security, the profits must be mostly or fully beyond the investor's control. If the profits are not in the investor's control, the investment could be a security.¹⁶ Conversely, if the investor's own actions largely impact the investment's success,

¹³ *Id.*

¹⁴ *Id.*

¹⁵ The Court denied certiorari on a case which squarely presented the issue of defining a common enterprise in connection with a discretionary trading account. *Mordaunt v. Incomco*, 686 F.2d 815 (9th Cir. 1982) (ruling there was not a common enterprise), *cert denied*, 469 U.S. 1115 (1985). However, three justices dissented from the denial of certiorari citing a "clear and significant split" amongst the circuits. 469 U.S. at 1117 (White, J., dissenting).

¹⁶ *Audet v. Stuart A. Fraser, Gaw Miners, LLC*, CASE NO. 3:16cv940(MPS) (D. Conn. Jan. 22, 2019): Case in which a federal jury found that crypto mining "hashrate"-linked products (including promised tokens) were not securities, because "[i]f there was a reasonable expectation of significant investor control, then profits would not be considered derived solely from the efforts of others."

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the investment is likely not a security. Rather than focusing on the form of the investment, courts examine the economic realities to determine if it is a security.

The *Howey Test* was created by the Supreme Court to determine whether an investment should be considered a security and subject to registration and disclosure requirements. This test evaluates the substance of the investment, rather than just its form. In order to avoid these requirements, some promoters disguise securities by calling them something else, such as an interest in a general partnership. To address these subterfuges, courts assess the economic reality of the investment instead of its name or form to assess whether it is a security.¹⁷ If the investment is open to many people with minimal control or management of the money or assets, then it is likely a security. On the flip side, if the investment is only available to a few privileged people and these individuals have considerable control over how it is managed, then it is not likely a security.

The *Howey Test* isn't the only consideration for digital assets navigating the regulatory landscape; the SEC has provided further guidance as digital assets have come into prominence. In 2017, the SEC issued an investigative report, the DAO Report,¹⁸ where it cautioned that market participants that offer and sell digital assets are potentially subject to federal securities laws. The DAO Report set precedent for initial coin offerings ("ICOs") and other digital assets offered by DLT organizations and it established that such offerings could be considered securities and subject to regulation.¹⁹ In 2019, the SEC provided further guidance with The Framework for Investment Contract Analysis of Digital Asset, which provides a framework for determining whether a digital asset should be considered a security.²⁰ It details further considerations and applications for how regulations may apply to digital assets.

¹⁷ *Salameh, et al. v. Tarsadia Hotel et al.*, 726 F.3d 1124 (9th Cir. 2013). The Court affirmed that the sale of condominiums, together with a subsequent rental management agreement, does not create an investment contract. What matters is the economic reality of the transaction. The "economic reality" of the transactions did not show that the sale and the rental management agreement were part and parcel of one scheme, and the purchasers did not claim that they were induced to buy the condominiums by the rental management agreement.

¹⁸ U.S. SEC. & EXCH. COMM'N, Press Release, *SEC Issues Investigative Report Concluding DAO Tokens, a Digital Asset, Were Securities* (on file with author); see U.S. SEC. & EXCH. COMM'N, Press Release, Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO (July 25, 2017) (on file with author).

¹⁹ U.S. SEC. & EXCH. COMM'N, Statement from the Divisions of Corporation Finance, Investment Management, and Trading and Markets (Nov. 16, 2018) (on file with author).

²⁰ See generally U.S. SEC. & EXCH. COMM'N, framework for "investment contract" analysis of digital assets, <https://www.sec.gov/corpfm/framework-investment-contract-analysis-digital-assets> (modified Mar. 8, 2023).

*Blockchain: A Potential Disruption to Finance and Regulation**B. Regulators and Their Role for the Future*

The SEC is not the only governing body looking to regulate digital assets, the Commodity Futures Trading Commission (“CFTC”), Federal Reserve, Internal Revenue Service (“IRS”), Financial Crimes Enforcement Network (“FinCEN”), Federal Trade Commission (“FTC”), and others all have interest in regulating these emerging digital assets and markets. These agencies interest in regulation range from tax implications, Know-Your-Customer (“KYC”) laws, and anti-money laundering (“AML”) laws, which help prevent money laundering and terrorism financing. These agencies are attempting to create regulatory framework to help ensure that investment vehicles and investment advisors are acting in compliance with federal laws and regulations, and that they are transparent and accountable to their clients, users, and investors.

The next round of regulations and enforcements are coming as 2021 saw market highs for cryptocurrencies, while 2022 was a rocky year. In May 2022, over \$2 billion worth of TerraUSD, (“UST”) was unstaked and quickly liquidated from the Anchor Protocol, the decentralized market maker built on the Terra blockchain.²¹ This liquidation quickly led to UST unpegging from the USD, which crashed both UST and Luna rapidly.²² This collapse and loss of nearly \$300 billion in value across the cryptocurrency space, caused a domino effect of bankruptcies. Once seen as leaders, Voyager and Celsius filed bankruptcy within months and Three Arrows Capital was forced into liquidation.²³ It is important for users to understand the terms and conditions they agree to when they put their digital assets on a centralized exchange. This was a tough lesson for users of Celsius to learn that while they were getting interest rates of up to 18%, that account with those assets granted ownership of those funds as a condition of use. This became problematic when Celsius declared bankruptcy as those funds are not likely to be recovered by the user. Gemini users faced a similar issue with receiving generous annual percentage yield (“APY”) returns, but the accounts were frozen and appear to be insolvent as the SEC investigates Gemini.

In November, the number two cryptocurrency exchange, FTX collapsed, filed voluntary bankruptcy, and the CEO and founder was charged and arrested on multiple counts of fraud a month later. The SEC alleges that the FTX trading platform, along with several executives, defrauded investors by concealing that it

²¹ Q.AI, *What Really Happened To LUNA Crypto?*, FORBES MEDIA, <https://www.forbes.com/sites/qai/2022/09/20/what-really-happened-to-luna-crypto/?sh=365b6a354ff1> (last visited Feb. 5, 2023).

²² *Id.*

²³ *Id.*

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directed billions of dollars of FTX assets to Alameda Research.²⁴ The Complaint alleges that FTX provided Alameda Research special privileges, including an exemption from risk mitigation measures which became a de facto unlimited line of credit.²⁵ It's unlikely that FTX could have committed the same level of Ponzi scheme-like fraud were it a DeFi Protocol, but that does not mean that DeFi is immune from fraudulent activities. Just before the SEC Complaint against FTX, a DeFi protocol—Forsage—and eleven of its founders and employees, were charged with “creating and promoting ... a fraudulent crypto pyramid and Ponzi scheme...”²⁶ Just as the dot com boom of the late 1990's, the blockchain boom with its promise of new tech is experiencing its wave of eager investors pushing innovation in a period of unknown regulations.²⁷

These drastic collapses of market giants creates strong distrust for centralized and some decentralized platforms. With investors and holders skeptical, regulators are poised to set strong precedent in the wake of the disasters that these companies and exchanges left behind. The remaining exchanges will have to work hard to ensure their users that customer funds are secure and liquid. Binance has attempted to create “proof of reserves”²⁸ but has faced challenges with auditing.

III. THE FUTURE OF A DECENTRALIZED DIGITAL ASSET WORLD

The SEC has increased its number of investigations into companies in the DLT space and ramped up its number of employees for enforcement actions.²⁹ Proper risk management, increased regulatory oversight, and better investor protection are essential for the continued growth and development of the digital asset industry. However, the point of disruptive technology is to disrupt. The

²⁴ See generally *Sec. & Exch. Comm'n v. Samuel Bankman-Fried*, Complaint & Demand for Jury Trial, 1:22-cv-10501 (S.D.N.Y. Dec. 13, 2022).

²⁵ *Id.*

²⁶ U.S. SEC. & EXCH. COMM'N, Press Release, *SEC Charges Eleven Individuals in \$300 Million Crypto Pyramid Scheme* (Aug. 1, 2022), <https://www.sec.gov/news/press-release/2022-134>.

²⁷ See generally Nobuyasu Sugimoto Bo Li, *Crypto Contagion Underscores Why Global Regulators Must Act Fast to Stem Risk*, IMF BLOG (Jan. 18, 2023), <https://www.imf.org/en/Blogs/Articles/2023/01/18/crypto-contagion-underscores-why-global-regulators-must-act-fast-to-stem-risk>

²⁸ BINANCE, <https://www.binance.com/en/proof-of-reserves> (last visited Feb. 5, 2023) (referring to public proof that an exchange has backed its customers' entire deposits with proper collateralization; it is a measure to make the crypto ecosystem more transparent by restricting custodians from using user deposits for their interests and it shows that Binance has funds that cover all of its users' assets 1:1, as well as some reserves).

²⁹ U.S. SEC. & EXCH. COMM'N, Press Release, *SEC Nearly Doubles Size of Enforcement's Crypto Assets and Cyber Unit* (May 3, 2022) (on file with author).

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financial system is not perfect and DeFi attempts to address some of its imbalances. DeFi promises a system of pseudonymity and a lack of central authority.³⁰

The pseudonymity does not automatically equate to a lack of accountability; several U.S. courts have elected to permit court service to be completed via NFT airdrop to a wallet address.³¹ Further, the lack of central authority does not necessarily mean a lack of any regulation or any submission to laws or jurisdictions, rather it is a lack of barriers to entry to participate and to engage in a system that does not otherwise let the users participate due to lack of certain credentials such as accredited investor status.³² These regulations which came into existence with the purpose of protecting people may be outdated in a world with unlimited information and artificial intelligence access.

IV. CONCLUSION

DeFi and blockchain technology offer significant potential benefits, but also pose regulatory challenges. Careful consideration of these challenges and potential solutions is necessary for the continued growth and development of the industry. This innovative technology and implementation of possible new tools for investing, saving, and utilizing money is too powerful to ignore in an ever-growing and globalizing world and economy.

For those that believe the point of traditional finance is to help businesses, people, and governments raise, invest, and deploy money in socially and economically beneficial purposes, then a world that allows for all users without barriers to directly and trustlessly deploy that money seems like a logical and positive use of technology. A system that is governed by its users through a transparent immutable ledger without the need for a centralized mediator takes these traditional finance concepts to a more efficient and accessible place for all.

³⁰ Decentralized Finance (DeFi), ETHEREUM, <https://ethereum.org/en/defi/#what-isdefi> (last visited Jan. 26, 2023).

³¹ Shumaker, Loop & Kendrick, LLP and Christian Staples, *Court Authorizes First-Ever Service of Court Documents via Air-Drop of Non-Fungible Token (NFT) to Cryptocurrency Wallet Address*, JDSUPRA (June 17, 2022), <https://www.jdsupra.com/legalnews/court-authorizes-first-ever-service-of-3668226/>.

³² Peter Rex, *Accredited investor rules are perpetuating inequity*, FORTUNE (Dec. 20, 2021), <https://fortune.com/2021/12/20/accredited-investor-rules-are-perpetuating-inequity-sec-crypto-investing-crowdfunding-wealth-gap-peter-rex/>.