

A Tokenized Future: Regulatory Lessons from Crowdfunding and Standard Form Contracts

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This Article examines the world of risk investing in the cryptoeconomy. The broader crypto market is booming despite the latest downturn. People and institutions are buying in. The question is now how to regulate it.

This Article first tackles the question of whether coins, tokens, and other investable cryptoassets are securities. Second, for those cryptoassets that are not securities, this Article seeks to find a regulatory solution that balances promoting innovation with investor protection, just as the Securities and Exchange Commission (SEC) would do. To strike the right balance, this Article adopts a proposal by Ian Ayres and Alan Schwartz for policing standard form contracts that accompany consumer product purchases. That is, crypto issuers would be required to include a short, prominent “warning box” on their websites that includes only unexpected and harmful features of the crypto. Coupled with the whitepapers already provided by crypto developers—a shining example of voluntary disclosure working—the warning-box add-on completes the crypto regulation picture and properly balances innovation and investor protection.

For well-known cryptos like bitcoin, nothing would be required in the warning box. Risks from investing in bitcoin, from environmental impact to price volatility, are generally understood. Tether developers, however, should have disclosed that their stablecoins were not fully backed by fiat currency reserves by using a warning box, and Ethereum developers should be disclosing that gas fees can be much higher than normal transaction fees investors may be accustomed to. This Article’s approach to crypto regulation favors market mechanisms over regulatory overreach in this emerging area.

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INTRODUCTION

This Article examines the rapidly changing world of risk investing brought about by cryptoassets. Risky investments with a technological component have long been the province of angel investors and venture capitalists (“VCs”). The startups they invest in are growing corporations with centralized management teams that issue equity or debt securities to their investors.¹ Angels and VCs funded the beginnings of Web 2.0 through investments in Apple, Alphabet (Google), and Meta (Facebook).²

Now the cryptoeconomy³ and Web 3.0 are upon us.⁴ Web 3.0 seeks to create an internet free of censorship and data harvesting by removing the Web 2.0 intermediaries. Some participants in the new cryptoeconomy are traditional startups that look a lot like those intermediaries, most notably Coinbase, the centralized exchange for trading crypto that is now a public company.⁵ But innovative activity in this space, whether through decentralized finance (“DeFi”) applications, decentralized autonomous organizations (“DAOs”), non-fungible tokens (“NFTs”), or the metaverse, takes many forms.⁶ In the traditional stock market, individuals purchase shares, or stock, in a corporation. However, in the cryptoeconomy, individuals participate by buying a digital asset representing a

1. See Elizabeth Pollman, *Startup Governance*, 168 U. PA. L. REV. 155, 162–76 (2019) (taking a deep dive into what constitutes a startup). See generally Victor Fleischer, *The Rational Exuberance of Structuring Venture Capital Start-Ups*, 57 TAX L. REV. 137 (2003) (explaining why startups are organized as corporations instead of LLCs).

2. Michael A. Carrier, *Copyright and Innovation: The Untold Story*, 2012 WISC. L. REV. 891, 915 (“Venture capital played a crucial role in the creation of companies such as Amazon, Apple, Cisco, Facebook, FedEx, Google, Home Depot, Microsoft, and Skype.”); Darian M. Ibrahim, *The (Not So) Puzzling Behavior of Angel Investors*, 61 VAND. L. REV. 1405, 1407 (2008) (“Venture capitalists are credited for Silicon Valley success stories such as Google, Amazon.com, and Apple Computer.”).

3. Crypto is “[a] broad term for any cryptography-based market, system, application, or decentralized network,” and cryptoeconomy is “[a] new open financial system built upon crypto.” Coinbase Glob., Inc., Registration Statement (Form S-1) (Feb. 25, 2021).

4. Web 3.0 is an effort “to connect software to users without the need of intermediaries,” with the intent to “mak[e] the web more decentralized, verifiable, and secure.” Jaimee Francis, *Web 3.0: The Goals and Implications of a Decentralized Internet*, JURIST (Nov. 11, 2021, 12:57 PM), <https://www.jurist.org/features/2021/11/11/web-3-0-the-goals-and-implications-of-a-decentralized-internet/>; ANDREESSEN HOROWITZ, HOW TO WIN THE FUTURE: AN AGENDA FOR THE THIRD GENERATION OF THE INTERNET 4 (2021), <https://a16z.com/wp-content/uploads/2021/10/How-to-Win-the-Future-1.pdf> (“If the past decade has taught us anything, it’s that we need to have a serious conversation about the role we want technology to play in open societies. In this sense, web3 isn’t just a new wave of innovation. It’s an opportunity for a reset that allows us to obtain new benefits, while solving some of the thorniest problems arising out of the disruptive technologies of the past.”).

5. See COINBASE, <https://www.coinbase.com/> (last visited Dec. 5, 2022); Coinbase Glob., Inc., *supra* note 3.

6. See Rakesh Sharma, *Non-Fungible Token (NFT): What It Means and How It Works*, INVESTOPEDIA, <https://www.investopedia.com/non-fungible-tokens-nft-5115211> (June 22, 2022); Rakesh Sharma, *Decentralized Finance (DeFi) Definition*, INVESTOPEDIA, <https://www.investopedia.com/decentralized-finance-defi-5113835> (June 26, 2022); Nathan Reiff, *Decentralized Autonomous Organization (DAO)*, INVESTOPEDIA, <https://www.investopedia.com/tech/what-dao/> (July 11, 2022); Eric Ravenscraft, *What Is the Metaverse, Exactly?*, WIRED, <https://www.wired.com/story/what-is-the-metaverse/> (Apr. 25, 2022, 7:00 AM).

use case⁷ for the venture.⁸ This can be a cryptocurrency, a coin, or a token.⁹ The distinction is important for a variety of reasons, but this Article’s ideas are broadly applicable regardless of the distinction, and refers to coins, tokens, or similar digital assets all as “crypto.”¹⁰

Bitcoin and ether (the token used to run the Ethereum network) remain the two largest cryptocurrencies.¹¹ Newer additions include Avalanche with its AVAX cryptocurrency¹² and Solana, represented by the SOL cryptocurrency.¹³ As of January 2, 2022, there were over 16,000 cryptos available with a total market capitalization of over two trillion fiat dollars.¹⁴

To the people buying crypto, it is at least partially an investment. Buyers may believe large Web 2.0 corporations have gotten too powerful and harvest our data, or distrust governments, the Federal Reserve, and the manipulation of fiat currency. But crypto buyers are also trying to make money, chasing large

7. Importantly, the tokens are often a use-based asset: if you want to buy assets on the Ethereum blockchain, you must spend ether, thus giving the token its value. See Shaanan Cohny, David Hoffman, Jeremy Sklaroff & David Wishnick, *Coin-Operated Capitalism*, 119 COLUM. L. REV. 591, 593 (2019) (“ICO participants buy an asset—a ‘token’—that enables its holder to use or govern a network that the promoters plan to develop with the funds raised through the sale.”); *id.* at 600 (“Instead of issuing contractual claims on the assets of a legal entity (in the form of debt or equity), the team might now issue a token—call it Colacoin—that it promises will be the only way to buy sodas from its (yet to be deployed) vending machines.”). Buying ether does not get you a percentage ownership of the Ethereum network. See *id.* at 593, 600.

8. Gwyneth Iredale, *Top 4 Use Cases of Tokenization*, 101 BLOCKCHAINS (Aug. 19, 2021), <https://101blockchains.com/use-cases-of-tokenization/>.

9. Andrew Verstein, *Crypto Assets and Insider Trading Law’s Domain*, 105 IOWA L. REV. 1, 9 (2019) (“Crypto assets are sometimes called virtual currency, coins, or tokens.”); J.S. Nelson, *Cryptocommunity Currencies*, 105 CORNELL L. REV. 909, 934–35 (2020) (“ICOs seek to float tokens: issuers make explicit representations about their value like the limited tickets (tokens) inside a fair. Their name is misleading because ICOs are typically the offerings of tokens instead of true coins.”); Lyle Daly, *What Are Crypto Tokens?*, THE MOTLEY FOOL, <https://www.fool.com/investing/stock-market/market-sectors/financials/cryptocurrency-stocks/crypto-tokens/> (June 27, 2022, 9:05 PM); Jake Frankenfield, *Crypto Tokens*, INVESTOPEDIA, <https://www.investopedia.com/terms/c/crypto-token.asp> (May 20, 2022); Pawan Nahar, *Crypto Class: Difference Between Crypto Coin & Token*, THE ECON. TIMES, <https://economictimes.indiatimes.com/markets/cryptocurrency/crypto-class-difference-between-crypto-coin-token/articleshow/88947666.cms?from=mdr>.

10. Nelson, *supra* note 9, at 913; Eric D. Chason, *Smart Contracts and the Limits of Computerized Commerce*, 99 NEB. L. REV. 330, 363–64 (2020) (“We must, however, distinguish between tokens (freely created by individual users) and cryptocurrency (created by the system itself). Approaching the distinction by analogy, we can liken ether and other cryptocurrencies to dollars. In contrast, we can liken ERC20 tokens to the metal tokens one receives at a video-game arcade.”).

11. See generally *If Ether Is Digital Oil, Bitcoin Is Digital Gold*, DAILYCOIN (May 22, 2021), <https://dailycoin.com/if-ether-is-digital-oil-bitcoin-is-digital-gold/>; SATOSHI NAKAMOTO, BITCOIN: A PEER-TO-PEER ELECTRONIC CASH SYSTEM (2008), <https://bitcoin.org/bitcoin.pdf>; Bernard Marr, *A Short History of Bitcoin and Crypto Currency Everyone Should Read*, FORBES (Dec. 6, 2017, 12:28 AM), <https://www.forbes.com/sites/bernardmarr/2017/12/06/a-short-history-of-bitcoin-and-crypto-currency-everyone-should-read/#27684aad3f27> (stating that in 2008 Satoshi Nakamoto posted the paper to a discussion mailing list).

12. AVA LABS, <https://www.avalabs.org/> (last visited Dec. 5, 2022).

13. SOLANA, <https://solana.com/> (last visited Dec. 5, 2022).

14. COINMARKETCAP, <https://coinmarketcap.com/> [<https://web.archive.org/web/20220102164156/https://coinmarketcap.com/>]; *Global Cryptocurrency Charts: Total Cryptocurrency Market Cap*, COINMARKETCAP, <https://coinmarketcap.com/charts/> (last visited Dec. 5, 2022).

gains like those that have occurred over the past few years in bitcoin.¹⁵ With the novelty of an exciting new asset class comes promise, but also the need for investor protection.¹⁶ Crypto is the new frontier of modern finance.

Regulators, aware of crypto's growing importance, are now playing catchup. If cryptos are securities (meaning they qualify as "investment contracts" under the test in *SEC v. Howey Co.*),¹⁷ they must be sold in accordance with the federal securities laws that currently govern corporations.¹⁸ This means registration with the SEC and initial and ongoing public filings—the same arduous process that exists for public companies with centralized management teams.

There is a regulatory scheme in place for cryptos found to be securities—as ill-suited to the occasion as the scheme may be, and though it seems impossible to comply with.¹⁹ For cryptos that are not securities, there is substantial leeway to design a system that balances investor protection with continuing crypto innovation.²⁰ A balance means not favoring a "wild west" approach, where crypto sales would all be unregulated and rely on common-law fraud to police bad actions; nor would it mean implementing a heavy-handed, securities-like regime prioritizing investor protection over innovation.²¹ Earlier this year, the Biden Administration issued an executive order calling for the development of a framework for regulating crypto, highlighting the timeliness of this Article's proposal.²²

15. Bitcoin's value in USD as of market close was \$29,374.15 on January 1, 2021, and \$47,686.81 on January 1, 2022. *Bitcoin USD (BTC-USD), Historical Data*, YAHOO! FIN., <https://finance.yahoo.com/quote/BTC-USD/history?p=BTC-USD> (adjust time period from December 30, 2020, to January 10, 2022) (last visited Dec. 5, 2022).

16. Cohny et al., *supra* note 7, at 595 ("ICOs have much to teach us about the uneasy relationships between law and technology in our present moment.")

17. *See infra* Part II (laying out the requirements of the *Howey* test).

18. The SEC has twin goals of facilitating capital formation (what I will call furthering innovation in the startup context) and investor protection. *See, e.g.*, Michael D. Guttentag, *Protection from What? Investor Protection and the JOBS Act*, 13 U.C. DAVIS BUS. L.J. 207, 209 (2013).

19. *See, e.g.*, Cohny et al., *supra* note 7, at 609; Marco Dell'Erba, *From Inactivity to Full Enforcement: The Implementation of the "Do No Harm" Approach in Initial Coin Offerings*, 26 MICH. TECH. L. REV. 175, 179, 224 (2020); Randolph A. Robinson II, *The New Digital Wild West: Regulating the Explosion of Initial Coin Offerings*, 85 TENN. L. REV. 897, 902–04 (2018). *But see* Usha R. Rodrigues, *Embrace the SEC*, 61 WASH. U. J.L. & POL'Y 133, 147–48 (2020) ("For their part, ICO enthusiasts need to understand the SEC's perspective. For decades, the SEC has labored to protect the general public from the hype of risky offerings, worried that grandma will lose her savings to unscrupulous promoters. The SEC has targeted extremely troubling offerings.")

20. *See, e.g.*, Guttentag, *supra* note 18, at 209.

21. Cohny et al., *supra* note 7, at 594 ("[T]he ICO is an innovative, low-cost method to raise capital and enables a widened range of potential investors to support the development of new, software-based enterprises."). *But see* Rodrigues, *supra* note 19, at 154 (arguing that crypto should "[e]mbrace the SEC" and issue under the traditional IPO process).

22. Exec. Order No. 14,067, 87 Fed. Reg. 14,143 (Mar. 9, 2022); *see also* ANDREESSEN HOROWITZ, *supra* note 4, at 13 (contending that the European "lack of jurisdictional harmonization [on digital assets] is an outcome the United States should seek to avoid"). The areas of prospective regulation are suggested in Section 2, "Objectives": "protect consumers, investors, and businesses in the United States"; "protect United States and global financial stability and mitigate systemic risk"; "mitigate the illicit finance and national security risks

This Article starts very much within-the-box in its regulatory proposal, acknowledging that some sort of disclosure should be given to protect crypto investors.²³ Disclosures reduce information asymmetry ex ante and allow fraud enforcement ex post.²⁴ How effective a disclosure is depends on *how much* and *what type* of disclosure is required.²⁵ This Article keeps these two questions front and center in its suggestions for crypto regulation.

In terms of *how much* disclosure, I argue that it must be less than what an IPO would require; otherwise, all Initial Coin Offerings (“ICOs”) would become IPOs. As I argue, such regulatory overkill would quash, not safely allow, crypto innovation.²⁶ Thus, this Article starts by examining a recent SEC effort to offer less disclosure in the securities context: Regulation Crowdfunding (“Regulation CF”). Crowdfunding offers an analogous situation to ICOs in that it also involves selling risky investments to unaccredited investors through general solicitation. Yet crowdfunding disclosures have proven, in their short life, inefficient and unread by most investors. Although crowdfunding is still new, early studies show that companies who crowdfund often do not provide SEC-required disclosures, and that investors do not read a disclosure when it is provided.²⁷ Critics call the required crowdfunding disclosures excessively costly and time-consuming for entrepreneurs in relation to the small amounts raised.²⁸ This suggests that less disclosure is better in emerging areas, given the cost.

posed by misuse of digital assets”; “reinforce United States leadership in the global financial system and in technological and economic competitiveness, including through the responsible development of payment innovations and digital assets”; “promote access to safe and affordable financial services”; and “support technological advances that promote responsible development and use of digital assets.” Exec. Order No. 14,067, *supra*.

23. Investing is largely an information asymmetry problem, and the old adage holds true: “Sunlight is said to be the best of disinfectants; electric light the most efficient policeman.” Louis D. Brandeis, *What Publicity Can Do*, HARPER’S WKLY., Dec. 20, 1913, at 10.

24. Merritt B. Fox, *Civil Liability and Mandatory Disclosure*, 109 COLUM. L. REV. 237, 258–59, 264–65 (2009); Kevin S. Haeberle & M. Todd Henderson, *Information-Dissemination Law: The Regulation of How Market-Moving Information Is Revealed*, 101 CORNELL L. REV. 1373, 1417 (2016) (discussing how the SEC’s Regulation Fair Disclosure ban of tiered dissemination of disclosures reduced information asymmetry); Colleen Honigsberg, Robert J. Jackson, Jr. & Yu-Ting Forester Wong, *Mandatory Disclosure and Individual Investors: Evidence from the JOBS Act*, 93 WASH. U. L. REV. 293, 323 (2015).

25. Stephen J. Choi & A.C. Pritchard, *Behavioral Economics and the SEC*, 56 STAN. L. REV. 1, 47–48 (2003) (“Every crisis of confidence in the securities markets is met with a raft of new disclosure requirements (coincidentally expanding the SEC’s authority); seldom, if ever, does the agency subtract from the laundry list of disclosure requirements.”); see Troy A. Paredes, *Blinded by the Light: Information Overload and Its Consequences for Securities Regulation*, 81 WASH. U. L.Q. 417, 422 (2003).

26. Andrew A. Schwartz, *Mandatory Disclosure in Primary Markets*, 2019 UTAH L. REV. 1069, 1076 (“Mandatory disclosure imposes such significant costs that it deters many companies, especially small ones, from conducting an IPO in the first place.”).

27. See *infra* notes 121–23 and accompanying text.

28. See SEC, REPORT TO THE COMMISSION: REGULATION CROWDFUNDING 5, 30 (June 18, 2019), https://www.sec.gov/files/regulation-crowdfunding-2019_0.pdf (“[M]arket participants have expressed concern about the cost and complexity of relying on Regulation Crowdfunding,” noting the “time and cost required to comply with the [disclosure] regulations.”); see also Darian M. Ibrahim, *Underwriting Crowdfunding*, 25 STAN. J.L. BUS. & FIN. 289, 300–01 (2020) (“[S]tartups can only disclose so much given they are so young.”).

This leads to the second question: *What type of disclosure?* We want some, but not too much. Which brings us to the question of *kind*. To answer that, I turn away from crowdfunding and the securities realm to another area of law: standard form contracts, or so-called contracts of adhesion. Unlike the newer crowdfunding disclosures, courts and scholars have wrestled with standard form contracts for a century.²⁹ Generally, these contract disclosures—and they are disclosures rather than negotiated terms—are enforced because consumers have a “duty to read” what they agree to. Empirical studies reveal, however, that no one reads standard form contracts, just like no one reads crowdfunding disclosures.³⁰ Consumers who agree to these contracts might receive relevant information about their new computer purchase, for example, through other channels such as friends or social media.³¹ Or perhaps they are just ignorant, knowing only what they pay for an item but not the terms that accompany it. But innovations like requiring a consumer to scroll to the end of the terms before clicking “I accept” do nothing to improve the reading issue.³²

In light of the seemingly intractable standard-form-contract problem, Yale Law School professors Ian Ayres and Alan Schwartz make an interesting suggestion: *put a “warning box” disclosure on the first page of a standard form contract that includes only terms that would surprise and disadvantage the consumer.*³³ If a consumer would reasonably expect a seller to include a term (e.g., no refunds without a receipt), it does not go in the warning box. And if the consumer would be pleasantly surprised by a term, there is no need for a warning-box disclosure (e.g., lifetime return policy, no receipt required). It is only terms that most consumers would be *unpleasantly surprised* to learn that require warning-box disclosure. This is an attempt at tailored, helpful, and balanced disclosure, which this Article suggests should be applied to crypto sales.

The warning-box proposal accomplishes what securities regulation sets out to do: eliminates information asymmetry on the stuff that matters. Sellers would disclose to busy consumers any negative anomalies their contracts subject those consumers to. I transpose the warning box to a regulatory path forward for a tokenized future. My proposal: *let’s not give crypto the overkill securities-law treatment, but instead the Ayres-Schwartz standard-form-contract treatment.* Crypto developers should provide a warning box of short, simple disclosures of a crypto’s terms that would unpleasantly surprise an investor. Everything else

29. See *infra* Part III.B.

30. See *infra* Part III.B.

31. See *infra* Part III.A.

32. See *infra* Part III.B (citing Marotta-Wurgler study).

33. Ian Ayres & Alan Schwartz, *The No-Reading Problem in Consumer Contract Law*, 66 STAN. L. REV. 545, 553, 583–87 (2014).

an investor would want to know is voluntarily provided in whitepapers, a triumph of voluntary disclosure regulators should applaud.³⁴

Part I introduces the cryptoeconomy and purchasing coins or tokens as the method of investing in that economy. Part II examines the legal question of whether cryptos are securities under the *Howey* test and thus subject to the 1933 and 1934 Securities Acts. Part III asks, for cryptos that do *not* qualify as securities under the *Howey* test, how we should continue to allow innovation while protecting those who want to invest in the cryptoeconomy. I examine and reject crowdfunding's scaled-back disclosure attempts as a potential regulatory approach before turning to standard form contracts, where attempts to meaningfully reduce information asymmetries with consumers have been debated for decades. This Part discusses and endorses Ayres and Schwartz's recent warning-box suggestion as the optimal approach for regulating standard form contracts. Part IV applies the warning-box suggestion to crypto regulation and commends this regulatory approach.

I. A TOKENIZED FUTURE

The cryptoeconomy began with the launch of the Bitcoin network in 2009. Bitcoin was the first digital asset, the first to use the blockchain, and a direct result of the financial crisis of 2008 to 2009.³⁵ Bitcoin has been conceptualized as many things: a cryptocurrency to rival fiat currency,³⁶ a store of value to rival gold,³⁷ and digital property.³⁸ Bitcoin, like other crypto, “is nothing more than an entry in a ledger that specifies that a particular user, identified by a certain ‘private key[,]’ . . . is the sole party able to exercise a discrete set of powers associated with the ledger entry.”³⁹ When bitcoins are transferred from user to user, “miners” validate the transaction through high-speed computing, solving

34. Usha R. Rodrigues, *Financial Contracting with the Crowd*, 69 EMORY L.J. 397, 401 (2019) (observing Congress's and the SEC's attempt to “articulate rules that both foster capital formation and provide adequate investor protection”). Disclosure, whether voluntary or mandatory, should balance investor protection with allowing companies to raise capital without undue burden.

35. Wayne Duggan, *The History of Bitcoin, the First Cryptocurrency*, U.S. NEWS (Aug. 31, 2022, 3:21 PM), <https://money.usnews.com/investing/articles/the-history-of-bitcoin>; Vinay Gupta, *A Brief History of Blockchain*, HARV. BUS. REV. (Feb. 28, 2017), <https://hbr.org/2017/02/a-brief-history-of-blockchain>; see also Carla L. Reyes, *Moving Beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal*, 61 VILL. L. REV. 191, 196 (2016) (“[W]hile the development and adoption of the blockchain is akin to that of the Internet[,] Bitcoin is simply one application, a payments application, of the blockchain technology on which it runs.”).

36. Dirk G. Baur & Thomas Dimpfl, *The Volatility of Bitcoin and Its Role as a Medium of Exchange and a Store of Value*, 61 EMPIRICAL ECON. 2663, 2663 (2021).

37. Cullen Roche, *Bitcoin Is a Terrible Form of Money (but a Very Good Store of Value)*, SEEKING ALPHA (Feb. 2, 2022, 7:00 AM), <https://seekingalpha.com/article/4483478-bitcoin-terrible-form-of-money-but-very-good-value-store>.

38. Eric D. Chason, *How Bitcoin Functions as Property Law*, 49 SETON HALL L. REV. 129, 139–40 (2018).

39. Cohny et al., *supra* note 7, at 602.

complex mathematical puzzles and receiving bitcoin rewards for their efforts.⁴⁰ The Bitcoin ledger is decentralized, meaning it is distributed across a network of computers, and therefore no central party is needed to keep the ledger up-to-date. This is a key feature of blockchain technology, and the origin of the “decentralized” nomenclature.⁴¹

If bitcoin is digital gold, ether (which came next in 2013) is digital gas. Ether is the token that must be spent to pay the gas fee when using the Ethereum network. Vitalik Buterin and others created Ethereum as a blockchain network anyone could build upon, much like how Apple’s iPhone supports a wide range of apps.⁴² As Eric Chason explains: “Unlike Bitcoin[,] . . . Ethereum was not designed primarily to serve as a method of payment. Ethereum supports a system of sophisticated ‘smart contracts’ that would not work on the Bitcoin system.”⁴³ There are many use cases for the Ethereum blockchain,⁴⁴ including NFTs, which are digital representations of artwork, sports cards, etc.

Additionally, so-called “altcoins” abound, promising faster transaction times and lower fees than transactions on the Bitcoin or Ethereum networks.⁴⁵ Some altcoins are designed to function as currencies like bitcoin, while others share Ethereum’s focus on functionality and replicating more Web 2.0 services through the blockchain.⁴⁶ Altcoins seek to continue innovating the idea of a decentralized digital network, often by addressing issues inherent in their predecessors’ protocols.⁴⁷ Some altcoins and their networks seek to enhance

40. Georgios Dimitropoulos, *The Law of Blockchain*, 95 WASH. L. REV. 1117, 1128 (2020) (“Before a block can be added to the chain, a cryptographic puzzle must be solved, creating the block. Miners are special nodes that place transactions in a block by successfully solving a Proof of Work (PoW) or other problems.”).

41. Shlomit Azgad-Tromer, *Crypto Securities: On the Risks of Investments in Blockchain-Based Assets and the Dilemmas of Securities Regulation*, 68 AM. U. L. REV. 69, 77 (2018) (“In a decentralized ledger, the computation and maintenance are run on network nodes that are dispersed and no single party controls the network.”); Chason, *supra* note 10, at 335 (“When creating Bitcoin, Satoshi Nakamoto expressly wanted to avoid centralized control.”).

42. LAURA SHIN, *THE CRYPTOPIANS: IDEALISM, GREED, LIES, AND THE MAKING OF THE FIRST BIG CRYPTOCURRENCY CRAZE* 21 (2022).

43. Chason, *supra* note 10, at 331, 350 (“On the Ethereum platform, smart contracts do not execute automatically. Instead, they must be supported with the purchase of gas, which we can think of as a user fee for the computational resources required by the smart contract.”).

44. For example, some decentralized prediction markets, such as Gnosis, are supported by the Ethereum network. See, e.g., *Protocol*, GNOSIS, <https://gnosis.io/protocol/> (last visited Dec. 5, 2022); *FAQs*, AUGUR, <https://augur.net/faqs> (last visited Dec. 5, 2022).

45. For example, the Avalanche network with its token being AVAX “aims to conduct faster transactions with lower fees than Ethereum.” Taylor Locke, *Avalanche’s Token Is Up 33% in the Last Week—Here’s What To Know About the ‘Ethereum Competitor’*, CNBC: MAKE IT, <https://www.cnbc.com/2021/11/23/what-to-know-about-ethereum-competitor-avalanche-as-avax-rallies.html> (Nov. 23, 2021, 9:14 PM).

46. See Nathan Vrazel, *Betting It All on the Flip of a Coin: Regulating Cryptocurrency Initial Coin Offerings and Protecting Investors*, 60 S. TEX. L. REV. 527, 534 (2019) (comparing coins and tokens as two distinct types of cryptocurrencies).

47. See Mary Lacity, *Crypto and Blockchain Fundamentals*, 73 ARK. L. REV. 363, 377 (2020); Andrew Spurr & Marcel Ausloos, *Challenging Practical Features of Bitcoin by the Main Altcoins*, 55 QUALITY & QUANTITY 1541, 1541–49 (2020) (examining several top coins in the market with features that differ from the original Bitcoin protocol); Boudhaditya Sanyal, *What Is Solana? Can It Be the Next Big Cryptocurrency?*, PCQUEST (July 5, 2021), <https://www.pcquest.com/what-is-solana/>.

privacy,⁴⁸ while others speed transaction settlement times⁴⁹ or store more data in each transaction.⁵⁰

Solana (“SOL”), for example, is a newer cryptocurrency offering improved speed and scalability.⁵¹ Solana aims to provide “the fastest, low-fee, censorship-resistant blockchain to . . . democratize the world’s financial system.”⁵² Solana seeks to solve the “Blockchain Scalability Trilemma,” which postulates that there are three qualities of a blockchain: (1) decentralization, (2) security, and (3) scalability.⁵³ The Trilemma states that a blockchain maximizes two of the three qualities at the expense of the third. Bitcoin provides excellent decentralization and security at the expense of scalability, because proof-of-work transaction validations—which Bitcoin’s security is based on—are relatively time-consuming and expensive.⁵⁴ Solana offers a new “proof of history” method that it claims will solve the Trilemma, being decentralized, secure, and scalable.⁵⁵

While their features and use functions may differ, none of the coins discussed above have been sold through the prescribed IPO process that Coinbase, the crypto exchange, used to sell its stock to public investors through NASDAQ.⁵⁶ Instead, these cryptos have been issued—if formally at all—in what has been termed an “initial coin offering,” or ICO, followed by secondary trading on crypto exchanges.⁵⁷ Some cryptos, including XRP and LBRY, have claimed in response to SEC action that they never even had an ICO.⁵⁸

48. Lacity, *supra* note 47, at 378 (“For example, Monero, launched in 2014, is a cryptocurrency with increased data obfuscation compared to Bitcoin using ring signatures and stealth addresses.”).

49. *Id.* (“Litecoin aimed to speed settlement times by a factor of four.”).

50. *Id.* (“Namecoin aimed to extend Bitcoin’s functionality by storing more data in the transaction . . .”).

51. *See* Sanyal, *supra* note 47.

52. *Why Solana?*, SOLANA (Oct. 12, 2020), <https://solana.com/news/why-solana->

53. Abdelatif Hafid, Abdelhakim Senhaji Hafid & Mustapha Samih, *Scaling Blockchains: A Comprehensive Survey*, 8 IEEE ACCESS 125244, 125244 (2020); Sanyal, *supra* note 47.

54. *See infra* Part IV.A. The Lightning Network looks to solve this issue on the Bitcoin network. *Lightning Network: Scalable, Instant Bitcoin/Blockchain Transactions*, LIGHTNING NETWORK, <https://lightning.network/> (last visited Dec. 5, 2022).

55. *See* Anatoly Yakovenko, *Proof of History: A Clock for Blockchain*, MEDIUM (Apr. 19, 2018), <https://medium.com/solana-labs/proof-of-history-a-clock-for-blockchain-cf47a61a9274>; SOLANA, *supra* note 52 (“400ms block times and sub-second confirmations allow for over 50,000 transactions per second.”). As a comparison, the Ethereum network can process twenty transactions per second, while Bitcoin can process a mere seven transactions per second. Anshika Bhalla, *Top Cryptocurrencies with Their High Transaction Speeds*, BLOCKCHAIN COUNCIL (Sept. 8, 2022), <https://www.blockchain-council.org/cryptocurrency/top-cryptocurrencies-with-their-high-transaction-speeds/>; *Why Are Solana’s ‘Gas’ Fees for Transactions So Low?*, SOLANA COMPASS, <https://solanacompass.com/solana/why-are-solanas-gas-fees-for-transactions-so-low/> (last visited Dec. 5, 2022). *But see* Petar Jovanović, *Solana vs Avalanche – Is AVAX Better Than SOL?*, CAPTAINALTCOIN (June 5, 2022), <https://captainaltcoin.com/solana-vs-avalanche/>.

56. *See* Cohny et al., *supra* note 7, at 609 (“While public equities trade on established secondary markets like the NYSE or NASDAQ, cryptoassets trade on hundreds of upstart markets, sometimes under light-to-nonexistent regulation.”).

57. Dell’Erba, *supra* note 19 (“[T]he most successful ICOs have been concluded in a few minutes.”).

58. Defendants’ Response to Intervenor-Defendants’ Motion to Intervene at 5, SEC v. Ripple Labs Inc., No. 20-cv-10832, 2021 WL 2819399 (S.D.N.Y. May 3, 2021); Reply to SEC’s and Lbry Inc.’s Oppositions to

Though an ICO and IPO sound similar, they proceed along very different paths.⁵⁹ IPOs require companies to file S-1 registration statements with voluminous disclosures. ICOs, however, proceed with a voluntarily produced whitepaper and a website.⁶⁰ ICO whitepapers are similar to whitepapers in other fields, and some include disclosures similar to S-1 prospectuses, though much less voluminous and far more technical.⁶¹ Cryptos trade among investors post-ICO on numerous exchanges like Coinbase, Gemini, or KuCoin rather than on one centralized exchange like the NASDAQ or NYSE for IPOs.⁶² Crypto networks and tokens are devised by developers and then, by using blockchain technology and often smart contracts, designed to run autonomously after setup.

II. ARE CRYPTOS SECURITIES?

Although some cryptos described in Part I may be securities, others should escape the securities treatment entirely. The ICO process used to sell these non-security cryptos thus far is completely legal. So, how do we determine which cryptos are securities and which are not?

We start at the beginning. Our federal securities laws trace back to the New Deal in the early 1930s.⁶³ The Securities Act of 1933 (“1933 Act”) defines a security and mandates how to register a public securities offering with the SEC.⁶⁴ The Securities Exchange Act of 1934 (“1934 Act”) requires ongoing disclosures for companies whose securities are already publicly traded, like Coinbase.⁶⁵ These prescribed disclosure processes for going public and then being publicly traded are substantial and costly. Thus, the question of whether a crypto is a security is of enormous importance.

The 1933 Act defines a security, the key to the whole statutory scheme. While finance has changed dramatically since the New Deal, the definition

Lbry Foundation Inc.’s Motion to Intervene at 3, SEC v. LBRY Inc., No. 21-cv-00260, 2021 WL 6130198 (D.N.H. July 23, 2021).

59. DOMINIKA NESTARCOVA, A CRITICAL APPRAISAL OF INITIAL COIN OFFERINGS: LIFTING THE “DIGITAL TOKEN’S VEIL” 11 (2019) (“[A]n IPO confers ownership rights in the company, while a purchase of tokens does not generally confer ownership rights in the parent ICO company . . .”).

60. Cohney et al., *supra* note 7, at 608 (“In lieu of the heavily lawyered products of IPO documentation, the ICO market agreed upon a less formal document known as a ‘whitepaper.’”); Dell’Erba, *supra* note 19, at 182 (“Whitepapers are not submitted to any authority, nor are they required to comply with any minimum disclosure standard provided by any authority. Thus, these preliminary steps are crucial for building general market credibility and investor trust in the soundness of the project.”).

61. Cohney et al., *supra* note 7, at 608 (“Like governmental and nonprofit whitepapers that seek to exemplify authoritative subject mastery while gesturing toward collaborative openness, cryptoasset whitepapers are public documents that describe promoters’ plans for development and solicit community involvement.”).

62. *Id.* at 609 (“ICO issuances also differ from IPO issuances in terms of where they are traded. While public equities trade on established secondary markets like the NYSE or NASDAQ, cryptoassets trade on hundreds of upstart markets, sometimes under light-to-nonexistent regulation.”).

63. See Paul G. Mahoney, *The Political Economy of the Securities Act of 1933*, 30 J. LEGAL STUD. 1, 30–31 (2001).

64. 15 U.S.C. § 77a–aa.

65. *Id.* § 78a–pp.

of a security is still the same as it was in 1933.⁶⁶ Any “stock” is specifically enumerated as a security,⁶⁷ as is a “note” with a long enough payback period.⁶⁸ But most new forms of ownership or property rights, including digital property rights, must fall within the broader “investment contract” definition if they are to qualify as securities.⁶⁹

SEC v. Howey, Co., a famous Supreme Court case from 1946, sets forth a four-prong test determining when an asset is an investment contract.⁷⁰ All four prongs must be satisfied: (1) a person must invest his money, (2) in a common enterprise, (3) and is led to expect profits (4) from the entrepreneurial or managerial efforts of others. During the 2008 to 2009 financial crisis, the *Howey* test became important for derivatives like credit default swaps.⁷¹ Over a decade later, the test is all the talk for crypto.⁷²

For crypto offerings, prongs one through three are sometimes met, but prong four is usually the linchpin.⁷³ The fourth prong, profit or loss resulting

66. *Id.* § 77b(a)(1) (enumerating what constitutes a “security”).

67. *United Hous. Found., Inc. v. Forman*, 421 U.S. 837, 848 (1975) (holding that something called a “stock” must have the common attributes of stock to fall within the enumerated “stock” in the 1933 Act).

68. In *Reves v. Ernst & Young*, the Supreme Court used a “family resemblance” test to determine whether a demand note was a security. 494 U.S. 56, 56 (1990). The Court stated that there are four types of demand notes that do not fit under the definition of a security: notes delivered in connection with consumer financing, notes secured by a home mortgage, short-term notes to a small business secured by the business’ assets, and bank character loans. *Id.* at 65. The closer the note in question resembles one of these four categories of excluded notes, the less likely courts will consider it a security. THOMAS LEE HAZEN, *THE LAW OF SECURITIES REGULATION* 57–60 (8th ed. 2021).

69. *See* 15 U.S.C. § 77b(a)(1).

70. 328 U.S. 293, 301 (1946).

71. Jill E. Fisch, *Top Cop or Regulatory Flop? The SEC at 75*, 95 VA. L. REV. 785, 807–09 (2009) (discussing how the CFTC ended up getting responsibility for most derivatives, then exempted from most regulation).

72. None of this is a neat fit. One article notes the “extensive regulations imposed by other federal agencies such as the IRS (which classifies crypto as property rather than a security), the Commodity Futures Trading Commission[] (CFTC) (which says crypto is a commodity), and the Financial Crimes Enforcement Network (FinCEN) (which treats crypto as a virtual currency).” Carol R. Goforth, *Cinderella’s Slipper: A Better Approach to Regulating Cryptoassets as Securities*, 17 HASTINGS BUS. L.J. 271, 275 (2021).

73. To briefly address trouble spots in the first three prongs, crypto buyers could argue they are buying for consumption utility—for example, to use the network—instead of for a return. In their securities regulation casebook, Adam Pritchard and Stephen Choi hypothesize of “a gym token [that] is unlikely to be considered a security under the *Howey* test assuming the purchasers do not purchase with an expectation of profits or invest in the token but instead just seek a place to work out, i.e., consumption.” STEPHEN J. CHOI & A.C. PRITCHARD, *SECURITIES REGULATION: CASES AND ANALYSIS* 188 (Saul Levmore et al. eds., 5th ed. 2019). This is what LBRY argues for its digital content hosting and associated utility token. Answer at 3–6, *SEC v. LBRY, Inc.*, No. 21-cv-00260 (D.N.H. June 7, 2021). Or buyers’ impetus could be philosophical, opting out of fiat currency due to dissatisfaction with government and its manipulation of money through the Federal Reserve. *See* JEFF BOOTH, *THE PRICE OF TOMORROW: WHY DEFLATION IS THE KEY TO AN ABUNDANT FUTURE* 397–98 (2020). But at least some investors are doing it for the money. NESTARCOVA, *supra* note 59, at 5 (“[I]nvestors will have different objectives in purchasing the token, such as to support the ICO project, to become involved in the management of the project or to receive a return on the rising price of the token through resale in the secondary market.”). As to prong two, commonality is usually met under either the horizontal or the vertical test, because the token’s rise or fall affects everyone who purchases. *SEC v. SG Ltd.*, 265 F.3d 42, 49–50 (1st Cir. 2001) (discussing horizontal and vertical commonality and favoring the former). As to prong three, while an argument could be made that

from the efforts of others, is the prong most often debated for a crypto's classification as an investment contract under *Howey*.⁷⁴ The "efforts of others" means that the promoters selling the investment contract will play an "undeniably significant" role in whether the investment succeeds.⁷⁵ This final *Howey* prong requires investors to be at the mercy of a centralized team; investors' profit and loss must depend on that centralized body's decisions. With crypto investments, which are largely decentralized, there is no management team determining how well the crypto does, unlike what a board of directors would do for a corporation.

From a philosophical perspective, crypto is anti-centralization and works peer-to-peer instead of requiring strong central players.⁷⁶ The Web 2.0 companies—Apple, Google, etc.—sell stock to their investors, and their management determines whether investors make a profit.⁷⁷ Early efforts at crypto, like the Bitcoin and Ethereum networks, have no analog. From a practical perspective, the embedded central code of the blockchain, and the smart contracts that execute transactions seamlessly and without human intervention, mean that networks are designed to run more or less autonomously.⁷⁸ This alone should make us skeptical about classifying cryptos as securities. Even if 1933 Act ICO disclosures could be adapted for crypto sales,

coin developers are not "leading" anyone to expect a financial return, it would depend on each coin's promotional materials. And in its digital assets release, the SEC conveniently flipped the test and asked not about the leading, but about being led. Specifically, the release asks whether a "reasonable investor would expect" to receive profits, not whether the developer did any leading. *Framework for "Investment Contract" Analysis of Digital Assets*, U.S. SEC. & EXCH. COMM'N, <https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets> (Apr. 3, 2019).

74. 328 U.S. at 301.

75. Eric Clark, Miss. Sec'y of State Policy Statement on Viatical Settlement Contracts ¶ 34,627, 2015 WL 8572115 (Feb. 25, 2000) (quoting *SEC v. Glenn W. Turner Enters., Inc.*, 474 F.2d 476, 482 (9th Cir. 1973)) ("The fourth prong of the *Howey* test was clarified in *SEC v. Glenn W. Turner Enterprises*, which held that the 'efforts' referred to 'are the undeniably significant ones, those essential managerial efforts which affect the failure or success of the enterprise.'"); *Glenn W. Turner Enters., Inc.*, 474 F.2d at 482 ("Thus the fact that the investors here were required to exert some efforts if a return were to be achieved should not automatically preclude a finding that the Plan or Adventure is an investment contract. To do so would not serve the purpose of the legislation. Rather we adopt a more realistic test, whether the efforts made by those other than the investor are the undeniably significant ones, those essential managerial efforts which affect the failure or success of the enterprise.").

76. Rodrigues, *supra* note 19, at 137 ("Many in the crypto-community have no interest in governmental regulation of any kind. Indeed, the main attraction of the blockchain for some is its ability to circumvent governmental influence entirely."); see also David Floyd, *How Bitcoin Works*, INVESTOPEDIA, <https://www.investopedia.com/news/how-bitcoin-works/> (May 11, 2022); Marco Iansiti & Karim R. Lakhani, *The Truth About Blockchain*, HARV. BUS. REV., Jan.–Feb. 2017, at 118, 121.

77. See generally Nikolas Guggenberger, *Essential Platforms*, 24 STAN. TECH. L. REV. 237 (2021).

78. *In re Tether & Bitfinex Crypto Asset Litig.*, 576 F. Supp. 3d 55, 74 (S.D.N.Y. 2021) ("[C]ryptocommodities are decentralized, meaning that there is no central authority or entity that administers or manages any cryptocommodity.").

who in a decentralized, autonomous network would produce the 1934 Act ongoing disclosures? It is not an analogous structure.⁷⁹

A case in point: Satoshi Nakamoto set up the Bitcoin protocol and has not been heard from since.⁸⁰ The network is peer-to-peer, meaning he did not need to be heard from again.⁸¹ Developers are not equivalent to a corporation's central management team.⁸² The disclosures required by securities law are designed to solve a collective action problem—that investors in public corporations are too dispersed to come together and demand information from the management on whom their profits depend. Crypto prices depend on many things, but they are not in the hands of a small board of directors making decisions with investors' money.⁸³ Accordingly, bitcoin, and likely ether,⁸⁴ are not securities.⁸⁵

In a closer agency decision, *In the Matter of the DAO*, the SEC classified a token in a DAO as a security.⁸⁶ While its structure was complex, in short, the

79. Chris Brummer, *Disclosure, Dapps and DeFi*, 5 STAN. J. BLOCKCHAIN L. & POL'Y 137, 147 (2022) (“[T]he document[s] initial issuers of securities file with the SEC to disclose key facts about their business[] fail to anticipate decentralized architectures, and are both over- and under-inclusive in terms of the disclosure requirements that one would expect of issuers of blockchain-based securities.”).

80. Nathaniel Popper, *Decoding the Enigma of Satoshi Nakamoto and the Birth of Bitcoin*, N.Y. TIMES (May 15, 2015), <https://www.nytimes.com/2015/05/17/business/decoding-the-enigma-of-satoshi-nakamoto-and-the-birth-of-bitcoin.html>.

81. NAKAMOTO, *supra* note 11, at 1; Nelson, *supra* note 9, at 914 (“[C]ryptocurrencies [like Bitcoin] . . . are intended to be traded directly for goods and services: they are not being offered by another party as a future investment nor are they valuable apart from being exchanged for something else. Their primary use is as a method of payment. This distinguishes cryptocurrencies from products that might be closer to a security, such as stock.”).

82. Rodrigues, *supra* note 19, at 139 (“Currently, most ICOs are launched by an organization or group of developers.”); Robert Sistros, *Post-Etherdelta: Clarifying Liabilities for Cryptocurrency Exchanges and Market Participants*, 39 CARDOZO ARTS & ENT. L.J. 343, 354 (2021) (“If a cryptocurrency token is decentralized such that purchasers’ expectation of profits rests, not on a person or group, but in an autonomous network or structure, the token fails to satisfy the Howey test as an investment contract and would not constitute a security.”); Verstein, *supra* note 9, at 4 (“[M]any crypto assets have no ‘executives’ to trust or ‘shareholders’ to betray. They are instead impersonal, decentralized, and ‘trustless.’”).

83. Brummer, *supra* note 79, at 159 (“As collectivities that operate according to self-organizing attributes and autonomous software principles, DAOs introduce the possibility of dapps that at launch or over time are controlled and curated by a wider community, and not a centralized authority.”).

84. *Introduction to Ethereum Governance*, ETHEREUM, <https://ethereum.org/en/governance/> (Oct. 6, 2022) (“No one person owns or controls the Ethereum protocol, but decisions still need to be made about implementing changes to best ensure the longevity and prosperity of the network. This lack of ownership makes traditional organizational governance an incompatible solution.”). The namesake of the Hinman Paradox, discussed *infra* note 99, believes Ethereum may have started as a security but no longer constitutes one. See William Hinman, Dir., Div. Corp. Fin., Digital Asset Transactions: When Howey Met Gary (Plastic) (June 14, 2018) (transcript available at <https://www.sec.gov/news/speech/speech-hinman-061418>) (“And putting aside the fundraising that accompanied the creation of Ether, based on my understanding of the present state of Ether, the Ethereum network and its decentralized structure, current offers and sales of Ether are not securities transactions.”).

85. *SEC Chair Gary Gensler Discusses Potential Crypto Regulation and Stablecoins*, CNBC (June 27, 2022, 10:43 AM), <https://www.cnbc.com/video/2022/06/27/sec-chair-gary-gensler-discusses-potential-crypto-regulation-and-stablecoins.html> (“Some [cryptocurrencies]—they’re under the Securities Exchange Commission. Some—like Bitcoin—and that’s the only one, Jim, I’m going to say . . . my predecessors and others have said they’re a commodity.”).

86. See, e.g., Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO, Exchange Act Release No. 81,207, 2017 WL 7184670 (July 25, 2017) [hereinafter *The DAO Report*] (finding DAO tokens were securities where the curators’ efforts were important to investor return).

DAO was conceived of by the cofounders of a company called Slock.it.⁸⁷ If the DAO were funded, token holders could vote to give work to Slock.it. The SEC concluded that “[i]nvestors in the DAO reasonably expected Slock.it, its cofounders, and the DAO’s Curators to provide significant managerial efforts after the DAO’s launch.”⁸⁸ Under the Commission’s reading, the DAO almost looks like a corporation run by Slock.it’s founders.⁸⁹

The SEC’s ongoing litigation with Ripple, the issuer of the XRP token, is another close case.⁹⁰ There, the SEC has asserted that XRP tokens are investment contracts subject to SEC regulation.⁹¹ One of the SEC’s arguments is that Ripple’s own lawyers warned that XRP might be considered a security, given that Ripple had identified itself as the organization in charge of distributing, marketing, and promoting XRP (compare bitcoin, where this central body was absent).⁹² Indeed, Ripple’s purported control over XRP is the problematic factor under *Howey*’s fourth prong.

An important question in all this is *when* the promoters’ “undeniably significant” efforts must occur to satisfy the fourth prong of the *Howey* test. If the promoters must contribute significant efforts *post*-ICO, then smart contracts and decentralized, self-running protocols may cause ICOs to fail the fourth prong.⁹³ Recall that the ICO is the *initial* coin offering, and that these issues only arise if developers are selling crypto from the authorized stash, not if investors are trading among themselves.⁹⁴ However, if *pre*-ICO efforts count—and depending on how much they count—then many more ICOs are securities, because the developers coming up with the protocol, marketing, etc., can determine how well the crypto is designed and thus will perform.⁹⁵

87. SHIN, *supra* note 42, at 179–80.

88. The DAO Report, *supra* note 86.

89. Carla L. Reyes, *Autonomous Business Reality*, 21 NEV. L.J. 437, 448 (2021) (“Depending upon the purpose of the DAO, it may also need people to make management decisions.”). *But see* Robinson, *supra* note 19, at 947 (“While the curators were responsible for verifying the identity of contractors and ensuring that smart contracts posted on the Ethereum blockchain matched the source code that contractors claimed to have deployed, neither of those actions created the type of dependency necessary to satisfy the *Howey* test.”).

90. SEC v. Ripple Labs Inc., No. 20 Civ. 10832, 2022 WL 4584111 (S.D.N.Y. Sept. 29, 2022).

91. Elise Hansen, *Fintech Litigation To Watch in 2022*, LAW360 (Jan. 3, 2022, 12:02 PM), <https://www.law360.com/articles/1442918/fintech-litigation-to-watch-in-2022>.

92. Alison Frankel, *At the Heart of the SEC’s Case Against Ripple, a Dispute over Legal Advice*, REUTERS, <https://www.reuters.com/article/legal-us-otc-ripple/at-the-heart-of-the-secs-case-against-ripple-a-dispute-over-legal-advice-idUSKBN2AG2MJ> (Feb. 16, 2021, 2:53 PM). *But see* Lindsay Sain Jones, *Beyond the Hype: A Practical Approach to CryptoReg*, 25 VA. J.L. & TECH. 175, 179 (2022) (“According to Ripple, the XRP ledger is decentralized, and XRP’s price is not determined by Ripple’s activities.”).

93. SEC v. Life Partners, Inc., 87 F.3d 536, 545–46 (D.C. Cir. 1996) (holding that the services a viatical settlement company offered after customer purchased a policy did not satisfy the *Howey* test’s “efforts of others” prong).

94. For example, the Ether ICO happened in 2014 and raised bitcoins to fund the Ethereum network. Armand Tanzarian, *Ethereum Raises 3,700 BTC in First 12 Hours of Ether Presale*, COINTELEGRAPH (July 23, 2014), <https://cointelegraph.com/news/ethereum-raises-3700-btc-in-first-12-hours-of-ether-presale>.

95. SEC v. Mut. Benefits Corp., 408 F.3d 737, 743 (11th Cir. 2005) (concluding that pre-purchase services provided by viatical settlement company were sufficient to satisfy the *Howey* test’s “efforts of others” prong).

The timing wrinkle is interesting and will be important going forward. That is, as crypto networks become more and more decentralized, developer efforts become more minimal.⁹⁶ Until case law clarifies this timing distinction, the fate of ICOs stands in limbo.⁹⁷ Professor Andrew Verstein adds further nuance to the issue, noting that developer efforts are still necessary until networks become *widely* distributed, not just distributed.⁹⁸ In short, it takes a while, but then at a certain point, developers are no longer (as) necessary. This ironically leads to the conclusion that the tokens were securities when issued (e.g., the ICO), but now no longer.⁹⁹ Recognizing this, SEC Commissioner Hester Peirce has proposed a three-year grace period for networks to get up and running with developer assistance without counting as a security if the networks run autonomously thereafter.¹⁰⁰

I favor the view that there must be undeniably significant *post*-ICO efforts contributed by the crypto's developers for the security moniker to apply.¹⁰¹ If, on the other hand, the network becomes decentralized and autonomous within a reasonable period after launch without anyone in charge, no one could provide all the ongoing disclosures the 1934 Act would require. In short, *a blockchain is not a corporation*. My dividing line would be: if most developer efforts are in the setup-and-rollout phase, and the network runs on smart contracts thereafter, calling the crypto a security does not make sense.¹⁰²

If cryptos are found to be securities under *Howey* and must comply with the existing regulatory regime, they simply will not be offered at all. This will chill innovation rather than balance it with investor protection—the wrong approach for an emerging innovation that could keep the United States at the forefront of technological achievement. The more important point, at least for the purposes of this Article, is that some cryptos, including the most important

96. See, e.g., *Commodity Futures Trading Comm'n v. Reynolds*, No. 19-cv-05631, 2021 WL 796683, at *5 (S.D.N.Y. Mar. 2, 2021); *Commodity Futures Trading Comm'n v. McDonnell*, 287 F. Supp. 3d 213, 218 (E.D.N.Y. 2018). See generally *Carmel v. Mizuho Bank, Ltd.*, No. 18-cv-02483-LA, 2019 WL 10186488 (C.D. Cal. Nov. 14, 2019).

97. Justin Blount & Drew Thornley, *Federal Preemption in Securities Laws, the Investment Contract, and Macroprudential Financial Regulation*, 14 DEPAUL BUS. & COM. L.J. 273, 291–94 (2016).

98. Verstein, *supra* note 9, at 40–42. Professor Verstein's discussion continues points raised by his colleague in James J. Park, *When Are Tokens Securities? Some Questions from the Perplexed* (UCLA Sch. of L., L. & Econ. Rsch. Paper Series, Rsch. Paper No. 18-13, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3298965.

99. This is referred to as the Hinman Paradox, identified in Park, *supra* note 98, and discussed in Verstein, *supra* note 9, at 40–41.

100. Statement, Hester M. Peirce, Comm'r, SEC, Token Safe Harbor Proposal 2.0 (Apr. 13, 2021), <https://www.sec.gov/news/public-statement/peirce-statement-token-safe-harbor-proposal-2.0>.

101. James J. Park, *Investor Protection in an Age of Entrepreneurship*, HARV. BUS. L. REV. (forthcoming) (questioning the “significant probability that the tokens developed by projects had value because they represented the pre-purchase of a service. If that was the case, their basic value would not depend on third-party efforts to develop a viable business”).

102. ANDREESSEN HOROWITZ, *supra* note 4, at 13 (“Forcing all digital assets into a regulatory framework designed to cover investments in centralized enterprises such as corporations does not work and could frustrate innovative solutions that, if allowed to develop, would offer broad benefits to consumers and society.”).

(i.e., bitcoin), are clearly *not* securities under the *Howey* test. This Article attempts to find a regulatory approach that protects crypto buyers but is less draconian than the approach imposed by the SEC on public companies.¹⁰³

III. REGULATORY CHOICES FOR CRYPTOS THAT ARE NOT SECURITIES

A crypto not qualifying as a security does not mean that regulators play no role, or that disclosure requirements are worthless and should be abandoned even if not required under the securities laws.¹⁰⁴ This Article argues that disclosure of the right amount and kind still has a role in reducing information asymmetry in crypto transactions, making buyers more informed, and thereby leading to better investment decisions.¹⁰⁵ This is true whether crypto is a security regulated by the SEC or, if it is found not to be a security, a commodity regulated by the Commodity Futures Trading Commission (CFTC).¹⁰⁶

For crypto investors—at least some of whom are younger and more technologically adept¹⁰⁷—most of what they want to know is found on the

103. Schwartz, *supra* note 26, at 1079 (“[IPOs] can consume over 1,200 hours and can take over six months to complete, even ‘under ideal conditions.’”).

104. Brummer, *supra* note 79, at 146 (“But from the standpoint of *disclosure* and the regulatory clarity around issuer responsibilities, the issue as to whether a tool or financial instrument falls under securities law is but the beginning of a longer series of questions that need to be answered.”); Tess Wilkinson-Ryan, *The Perverse Consequences of Disclosing Standard Terms*, 103 CORNELL L. REV. 117, 137 (2017) (“From a law and economics perspective, the assessment of disclosure solutions is appealing on both sides of the ledger—information benefits the parties, of course, but also it is very low-cost.”).

105. Wilkinson-Ryan, *supra* note 104, at 130 (“Disclosure is at the core of any economic account of contracting.”); Ibrahim, *supra* note 28, at 300 (“If [innovative] investment opportunities are no longer network- or relationship-driven . . . disclosure is again needed to mitigate information asymmetries.”).

106. Cf. James J. Park, *Insider Trading and the Integrity of Mandatory Disclosure*, 2018 WISC. L. REV. 1133, 1179 (2018) (“Mandatory disclosure is more essential to valuing securities tied to the performance of particular corporate issuers than it is for determining commodities prices, which mostly rise and fall based on market conditions.”).

107. Greg Iacurci, *13% of Americans Traded Crypto in the Past Year, Survey Finds*, CNBC, <https://www.cnbc.com/2021/07/23/13percent-of-americans-traded-crypto-in-the-past-year-survey-finds.html> (July 29, 2021, 10:18 AM) (finding that the average crypto investor is somewhat younger (thirty-eight years old) than the average stock investor (forty-seven years old)); see Jon Cohen & Laura Wronski, *Cryptocurrency Investing Has a Big Gender Problem*, CNBC (Aug. 30, 2021, 12:14 PM), <https://www.cnbc.com/2021/08/30/cryptocurrency-has-a-big-gender-problem.html> (reporting that a 2021 CNBC survey showed 66% of cryptocurrency investors were under the age of forty-five); James Royal, *Survey: Real Estate and Cash Top Americans’ List of Preferred Investments over Next 10 Years*, BANKRATE (June 23, 2021), <https://www.bankrate.com/investing/survey-favorite-long-term-investment-2021/> (reporting that a 2021 Bankrate survey showed 51% of people ages twenty-five to thirty-one said they were “somewhat” or “very comfortable” investing in cryptocurrency, versus 16% of people age sixty-seven or older); Andrew Perrin, *16% of Americans Say They Have Ever Invested In, Traded or Used Cryptocurrency*, PEW RSCH. CTR. (Nov. 11, 2021), <https://www.pewresearch.org/fact-tank/2021/11/11/16-of-americans-say-they-have-ever-invested-in-traded-or-used-cryptocurrency/> (reporting the findings of a 2021 Pew survey that 31% of people ages eighteen to twenty-nine said they had invested in, traded, or used a cryptocurrency, compared to 21% of people ages thirty to forty-nine and 8% of people ages fifty to sixty-four). Some experts hypothesize that younger people’s greater familiarity with technology makes them more comfortable with cryptocurrency and therefore likelier to invest in it. See, e.g., Dawn Allcot, *Millennials Own More Crypto Than Any Other Generation*, YAHOO! (May 30,

crypto's website, in its whitepaper, on Twitter, or through other informal channels. All this is already occurring while regulators battle over whose domain crypto is. The broader regulatory question, regardless of who regulates, is whether more disclosure should be mandated than what is currently provided by developers or users voluntarily.¹⁰⁸ Voluntary disclosure through whitepapers has promise here, as whitepapers (probably the standard because Satoshi Nakamoto wrote one for bitcoin) include things relevant to crypto but not relevant to shareholders of public corporations.

But if we want to go further on the investor protection scale, as regulators surely will, this Part explores other alternatives. The first analogous regulatory regime to consider, Regulation CF, comes from the securities context where we have focused thus far—albeit mostly on differences. The other analogous regulatory regime comes from contract law.¹⁰⁹ While both of these approaches would better suit crypto than the traditional IPO treatment, this Article favors a modern twist on the age-old standard-form-contract problem as a path forward for crypto regulation.¹¹⁰

A. SECURITIES REGULATION “LITE”: THE CROWDFUNDING APPROACH

Since 2015, crowdfunding has allowed ordinary investors to buy securities in new, speculative companies over the internet. The idea was to democratize finance, providing ordinary investors without the angels' or VCs' money and connections the opportunity to invest in promising startups. Before crowdfunding, only accredited investors could invest in innovative startups pre-IPO, meaning ordinary investors missed all the big Web 2.0 companies when they were cheap to own.¹¹¹ Crypto was in its infancy in 2015, so risk investing was even more concentrated in startups at the time Regulation CF was adopted.

Regulation CF attempted to balance access to innovation with investor protection. We are now asking whether the same can be done for crypto. Thus,

2021), <https://www.yahoo.com/video/millennials-own-more-crypto-other-210017141.html>; Andreas Hackethal, Tobin Hanspal, Dominique M. Lammer & Kevin Rink, *The Characteristics and Portfolio Behavior of Bitcoin Investors: Evidence from Indirect Cryptocurrency Investments*, 26 REV. FIN. 855, 869–70 (2022). One study suggested that cryptocurrency investors were likely to use other tech-related products. *Id.* at 874.

108. See generally, e.g., Roberta Romano, *Empowering Investors: A Market Approach to Securities Regulation*, 107 YALE L.J. 2359 (1998); Merritt B. Fox, *Retaining Mandatory Securities Disclosure: Why Issuer Choice Is Not Investor Empowerment*, 85 VA. L. REV. 1335 (1999); Stephen M. Bainbridge, *Mandatory Disclosure: A Behavioral Analysis*, 68 U. CIN. L. REV. 1023 (2000).

109. Brummer, *supra* note 79, at 150 (“Securities law and consumer protection regulations differ not only operationally, but also substantively.”).

110. *Id.* at 151 (“[A]ll else being equal, the consumer protection approach to disclosure may yet be more appropriate for dapps than securities law.”).

111. Jean Eaglesham, *Crowdfunding Efforts Draw Suspicion*, WALL ST. J. (Jan. 17, 2013, 6:51 PM), <http://online.wsj.com/article/SB10001424127887323783704578247380848394600.html> (quoting President Obama calling crowdfunding a “game changer” that allows “ordinary Americans . . . to go online and invest in entrepreneurs they believe in”); Andrew A. Schwartz, *Inclusive Crowdfunding*, 2016 UTAH L. REV. 661, 662 (“Inclusivity is core to the nature of crowdfunding as a distinct form of capital raising.”).

it is instructive to examine the philosophy and short life of crowdfunding regulation thus far.

Regulation CF uses three distinct mechanisms to balance investor participation with investor protection: (1) scaled-back disclosure, (2) the wisdom of the crowd,¹¹² and (3) investment caps. I have been skeptical about relying on crowd-based wisdom in stock picking, especially for new and emerging companies; crypto likely presents the same problems.¹¹³ Also, the government capping how much of a token, or total tokens, one can buy seems inappropriate for several reasons, including the growing size of the crypto market.¹¹⁴ This leaves scaled-back disclosure as the crowdfunding regulatory mechanism to study for potential application to crypto sales.¹¹⁵

Under Regulation CF, “[t]he amount of disclosure required is more limited than in a registered offering and, unlike registered offerings by smaller companies, the offering is not contingent on SEC review and approval of the required disclosure.”¹¹⁶ The disclosure—which may include income tax filings and audited financial statements—includes items such as the nature of the startup; the names of the directors; a description of the issuer’s ownership, capital structure, current business, anticipated business plan, stated purpose, and

112. See generally JAMES SUROWIECKI, *THE WISDOM OF CROWDS* (2004).

113. My prior work has suggested that crowd-based wisdom is an inadequate investor protection mechanism when buying securities in crowdfunding startups, due to a flawed mapping of crowd-based wisdom into investing in general and investing specifically in this context. See generally Darian M. Ibrahim, *Crowdfunding Without the Crowd*, 95 N.C. L. REV. 1481 (2017) (calling for greater use of expert intermediation in selecting crowdfunding investments).

114. It should be noted that the investment caps were removed for accredited investors only in the 2020 Regulation CF updates. Facilitating Capital Formation and Expanding Investment Opportunities by Improving Access to Capital in Private Markets, 86 Fed. Reg. 3496, 3590 (Jan. 14, 2021) (to be codified at 17 C.F.R. § 227.100). They remain, but were upped, for unaccredited investors. *Id.* For a thoughtful discussion of investment caps in this context and the possibility of using them more broadly, see Abraham J.B. Cable, *Mad Money: Rethinking Private Placements*, 71 WASH. & LEE L. REV. 2253, 2299 (2014) (“[T]he strength of an effective investment cap is its strong paternalistic protection of investors through diversification and liquidity.”). Crypto buyers, many already distrustful of central governments and their regulators, would likely revolt if the SEC limited their purchases on a yearly basis. Further, with so much volatility in crypto, the workability of an investment cap would be difficult. For example, if I put \$200 into SOL and it turns into \$2,000, am I forced to sell? Probably not, because I did not exceed the cap when I purchased. Yet now a much larger portion of my crypto money is in SOL but is not not diversified or limited, which is what caps try to prevent. See Tessa Bell, *Weakness in Numbers: The Risks Investors’ Bounded Rationality and Cognitive Biases Pose to the U.S. Securities Crowdfunding Market*, 108 GEO. L.J. 175, 186 (2019) (“[I]nvestment limits disincentivize participation by expert investors that specialize in start-ups. Expert investors have the ability to identify salient information with less effort and have the resources necessary to conduct research. However, the low investment cap may make participation in securities crowdfunding undesirable to experts.”).

115. For one of the earliest calls for meaningful disclosure in crowdfunding regulation, see generally Thomas Lee Hazen, *Crowdfunding or Fraudfunding? Social Networks and the Securities Laws—Why the Specially Tailored Exemption Must Be Conditioned on Meaningful Disclosure*, 90 N.C. L. REV. 1735 (2012) (advocating for meaningful disclosure requirements in crowdfunding offerings).

116. C. Steven Bradford, *Online Arbitration as a Remedy for Crowdfunding Fraud*, 45 FLA. ST. U. L. REV. 1165, 1178 (2018).

intended use of the proceeds of the offering; the target amount of funding sought from the offering; and the issuer's financial condition.¹¹⁷

It is unclear how well Regulation CF's disclosures have protected investors thus far. According to a 2020 article from Mercer Bullard, a majority of crowdfunding offerings are not following the rules, including the primary accounting requirements, which ensure that offerings provide the right financial statements.¹¹⁸ Bullard writes that "crowdfunding appears to have become the regulatory mess tha[t] many predicted, with issuers and intermediaries routinely failing to comply with the simplest, most fundamental requirements of crowdfunding regulation."¹¹⁹ It is unclear if anyone has noticed.¹²⁰

From a theoretical perspective, it is not hard to see why crowdfunding disclosures, even if brief compared to IPO disclosures, are not that effective. Omri Ben-Shahar and Carl Schneider have discussed why mandatory disclosure generally fails.¹²¹ They argue, on a foundational level, that familiarizing ourselves with disclosure is unpleasant, "an enormous educational enterprise of a kind academics may enjoy but that most people do not."¹²² Further, unsophisticated people "often can't read" the disclosures, if reading means to "extract useful meaning."¹²³ Examination into foreign stock exchanges designed for smaller, innovative companies has revealed that attempts at light-touch regulation have been more successful than attempts premised on strict disclosure.¹²⁴

117. 15 U.S.C. § 77d-1(b); Andrew A. Schwartz, *The Gatekeepers of Crowdfunding*, 75 WASH. & LEE L. REV. 885, 901 (2018) ("[Crowdfunding] [c]ompanies must provide numerous disclosures to investors . . . including . . . a description of the business . . . a description of the purpose and intended use of the proceeds; the price of the securities; and a description of the ownership and capital structure of the issuer."); Jack Wroldsen, *Crowdfunding Investment Contracts*, 11 VA. L. & BUS. REV. 543, 564–76 (2017).

118. Mercer Bullard, *Crowdfunding's Culture of Noncompliance: An Empirical Analysis*, 24 LEWIS & CLARK L. REV. 899, 917 (2020) ("The average Filer did not comply with Reg CF's primary accounting requirements."); *id.* at 930 ("Most Filers did not comply with Regulation CF's annual report requirement.").

119. *Id.* at 901–02.

120. See John S. Wroldsen, *The Social Network and the Crowdfund Act: Zuckerberg, Saverin, and Venture Capitalists' Dilution of the Crowd*, 15 VAND. J. ENT. & TECH. L. 583, 584 (2013) ("[C]rowdfunding laws and regulations should go beyond disclosure requirements that warn investors of danger (to the extent investors even read or understand the disclosures) . . ."); Michael B. Dorff, *The Siren Call of Equity Crowdfunding*, 39 J. CORP. L. 493, 498 (2014) ("[N]othing commentators have suggested to tinker with the crowdfunding provisions will fix these problems. Investors will not be sufficiently swayed by additional disclosure, even if they read the warnings they are given."); Schwartz, *supra* note 26, at 1081 ("[A]nyone who has actually looked at a securities filing in the primary market knows that these filings are so arcane and densely written as to be almost completely impenetrable to an ordinary retail investor.").

121. See generally OMRI BEN-SHAHAR & CARL E. SCHNEIDER, *MORE THAN YOU WANTED TO KNOW: THE FAILURE OF MANDATED DISCLOSURE* (2014).

122. *Id.* at 56.

123. *Id.* at 79.

124. Darian M. Ibrahim, *Public or Private Venture Capital?*, 94 WASH. L. REV. 1137, 1151–59 (2019) (contrasting the light-touch approach of London's AIM market with the strict disclosure regime of Germany's Neuer Markt); John C. Coffee, Jr., *Racing Towards the Top?: The Impact of Cross-Listings and Stock Market Competition on International Corporate Governance*, 102 COLUM. L. REV. 1757, 1804 (2002) ("Intended as a market for high growth firms, the Neuer Markt adopted a unique style by advertising itself as the 'most regulated market' in Europe.").

For small startups, investors are likely to buy-in based on their exposure to the company's product or service, whether through friends and family, social media chatter, or other informal means. These information mechanisms likely reduce information asymmetry more than mandatory disclosure does.¹²⁵ Boring legal disclosures, even scaled-back ones, do not work for anyone but plaintiff's attorneys who sue when an investment fails.¹²⁶ Carrying the point further, Abe Cable observes:

The infrequent use of scaled-disclosure mechanisms suggests the approach has failed in its goal of overcoming market failures. Investors do not seem to value information that the SEC requires for these exemptions. Put another way, *the required disclosure is not what investors would bargain for in the absence of market failure.*¹²⁷

Bullard likewise concludes that “financial statements are of limited use to investors when a firm has no assets, liabilities, revenues, or expenses, which is the case for a large proportion of [crowdfunding] issuers. Disclosure requirements for these firms should be significantly curtailed.”¹²⁸ In summary, Regulation CF does not seem to be the best place to borrow from for meaningful crypto regulation. Even scaled-back disclosure is not working for these startups, because it is not providing the information that investors want or need.¹²⁹ While Regulation CF may be an improvement in the *how much disclosure* category because it is less, it is still not the right *kind* of disclosure.

B. BORROWING FROM STANDARD FORM CONTRACTS

A second potential regulatory approach for regulating crypto transactions borrows from our common-law method of policing standard form contracts, or so-called contracts of adhesion.¹³⁰ This is a foray into consumer protection law, not investor protection law. However, as Chris Brummer writes: “While

125. Ayres & Schwartz, *supra* note 33, at 550–51 (“[Buyers] learn about the deals they make from visiting firms, their experience with similar deals, discussion with friends, their observation of other consumers’ purchasing choices, and reading consumer reports.”); Darian M. Ibrahim, *Crowdfunding Signals*, 53 GA. L. REV. 197, 206 (2018) (discussing that crowdfunding investors are likely to be users of the company’s product or service).

126. Wroldsen, *supra* note 120, at 605 (“Disclosure can be helpful in pursuing legal claims for material misstatements or omissions, but its effectiveness in helping investors, especially unsophisticated ones, judge the quality of securities offerings is questionable . . .”).

127. Cable, *supra* note 114, at 2291 (emphasis added).

128. Bullard, *supra* note 118, at 903; *see also* Cable, *supra* note 114, at 2293 (“Note that the type of historical information required by most scaled-disclosure mechanisms, such as financial statements, is not particularly important to evaluating either investment opportunity.”).

129. Wroldsen, *supra* note 120, at 609 (“Disclosure documents like prospectuses are close to impenetrable for many investors.”); Lisa M. Fairfax, *The Securities Law Implications of Financial Illiteracy*, 104 VA. L. REV. 1065, 1092 (2018).

130. W. David Slawson, *Standard Form Contracts and Democratic Control of Lawmaking Power*, 84 HARV. L. REV. 529, 530 (1971) (“[Standard forms] are characteristic of a mass production society and an integral part of it. They provide information and enforce order.”); Robert A. Hillman & Jeffrey J. Rachlinski, *Standard-Form Contracting in the Electronic Age*, 77 N.Y.U. L. REV. 429, 431 (2002) (“Likely ninety-nine percent of paper contracts consist of standard forms . . .”).

securities law is based on voluminous submissions for parsing by institutional actors, consumer protection regulation focuses on targeted, retail-friendly disclosures meant to be digested by everyday consumers.”¹³¹

Courts encounter these contracts with some regularity. Almost every consumer contract contains boilerplate language and is offered on a take-it-or-leave-it basis.¹³² Standard form contracts are generally enforceable. Consumers—like everyone entering a contract—have a “duty to read” what they agree to, whether they read it or not.¹³³ The duty to read has been likened to the assumption of risk doctrine in tort law.¹³⁴ The outer limits on egregious abuses of power to specify terms are set by the unconscionability doctrine, meaning that if a seller forces particularly egregious terms on unsuspecting consumers by less than forthright means, then those terms or the contract at large will not be enforced.¹³⁵ Coupled with the law’s outer limit on seller overreach, market forces are thought to constrain sellers from abuses, as well.¹³⁶ The idea that sellers will restrain themselves from complete one-sidedness in standard form contracts to avoid a reputational hit is supported by some evidence.¹³⁷

131. Brummer, *supra* note 79, at 139.

132. Hillman & Rachlinski, *supra* note 130, at 435 (“People encounter standard forms in most of their contractual endeavors.”).

133. Wayne Barnes, *Consumer Assent to Standard Form Contracts and the Voting Analogy*, 112 W. VA. L. REV. 839, 847 (2010) (citing 7 JOSEPH M. PERILLO, CORBIN ON CONTRACTS § 29.8 (rev. ed. 2002)) (“Under the ‘duty to read’ rule, the consumer who signs a standard form contract is taken to have assented to it and become bound by its terms.”); Upton v. Tribilcock, 91 U.S. 45, 50 (1875) (“A contractor must stand by the words of his contract; and, if he will not read what he signs, he alone is responsible for his omission.”).

134. Ayres & Schwartz, *supra* note 33, at 549.

135. See Jens Dammann, *Flytraps, Scarecrows, and the Transparency Paradox: The Case for Redesigning the Law on Vague Boilerplate Contracts*, 2018 U. ILL. L. REV. 185, 187, 201–04 (“[U]nder the so-called unconscionability doctrine, unclear boilerplate provisions are much more likely to be struck down than clear ones.”). See generally David Gilo & Ariel Porat, *Viewing Unconscionability Through a Market Lens*, 52 WM. & MARY L. REV. 133 (2010).

136. The well-known Seventh Circuit cases of *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996), and *Hill v. Gateway 2000, Inc.*, 105 F.3d 1147 (7th Cir. 1997), both authored by Judge Frank Easterbrook, also relied on economic theory to uphold form contracts against consumer challenge. For example, in *ProCD*, Zeidenberg challenged a shrink-wrap license that appeared inside of a computer software box. 86 F.3d at 1450. In upholding the license, Judge Easterbrook opined that “[c]ompetition among vendors, not judicial revision of a package’s contents, is how consumers are protected in a market economy.” *Id.* at 1453. He also trumpeted the cost savings to consumers produced by standardization. *Id.* at 1450–52.

137. See G. Marcus Cole, *Rational Consumer Ignorance: When and Why Consumers Should Agree to Form Contracts Without Even Reading Them*, 11 J.L. ECON. & POL’Y 413, 414 (2015) (“The central claim here is that most non-price contract terms contained in standard form contracts are either benign or beneficial to consumers in many of the circumstances in which form contracts are employed.”). *But see* Dammann, *supra* note 135, at 193 (explaining that “it is not clear that reputational concerns [among sellers] impose more than a relatively weak constraint” on seller’s choice of standard form contract terms to include); Michael Simkovic & Meirav Furth-Matzkin, *Proportional Contracts*, 107 IOWA L. REV. 229, 232 (2021) (“Because consumers’ attention is so depleted, market competition cannot sufficiently constrain sellers from inserting inefficient, one-sided terms into standardized agreements.”).

Enforcing standard form contracts absent unconscionability is thought to balance cost savings for consumers with efficiency and certainty for sellers.¹³⁸ As unfamiliar readers might imagine, this approach is constantly under scrutiny. Consumers suffer from bounded rationality when they make purchasing decisions,¹³⁹ meaning they will only consider a limited number of contract terms and product attributes when making a purchasing decision.¹⁴⁰ In a series of important studies, Florencia Marotta-Wurgler concludes that no one reads standard form contracts.¹⁴¹ Requiring consumers to scroll down through the terms increases reading by less than half a percent.¹⁴² Other scholars and studies agree: no one reads the disclosures.¹⁴³

Since consumers do not really read standard form contracts, and since unconscionability is a hard standard to meet (and requires litigation to find out whether it is met), standard form contracts are generally still seller-friendly, and thus criticized as non-optimal.¹⁴⁴ This is the same problem with crowdfunding disclosures, in a different form. Consequently, we are still seeking the answer to what kind of disclosures might actually be helpful to crypto buyers.¹⁴⁵

There are many proposals addressing the standard-form-contract problem.¹⁴⁶ The one I adopt for crypto comes from Ian Ayres and Alan Schwartz in their terrific 2014 *Stanford Law Review* article, *The No-Reading Problem in Contract Law*.¹⁴⁷ Ayres and Schwartz observe that “data show that consumers are aware of some contract terms but not others” and seek to “use consumers’

138. See *Carnival Cruise Lines, Inc. v. Shute*, 499 U.S. 585, 585–86 (1991) (reasoning that Carnival Cruise might include this clause to determine ex ante the forum of litigation and thus reduce its internal costs, additionally “benefit[ting] [cruise passengers] in the form of reduced fares reflecting the savings that the cruise line enjoys by limiting the fora in which it may be sued”).

139. See Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1216–44 (2003).

140. Barnes, *supra* note 133, at 840 (“[Consumers] are usually only cognizant of a few of the terms of the contract — things like price, subject matter, and quantity.”).

141. See generally, e.g., Yannis Bakos, Florencia Marotta-Wurgler & David R. Trossen, *Does Anyone Read the Fine Print? Consumer Attention to Standard-Form Contracts*, 43 J. LEGAL STUD. 1 (2014); Florencia Marotta-Wurgler, *Will Increased Disclosure Help? Evaluating the Recommendations of the ALI’s “Principles of the Law of Software Contracts,”* 78 U. CHI. L. REV. 165 (2011).

142. Marotta-Wurgler, *supra* note 141, at 179–81.

143. See, e.g., Dammann, *supra* note 135, at 194 (noting that even in the stricter boilerplate enforceability requirements in Europe, “there, consumers almost never read boilerplate contracts”); Wilkinson-Ryan, *supra* note 104, at 103 (“The treatment of consumer contracting elaborated here begins with the now-uncontroversial fact of universal non-readership.”).

144. Korobkin, *supra* note 139, at 1216–44; Simkovic & Furth-Matzkin, *supra* note 137, at 232 (“Sellers tend to benefit when consumers *do not* pay attention to form contracts, which are often stuffed with pro-seller terms encoded in complex legal jargon.”); see also Shmuel I. Becher & Tal Z. Zarsky, *Minding the Gap*, 51 CONN. L. REV. 69, 73 (2019) (discussing the gap between what sellers can enforce under their standard form contracts and what they actually do enforce).

145. Brummer, *supra* note 79, at 152 (“Though shorter than the full range of securities law disclosures, our intent is to hone in on those most important to investors. And though lengthier than some areas of consumer protection, our intent is not to create opportunities to overload end users and investors . . .”).

146. See generally, e.g., Andrew A. Schwartz, *Consumer Contract Exchanges and the Problem of Adhesion*, 28 YALE J. ON REG. 313 (2011) (proposing a centralized consumer contract exchange).

147. See generally Ayres & Schwartz, *supra* note 33.

limited cognitive capabilities more efficiently.”¹⁴⁸ Ayres and Schwartz embrace bounded rationality and seek to direct consumers’ limited attention to the right kind of disclosures. They propose to direct “consumers’ attention to terms . . . that have two key features: *they are unknown to many consumers; and they disadvantage the consumers.*”¹⁴⁹ The move here is to highlight disclosures that are negative and surprising. This—unlike the SEC’s attempts at crowdfunding disclosure—has the benefit of being the type of disclosure that is short, prominent, and adds something important to readers’ knowledge.¹⁵⁰

For prominence, Ayres and Schwartz propose a front-page “warning box” that would look consistent from contract to contract, seller to seller, but would include different terms depending on the context.¹⁵¹ The warning box would include information about that product or service that many consumers would not know otherwise could disadvantage them. Those terms could change over time.¹⁵²

To determine what terms would require warning-box disclosure, Ayres and Schwartz propose that sellers should conduct studies similar to what the Federal Trade Commission does to verify advertising claims.¹⁵³ Sellers could achieve a safe harbor for not disclosing certain terms in the warning box by satisfying similar guidelines such as, for example, conducting surveys of consumers to see what terms would surprise them.¹⁵⁴ The warning box produces short, meaningful disclosures that are far from boilerplate—they are tailored to the particular asset being sold.

IV. THE “WARNING-BOX” APPROACH FOR CRYPTO

This Article contends that the voluntary disclosures provided by most crypto developers are sufficient, and that regulators should simply layer other

148. *Id.* at 551.

149. *Id.* (emphasis added). A materiality requirement seems to be implicit in their proposal. Ayres and Schwartz refer to the terms requiring warning box disclosure as “*materially* disadvantageous and unexpected.” *Id.* at 553 (emphasis added). They also note that there are “few terms in the typical consumer contract that both are *materially* unfavorable and unexpected.” *Id.* at 606 (emphasis added).

150. *Id.* at 552 (explaining that “[the Ayres-Schwartz] scheme thus flips the traditional notion of the duty to read on its head” by allowing hidden yet expected terms to be enforced, while hidden and surprising terms would not be enforced); see also Dammann, *supra* note 135, at 193–94 (“[P]rudent courts will invalidate only those boilerplate provisions that they are reasonably sure would be rejected by most contracting parties in the absence of informational asymmetry.”).

151. Ayres & Schwartz, *supra* note 33, at 553 (“[T]he warning box would have the same appearance regardless of the setting—whether it is in a car rental agreement or a refrigerator contract . . .”).

152. *Id.* at 554 (noting that their proposal “has a dynamic aspect,” requiring warning box disclosures to be “updated as consumers learn of previously unknown contract terms or as firms change their contracts”). See generally Florencia Marotta-Wurgler & Robert Taylor, *Set in Stone? Change and Innovation in Consumer Standard-Form Contracts*, 88 N.Y.U. L. REV. 240 (2013) (examining what causes sellers to change their standard form contracts).

153. Ayres & Schwartz, *supra* note 33, at 552–53.

154. *Id.* at 607. Ayres and Schwartz also note that “understanding the box format is a capital investment. Because the box would appear in connection with many transaction types, the consumer could amortize her initial learning cost over many purchases.” *Id.* at 553.

protective measures upon them as necessary. One such layer of protection should be the short, prominent warning box that Ayres and Schwartz have proposed for standard form contracts.¹⁵⁵

ICOs present high levels of information asymmetry between developers and coin buyers, both in terms of a coin's newness and its underlying blockchain technology.¹⁵⁶ Cryptos have a little more of a track record post-ICO based on their early performance, but investors are still at an information deficit on crypto's features. To solve this problem, crypto developers should continue producing whitepapers for new cryptos, in addition to adding warning boxes consistent with the discussion below. And this combination of disclosures—whitepapers and warning boxes—should substitute the entire 1933 and 1934 Securities Acts as a means of regulating crypto.

The point bears repeating. The dynamic nature of the warning box—required and updated routinely—is paramount, since most crypto trading occurs on secondary markets.¹⁵⁷ Finding a way to participate in an actual ICO is difficult.¹⁵⁸ For example, Coinbase does not even list ICOs for possible

155. Other scholars have applied the warning box both in and outside of the standard form contract setting. See, e.g., Simkovic & Furth-Matzkin, *supra* note 137, at 282–83 (2021) (noting that, for contracting in general, a warning box could be adopted voluntarily by sellers, who could determine its length in each particular case); BJ Ard, *Notice and Remedies in Copyright Licensing*, 80 MO. L. REV. 313, 372–73 (2015) (applying the warning box proposal to copyright licensing). But see Eric A. Zacks, *The Moral Hazard of Contract Drafting*, 42 FLA. ST. U. L. REV. 991, 1029–30 (2015) (“[T]he suggestion that a box is ideal should be rejected, particularly in the absence of empirical evidence that it is the most effective format. Instead, the burden should remain upon the drafting parties to demonstrate empirically that the disclosure was effective . . .”).

156. Most investors are at least familiar with traditional “types” of securities, like stocks. With regards to those investments, the information asymmetry relates only to the specific security being offered. By contrast, with crypto assets, there is information asymmetry not only related to the specific crypto offered, but also with crypto as a “genus” of investment.

157. The dynamism of the warning box proposal solves the problem of “gaming” the system through some kind of ICO process that, if focused on exclusively, might avoid regulation. Dell’Erba, *supra* note 19, at 184 (“Recently, ICOs switched from an ‘uncapped’ to a ‘capped sale’ model, to then adopting the so-called ‘reverse Dutch auction’ model (Gnosis ICOO was the first to adopt the ‘reverse Dutch auction’).”); see also *id.* at 180–90 (discussing the various types of ICOs that are developing). An “Initial Exchange Offering” (IEO) is an ICO done in partnership with an exchange. See Cryptopedia Staff, *IEOs and IDOs: An Evolution in Crypto Fundraising*, CRYPTOPEDIA, <https://www.gemini.com/cryptopedia/ieo-crypto-ido-crypto-initial-exchange-offering> (Oct. 21, 2021); see also *Initial Exchange Offerings (IEOs) – Investor Alert*, U.S. SEC. & EXCH. COMM’N (Jan. 14, 2020), https://www.sec.gov/oiea/investor-alerts-and-bulletins/ia_initialexchangeofferings (SEC’s bulletin on the topic). Coinbase does not seem to offer IEOs yet, but it announced plans to create an IEO platform. See Yogita Khatri, *Coinbase CEO Confirms Development of a Service for Launching Tokens*, THE BLOCK (Sept. 1, 2020, 11:06 AM), <https://www.theblockcrypto.com/linked/76588/coinbase-ceo-interview-token-service>. Other exchanges offer IEOs. See *IEO Platforms/Launchpads: TOP 25+ Exchanges*, ICOHOLDER, <https://icoholder.com/blog/ultimate-list-of-ieo-platforms-launchpads-top-25-exchanges/> (last visited Dec. 5, 2022).

158. Dell’Erba, *supra* note 19, at 185 (“The Interactive Initial Coin Offering (‘IICO’) was first proposed by Vitalik Buterin, Jason Teutsch, and Christopher Brown to make token sales more egalitarian for large and small buyers in an effort to design a more fair model of ICO by preventing ‘the sort of FOMO and gas wars that can result in whales getting all the tokens and squeezing out investors of humbler means.’”).

investment.¹⁵⁹ Instead, coins already in circulation get listed for secondary trading on Coinbase once they are established enough and approved for listing by the exchange.¹⁶⁰ While I have argued that there is no one around to make required 1934 Act disclosures, the warning boxes (which would be far less intrusive and infrequently required) could be produced by crypto developers, foundations, or maybe even the exchanges.¹⁶¹

With that in mind, let's use the secondary market for purchasing a new but up-and-coming crypto as an example of what disclosures are already available, and what a warning box may add. Say I want to buy a crypto, SOL (Solana), through Coinbase. When I click on the SOL button in Coinbase, I get all kinds of helpful information. There is a brief description noting that "Solana is a crypto-computing platform that aims to achieve high transaction speeds without sacrificing decentralization. Its major innovation is speed, via a bundle of new technologies including a consensus mechanism called proof of history (PoH)."¹⁶² I see its market cap (\$15 billion), its circulating supply (348.8 million), whether there are more buyers or sellers at the moment (100% sellers to buyers), and its popularity among all the cryptos (#7).¹⁶³ If I want to know more, I see two links: one to the official Solana whitepaper (the disclosure document)¹⁶⁴ and another to the official Solana website. The whitepaper contains critical information about the offering, and is both provided at the time of the ICO and thereafter available for secondary market buyers. Brummer observes that for technically sophisticated investors, most disclosure is already available through the crypto's code.¹⁶⁵

There are informal means of disclosure too. Investors interested in Solana likely already know of it through Twitter, Redditt, or a friend.¹⁶⁶ In one screen

159. See *Altcoins and ICOs*, COINBASE HELP, <https://help.coinbase.com/en/coinbase/getting-started/crypto-education/altcoins-and-icos> (last visited Dec. 5, 2022) ("DO NOT . . . participate in an ICO using your Coinbase account. Doing so will result in a loss of the cryptocurrency in question."). For a technical overview of how to participate in an ICO, see *How to Buy Into an ICO (Initial Coin Offering)*, CRYPTOCURRENCY FACTS, <https://cryptocurrencyfacts.com/how-to-buy-into-an-ico-initial-coin-offering/> (last visited Dec. 5, 2022) (noting *not* to attempt buying through Coinbase).

160. All tokens listed on Coinbase go through an application and review process. See *Coinbase's New Asset Listing Process*, COINBASE: BLOG (Sept. 25, 2018), <https://blog.coinbase.com/new-asset-listing-process-a83ef296a0f3>.

161. The question of any potential liability and who would assume it is beyond the scope of this Article.

162. *Solana (SOL)*, COINBASE, <https://www.coinbase.com/price/solana> (last visited Dec. 5, 2022).

163. *Id.*

164. NESTARCOVA, *supra* note 59, at 13 (discussing white papers and the advanced technical "yellow papers").

165. Brummer, *supra* note 79, at 139 ("[S]ome of the most important information is readily available for technologically sophisticated actors.")

166. Cohny et al., *supra* note 7, at 659 ("[ICOs] are built atop innovative 'technical systems' that only recently came into being, and they are conducted within particular 'communities of discourse' that happen to exist here and now."). For discussions of social media and other influences on investor behavior beyond disclosure, see David Rakowski, Sara E. Shirley & Jeffrey R. Stark, *Twitter Activity, Investor Attention, and the Diffusion of Information*, 50 FIN. MGMT. 3 (2021); see also Rajib Hasan & Weiwei Wang, *Social Media Visibility, Investor Diversity and Trading Consensus*, 17 INT'L J. MANAGERIAL FIN. 25 (2021).

of my iPhone, I can see the most relevant information, or where to find it, should I want to know more.¹⁶⁷ The only tweak this Article proposes is adding the warning box where it may be warranted.¹⁶⁸ The remainder of this Part contrasts terms that would need warning-box disclosure with those that would not, and then discusses who might decide that. It starts with considering when warning-box disclosures would not be necessary before turning to when they would.¹⁶⁹

A. WHEN A WARNING-BOX DISCLOSURE WOULD NOT BE NECESSARY

For well-known cryptos like bitcoin, a warning box should never be necessary, at least not at this point; again, this would be different if we harken back to the time it was created in 2009. What could, in 2022, be a surprise in the Bitcoin network that would harm consumers? A myriad of events, internal to the Bitcoin network or external, could cause bitcoin to lose value. But which of those items would surprise investors?

Here are some candidates. First, what if the Bitcoin blockchain were hacked—something (amazingly) that has never been done.¹⁷⁰ If the Bitcoin network were hacked, it would be front-page news everywhere. The last place a bitcoin buyer would learn of it is in a warning box.¹⁷¹ The likelihood of the Bitcoin network being hacked is incredibly low. Requiring a warning that it *could* happen would be akin to requiring generic risk factors in an IPO or securities filing. This is a dangerous path to travel.

167. Of course, different investors will desire different (or more) information. For instance, there are features of a crypto that a sixty-five-year-old luddite would find surprising and negative that a twenty-five-year-old techie would not. Figuring out what would unpleasantly surprise the “average” crypto investor is no easy task.

168. Cohny et al., *supra* note 7, at 648 (“We also must be aware that regulations often will protect first-movers against competition by setting up new barriers to entry.”).

169. In the experiment conducted by Ayres and Schwartz when they proposed the warning box for consumer contracts, they found in one contract (Facebook’s terms of service) that only five of the twenty-five boilerplate provisions would qualify for warning-box treatment. Ayres & Schwartz, *supra* note 33, at 605.

170. The Bitcoin blockchain itself has never been hacked. Seybou Sakho, Zhang Jianbiao, Firdaous Essaf & Mesmin J. Mbyamm Kiki, *Blockchain: Perspectives and Issues*, 37 J. INTELLIGENT & FUZZY SYS. 8029, 8031 (2019). Although there have been a number of instances in which bitcoin was stolen, those were usually due to hacks of third-party services that people used to store their private Bitcoin keys. *Id.* But see Mike Orcutt, *Once Hailed as Unhackable, Blockchains Are Now Getting Hacked*, MIT TECH. REV. (Feb. 19, 2019), <https://www.technologyreview.com/2019/02/19/239592/once-hailed-as-unhackable-blockchains-are-now-getting-hacked/> (describing how the Ethereum Classic blockchain was hacked and how blockchains can be hacked).

171. For a proposal that would see more ICO disclosure, see Cohny et al., *supra* note 7, at 598. According to Cohny, all ICOs should disclose the following:

First, did ICO promoters make any promises (and encode those assurances) to restrict the supply of their cryptoassets? Second, did ICO promoters pledge (and build their promises into smart contracts) to restrict the transfer of any cryptoassets allocated to insiders according to a vesting or lock-up plan? Third, did ICO promoters use code to retain the power to modify the smart contracts governing the tokens they sold, and if so, did they disclose (in natural language) that they had allocated themselves that power?

Id.

Second, should a warning box disclose the Bitcoin network's "proof-of-work" method of validating transactions? In the Bitcoin network, miners compete to solve complex math problems with their computers; the miner who solves the problem first gets to validate the latest series of blockchain transactions and is rewarded with a predetermined amount of cryptocurrency. Proof of work is a proven way to validate transactions, but requires significant amounts of computing power and energy, while proof of stake (the other main validation method discussed in connection with ether, below) is much less resource intensive.¹⁷² Still, Bitcoin's adoption of proof of work, and any particular token's adoption of either validation method, is easily discernible from informal channels or the whitepaper. It does not need a warning-box disclosure, and putting it in the warning box has the effect of burying any terms that buyers should be focusing on.¹⁷³

Perhaps a closer call for the warning box is whether there is a supply cap on a new crypto issuance. For example, bitcoin's supply is capped at twenty-one million, whereas ether issuances are not capped, meaning that unlimited ether can theoretically be issued.¹⁷⁴ My warning-box proposal would not require including this information for either crypto to be sold, as it is easily found in the whitepapers or through informal channels.¹⁷⁵ Since bitcoin's supply is capped and ether is not, buyers surely know these possibilities exist for other cryptos. Whether there is any kind of restriction on founders flooding the market with their tokens is another possibility for the warning box.¹⁷⁶ But again, that would have to be a surprising feature in the crypto world, and an unpleasant surprise at that.

B. WHEN A WARNING-BOX DISCLOSURE WOULD BE NECESSARY

This Subpart includes a few examples of warning-box disclosures that should be required for well-known cryptos. The first candidate comes from stablecoin company Tether, which issues the stablecoin U.S. Dollar Tether

172. See *infra* note 187 and accompanying text.

173. *TSC Indus., Inc. v. Northway, Inc.*, 426 U.S. 438, 448–49 (1976) (adopting the "buried facts" doctrine); see also Usha Rodrigues & Mike Stegemoller, *Placebo Ethics: A Study in Securities Disclosure Arbitrage*, 96 VA. L. REV. 1, 8 (2010) (discussing ways in which securities disclosures can be "buried" in certain filings); Ayres & Schwartz, *supra* note 33, at 585 ("[S]ellers have an incentive to create information overload to—overwhelm consumers by including expected, trivial, or opaque terms in the warning box along with important terms.").

174. Thomas Ankenbrand, Denis Bieri, Roland Cortivo, Johannes Hoehener & Thomas Hardjono, *Proposal for a Comprehensive (Crypto) Asset Taxonomy*, 2020 CRYPTO VALLEY CONF. ON BLOCKCHAIN TECH. (CVCBT) 16, 20–21 (2020); see also *Frequently Asked Questions: How Are Bitcoins Created?*, BITCOIN, <https://bitcoin.org/en/faq#how-are-bitcoins-created> (last visited Dec. 5, 2022).

175. Cohnsey et al., *supra* note 7 at 623 ("Supply caps are a typical part of an ICO's marketing materials."); see also Rodrigues, *supra* note 34, at 432 ("Given the theoretically limitless supply of cryptocurrency that can be generated, it is unsurprising that 'almost all issuers promised a supply restriction in their marketing documents.'").

176. Cohnsey et al., *supra* note 7, at 598 ("[D]id ICO promoters make any promises (and encode those assurances) to restrict the supply of their cryptoassets?").

(“USDT”) that many investors use as a bridge between fiat dollars and crypto purchases.¹⁷⁷ Tether recently agreed to pay \$41 million to settle allegations by the CFTC for misleading advertising saying that “it had ‘sufficient US dollar reserves’ to back every token when, in fact, its reserves were not fully backed the majority of the time.”¹⁷⁸ For this Article’s purposes, the fact that Tether made false claims is less important than the fact that it should have included the shortage of fiat reserves, leading to the possibility of a virtual bank run, in a warning box.¹⁷⁹ This revelation would surprise and harm buyers of USDT.¹⁸⁰

A second candidate for the warning box comes from the Ethereum network, and involves the concept of highly variable “gas fees” paid to conduct transactions in the network. Gas fees, paid in ether, are what developers, buyers, and sellers pay to execute a transaction on the Ethereum network.¹⁸¹ The amount the network charges for gas fees varies based on the complexity of the transaction and the current demand for validations. For example, a simple transaction, like sending a small amount of ether from one wallet to another, will have a relatively low gas fee while a more complex transaction, like transferring a popular NFT, will have a relatively high gas fee.¹⁸² The more transactions users are requesting at a certain time, the higher the gas fee will be.¹⁸³

The concept of highly variable gas fees is foreign to the average consumer, and maybe even the crypto consumer. Ethereum is an outlier in that its

177. *In re Tether & Bitfinex Crypto Asset Litig.*, 576 F. Supp. 3d 55, 71 (S.D.N.Y. 2021) (“USDT . . . [is] a ‘stablecoin,’ so called because it is purportedly pegged to and backed by U.S. dollars held in reserve by Tether.”). This Article does not spend as much time on stablecoins as non-fiat pegged coins like bitcoin and ether. It could be that stablecoins are different enough to receive their own regulation.

178. Kim Lyons, *Tether Will Pay \$41 Million over ‘Misleading’ Claims It Was Fully Backed by US Dollars*, THE VERGE (Oct. 15, 2021, 12:32 PM), <https://www.theverge.com/2021/10/15/22728253/tether-41-million-misleading-statements-fiat-currency-bitfinex-cftc>; see also *In re Tether & Bitfinex Crypto Asset Litig.*, 576 F. Supp. 3d at 55.

179. Tether claims its coins are “fully backed[;] however the makeup of its reserves includes short-term debt obligations like commercial paper, not just cash.” Ryan Browne, *Biden Just Put Out an Executive Order on Cryptocurrencies — Here’s Everything That’s in It*, CNBC, <https://www.cnbc.com/2022/03/09/heres-whats-in-bidens-executive-order-on-crypto.html> (Mar. 9, 2022, 6:48 PM).

180. *The Real Risks of Moving All Your Assets into Stablecoins*, MEDIUM (Mar. 12, 2021), <https://medium.com/stably-blog/the-real-risks-of-moving-all-your-assets-into-stablecoins-dec42cda25de>.

1 USD is only pegged to 1 USD because people believe Tether really has the fiat currency locked away somewhere safe. But, if Tether actually only has 76 cents out of 1 USD stored up in a vault, then the coin isn’t actually pegged to 1 USD and its token holders will rapidly pull out all their USDT sending its liquidity down a cliff and possibly crashing its value.

Id.; see also Ben McKenzie & Jacob Silverman, *Untethered*, SLATE (Oct. 19, 2021, 3:43 PM), <https://slate.com/technology/2021/10/tether-crypto-danger-ben-mckenzie.html>.

181. William M. Peaster, *Ethereum Gas Explained*, DEFIPRIME.COM (Sept. 22, 2020), <https://defiprime.com/gas> (“Gas is the fee a user pays to process a transaction on the Ethereum blockchain.”); Griffin McShane, *What Are Ethereum Gas Fees?*, COINDESK, <https://www.coindesk.com/learn/what-are-ethereum-gas-fees/> (Aug. 19, 2022, 10:14 AM).

182. Cost = Gas Price x Amount of Gas Consumed. See Rounak Banik, *Estimating Smart Contract Costs*, MEDIUM (Nov. 6, 2021), <https://medium.com/scrappy-squirrels/estimating-smart-contract-costs-f65acf818e26>; Albert Hu, *How Much Does It Cost To Deploy an NFT Project on Ethereum?*, ALCHEMY: NFTS BLOG (Nov. 30, 2021), <https://blog.alchemy.com/blog/nft-deployment-cost>.

183. Hu, *supra* note 182.

transactions fees are significantly higher than that of other cryptos, both major and lesser known. For example, “the lowest Ether transaction fee of \$18.45 is 485% higher than the average bitcoin transfer today.”¹⁸⁴ Thus, Ethereum should include a warning-box disclosure that “gas fees described in the whitepaper can be dramatically higher depending on the transaction.”

Sticking with potential Ethereum surprises, a major upgrade to the Ethereum network known as the “Merge” just took place in September 2022.¹⁸⁵ Ethereum eliminated open-competition mining in favor of existing ether holders validating transactions.¹⁸⁶ This proof-of-stake model is the other major alternative to Bitcoin’s proof-of-work method of validation.¹⁸⁷ Perhaps now a warning-box disclosure would be required in connection with the proof-of-stake model, since it is a major change in the network. However, the Merge is well known through informal channels, so even this major change is a debatable warning-box candidate. Also, will the change harm ether buyers by depressing Ether’s value? Perhaps it is a positive change due to proof of work’s higher energy usage and thus increased environmental concerns relative to proof of stake.

To conclude with a warning for the warning box: the warning box should not morph into a “risk-factors” section from an IPO prospectus.¹⁸⁸ It is critical to avoid disclosure-creep¹⁸⁹ in crypto regulation so that crypto avoids the costs and burdens that companies face in IPOs, or even that crowdfunding issuers face in much smaller transactions. There are countless things that could go wrong in crypto—too many to list. The whole concept could be a bust. But a warning box would only include specific features of a particular crypto that buyers would be unpleasantly surprised to learn.

184. Paradiso, *Ethereum Transaction Fees Are Too High. What Should I Do?*, NOWPAYMENTS (July 11, 2022), <https://nowpayments.io/blog/ethereum-transaction-fees-are-too-high-what-should-i-do>.

185. *The Ethereum (ETH) Merge Is Finally Here!*, COINBASE, <https://www.coinbase.com/ethereum-merge> (last visited Dec. 5, 2022).

186. Olga Kharif, *Bye-Bye, Miners! How Ethereum’s Big Change Will Work*, WASH. POST (Dec. 14, 2021, 10:37 AM), https://www.washingtonpost.com/business/bye-bye-miners-how-ethereums-big-change-will-work/2021/12/14/2d7ea5ba-5cf4-11ec-b1ef-cb78be717f0e_story.html. The Ethereum Foundation has stated that the Merge will not reduce gas fees for users. Zhiyuan Sun, *Ethereum Foundation Clarifies That the Upcoming Merge Upgrade Will Not Reduce Fees*, COINTELEGRAPH (Aug. 17, 2022), <https://cointelegraph.com/news/ethereum-foundation-clarifies-that-the-upcoming-merge-upgrade-will-not-reduce-gas-fees>.

187. In proof of stake, a group of “validators” stake their own cryptocurrency for the opportunity to validate transactions. *What Is “Proof of Work” or “Proof of Stake”?*, COINBASE, <https://www.coinbase.com/learn/crypto-basics/what-is-proof-of-work-or-proof-of-stake> (last visited Dec. 5, 2022). The winning “validator” is usually determined by whose stake is the largest and has been staked for the longest period of time. *Id.* After the winner validates a transaction, the other “validators” verify it, and all “validators” receive a cryptocurrency reward. *Id.*; Amanda Reaume, *Proof of Work vs. Proof of Stake: Explained*, SEEKING ALPHA, <https://seekingalpha.com/article/4468656-proof-of-work-vs-proof-of-stake> (June 16, 2022).

188. *See generally*, e.g., Plain English Disclosure, 62 Fed. Reg. 3152, 3163 (proposed Jan. 21, 1997); Jeremy McClane, *Boilerplate and the Impact of Disclosure in Securities Dealmaking*, 72 VAND. L. REV. 191 (2019).

189. In other words, layering disclosure on disclosure until you’ve thrown in the whole kitchen sink.

C. WHO DETERMINES WHEN A WARNING-BOX DISCLOSURE IS NECESSARY?

This Subpart introduces the idea of who would regulate the warning-box proposal, if adopted. There are many considerations here, too many to discuss in this Article. But this Subpart introduces possible alternatives.

The first possibility is self-policing by the crypto community, with developers or foundations updating the warning box as appropriate over time. Perhaps an industry-wide group like the Blockchain Association becomes crypto's FINRA, administering fines to networks that do not comply.

In a similar vein, Ayres and Schwartz, in the standard-form-contract setting, suggest that sellers conduct “term-substantiation” studies to determine when a warning-box disclosure is necessary.¹⁹⁰ Once such a study is done, sellers would have a “safe harbor” for including or excluding terms.¹⁹¹ In other words, sellers can self-police if they put in the effort, and that process would be respected by regulators and courts. Ayres and Schwartz suggest other seller initiatives, like creating an industry research advisory council to determine which terms would surprise consumers.¹⁹² These ideas may have purchase in crypto, too. Perhaps crypto developers could survey their communities from time to time to determine terms that are warning-box candidates, if this can be done cost-efficiently.¹⁹³

A second possible regulator is the SEC.¹⁹⁴ As discussed earlier, the SEC experimented with scaled-back disclosure in Regulation CF.¹⁹⁵ The SEC could take another crack at it by adopting the warning-box approach, although it could technically only do this for cryptos that meet the *Howey* test. Third, perhaps the CFTC is the right regulator, since non-security cryptos are by default commodities.¹⁹⁶ The CFTC already has authority over crypto-derivatives and

190. Ayres & Schwartz, *supra* note 33, at 607 (“[A] major administrative task would be to create guidelines that term-substantiation studies must satisfy before they can create a safe harbor for the seller.”).

191. *Id.*

192. *Id.* at 578. Ayres and Schwartz also see a role for the FTC in the standard-form-contract setting and for state courts to refuse to enforce unexpected terms. *Id.* at 580.

193. Given the nature of crypto, is term substantiation even possible? Perhaps it would be necessary to identify different classes of crypto (store of value, form of payment, etc.) and do a term substantiation study within each class. *See id.* at 595 (“Many commentators have criticized the role of consumer surveys in false advertising cases because of their cost.”).

194. Although the SEC was tasked with the crowdfunding rules, their efforts “weighed in at 228 pages and over 1,700 footnotes,” making crowdfunding “widely regarded as not being worth the effort.” Rodrigues, *supra* note 34, at 400.

195. *See supra* notes 112–24 and accompanying text.

196. The idea of some kind of minimal disclosure like the warning box fits with the nature of commodities market regulation better than securities market regulation. Chao-Hung Christophe Chen, *Information Disclosure, Risk Trading and the Nature of Derivative Instruments: From Common Law Perspective*, 4 NAT'L TAIWAN U. L. REV. 1, 14–15 (2009) (“A . . . mandatory disclosure system in the commodities market would mean that, if a farmer traded in the futures market, he would have to disclose information whenever he produced the crops for sale . . . or make periodical statements about the conditions of his crops It is not impossible to establish this kind of regime, but it would be costly to maintain such a system.”).

fraud in the spot markets,¹⁹⁷ and has been expanding its expertise over crypto.¹⁹⁸ Alternatively, Coinbase has called for a new digital assets regulator—not the SEC or CFTC—to police crypto.¹⁹⁹ Given crypto’s newness and complexity, this is an idea we should take seriously.

Finally, perhaps the courts ought to play a regulatory role, developing the warning-box idea in common-law fashion, as with standard form contracts. For example, a court could determine the absence of a warning-box disclosure to be a material omission under common-law fraud.²⁰⁰ Who should police the warning-box disclosures is a question that may ultimately be resolved in the coming years based on who is tasked with regulating crypto generally. And given that regulation requires holding wrongdoers accountable, it also requires figuring out who those wrongdoers are in decentralized networks.

CONCLUSION

Regulating crypto is problematic and leads to “tradeoffs galore” between allowing innovation and protecting investors.²⁰¹ This Article embraces the tokenized future where disclosure emerges voluntarily through whitepapers. To enhance the usefulness of such disclosure, this Article proposes adding a warning-box disclosure for cryptos presenting unusually negative features. The element of surprise is key here, as is the requirement that the surprise be unpleasant.

Warning-box disclosures should be few and short to be useful. They should be updated over time by developers, the foundation, or whoever else maintains the crypto’s official website, since most crypto buyers buy on the secondary market.

197. Jones, *supra* note 92, at 182 (“While the SEC has only recently stepped into the cryptoregulatory mix, the CFTC has been actively regulating cryptocurrency-derivative products since 2015.”); *id.* at 183 (“In the spot markets, the CFTC only has authority to take enforcement action against fraud and manipulation. As proposed in this Article, the CFTC’s ability to *prevent* fraud and manipulation in cryptocurrency markets could be improved if the Commission had full regulatory authority over the spot markets in addition to the derivatives thereof.”).

198. *Id.* at 230 (“[S]ince the CFTC determined that cryptocurrencies were commodities, the agency has worked to gain expertise on the subject. It has formed an internal virtual currency enforcement task force to garner and deploy relevant expertise in this evolving asset class.”).

199. Benjamin Pimentel & Tomio Geron, *The Crypto Industry Is Plotting an End Run Around the SEC*, PROTOCOL: FINTECH (Nov. 19, 2021), <https://www.protocol.com/newsletters/protocol-fintech/crypto-sec-regulation-gensler-attack?rebelltitem=1#rebelltitem1>. Christine Parlour, a professor at UC Berkeley’s Haas School of Business, thinks Coinbase has a point: “The SEC has deep expertise in securities and trading, but the rules that they have historically implemented often don’t make sense for cryptocurrencies.” *Id.*

200. Ard, *supra* note 155, at 373 (dismissing the FTC term-substantiation idea in the licensing context, arguing that “nothing so drastic is needed to reform copyright licensing,” as “[t]he key intervention would come from courts holding licensors accountable for making unexpected terms salient as a matter of contract law” while “[l]icensors could attempt to meet this burden however they wanted, but [still have to] convince the court that they succeeded”).

201. Cohney et al., *supra* note 7, at 647 (“Should we regulate this [crypto] thing? Some see evidence of fraud and call for the whole market to be shut down. Others would like the state to keep out. Each approach has costs and benefits, of course—a conundrum where good things like innovation, investor protection, and regulatory clarity sit uneasily alongside each other. There are tradeoffs galore.”).

While many details have yet to be worked out, including who should police the warning-box disclosures, this Article presents a balanced attempt at crypto regulation. It is somewhere in between an SEC-driven, IPO-like process and pure voluntary disclosure, but much closer to the latter. The warning-box proposal maintains the benefits of voluntary disclosure, which is largely working, while supplementing it where it falls short.

* * *