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WHEN THE MEANS UNDERMINE THE END: THE LEVIATHAN OF SECURITIES LAW AND ENFORCEMENT IN DIGITAL-ASSET MARKETS

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ABSTRACT

Machiavelli famously said that actions of all men, particularly of regulators, should be judged by the results. Paraphrasing Machiavelli, the end justifies the means. This Article addresses a situation where the means undermine the regulatory ends.

The focus of this Article is the Securities and Exchange Commission (“SEC”), the major capital-market watchdog. Created in the wake of the Great Depression, the SEC pursues a ternary set of objectives, including protecting investors, maintaining efficient markets, and facilitating capital formation. This Article examines a fundamental disconnect between the objectives of the SEC and the actual outcome of its policies in digital-asset markets—the agency’s enforcement efforts under the mantra of protecting investors and providing digital-asset markets with more information have produced an environment with less information. This disconnect between the SEC’s means and ends is relevant not only to cryptoasset investors but also to other purchasers such as consumers and users.

Using two hand-collected datasets, the Article shows that following an increase in enforcement, cryptoasset issuers have attempted to comply with securities law by resorting to private placements. This compliance option reduces market transparency and is harmful to the less sophisticated crypto-investors. In contrast, the more sophisticated crypto-investors rely on what the Article calls “the pure-information model” that exists independently of the SEC-enforced regulations.

To conclude, in actively enforcing pre-digital-asset law, the SEC has funneled crypto-issuers into inadequate and lackadaisical compliance with exemptions and created a status quo that is antithetical to the SEC’s core mission of protecting investors. This status quo is also harmful to crypto-issuers, who face higher capital costs. As no one wins in this scenario, a reform revising crypto-issuer disclosure is needed.

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A. INTRODUCTION

The famous quote from Machiavelli's *The Prince* states that “in the actions of all men, and especially of princes [i.e., the regulators], one judges by the result.”¹ In short, the end justifies the means. In this Article, I address a situation where the means *undermine* the regulatory ends. This dilemma between the ends and the means may materialize when large bureaucratic institutions with sprawling divisions in charge of various aspects of their respective statutory missions enforce the law without ensuring that enforcement actually comports with the missions.

The focus of our analysis will be the Securities and Exchange Commission (“SEC” or “Commission”), a leading capital-market watchdog

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¹ NICCOLO MACHIAVELLI, *THE PRINCE* (1513, ed. 2021).

performing a plethora of functions ranging from the oversight of securities exchanges, corporate reporting, and investment companies to enforcement and many others.² Created in the wake of the Great Depression, the SEC pursues a ternary set of regulatory objectives of protecting investors, maintaining fair and efficient markets, and facilitating capital formation.³ Unfortunately, a fundamental disconnect may materialize between the SEC's statutory objectives and the ways various divisions, particularly the Division of Enforcement, implement its overarching goals. This Article examines a crucial example of this harmful "schism" in the digital-asset (also "cryptoasset") markets.⁴

Representing the fourth piece in my tetralogy of papers examining the regulation of cryptoassets, this Article contributes to the rich scholarship on financial innovation, enforcement, and digital-asset revolution⁵ and underscores the detrimental effect of the disconnect between the ends and the means on both investors and innovators. Namely, recent crypto-enforcement under the mantra of protecting investors and providing them with material information about digital-asset securities has resulted in a market environment with *less* information. This outcome is harmful to various purchasers of cryptoassets regardless of their intent: some intend to use the purchased assets and related services, while others acquire cryptoassets in search of profitable investment opportunities.

Many cryptoasset issuers (also "crypto-issuers") rely on private placement exemptions that pose additional risks in crypto. My empirical analysis of two hand-collected datasets covering SEC enforcement and crypto-issuer filings in 2017-2021 supports this conclusion. It is likely that the SEC's active enforcement of pre-crypto securities law has created a status quo that is antithetical to the Commission's core mission of protecting investors, particularly the less sophisticated ones.

² U.S. SEC. & EXCH. COMM'N, SEC DIVISIONS HOMEPAGES, <https://www.sec.gov/divisions.shtml> (last updated July 6, 2021).

³ U.S. SEC. & EXCH. COMM'N, WHAT WE DO, <https://www.sec.gov/about/what-we-do> (last updated Dec. 18, 2020).

⁴ In this Article, "digital assets" will mean cryptoassets such as coins and tokens. A cryptoasset is "an asset that is issued and transferred using distributed ledger or blockchain technology, including, but not limited to, so-called 'virtual currencies,' 'coins,' and 'tokens.'" U.S. SEC. & EXCH. COMM'N, THE STRATEGIC HUB FOR INNOVATION AND FINANCIAL TECHNOLOGY, FRAMEWORK FOR "INVESTMENT CONTRACT" ANALYSIS OF DIGITAL ASSETS. (Apr. 3, 2019) n.2, <https://www.sec.gov/files/dlt-framework.pdf> [hereinafter The SEC Framework]. Classifications and terminology vary. See, e.g., Yuliya Guseva, *A Conceptual Framework for Digital-Asset Securities: Coins and Tokens as Debt and Equity*, 80 MD. L. REV. 166 (2021) [hereinafter Guseva, *A Conceptual Framework*]; Ana Claudia Moxoto et al., *Initial Coin Offering (ICO): A Systematic Review of the Literature*, Proceedings of the 54th Hawaii International Conference on System Sciences 4178 (2021) (on file with the author).

⁵ *Infra* notes 42-44, 114-18, 132-37.

This disconnect could have been easily revealed *ex ante* if the SEC had employed basic game theory and predictive analysis. Using the process of backward induction and cost-benefit analysis,⁶ this Article shows that an information-less crypto-market was a foreseeable, although unintended, consequence of enforcement of the current securities laws. Put differently, how crypto-firms would react to enforcement and whether their response would inure to the benefit of investors, whose protection is one of the elemental statutory precepts of the Commission, were two easily predictable outcomes.

To resolve these issues, a formal rule is needed. Although in April 2021 one of the SEC Commissioners—Commissioner Hester Peirce—proposed a new rule on digital assets,⁷ the Commission has not engaged in active rulemaking to date. Indeed, it is not individual Commissioners, but the Chair of the SEC who determines the overall agenda. Former Chairman Clayton seemed satisfied with a regulation-via-enforcement approach.⁸ On August 3, 2021, Chairman Gensler staked out his position grounded in the need for strong investor protection and an expanded statutory authority of the SEC over cryptoasset markets.⁹

While this paper agrees (and indeed emphatically argues) that both investors and innovators would be better off if the Commission promulgated even a basic rule on digital assets, it also aims to assist the regulator in designing a new approach without the unintended consequences and flaws of the current policies. Quoting Chair Gensler, “[a]t the heart of trust in markets is investor protection.”¹⁰ It is paramount for the regulators to avoid the fundamental disconnect between the typical means of investor protection (i.e., enforcement of unsuitable pre-crypto regulations) and actually protecting cryptoasset investors and achieving other objectives of the Commission. Regulatory routes that are contrary to the lofty ideals of protecting consumers and simultaneously facilitating capital formation, market efficiency, and transparency benefit neither the consumers nor the crypto-innovators and markets in general.

⁶ *Infra* Section D.

⁷ Hester M. Peirce, Comm’r, SEC, Token Safe Harbor Proposal 2.0 (Apr. 13, 2020), <https://www.sec.gov/news/public-statement/peirce-statement-token-safe-harbor-proposal-2.0> [hereinafter The Proposal]. As this article was going to print, a bill essentially replicating the Commissioner’s proposal was introduced in Congress. *See, e.g.*, House Fin. Serv. Comm., McHenry Introduces Legislation to Provide Legal Clarity & Certainty for Digital Asset Projects, Press Release, Oct. 5, 2021, <https://republicans-financialservices.house.gov/news/documentsingle.aspx?DocumentID=408154>.

⁸ *See generally* Guseva, *Game Theory*, *infra* note 46.

⁹ Gary Gensler, Chair, SEC, Remarks Before the Aspen Security Forum (Aug. 3, 2021), <https://www.sec.gov/news/public-statement/gensler-aspen-security-forum-2021-08-03>.

¹⁰ *Id.*

This Article develops as follows: Part B reviews the federal securities statutes and the prevalence of private placements *vis-a-vis* public offerings. Part C provides empirical analysis on crypto-offerings and crypto-enforcement from 2017 to 2021. Parts D and E explain why private placements are a predictable outcome of enforcement. Part F highlights the fundamental “fissure” between the Commission’s mission and the actual enforcement outcomes and discusses the need for better information disclosure, formal rulemaking, and investor protection. Part G presents conclusions.

B. EVOLVING TRENDS IN PUBLIC AND PRIVATE OFFERINGS

As a method of protecting cryptoasset purchasers, conventional securities law has limited tools at its disposal. The basic edifice of securities law consists of the Securities Act of 1933¹¹ (also “the ’33 Act”) and the Securities Exchange Act of 1934¹² (also “the ’34 Act” or “Exchange Act”). The former is primarily concerned with investor protection: the ’33 Act applies in primary offerings, imposes essentially strict liability for material misstatements and omissions in public offering documents, and mandates gun-jumping and disclosure rules in public distributions of securities.¹³ The last-mentioned goals were aptly encapsulated by President Roosevelt in his message to Congress in 1933:

There is... an obligation upon us to insist that every issue of new securities to be sold in interstate commerce shall be accompanied by full publicity and information, and that no essentially important element attending the issue shall be concealed from the buying public.¹⁴

The Securities Exchange Act, which was enacted a year after the ’33 Act for various political reasons,¹⁵ differs in some respects. The ’34 Act’s solicitude is disclosure through periodic reporting by registered and

¹¹ 15 U.S.C. §§ 77a *et seq.*

¹² 15 U.S.C. §§ 78a *et seq.*

¹³ See, e.g., Alan R. Palmiter, *Toward Disclosure Choice in Securities Offerings*, 1999 COLUM. BUS. L. REV. 1, 9-11.

¹⁴ Franklin D. Roosevelt, President, Message to Congress on Federal Supervision of Investment Securities (Mar. 29, 1933) (Gerhard Peters & John T. Woolley, The American Presidency Project), <https://www.presidency.ucsb.edu/documents/message-congress-federal-supervision-investment-securities>.

¹⁵ See, e.g., A. C. Pritchard, *Revisiting “Truth in Securities” Revisited: Abolishing IPOs and Harnessing Private Markets in the Public Good*, 36 SEATTLE U. L. REV. 999, 1004-05 (2013) [hereinafter Pritchard, *Revisiting*].

reporting companies and, ultimately, market efficiency accompanied by an antifraud liability (i.e., not strict liability) regime.¹⁶

Modern firms have been slowly moving away from public markets and, hence, the core Securities Act provisions. For instance, public markets were once dominated by initial public offerings (“IPOs”) viewed as a rite of passage and a token of corporate prestige.¹⁷ Today, many firms stay private longer and raise capital through exemptions from the registration provisions of the Securities Act.¹⁸ Other mechanisms such as reverse mergers were also tried, often by foreign firms, as a way to go public in the U.S.¹⁹ In 2020-2021, special purpose acquisition companies (“SPACs”) garnered headlines for the same reason.²⁰

All of these techniques have something in common. For one, investors receive less information about issuers compared with the disclosures in IPOs. In IPOs, firms file Form S-1²¹ that provides a comprehensive overview of the companies, their management teams, and financials. Second, issuers going public have to exercise caution in wording their disclosures lest they face strict liability under the Securities Act for material misstatements and omissions in registration statements.²² As sellers of securities, they also may be subject to liability for material misrepresentations and omissions in prospectuses under the standard that is essentially similar to negligence.²³ In addition, there is the risk of fraud liability under Securities Act Section 17 and Exchange Act Section 10(b) and Rule 10b-5.²⁴ This expected liability and limited safe harbors²⁵ force the offerings’ “wordsmiths” to tread carefully.²⁶ The byproduct of this edifice is higher costs of registered public offerings.

¹⁶ *Id.* at 1012; 17 C.F.R. § 240.10b-5 (2021).

¹⁷ Robert B. Thompson & Donald C. Langevoort, *Redrawing the Public-Private Boundaries in Entrepreneurial Capital Raising*, 98 CORNELL L. REV. 1573, 1580 (2013).

¹⁸ For a discussion of the evolution of Regulation D, see *id.* at 1610-18. For a general overview of the public/private divide and related informational trends, see, e.g., Elisabeth de Fontenay, *The Deregulation of Private Capital and the Decline of the Public Company*, 68 HASTINGS L.J. 445 (2017).

¹⁹ Thompson & Langevoort, *supra* note 17, at 1576-77.

²⁰ See, e.g., *The Making of an Electric-Vehicle Fiasco*, WALL ST. J. (June 14, 2021), https://www.wsj.com/articles/the-making-of-an-electric-vehicle-fiasco-11623710171?mod=article_inline.

²¹ U.S. Sec. & Exch. Comm’n, Form S-1, <https://www.sec.gov/files/forms-1.pdf>.

²² 15 U.S.C. § 77k.

²³ 15 U.S.C. § 77l(a)(2). See Thompson & Langevoort, *supra* note 17, at 1587.

²⁴ 15 U.S.C. § 78j(b); 17 C.F.R. § 240.10b-5 (2021); 15 U.S.C. § 77q.

²⁵ For example, the Private Securities Litigation Reform Act’s safe harbor for forward-looking statements is inapplicable in IPOs. 15 U.S.C. § 77z-2(b)(2). The bespeaks caution doctrine, however, may still apply.

²⁶ This enhanced liability in primary offerings is explained by the congressional intent to strengthen the incentives of issuers to provide sufficient and accurate information to public investors. H.R. REP. NO. 73-85, at 3-6, 8-10 (1933).

Third, despite this disclosure and liability regime, IPO market prices are not fully efficient and informative.²⁷ Issuers typically engage reputational intermediaries such as investment banks²⁸ to assist with offerings and provide some assurance to the market that the securities should be valued at least at the offering price. Despite the well-founded doubts concerning the accuracy of underwriters' valuations and incentives, as well as underpricing,²⁹ the market has traditionally regarded investment bankers as gatekeepers and reputational intermediaries.³⁰

These features of public offerings are absent in other scenarios that do not follow this rite of passage under the Securities Act. Reverse mergers of 2007-2010, for instance, did not provide much information to investors, did not have adequate reputational intermediaries, and proved exceptionally risky, which prompted rule changes by securities exchanges.³¹ SPACs, which exhibit trends similar to those in reverse mergers, also pose risks, do not provide IPO-like disclosures, and tend to underperform public offerings.³² Investors in SPACs essentially sign a blank check that signifies their trust in the reputation and acumen of the promoters of SPACs.

The third relevant phenomenon is private placements where information asymmetry is probably even wider and risks greater. These placements will be the main topic of our discussion. Not only scholars but also the SEC itself, even though it has designed and recently expanded the private placement exemptions,³³ understand that these placements may be fraught with danger, particularly for smaller institutions and retail

²⁷ See, e.g., Pritchard, *Revisiting*, *supra* note 15, at 1013-16.

²⁸ See, e.g., Steven M. Davidoff et al., *The SEC v. Goldman Sachs: Reputation, Trust, and Fiduciary Duties in Investment Banking*, 37 J. CORP. L. 529, 541 (2012) ("The investment bank's historic *raison d'être* was to resolve conflict in situations where the formal law was ineffective. It did so by staking its reputation on promises to both parties to a transaction. Because both parties trusted it, the investment bank received fees for making these promises and, because it valued the fees that sprang from its continued trustworthiness, it worked hard to make meaningful promises, and to maintain its reputation.").

²⁹ See, e.g., Pritchard, *Revisiting*, *supra* note 15, at 1013-16.

³⁰ Gatekeepers are "private actors that can prevent companies' misconduct in a specific market." Elisabeth de Fontenay, *Private Equity Firms as Gatekeepers*, 136 REV. BANKING & FIN. L. 115, 136 (2013) (citing Reinier H. Kraakman, *Gatekeepers: The Anatomy of a Third-Party Enforcement Strategy*, 2 J.L. ECON. & ORG. 53, 54 (1986)). For a sample of this rich scholarship, see, e.g., John C. Coffee, Jr., *Gatekeeper Failure and Reform: The Challenge of Fashioning Relevant Reforms*, 84 B.U. L. REV. 301, 308-12 (2004) (outlining the types of gatekeepers); Bernard S. Black, *The Legal and Institutional Preconditions for Strong Securities Markets*, 48 UCLA L. REV. 781, 788 (2001) (discussing gatekeepers and related problems, including "bogus investment bankers" and information asymmetry in the market for reputational intermediaries); Davidoff et al., *supra* note 28; *infra* note 293.

³¹ See, e.g., Thompson & Langevoort, *supra* note 17, at 1588-98.

³² Ivana Naumovska, *The SPAC Bubble is About to Burst*, HARVARD BUSINESS REVIEW, Feb. 18, 2021, <https://hbr.org/2021/02/the-spac-bubble-is-about-to-burst>.

³³ *Infra* Part E.

investors.³⁴ We may argue whether the exemptions from the Securities Act are net-beneficial *per se*, whether they expose investors to unnecessary risks, or if the exemptions provide issuers with cost-effective means of raising capital and are thus valuable. Indeed, the SEC announced in June 2021 that it would review private placements in light of these concerns.³⁵ The fact of the matter is that investors in private placements are exposed to greater risks, asset variability, and adverse selection (unless investors can negotiate for more disclosure from issuers) than investors in registered public offerings.³⁶

Disclosure under the most popular private exemption, Regulation D,³⁷ is essentially voluntary when all participating purchasers are accredited, which they often are.³⁸ If there is less issuer information than in registered offerings, it is harder for the market to ensure that security prices are informative, particularly when securities are illiquid and trading thin and inefficient, as is the case with restricted, privately placed securities.³⁹ In addition, private placements are not subject to the full scope of the Securities Act liability regime.⁴⁰

Despite these risks, reduced liability under the Securities Act, and possible adverse selection, private placements have become the norm in the capital-raising arena.⁴¹ The next Part demonstrates that the major trends in digital-asset offerings do not differ from those in legacy capital markets—crypto-firms increasingly raise capital through private placements. The main distinction is that in crypto-markets this trend may be explained, at least in

³⁴ *Id.* See also Thompson & Langevoort, *supra* note 17, at 1609-23.

³⁵ U.S. SEC. & EXCH. COMM’N, RULEMAKING LIST (June 11, 2021),

<https://www.sec.gov/news/press-release/2021-99>.

³⁶ U.S. SEC. & EXCH. COMM’N, Release No. 33-10734, 125-129 (Dec. 18, 2019) [hereinafter Release No. 33-10734], <https://www.sec.gov/rules/proposed/2019/33-10734.pdf> (acknowledging these disadvantages and also mentioning the insufficient bargaining power of often dispersed investors, project variability, the lack of comparability among Regulation D investments, agency costs, insufficient disclosure, and difficulties in monitoring the management).

³⁷ 17 C.F.R. §230.500 *et seq.* (2021). It has become “the most widely used transactional exemptions for securities offerings by issuers.” U.S. SEC. & EXCH. COMM’N, REPORT ON THE REVIEW OF THE DEFINITION OF “ACCREDITED INVESTOR” 1 (2015), <https://www.sec.gov/files/review-definition-of-accredited-investor-12-18-2015.pdf> [hereinafter Accredited Investor]. See also U.S. SEC. & EXCH. COMM’N, REPORT TO THE COMMISSION, REGULATION A LOOKBACK STUDY AND OFFERING LIMIT REVIEW ANALYSIS 34 (Mar. 4, 2020), <https://www.sec.gov/smallbusiness/exemptofferings/rega/2020Report> [hereinafter Lookback Study].

³⁸ See *infra* Part E.

³⁹ 17 C.F.R. §230.502(d) (2021). But see Thompson & Langevoort, *supra* note 17, at 1614 (observing that technology may facilitate the market for restricted securities sold in private placements).

⁴⁰ See *infra* Part E.

⁴¹ See *infra* Parts C & E.

part, by SEC enforcement. Let us now review how this has happened in crypto.

C. THE THREE YEARS OF SEC ENFORCEMENT AND ISSUER FILINGS

Digital assets exist on the border with or outside the perimeter of legacy capital markets and institutions and embody a sizeable aspect of the fintech revolution.⁴² These novel instruments create unprecedented opportunities for entrepreneurs and enable them to raise capital at low cost.⁴³ They also offer numerous financial services and attract not only persons seeking new ways to invest but also those who use cryptoassets to obtain access to goods and services. Despite the surrounding controversies, opaque asset quality, and crypto-market volatility,⁴⁴ digital assets may evolve into a fundamental pillar of future finance.⁴⁵

Many countries have already acknowledged this potential of digital assets and either brought them within the ambit of securities and commodities regulation or developed targeted rules on crypto.⁴⁶ The recent

⁴² Fintech generally means an industry maximizing efficiency in financial systems. Christophe Williams, *What is Fintech?*, WHARTON FINTECH (Feb. 16, 2016). It may also refer to “the use of technology to deliver financial solutions.” Douglas W. Arner et al., *The Evolution of Fintech: A New Post-Crisis Paradigm?* 47 GEO. J. INT’L L. 1271, 1272 (2016). Brummer and Yadav underscore the following features of fintech: automation, the use of algorithms, the proliferation of smaller startups, the disintermediation of traditional finance, and big data. Chris Brummer & Yesha Yadav, *Fintech and the Innovation Trilemma*, 107 GEO. L.J. 235, 264-82 (2019). For examples of the multiple benefits of technology, see generally Jonathan Rohr & Aaron Wright, *Blockchain-Based Token Sales, Initial Coin Offerings, and the Democratization of Public Capital Markets*, 70 HASTINGS L.J. 463 (2019).

⁴³ This capital-raising boom began with unregulated initial coin offerings (“ICOs”) and has moved since to offerings of digital-asset securities or security tokens. See, e.g., Guseva, *A Conceptual Framework*, *supra* note 4, at 176-77; COINTELEGRAPH, THE SECURITY TOKEN REPORT 9-27 (2021) [hereinafter COINTELEGRAPH REPORT]; Samuel N. Weinstein, *Blockchain Neutrality*, 55 GA. L. REV. 499, 504 (2021) (“Blockchain-based capital markets threaten Wall Street banks’ and Silicon Valley venture capitalists’ (VCs) market dominance.”).

⁴⁴ See, e.g., Dirk A. Zetsche et al., *The ICO Gold Rush: It’s a Scam, It’s a Bubble, It’s a Super Challenge for Regulators*, 60 HARV. INT’L L.J. 267, 278-79, 287-89 (2019) [hereinafter Zetsche et al., *The ICO Gold Rush*]; *Crypto is “Rat Poison,” a Third of Mainstream Investment Firms Tell JPM*, REUTERS (June 23, 2021), <https://www.reuters.com/business/finance/crypto-is-rat-poison-third-mainstream-investment-firms-tell-jpm-2021-06-23>.

⁴⁵ See, e.g., Rohr & Wright, *supra* note 42; Taylor Locke, *Crypto is “The Future of Finance”: Why Gen Z is Ditching Traditional Investments – But With Caution*, CNBC (June 22, 2021), <https://www.cnbc.com/2021/06/22/gen-z-investing-in-cryptocurrency-btc-eth-and-meme-stocks-amc-gme.html>.

⁴⁶ For an overview of foreign jurisdictions, see, e.g., Yuliya Guseva, *The SEC, Digital Assets, and Game Theory*, 46 J. CORP. L. 629 (2021) [hereinafter Guseva, *Game Theory*]; American Bar Association, *Digital and Digitized Assets: Federal and State Jurisdictional Issues*, 39-200, 289-338 (Dec. 2020), https://www.americanbar.org/content/dam/aba/administrative/business_law/idpps_whitepaper

successful examples are the European Union's MiCAR⁴⁷ and Switzerland's law on digital-asset securities (also "security tokens").⁴⁸ European companies have already availed themselves of these new cost-effective opportunities.⁴⁹

In contrast to Europe, the United States has yet to provide a regulation tailored to crypto-markets.⁵⁰ Instead, its main financial market regulators rely on and enforce the existing pre-crypto securities and commodity regulations.⁵¹ The SEC in particular has been a remarkable national and international leader in terms of the magnitude and scope of its crypto-enforcement.⁵² Since mid-2017, the SEC has been essentially regulating digital-asset markets via enforcement.⁵³

.pdf. See also *Regulation of Cryptocurrency Around the World*, LIBRARY OF CONGRESS (2018), <https://www.loc.gov/law/help/cryptocurrency/world-survey.php>.

⁴⁷ PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON MARKETS IN CRYPTO-ASSETS, AND AMENDING DIRECTIVE (EU) 2019/1937, COM/2020/593 final (Sept. 24, 2020), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0593>.

⁴⁸ For an analysis, see PwC, *Security Tokens, Issuance and Trading Platforms According to Swiss and EEA Regulatory Initiatives*, in COINTELEGRAPH REPORT, *supra* note 43, at 77-83.

⁴⁹ COINTELEGRAPH REPORT, *supra* note 43, at 21, 25.

⁵⁰ Several bills have been introduced in Congress over the past two years. The bills included, *inter alia*, Securities Clarity Act, H.R. 8378, 116th Cong. (2020); Token Taxonomy Act of 2019, H.R. 2144, 116th Cong. (2019); Crypto-Currency Act of 2020, H.R. 6154, 116th Cong. (2020). As of the date of this writing, Congress has yet to take action on crypto.

⁵¹ See Douglas Eakeley & Yuliya Guseva, with Leo Choi & Katarina Gonzalez, *Crypto-Enforcement Around the World*, 94 SOUTH. CAL. L. REV. POSTSCRIPT 99 (2021). For a related discussion and critiques of applying securities law to cryptoassets, see, e.g., Eric C. Chaffee, *Securities Regulation in Virtual Space*, 74 WASH. & LEE L. REV. 1387 (2017); Lewis Rinaudo Cohen, *Ain't Misbehavin': An Examination of Broadway Tickets and Blockchain Tokens*, 65 WAYNE L. REV. 81 (2019); Shlomit Azgad-Tromer, *Crypto Securities: On the Risks of Investments in Blockchain-Based Assets and the Dilemmas of Securities Regulation*, AM. U. L. REV. 69 (2018); Wulf A. Kaal, *Initial Coin Offerings: The Top 25 Jurisdictions and Their Comparative Regulatory Responses (As of May 2018)*, 1 STAN. J. BLOCKCHAIN L. & POL'Y 41 (2018); Kevin Werbach, *Trust, but Verify: Why the Blockchain Needs the Law*, 33 BERKELEY TECH. L.J. 487 (2018); Kelsey Bolin, *Decentralized Public Ledger Systems and Securities Law: New Applications of Blockchain Technology and the Revitalization of Section 11 and 12(a)(2) of the Securities Act of 1933*, 95 WASH. U. L. REV. 955 (2018); Rohr & Wright, *supra* note 42, at 485-511; Carol Goforth, *Securities Treatment of Tokenized Offerings Under U.S. Law*, 46 PEPP. L. REV. 405, 437-57 (2019); Usha R. Rodrigues, *Embrace the SEC*, 61 WASH. U. J.L. & POL'Y 133 (2020).

⁵² Eakeley & Guseva, *supra* note 51, at 99-100; Guseva, *Game Theory*, *supra* note 46, at 644-50.

⁵³ This focus on enforcement, theoretically, is in line with the SEC's budget needs. "Reported SEC enforcement figures regularly grab newspaper headlines and capture the attention of Congress both during budget appropriation season and in post-scandal testimonies." Urska Velikonja, *Reporting Agency Performance: Behind the SEC's Enforcement Statistics*, 101 CORNELL L. REV. 901, 920 (2016).

This Section suggests that there may be a temporal nexus between extensive crypto-enforcement by the SEC and an increase in cryptoasset offerings under the exemptions from the Securities Act. This connection indicates that the SEC may have nudged cryptoasset developers toward compliance with the exemptions.⁵⁴ As discussed further in this Article, in doing so, the SEC has not fully taken into account the differences in the nature of either the persons who purchase cryptoassets or the assets *per se*.

The SEC's enforcement efforts were massive and conducted on a global scale.⁵⁵ In *The SEC and Game Theory*⁵⁶ and in *Global Crypto-Enforcement*,⁵⁷ my co-authors and I researched all crypto-related actions brought by the SEC between mid-2017 and the end of December 2020, as well as foreign enforcement.

The SEC undeniably was a global champion.⁵⁸ It did not lose a single case against crypto-firms, and most enforcement actions resulted in settlements, demonstrating the strength of the Commission *vis-a-vis* individual crypto-defendants and respondents.⁵⁹ The SEC targeted domestic and foreign crypto-issuers and market actors such as exchanges and other gatekeepers. The penalties and disgorgement awards that the SEC obtained in court and in administrative proceedings were considerable.⁶⁰

The enforcement actions followed two general trends: prosecuting bad actors and enforcing the registration provisions of the Securities Act (and the Exchange Act in cases involving broker-dealers and unregistered exchanges). In the first subgroup, the SEC initiated actions against malevolent, fraudulent parties. In a typical case, defendant engaged in an initial coin offering ("ICO") to raise capital and misrepresented the future possibilities (and/or omitted specific contractual details) of its crypto-project.⁶¹ In 41 out of the 87 cases in the database, the charges involved the antifraud provisions of the Exchange Act and the Securities Act.⁶² Fraud generates real economic costs, and these enforcement actions were indubitably justified by the need to curb the animal spirits of predatory innovators.

⁵⁴ *Infra* Part E.

⁵⁵ See generally Eakeley & Guseva, *supra* note 51.

⁵⁶ Guseva, *Game Theory*, *supra* note 46.

⁵⁷ Eakeley & Guseva, *supra* note 51.

⁵⁸ *Id.*

⁵⁹ Guseva, *Game Theory*, *supra* note 46, at 644-50.

⁶⁰ *Id.*

⁶¹ *Id.* See also U.S. SEC. & EXCH. COMM'N, INVESTOR BULLETIN: INITIAL COIN OFFERINGS (July 25, 2017), https://www.sec.gov/oica/investor-alerts-and-bulletins/ib_coinofferings [hereinafter SEC, INITIAL COIN OFFERINGS]; Shaanan Cohn et al., *Coin-Operated Capitalism*, 119 COL. L. REV. 591, 597-98, 609 (2019); Zetzsche et al., *The ICO Gold Rush*, *supra* note 44.

⁶² 15 U.S.C. § 78j; 17 C.F.R. § 240.10b-5 (2021); 15 U.S.C. § 77q.

Yet, as many as 24 cases, i.e., more than a quarter, concerned primarily registration violations under the Securities Act, namely Section 5.⁶³ In those cases, *non-fraudulent* issuers and other parties sought capital for various cryptoasset projects (or assisted with asset trading). The total civil penalties and disgorgement in those cases reached approximately \$1.4 billion.⁶⁴

In the Section 5 crypto-actions, the SEC habitually emphasized that because the cryptoasset issuers did not follow the Securities Act's registration requirements, investors were deprived of material information (i.e., the information that a reasonable investor would likely view as significant and altering the total mix of available information)⁶⁵ that would have enabled them to make informed decisions.

Recall that the SEC's mission and, consequently, enforcement are built on investor protection and disclosure. Indeed, it is commonly assumed that the SEC tends to overemphasize consumer protection and harm prevention.⁶⁶ True to form, SEC Staff reiterated these objectives in digital-asset cases.⁶⁷ In the application for a temporary restraining order against Telegram, for instance, the SEC underscored that because the issuer did not register the offering, investors were deprived of material information.⁶⁸ The complaint filed against Ripple Labs in December 2020 also suggested that "[b]ecause Ripple never filed a registration statement, it never provided investors with the material information..."⁶⁹ and that "[r]egistration statements relating to an offering of securities... provide public investors with material information about the issuer and the offering...."⁷⁰

⁶³ 15 U.S.C. § 77e.

⁶⁴ Telegram accounted for about \$1.2 billion in this total. U.S. Sec. & Exch. Comm'n, Telegram to Return \$1.2 Billion to Investors and Pay \$18.5 Million Penalty to Settle SEC Charges, Press Release No. 2020-146 (June 26, 2020), <https://www.sec.gov/news/press-release/2020-146>.

⁶⁵ TSC Industries, Inc. v. Northway, Inc., 426 U.S. 438, 449 (1976). *See also* 17 C.F.R. § 230.405 (2021) (defining materiality).

⁶⁶ *See, e.g.*, Weinstein, *supra* note 43, at 512-13, 548-49.

⁶⁷ *See, e.g.*, U.S. Sec. & Exch. Comm'n, SEC Orders Blockchain Company to Pay \$24 Million Penalty for Unregistered ICO, Press Release No. 2019-202 (Sept. 30, 2019), <https://www.sec.gov/news/press-release/2019-202> ("The SEC remains committed to bringing enforcement cases when investors are deprived of material information they need to make informed investment decisions" (citing Steven Peikin)); U.S. Sec. & Exch. Comm'n, SEC Halts Alleged \$1.7 Billion Unregistered Digital Token Offering, Press Release No. 2019-212 (Oct. 11, 2019), <https://www.sec.gov/news/press-release/2019-212>.

⁶⁸ Complaint ¶ 48, U.S. Sec. & Exch. Comm'n v. Telegram Grp. Inc., 448 F.Supp.3d 352 (S.D.N.Y. Oct. 11, 2020) (No. 19-cv-9439(PKC)) (*available at* <https://www.sec.gov/litigation/complaints/2019/comp-pr2019-212.pdf>).

⁶⁹ Complaint ¶ 2, U.S. Sec. & Exch. Comm'n v. Ripple Labs, Inc. (S.D.N.Y. Dec. 22, 2020) (No. 20-cv-10832) [hereinafter *Ripple Complaint*] (*available at* <https://www.sec.gov/litigation/complaints/2020/comp-pr2020-338.pdf>).

⁷⁰ *Id.* ¶ 26.

The global cryptoasset market, however, did not seem to either agree with this assumption or appreciate that last-mentioned aspect of the SEC's regulation via enforcement. In *National Crypto-Enforcement and International Consequences*, my co-authors and I run event studies around the dates of enforcement actions using a sample of 2800 cryptocurrencies.⁷¹ Our preliminary findings indicate that the cumulative abnormal returns were negative starting around mid-2019. This is precisely when the SEC turned its attention to the violations of the registration provisions of the Securities Act.

Before 2019, there were only eight cases brought solely under Section 5 of the Securities Act, and three out of those cases concerned not developers-issuers but unregistered broker-dealers and an investment fund. By contrast, after mid-2019, there were as many as 16 cases under Section 5, and the issuers of cryptoassets were targeted in 14 of them. In short, *National Crypto-Enforcement and International Consequences* suggests that early SEC antifraud enforcement in digital-asset offerings was a welcome intervention, whereas the actions focused mainly on Securities Act registration and disclosure violations had a negative effect on cryptocurrency prices.

Based on these three studies, one should not be surprised that crypto-issuers have responded with some form of compliance, have relocated (or threatened to move) to other countries⁷² with more accommodating regimes in pursuit of regulatory certainty and arbitrage profits,⁷³ geofenced U.S. markets and investors,⁷⁴ or discontinued their projects.⁷⁵ The following analysis centers on the firms that stayed in the U.S. and illustrates a temporal nexus between enforcement and attempted issuer compliance, namely, light-touch compliance with Regulation D.

⁷¹ Yuliya Guseva, Irena Hutton & Hang Miao, *National Crypto-Enforcement and International Consequences* (2021) (unpublished manuscript). As of the date of this writing, my co-authors and I continue working on *National Crypto-Enforcement*.

⁷² Daniel Palmer, *Ripple Eyeing Move to London Over XRP-Friendly Stance, CEO Says*, COINDESK (Oct. 23, 2020), <https://www.coindesk.com/ripple-eyeing-move-to-london-over-xrp-friendly-stance-ceo-says>.

⁷³ On migration and regulatory arbitrage, see, e.g., Ilya Beylin, *Designing Regulation for Mobile Financial Markets*, 10 UC IRVINE L. REV. 497, 501-05, 536 (2020); Chris Brummer, *How International Law Works (and How It Doesn't)*, 99 GEO. L. J. 257, 267 (2011); Frank Partnoy, *Financial Derivatives and the Costs of Regulatory Arbitrage*, 22 J. CORP. L. 211, 211 n.1 (1997).

⁷⁴ See, e.g., Carol Goforth, *Regulation of Crypto: Who is the Securities and Exchange Commission Protecting?*, 58 AM. BUS. L.J. 643 (2021). See also Brand Voice, *Binance Finally Blocks United States Users*, YAHOO! FINANCE (Nov. 17, 2020), <https://finance.yahoo.com/news/binance-finally-blocks-united-states-115803718.html>.

⁷⁵ See, e.g., Commissioner Hester M. Peirce, *Not Braking and Breaking*, July 21, 2020, <https://www.sec.gov/news/speech/peirce-not-braking-and-breaking-2020-07-21>.

To establish how crypto-issuers changed their behavior following SEC enforcement, I searched the following SEC forms:

- D (the short form filed after private placements pursuant to Regulation D),⁷⁶
- 1-A (the comparatively detailed form filed before Regulation A offerings, which I refer to as “mini-public” offerings),⁷⁷
- F-1 (the form used by foreign private issuers registering securities under the Securities Act),⁷⁸
- S-1 (the document filed mainly in IPOs and in public offerings by smaller firms),⁷⁹
- and S-3 (the form used mainly in seasoned offerings by larger reporting issuers registering securities under the Securities Act).⁸⁰

The timeframe of the research covers the period from January 2017 through July 2021. The following search terms were used: cryptocurrency, initial coin offering, coin, security token, digital asset, token, and SAFT (“Simple Agreement for Future Tokens”). My research assistants and I searched EDGAR and Bloomberg Law’s EDGAR database. Our primary objective was to identify firms that solicited capital from investors. For this reason, we excluded all funds and pooled investment vehicles from the results.

The search generated 338 results, including forms filed for:

- 1) cryptoassets labelled “coins” and “tokens,”
- 2) investment contracts under SAFTs or similar agreements which gave investors the right to receive tokens at a later date, and
- 3) “conventional” securities such as common or preferred shares of stock in tokenized form, as well as securities convertible into security tokens at a later date.

Since this analysis focuses on cryptoasset offerings and present and future right to receive cryptoassets, I excluded the third category (i.e., tokenized “conventional” securities) from the data. A list of the most important offerings of “conventional” securities is included in Part D. Overall, the total number of forms in the final dataset was 275. To ensure consistency, I reviewed all forms, prospectuses, and offering circulars in the dataset.

An additional factor to consider was that the technology and its applications were evolving, and some developers had already changed their underlying projects in a way that might ward off regulatory scrutiny. “Yield

⁷⁶ U.S. Sec. & Exch. Comm’n, Form D, <https://www.sec.gov/about/forms/formd.pdf>.

⁷⁷ U.S. Sec. & Exch. Comm’n, Form 1-A, <https://www.sec.gov/files/form1-a.pdf>.

⁷⁸ U.S. Sec. & Exch. Comm’n, Form F-1, <https://www.sec.gov/about/forms/formf-1.pdf>.

⁷⁹ U.S. Sec. & Exch. Comm’n, Form S-1, <https://www.sec.gov/files/forms-1.pdf>.

⁸⁰ U.S. Sec. & Exch. Comm’n, Form S-3, <https://www.sec.gov/files/forms-3.pdf>.

farming” was an important example.⁸¹ Yield farming allows decentralized finance projects increase their popularity, liquidity, and user base through offering cryptoasset-holders some form of return on their “deposits.”⁸² These emerging practices have yet to encounter formal interactions with the SEC. To the extent that they ever did (or would), their developers would file one of the forms required by the SEC, which should be captured by my research methodology.

Table 1 summarizes the data on all filings. The data exhibit a significant increase in Form D filings and several (mostly unsuccessful)⁸³ attempts at registering securities with the SEC, as well as Regulation A offerings. In 2019, crypto-placements slowed down, which coincided with the general decrease in ICOs and other token offerings after the initial boom.

Table 1: Summary: Total Filings

Year Filed	Total		Avg / month	
	Form D	Forms 1-A,F-1,S-1	Form D	Forms 1-A,F-1,S-1
2017	24	0	2.00	0.00
2018	151	8	12.58	0.67
2019	47	4	3.92	0.33
2020	23	1	1.92	0.08
2021	17	0	2.43	0.00
Total	262	13	4.76	0.24

How were these filings associated with the SEC’s crypto-enforcement policies? There were two crucial events that link the filings to SEC enforcement. The first was July 25, 2017, the date of the Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934, commonly known as the “DAO Report.”⁸⁴ In the DAO Report, the SEC communicated for the first time that digital assets could be securities and that this question should be examined under the 1946 *Howey* test.⁸⁵ The

⁸¹ See Guseva, *Game Theory*, *supra* note 46, at 685. Yield farming is “a shorthand for clever strategies where putting crypto temporarily at the disposal of some startup’s application earns its owner more cryptocurrency.” Andrei-Dragos Popescu, *Transitions and Concepts Within Decentralized Finance (DeFi) Space* 47 (2020) (unpublished manuscript).

⁸² See generally Guseva, *Game Theory*, *supra* note 46.

⁸³ *Infra* Sections D(1)-(3).

⁸⁴ U.S. SEC. & EXCH. COMM’N, REPORT OF INVESTIGATION PURSUANT TO SECTION 21(A) OF THE SECURITIES EXCHANGE ACT OF 1934: THE DAO, Securities Exchange Act Release No. 81207 (July 25, 2017), <https://www.sec.gov/litigation/investreport/34-81207.pdf> [hereinafter The DAO Report].

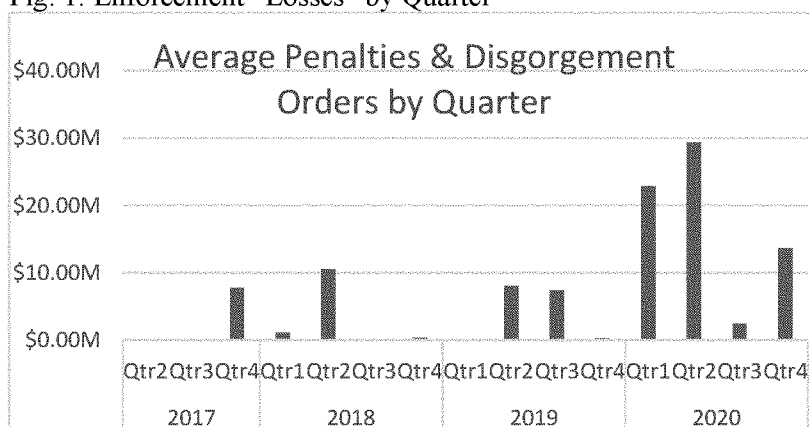
⁸⁵ SEC v. W.J. Howey Co., 328 U.S. 293, 299 (1946) (defining the term “investment contract” using flexible principles).

Supreme Court *Howey* test is exceptionally capacious and sweeps in multiple financial instruments, including many cryptoassets.⁸⁶

Another important benchmark was the *Munchee* order.⁸⁷ In *Munchee*, the SEC issued a cease-and-desist order against Munchee, Inc., a crypto-issuer. Although the SEC did not impose a civil penalty on the firm, the issuer returned the \$15,000,000 it had raised to the investors, which *de facto* shut down the project.

As demonstrated below, the DAO Report and *Munchee* were potent policy signals concerning the future trajectory of enforcement. These signals were supported by the rising enforcement intensity at the end of 2017. Figure 1 measures this enforcement intensity by using the proxy of the average civil penalties, disgorgement orders, and prejudgment interest, as well as settlements where issuers agreed to pay rescissory damages and return funds to investors. For simplicity, I refer to these payments as the “losses” of defendants and respondents. Figure 1 breaks down enforcement intensity by quarter and indicates that the average enforcement “losses” increased sharply in the last quarter of 2017.

Fig. 1: Enforcement “Losses” by Quarter



Although the largest increase in “losses” falls on 2020, a careful reading of the 2020 enforcement actions in the database indicates that those cases mostly concerned the violations that allegedly occurred in 2017-2019 or earlier. Self-evidently, there should be a positive amount of time between defendants’ and respondents’ actions and SEC enforcement.

Table 2 presents another summary of all enforcement actions initiated by the SEC between mid-2017 and December 2020 and contrasts it with the

⁸⁶ See, e.g., Guseva, *Game Theory*, *supra* note 46, at 634-40.

⁸⁷ In the Matter of Munchee Inc., Securities Act of 1933 Release No. 10445, 2017 WL 10605969 (Dec. 11, 2017).

annual numbers of actions.⁸⁸ The Table excludes the *Telegram* case, which was an outlier that produced a record-high \$1.2 billion disgorgement award and a significant fine.⁸⁹

The actions in Figure 1 and Table 2 cover not only ICO issuers but also the whole cryptocurrency ecosystem, including trading and offerings. The defendants and respondents were crypto-issuers, crypto-exchanges facilitating trading in tokens and coins, broker-dealers assisting with placements and trading, a rating agency, several funds investing in crypto and selling securities to investors, promoters of crypto-offerings, and three crypto-related firms that engaged in cryptocurrency-related businesses and Ponzi schemes.

Table 2: SEC Actions and Average “Losses” (Penalties and Disgorgement)⁹⁰

Action Year	Actions	“Losses”: Penalties & Disgorgement	Average
2017	5	\$23,227,711	\$4,645,542
2018	15	\$27,106,994	\$1,807,133
2019	18	\$108,059,078	\$6,003,282
2020	10	\$114,674,980	\$11,467,498
Total	48	\$273,068,764	\$5,688,933

Table 2 makes clear that the average “losses,” including penalties, disgorgement, undertakings to pay rescissory damages, and other undertakings usually agreed upon in settlement orders, rose considerably in 2019-2020. Nevertheless, the first spike, which was the possible trigger for issuer compliance and filings in 2018, was in 2017.

The overall increase in enforcement activity starting in the last quarter of 2017 preceded the rising trend in filings under Regulation D, *viz.*, an exemption from the registration regime of the Securities Act. Table 3 shows the average numbers and the changes in Form D filings from 2017 through 2020. There was a clear spike in the first half of 2018, which followed *Munchee*. During this period, the average number of filings increased 3.0 times the average for the whole sample and 2.1 standard deviations from the mean.

⁸⁸ The Table does not include trading suspensions and revocation of registration of securities.

⁸⁹ Final Judgment as to Defendants Telegram Group Inc. and Ton Issuer Inc., U.S. Sec. & Exch. Comm’n v. Telegram Grp. Inc., No. 19-cv-9439(PKC), 2020 U.S. Dist. LEXIS 112329, at *5–7 (S.D.N.Y. 2020). *See also* Guseva, *A Conceptual Framework*, *supra* note 4, at 188-97 (discussing the case).

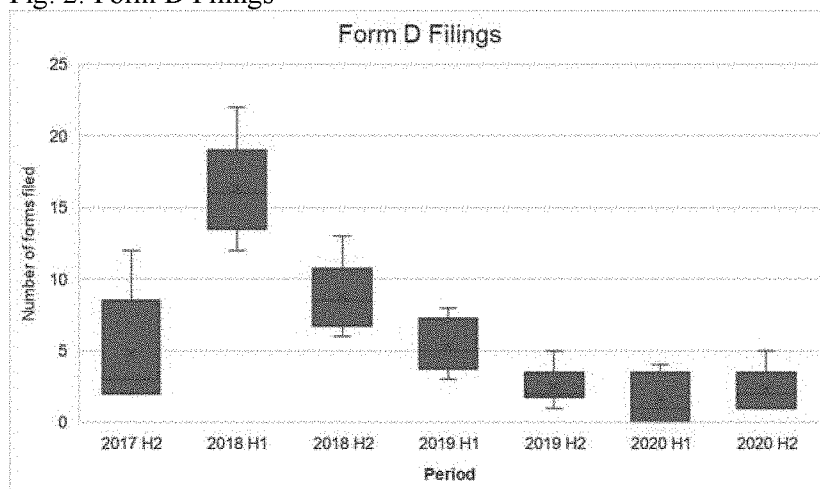
⁹⁰ Table 2 does not include the cases which were pending as of December 2020.

Table 3: Form D Filing Trends

Period	Average F	St Dev
2017 H2	4.8	4.2
2018 H1	16.3	3.5
2018 H2	8.8	2.5
2019 H1	5.3	1.9
2019 H2	2.5	1.4
2020 H1	1.6	1.8
2020 H2	2.3	1.5

Figure 2 more demonstrably illustrates this trend.

Fig. 2: Form D Filings



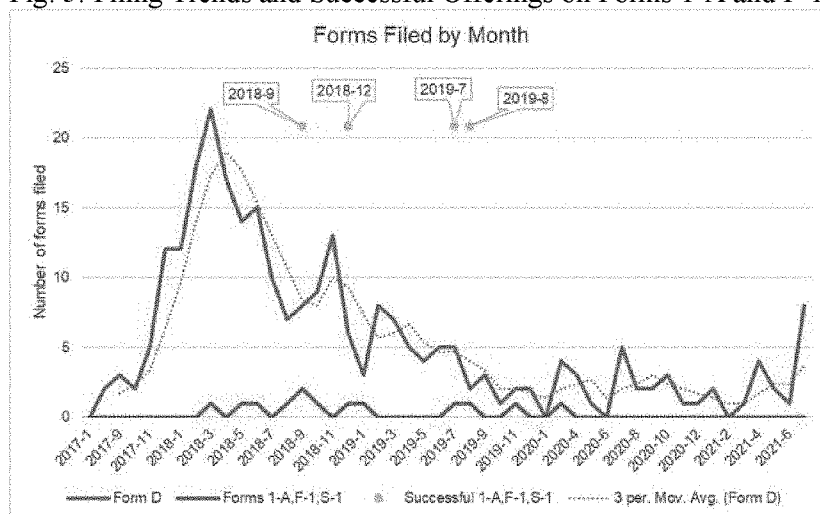
It is possible that in the hot crypto-offerings market issuers preferred to “hide” from the SEC in the light-touch regime of Regulation D. Even though the doctrinal questions about whether cryptoasset were securities and whether the SEC had jurisdiction remained unsettled,⁹¹ the market opted to preemptively comply with securities law through exemptions instead of having to face off with the Commission.

Figure 3 not only substantiates this point but also shows that crypto-issuers were reluctant to pursue public offerings (Form S-1 and Form F-1 filings), as well as “mini-public” offerings under Regulation A (Form 1-A filings). Moreover, there were only one registration statement on Form F-1

⁹¹ For discussion of the doctrine, see generally Guseva, *Game Theory*, *supra* note 46; Chaffee, *supra* note 51; Cohen, *supra* note 51.

which was declared effective by the SEC and three offering statements successfully qualified under Regulation A. Forms 1-A for offerings involving tokenized conventional securities have been excluded from this chart and will be discussed in Part D.

Fig. 3: Filing Trends and Successful Offerings on Forms 1-A and F-1



Clearly, private placements have dominated the capital-raising landscape in crypto⁹²—issuers have preferred private placements under various exemptions from the registration provisions of the Securities Act. There also seems to be a temporal nexus between this increase in private placements and the intensity of SEC crypto-enforcement.

Placing these two trends in juxtaposition to each other suggests that, since in private placements a significant part of the informational value added of the Securities Act is lost,⁹³ this status quo should be inherently at odds with the stated regulatory goals of the Commission. In fact, on several occasions the Commission reiterated that cryptoassets and their sales were risky.⁹⁴ Presumably, this means that the SEC must strive to promote a fair

⁹² To a degree, this result is self-explanatory: although fintech is characterized by a diversity of players, including large companies such as Amazon, many technology companies are smaller entrepreneurs and startups. Yesha Yadav, *Fintech and International Financial Regulation*, 53 VAND. J. TRANSNAT'L L. 1109, 1132-33 (2020). Private placements are cheaper for these firms. This observation, however, does not change the outcome that Regulation D placements dominate crypto-offerings.

⁹³ See *supra* Part B.

⁹⁴ SEC, INITIAL COIN OFFERINGS, *supra* note 61; U.S. SEC. & EXCH. COMM'N, INITIAL EXCHANGE OFFERINGS (IEOS) – INVESTOR ALERT (Jan. 14, 2020) [hereinafter *Investor Alert*], https://www.sec.gov/oiea/investor-alerts-and-bulletins/ia_initialexchangeofferings; U.S. SEC. & EXCH. COMM'N & U.S. COM. FUT. TR. COMM'N, WATCH OUT FOR FRAUDULENT DIGITAL

market providing more rather than less information to investors in cryptoassets. What happened? The next Part inquires whether the SEC could have anticipated (and prevented) this denouement.

D. A PREDICTABLE CONCLUSION OR WHY CRYPTO-ISSUERS AVOID PUBLIC OFFERINGS

1. A Simple Predictive Analysis

It is reasonable to assume that something within the sizeable polychromatic bureaucracy of the SEC triggered the law of unintended consequences—a concept not formalized in legal doctrine but developed by economists, including Adam Smith and Friedrich Hayek.⁹⁵ Regulators, naturally, possess imperfect knowledge of the welfare implications of their policies.⁹⁶ And yet, the shift toward private placements should have been foreseeable. That is, it could not have been a black (or even grey) swan if someone applied simple cost-benefit analysis⁹⁷ and backward induction, i.e., backward reasoning anticipating the possible range of outcomes of the original moves and choosing the best course of action accordingly.⁹⁸

To predict the moves of market participants, the SEC could consider the participants' expected payoffs and incentives within the framework of the available regulatory options and their enforcement. Game theory (particularly its evolutionary branch) demonstrates how law shapes our

ASSET AND "CRYPTO" TRADING WEBSITES – INVESTOR ALERT (Apr. 24, 2019), https://www.sec.gov/oiea/investor-alerts-and-bulletins/ia_fraudulentdigitalasset; U.S. SEC. & EXCH. COMM'N, SPOTLIGHT ON INITIAL COIN OFFERINGS (ICOs), <https://www.sec.gov/ICO> (last updated July 14, 2021).

⁹⁵ See, e.g., Elias L. Khalil, *Making Sense of Adam Smith's Invisible Hand: Beyond Pareto Optimality and Unintended Consequences*, 22 J. HIST. ECON. THOUGHT 29 (2000).

⁹⁶ See, e.g., Dan Awrey, *Complexity, Innovation, and the Regulation of Modern Financial Markets*, 2 HARV. BUS. L. REV. 235, 259, 276-77 (2012) [hereinafter Awrey, *Complexity*].

⁹⁷ The framework proposed here differs from the cost-benefit analysis of formal rules that financial regulators are supposed to run in rulemaking. Instead, it is about individual firms' decision-making and their costs and benefits. For a comprehensive review of the scholarship on cost-benefit analysis in rulemaking, see Richard L. Revesz, *Cost-Benefit Analysis and the Structure of the Administrative State: The Case of Financial Services Regulation*, 34 YALE J. REG. 545, 546-4, 7 nn.1-4, 552, n.36, 595-97 (2017). See also Donna M. Nagy, *The Costs of Mandatory Cost-Benefit Analysis in SEC Rulemaking*, 57 ARIZ. L. REV. 129 (2015); Richard H. Pildes & Cass R. Sunstein, *Reinventing The Regulatory State*, 62 U. CHI. L. REV. 1, 46-48 (1995) (discussing the common critiques of cost-benefit analysis); Robert H. Frank, *Why Is Cost-Benefit Analysis So Controversial?*, 29 J. LEGAL STUD. 913, 914 (same); Robert W. Hahn & Cass R. Sunstein, *A New Executive Order for Improving Federal Regulation? Deeper and Wider Cost-Benefit Analysis*, 150 U. PA. L. REV. 1489 (2002) (generally arguing for a greater commitment to cost-benefit analysis).

⁹⁸ AVINASH K. DIXIT & BARRY J.J. NALEBUFF, *THE ART OF STRATEGY: A GAME THEORIST'S GUIDE TO SUCCESS IN BUSINESS AND LIFE* 688-739 (2010).

expectations, actions, and choices.⁹⁹ For example, as rational market participants, firms should pursue the outcomes that generate better payoffs over those with lower payoffs.¹⁰⁰ Logically, firms would compare their expected payoffs under the available regulatory alternatives.¹⁰¹ All issuers may choose between the following compliance routes: seeking financing through a public offering and registering securities with the SEC or relying on various exemptions under the Securities Act.¹⁰² In the latter case, issuers may seek capital from wealthy investors and venture capital firms¹⁰³ and/or resort to exemptions from registration, such as Regulations D¹⁰⁴ or A.¹⁰⁵

2. The Costs and Risks of Registered Crypto-Offerings

As we have seen in the previous Part, registered crypto-offerings are a road almost never taken. A few crypto-issuers filed Forms S-1, and some thereafter withdrew them more than a year later. Only one foreign firm successfully issued digital-asset securities and filed Form F-1 in the four-year period. Often, crypto-issuers that became registered and reporting companies per the terms of their settlement agreements with the SEC did not follow up with Securities Act registration statements. Instead, they filed the simplified Exchange Act Form 10.¹⁰⁶

⁹⁹ DOUGLAS G. BAIRD ET AL., *GAME THEORY AND THE LAW* 17 (1994). (“The legal rule brings about changes even though it attaches consequences to actions that are never taken...”); Richard H. McAdams, *Focal Point Theory of Expressive Law*, 86 VA. L. REV. 1649, 1691 (2000); Richard H. McAdams, *Beyond the Prisoner’s Dilemma: Coordination, Game Theory, and Law*, 82 S. CAL. L. REV. 209 (2009); Robert B. Ahdieh, *The Visible Hand: Coordination Functions of the Regulatory State*, 95 MINN. L. REV. 578 (2010).

¹⁰⁰ Baird et al., *supra* note 99, at 11.

¹⁰¹ *Id.* at 17.

¹⁰² 15 U.S.C. §§ 77c(b); 77d(a)(2). For a description of this basic dichotomy, see, e.g., Usha Rodrigues, *Financial Contracting with the Crowd*, 69 EMORY L.J. 397, 405-08 (2019) [hereinafter Rodrigues, *Financial Contracting*]. This Section skips crowdfunding, which can also be relied on in crypto-offerings. For an overview of crowdfunding, see, e.g., *id.* at 413-18; Joan MacLeod Heminway, *Selling Crowdfunded Equity: A New Frontier*, 70 OKLA. L. REV. 189 (2017); David Groshoff, Alex Nguyen & Kurtis Urien, *Crowdfunding 6.0: Does the SEC’s FinTech Law Failure Reveal the Agency’s True Mission to Protect — Solely Accredited — Investors?*, 9 OHIO ST. ENTREPRENEURIAL BUS. L.J. 277 (2014). For a review of exemptions, see Chris Brummer et al., *What Should be Disclosed in an ICO?* (Feb. 24, 2019) (unpublished manuscript) (available at <https://ssrn.com/abstract=3293311>); Rohr & Wright, *supra* note 42, 502-11, 520-21 (also suggesting new exemptions); Goforth, *supra* note 51, at 441-54.

¹⁰³ See, e.g., JONATHAN CARDENAS, *The Rise of the Crypto Asset Investment Fund: An Overview of the Crypto Fund System*, in BLOCKCHAIN & CRYPTOCURRENCY REGULATION 149-55 (Josias Dewey ed., 2019).

¹⁰⁴ 17 C.F.R. § 230.500 *et seq.* (2021).

¹⁰⁵ 17 C.F.R. § 230.251 *et seq.* (2021).

¹⁰⁶ See, e.g., ParagonCoin Limited, Form 10, 9 (Mar. 29, 2019), https://www.sec.gov/Archives/edgar/data/1771087/000147793219001281/paragon_1012g.htm

Table 4: Forms S-1 and F-1 (January 2017-July 2021)¹⁰⁷

Company	Form	Date Filed	Effective/Withdrawn
Praetorian Group Inc.	S-1	03-06-2018	Withdrawn
Monster Products, Inc.	S-1	05-25-2018	Withdrawn
INX Ltd.	F-1	08-19-2019	Effective: 08-21-2020
Dakota Coin Authority	S-1	03-11-2020	Withdrawn

Issuers understand that when engaged in a public distribution of securities they would face multiple costs ranging from drafting, marketing, and approving offering documents by the SEC to resource allocation, the opportunity cost of time, and expected litigation costs. Digital-asset markets reduce some of these costs: crypto-offerings are disintermediated;¹⁰⁸ the suppliers of innovations are no longer traditional financial intermediaries¹⁰⁹ but smaller developers seeking decentralized access to investors and lower transaction costs; smart contracts¹¹⁰ deliver digital assets to investors' wallets, obviating the need for transactional intermediaries; and the role of an investment banker changes. In a more democratized capital raise, global

m#BS; CarrierEQ, Inc., Form 10, 12 (Mar. 15, 2019),

https://www.sec.gov/Archives/edgar/data/1766352/000155335019000219/airfox_1012g.htm.

¹⁰⁷ My search also covered Form S-3 filings. The search generated no results.

¹⁰⁸ Disintermediation is a common consequence of technology. See Donald C. Langevoort, *Toward More Effective Risk Disclosure for Technology-Enhanced Investing*, 75 WASH. U. L.Q. 753, 756 (1997). For a discussion of disintermediation in fintech and ICOs, see Vanessa Villanueva Collao & Verity Winship, *The New ICO Intermediaries*, 5 ITALIAN L.J. 731, 732, 737-38 (2019); Yadav, *supra* note 92, at 1125, 1142-43.

¹⁰⁹ "The [traditional] suppliers are, by and large, financial intermediaries such as commercial and investment banks...." Awrey, *Complexity*, *supra* note 96, at 262. Technology may change this status quo. See, e.g., Weinstein, *supra* note 43, at 510 (suggesting that blockchain-related "funding models might endanger traditional sources of capital formation," cutting into Wall Street profits).

¹¹⁰ "A smart contract is computer code that is designed to write a state change to the underlying protocol upon the fulfillment of certain predetermined conditions." Carla L. Reyes, *If Rockefeller Were a Coder*, 87 GEO. WASH. L. REV. 373, n.23 (2019) [hereinafter Reyes, *Rockefeller*]. See also Florian Möslein, *Legal Boundaries of Blockchain Technologies: Smart Contracts as Self-Help?*, in DIGITAL REVOLUTION – NEW CHALLENGES FOR LAW 313 (A. De Franceschi et al. eds., 2019) (defining a self-executing, complete smart contract).

marketing and social media events¹¹¹ do not need investment bankers set up roadshows with their clientele.¹¹²

One major regulatory obstacle, however, is the opportunity cost of time. The SEC itself acknowledges that “[a] lengthy waiting period prior to a registered offering combined with a potentially uncertain registration process are particular concerns for smaller issuers contemplating a registered public offering....”¹¹³ Many crypto-issuers are indeed smaller firms. More importantly, the nature of cryptoassets further increases firms’ opportunity costs of time and relevant risks.

Open-source platforms and software allow modifications and inspection by the user community, while code disclosure through repositories such as GitHub is common.¹¹⁴ As markets reward issuers that disclose their code,¹¹⁵ the entrepreneurs have an incentive to be transparent. Technological development, however, is fast-moving and interdependent. This contraposition of publicity with the speed of innovations and technological interdependency suggests that a specific technology may become obsolete quickly, that hackers may learn about the weaknesses in

¹¹¹ For a discussion of social media as a direct channel of communication between issuers and investors, see, e.g., Moxoto et al., *supra* note 4, at 4181.

¹¹² Some conventional costs, such as underpricing, however, persist. See, e.g., Moran Ofir & Ido Sadeh, *ICO vs. IPO: Empirical Findings, Information Asymmetry and the Appropriate Regulatory Framework* (2019), at 42-43, nn.293-306 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3338067 (summarizing the findings on underpricing).

¹¹³ U.S. Sec. & Exch. Comm’n, Release No. 33-10763, 51 (Mar. 4, 2020) [hereinafter Release No. 33-10763], <https://www.sec.gov/rules/proposed/2020/33-10763.pdf>. See also U.S. Sec. & Exch. Comm’n, Release No. 33-10884, 56 (Nov. 2, 2020) [hereinafter Release No. 33-10884], <https://www.sec.gov/rules/final/2020/33-10884.pdf>.

¹¹⁴ GITHUB, <https://github.com/features/code-review>. For the definition and description of open-source software and blockchain protocols, see, e.g., Carla L. Reyes, *(Un)Corporate Crypto-Governance*, 88 FORDHAM L. REV. 1875, 1876-79 (2020) [hereinafter Reyes, *(Un)Corporate*]; for a summary of disclosure practices in ICOs, see Ofir & Sadeh, *supra* note 112, at 24-29.

¹¹⁵ See, e.g., Collao & Winship, *supra* note 108, at 737-38 (“An empirical study showed that about ninety percent of ICO codes were published before the ICO.... When the code is published, more money is raised.”); Saman Adhami et al., *Why Do Businesses Go Crypto? An Empirical Analysis of Initial Coin Offerings*, 100 J. ECON. & BUS. 64 (2018); Evgeny Lyandres et al., *Do Tokens Behave like Securities? An Anatomy of Initial Coin Offerings* 20 (April 2019) (unpublished manuscript) (*available at* <https://www.idc.ac.il/en/schools/business/annual-conference/documents/2019-annual-conference/do-tokens-behave-like-securities-lyandres.pdf>); Chen Feng et al., *Initial Coin Offerings, Blockchain Technology, and White Paper Disclosures* (Mar. 25, 2019) (unpublished manuscript) (*available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3256289); Christian Fisch, *Initial Coin Offerings (ICOs) to Finance New Ventures*, 34 J. BUS. VENTURING 1 (2019); Abe De Jong et al., *What Determines Success in Initial Coin Offerings?* (Sept. 15, 2018) (unpublished manuscript) (*available at* <https://ssrn.com/abstract=3250035>).

the code and exploit them,¹¹⁶ and that developers' competitive advantages may be eroded rapidly.¹¹⁷

Developers are thus faced with the problem of infinite appropriability which does not allow them to extract monopoly rents from technologies.¹¹⁸ These considerations should reinforce the need to raise capital quickly to stay ahead of the curve and to use the capital to accelerate the pace of innovations *ad infinitum*.¹¹⁹

A typical timeline in a public offering, however, is comparatively long because the SEC Division of Corporation Finance routinely provides comments to issuers¹²⁰ before the SEC declares a registration statement effective.¹²¹ While the SEC may not examine closely statements of every seasoned issuer, it does tend to review registration statements filed in the course of IPOs. In this sense, cryptoasset offerings may be just like IPOs closely scrutinized by the SEC.

After the offering, the issuer as well as its directors and officers, among other parties, would face the enhanced liability for material misstatements and omissions in the registration statement and prospectus under the Securities Act.¹²² In technology-related offerings, this liability regime presents additional risks. When lawyers for a cryptoasset issuer describe the code, unintentional "slippage" between the code and the descriptions may trickle down into offering documents.¹²³

¹¹⁶ See, e.g., Rodrigues, *infra* note 132, at 704 (noting that an "open letter purporting to be from the perpetrator of the June 17th [DAO] attack [explained as follows]: I have carefully examined the code of The DAO and decided to participate after finding the feature where splitting is rewarded with additional ether. I have made use of this feature and have rightfully claimed 3,641,694 ether, and would like to thank the DAO for this reward.").

¹¹⁷ See, e.g., Thomas Bourveau et al., *Initial Coin Offerings: Early Evidence on the Role of Disclosure in the Unregulated Crypto Market* 40 (July 2018) (unpublished manuscript) (available at https://www.marshall.usc.edu/sites/default/files/2019-03/thomas_bourveau_icos.pdf); Collao & Winship, *supra* note 108, at 739 ("The code may not be released in cases where the originality of the project (the know how) is considered valuable, and needs to be protected by non-disclosing it."); Yadav, *supra* note 92, at 1145 ("Private firms may be unwilling to share information about themselves and their proprietary algorithms.").

¹¹⁸ Attempts to patent blockchain technology are, however, underway. Weinstein, *supra* note 43, at 587.

¹¹⁹ For similar strategies in traditional markets, see Awrey, *Complexity*, *supra* note 96, at 263; Henry Hu, *New Financial Products, the Modern Process of Financial Innovation, and the Puzzle of Shareholder Welfare*, 69 TEX. L. REV. 1273, 1275 (1991).

¹²⁰ Most issuers voluntarily waive their statutory right that the registration statement becomes effective automatically after 20 days. 15 U.S.C. § 77h(a); 17 CFR § 230.461 (2021).

¹²¹ U.S. SEC. & EXCH. COMM'N, FILING REVIEW PROCESS (Sept. 27, 2019), <https://www.sec.gov/divisions/corpfin/cffilingreview.htm>.

¹²² 15 U.S.C. §§ 77k, 77l(a)(2).

¹²³ Professor Hu, for instance, described this "slippage" in other innovation-related contexts. Henry T. C. Hu, *Too Complex to Depict? Innovation, 'Pure Information,' and the SEC Disclosure Paradigm*, 90 TEX. L. REV. 1601, 1637 (2012).

Securities law also mandates that issuers provide an accurate, complete, and comprehensible “plain English” depiction of their projects, businesses, and risks to investors.¹²⁴ There are even a twenty-year-old Handbook on plain English disclosure and a separate government initiative.¹²⁵ Translating a novel code into plain English may pose serious challenges to innovators and exacerbate the risk of inaccuracies. When this happens, the issuer becomes exposed to liability under the Securities Act.¹²⁶

This risk is greater if developers, regardless of how well-intentioned and diligent they are, misunderstand the multifaceted objective realities of a complex project and/or miss bugs in the code.¹²⁷ Moreover, as cryptoasset prices often are inordinately volatile, downward price movements, whether or not associated with issuer’s underperformance and reckless representations, may trigger class actions.¹²⁸

One may argue that firms whose securities are publicly traded, as well as firms offering securities, must internalize these costs. The *raison d’être* for the disclosure and securities liability regimes is that the issuer is considered a low-cost information provider that can supply investors with valuable private information¹²⁹ and should be prevented from generating

¹²⁴ U.S. Sec. & Exch. Comm’n, Release No. 33-7497 (Jan. 28, 1998), <https://www.sec.gov/rules/final/33-7497.txt>.

¹²⁵ OFFICE OF INVESTOR EDUCATION AND ASSISTANCE, U.S. SEC. & EXCH. COMM’N, A PLAIN ENGLISH HANDBOOK (Aug. 1998), <https://www.sec.gov/pdf/handbook.pdf>; U.S. SEC. & EXCH. COMM’N, PLAIN WRITING INITIATIVE, <https://www.sec.gov/plainwriting.shtml> (modified Apr. 13, 2021).

¹²⁶ 15 U.S.C. §§ 77k, 77l(a)(2) & 77q.

¹²⁷ See, e.g., Hu, *supra* note 123, at 1608-09 (observing that “it can be difficult for even the most well-intentioned of [issuers] to craft good depictions of reality, especially when the reality is highly complex.” *Id.* at 1608); Yadav, *supra* note 92, at 1119 (stating, in the context of complex financial innovations, that “[e]ven diligent firms may not properly understand the risks that they are taking on” if “the costs of such research [are] prohibitive....”); Rodrigues, *Financial Contracting*, *supra* note 102, at 438 (describing developers’ failures to perform on their promises as “sins of omission rather than commission, borne of haste rather than fraudulent intent”).

¹²⁸ See, e.g., *Balestra v. ATBCOIN LLC*, 380 F. Supp. 3d 340, 347-48 (S.D.N.Y. 2019) (when “the blockchain [proved to be] not capable of the technological feats Defendants advertised,” and the price of the assets at issue fell about 85%, purchasers filed a class action lawsuit under Securities Act Section 12(a)).

¹²⁹ In theory, issuer reports should enable investors to make informed decisions. See, e.g., U.S. Sec. & Exch. Comm’n, SEC Release No. 33-10668, 3, 6, n.11, 19-20 (Aug. 8, 2019) [hereinafter Release No. 33-10668], <https://www.sec.gov/rules/proposed/2019/33-10668.pdf>; U.S. Sec. & Exch. Comm’n, SEC Release No. 33-10825, 6 (Aug. 26, 2020), <https://www.sec.gov/rules/final/2020/33-10825.pdf>. 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, 300-05 (2015) (discussing how mandatory disclosure encourages individual investors to participate in the market and comparing it with the disclosure overload research).

negative externalities (and passing them onto investors) by virtue of inadequate disclosure.¹³⁰

In crypto, however, the main information is already disclosed without interjecting the requirements of the Securities Act. Namely, the community can review the main assets of issuers, i.e., their code, before making investment decisions. As mentioned above, technology ensures information transparency and immutability; the code is often open source and publicly released beforehand; smart contracts are designed to be self-executable; and applications and organizations built on blockchain¹³¹ aim to be decentralized and autonomous.¹³²

There are also crypto-gatekeepers that offer open-source protocols for token issuance, advisory services, and audits.¹³³ Zeppelin, providing audits

¹³⁰ See generally Merritt Fox, *Regulating the Offering of Truly New Securities: First Principles*, 66 DUKE L. J. 673, 694-95 (2016) [hereinafter Fox, *Truly New Securities*]; Merritt B. Fox, *Retaining Mandatory Securities Disclosure: Why Issuer Choice Is Not Investor Empowerment*, 85 VA. L. REV. 1335 (1999) [hereinafter Fox, *Retaining Mandatory Securities Disclosure*].

¹³¹ To recap, “[a] blockchain or distributed ledger is a peer-to-peer database spread across a network of computers that records all transactions in theoretically unchangeable, digitally recorded data packages. The system relies on cryptographic techniques for secure recording of transactions.” Ripple Complaint, *supra* note 69, ¶ 33.

¹³² See, e.g., Vitalik Buterin, *A Next Generation Smart Contract & Decentralized Application Platform*, GITHUB (2019), <https://ethereum.org/en/whitepaper>; Reyes, *Rockefeller*, *supra* note 110, at 387-89 (discussing how smart contracts enable decentralization); Aaron Wright & Primavera De Filippi, *Decentralized Blockchain Technology and the Rise of Lex Cryptographia* 1 (2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2580664 (“Blockchain technology has the potential to reduce the role of one of the most important economic and regulatory actors in our society—the middleman. By allowing people to transfer a unique piece of digital property or data to others, in a safe, secure, and immutable way, the technology can create: digital currencies that are not backed by any governmental body; self-enforcing digital contracts (called smart contracts), whose execution does not require any human intervention; decentralized marketplaces that aim to operate free from the reach of regulation; decentralized communications platforms that will be increasingly hard to wiretap; and Internet-enabled assets that can be controlled just like digital property (called smart property).”); Adam J. Kolber, *Not-So-Smart Blockchain Contracts and Artificial Responsibility*, 21 STAN. TECH. L. REV. 198, 210-11 (2018); Usha R. Rodrigues, *Law and the Blockchain*, 104 IOWA L. REV. 679, 710-11 (2019) (observing that “the blockchain preserves all transactions in the network, allowing anyone to inspect and analyze them. All transactions linked to a particular address are visible on the blockchain, which is public and transparent.”); *id.*, 697 (“Blockchain technology, also called distributed ledger technology (‘DLT’), offers four primary and related benefits: it is decentralized, it is transparent, it is (or at least can be) anonymous, and it is nearly impossible to manipulate”); Reyes, *Rockefeller*, *supra* note 110, at 379-89, 414-18 (discussing DLT’s transparency and immutability, smart contracts, and decentralized autonomous organizations).

¹³³ See generally Collao & Winship, *supra* note 108. News sources also discuss the rise of auditors and advisory firms. See, e.g., Tatiana Koffman, *Your Official Guide to the Security Token Ecosystem*, MEDIUM (Apr. 13, 2018), <https://medium.com/@tatianakoffman/your-official-guide-to-the-security-token-ecosystem-61a805673db7>; Rachel McIntosh, *PwC’s Henri Arslanian: Blockchain Auditors to Play ‘Pivotal Role’ in Crypto*, FIN. MAGNATES (Jan.

of smart contracts, system architecture, and codebase,¹³⁴ is an apposite example. Ethereum Foundation suggests multiple sources assisting in application development, debugging, and testing of smart contracts, as well as actual issuance.¹³⁵ Through repositories such as GitHub, experts and market participants can review the code and assist firms and investors with assessing the code, testing, debugging, and improving code quality. Community members and researchers review codes, red-flag bugs, and detect vulnerabilities.¹³⁶ In addition, predictive market mechanisms are currently being developed.¹³⁷ The crypto-community is thus an important self-monitoring organism that aggregates and processes raw data (i.e., the code) for the benefit of all market participants, including investors *and* issuers.

These realities suggest that the firm is not the sole information intermediary through which market participants access the data to evaluate the project and the issuer.¹³⁸ Conventional brick-and-mortar companies never provided similar access to their assets. This novel environment may also explain why the whitepapers (i.e., offering documents) circulated as part of ICOs were full of aspirational statements and soft information.¹³⁹ It is

6, 2020), <https://www.financemagnates.com/cryptocurrency/news/pwcs-henri-arslanian-blockchain-auditors-to-play-pivotal-role-in-crypto>.

¹³⁴ *Security Audits for Distributed Systems*, ZEPPELIN, <https://openzeppelin.com/security-audits>.

¹³⁵ See, e.g., *Ethereum Developer Portal*, ETHEREUM, <https://ethereum.consensys.net>.

¹³⁶ Third parties may either reveal the security risks of a code for the benefit of the community or exploit the flaws. See, e.g., Rodrigues, *supra* note 132, at 704-705, 711-12 (discussing the letter from the alleged hacker of The DAO); Cohnney et al., *supra* note 61, at 627-30 (finding flaws in a sample of codes); Alex McDougall, *Here Comes the Open Lending Era*, COINDESK (Dec. 24, 2020), <https://www.coindesk.com/here-comes-the-open-lending-era> (“[S]uboptimal platforms fail almost immediately as hundreds of thousands of users try to poke and prod at their infrastructure for their own gain on a 24-hour cycle.”); Alyssa Hertig, *Bug in ‘Timelocked’ Bitcoin Contracts Could Spur Miners to Steal From Each Other*, COINDESK (June 1, 2020), <https://www.coindesk.com/tech/2020/06/01/bug-in-timelocked-bitcoin-contracts-could-spur-miners-to-steal-from-each-other/> (reporting on findings of a pseudonymous engineer).

¹³⁷ Collao & Winship, *supra* note 108, at 754 (discussing Augur’s token REP and observing that “this altcoin helps people in the blockchain community ferret out possible frauds and report on existing state of art in the blockchain”).

¹³⁸ As Henry Hu observed, “[t]he disclosure paradigm need no longer conceive of information largely in terms of an intermediary’s depictions of reality . . .” Hu, *supra* note 123, at 1611. Indeed, a firm’s depiction of its project may “not embody the full range of insights of the person likely most familiar with the objective reality.” *Id.* at 1610.

¹³⁹ Ofir & Sadeh, *supra* note 112, at 44-45, nn. 307-315; Bourveau et al., *supra* note 115, at 19; JOSHUA A. KLAYMAN, *Mutually Assured Disruption: The Rise of the Security Token*, in *BLOCKCHAIN & CRYPTOCURRENCY REGULATION* 64 (Josias Dewey ed., 2019); Cohnney et al., *supra* note 61, at 609 (observing, *inter alia*, that the legal status of whitepapers is unclear and that whitepapers offer “difficult-to-parse details about what is promised and what is merely aspirational.”).

possible that the crypto-market expected that issuer information might be *incomplete* in some material respects and should be supplemented by running independent code analysis.

This diminished role of issuers *vis-a-vis* the code and data analysis is not unique to crypto. Professor Henry Hu, for instance, developed a “pure information” model¹⁴⁰ for other complex data-driven financial instruments. In his model, the issuer that has furnished information to investors is the traditional information “intermediary.” The issuer “digests” the information for investors and presents its own view of reality through the limited depiction tools of conventional disclosure regulations within the confines of the plain English reporting.¹⁴¹ In contrast to this orthodox model, in a “pure information” environment, the issuer is no longer the arch conduit for information because “the investor may... be able to see for himself, to download the objective reality in its full, gigabyte richness.”¹⁴² Professor Hu’s post-financial-crisis analysis of information disintermediation is also applicable to distributed ledger technology and crypto.

3. Regulation A Offerings

As this analysis suggests, crypto-issuers understandably give a wide berth to public offerings. Similar arguments may bear down on Regulation A (“mini-public”) offerings. Congress designed this regime to help issuers economize on the costs of IPOs and seasoned public offerings. Although not particularly appealing at first, Regulation A has grown in popularity over the years.¹⁴³ The Regulation offers Tiers 1 and 2 with different regulatory requirements and capital limits¹⁴⁴ that have made Tier 2 offerings more popular than Tier 1.¹⁴⁵

¹⁴⁰ Hu, *supra* note 123.

¹⁴¹ *Id.* at 1608-09; 1624.

¹⁴² *Id.* at 1610.

¹⁴³ “From June 2015 through December 2019, issuers in the Regulation A market reported raising approximately \$2.4 billion in 382 qualified offerings.” Release No. 33-10763, *supra* note 113, at 18.

¹⁴⁴ 17 C.F.R. § 230.251 (2021). *See, e.g.*, Rutheford B Campbell, Jr., *The SEC's Regulation A-Plus: Small Business Goes Under the Bus Again*, 104 Ky. L.J. 325, 335-44 (2016). As opposed to Tier 2, both the SEC and state regulators are involved in the pre-offering review of Tier 1, and blue-sky laws apply. *See, e.g.*, U.S. Sec. & Exch. Comm’n, Amendments to Regulation A, Release No. 10591, 2018 WL 6696578, at *7-10 n. 32, n.41, n.50 (Dec. 19, 2018); Lookback Study, *supra* note 37, at 9. The challenge specific to digital-asset issuers is that they would have to navigate different states’ regulatory landscapes and deal with the divergent tolerances for and expertise in cryptoassets.

¹⁴⁵ In 2019, Tier 2 comprised the majority of the offerings. Release No. 33-10763, *supra* note 113, at 9. Tier 2 also has a higher offering limit, which has been recently increased to \$75 million. Release No. 33-10884, *supra* note 113, at 134.

Similar to registered offerings, Regulation A is accompanied by a heightened liability risk. Although Securities Act Section 11 is not applicable, Securities Act Section 12(a)(2) and Section 17 apply, and, naturally, so do Exchange Act Section 10(b) and Rule 10b-5.¹⁴⁶ In addition, Regulation A eligible securities are conventional equity and debt, as well as convertible securities.¹⁴⁷ Cryptoasset classifications, however, are infinitely diverse and evolving.¹⁴⁸ Consequently, either only the crypto-firms whose digital assets can be easily analogized with conventional securities would be able to avail themselves of this regime, or the firms would need to spend resources on drafting comparisons that might be plainly unnecessary from the perspective of crypto-investors.¹⁴⁹

The next and more serious problem is the cost of time. The sweeping reforms of 2020 may mitigate this concern through the new mechanisms such as testing the waters and gauging market interest ahead of raising capital.¹⁵⁰ These new provisions should be uniquely beneficial to future developers in the fast-changing world of technology.¹⁵¹ Yet, in practice, the SEC has been very slow in qualifying crypto-offerings.

The timeline in Regulation A digital-asset offerings has been anything but short. To give a few examples, in the spring of 2019, practitioners complained that first Forms 1-A were filed as early as 2017;¹⁵² that the SEC did not qualify a single offering statement;¹⁵³ and that when the Commission did approve one offering after an extensive review, that issuer had to

¹⁴⁶ 15 U.S.C. § 77c(b)(2)(D); U.S. Sec. & Exch. Comm'n, Release No. 33-10591, 19, n.49. (Dec. 19, 2018), <https://www.sec.gov/rules/final/2018/33-10591.pdf>.

¹⁴⁷ 17 C.F.R. § 230.261 (2021).

¹⁴⁸ See generally Reyes, *Rockefeller*, *supra* note 110; Rohr & Wright, *supra* note 42; Guseva, *A Conceptual Framework*, *supra* note 4.

¹⁴⁹ For an overview of the costs in Regulation A offerings, see, e.g., Rodrigues, *Financial Contracting*, *supra* note 102, at 412, 451.

¹⁵⁰ See, e.g., Release No. 33-10884, *supra* note 113, at 227 (“[W]e are adopting a generic test-the-waters exemption that would permit an issuer to use testing-the-waters materials for an offer of securities prior to making a determination as to the exemption under which the offering may be conducted.”). *Id.* at 91 (“[A]n issuer or any person authorized to act on behalf of an issuer may communicate orally or in writing to determine whether there is any interest in a contemplated offering of securities exempt from registration under the Securities Act.”).

¹⁵¹ See, e.g., Moxoto et al., *supra* note 4, at 4183 (reviewing relevant literature).

¹⁵² See, e.g., Max Dilendorf et al., *Another Year in Review: Current State of Reg A+ Tokenized Offerings*, DILENDORF KHURDAYAN (Mar. 14, 2019), <https://dilendorf.com/resources/another-year-in-review-current-state-of-reg-a-tokenized-offerings.html>.

¹⁵³ See, e.g., Dean Seal, *Blockchain Firm Seeks SEC's Blessing For \$50M Token Sale*, LAW 360 (Apr. 11, 2019, 5:27 PM), <https://www.law360.com/cybersecurity-privacy/articles/1149071/blockchain-firm-seeks-sec-s-blessing-for-50m-token-sale>.

eviscerate the offering documents by replacing the references to tokens with customary “preferred stock.”¹⁵⁴

It is possible that the SEC struggled with a steep learning curve in fintech and crypto. It is equally plausible that the SEC Staff approached untested, novel, and volatile digital assets carefully. While gaining experience, the Staff channeled digital-asset issuers toward more familiar equity securities.¹⁵⁵

By July 2019, this threshold was crossed, and the Commission qualified in rapid succession the first and second Regulation A digital-asset offerings.¹⁵⁶ Even these successful registrants, however, had to wait for about nine months before the SEC gave the green light to their token offerings.¹⁵⁷

While it is understandable why the regulator has proceeded with caution in qualifying offerings of innovative products, these timing concerns imply that issuers must first gain access to interim bridge financing. Indeed, the first two Regulation A crypto-issuers had raised capital through private placements and had been backed by institutional investors and venture capital firms.¹⁵⁸ Without capital, crypto-issuers may lose their competitive advantages in the open world of technology.

The following Table summarizes Regulation A crypto-offerings and shows how rare and time-consuming successful filings have been.

Table 5: Form 1-A Filings (January 2017-July 2021)

Company	Date Filed	Status: Approved/Withdrawn/Pending	Comments: Timing of Withdrawal/Approval After Filing
Knowbella	06-	Withdrawn	3 Months after filing

¹⁵⁴ See, e.g., Dilendorf et al., *supra* note 152 (discussing the revised offering terms of StartEngine).

¹⁵⁵ Between 2015 and 2019, equity represented 93% of all Regulation A offerings. Lookback Study, *supra* note 37, at 14.

¹⁵⁶ See, e.g., Blockstack PBC, Offering Circular (July 11, 2019), at 8-11, https://www.sec.gov/Archives/edgar/data/1693656/000110465919039908/a18-15736_1253g2.htm [hereinafter Blockstack Circular]; YouNow, Inc., Offering Circular (July 12, 2019), at 2, <https://www.sec.gov/Archives/edgar/data/1725129/000162827919000262/younow253g2.htm> [hereinafter YouNow Offering Circular].

¹⁵⁷ Blockstack Token LLC, *Part II—Information Required in Offering Circular* (Sept. 12, 2018),

<https://www.sec.gov/Archives/edgar/data/1719379/000141057818000410/filename10.htm>; YouNow, Inc., *Part II—Information Required in Offering Circular* (Sept. 28, 2018), <https://www.sec.gov/Archives/edgar/data/1725129/000162827918000249/filename2.htm>.

¹⁵⁸ See, e.g., YouNow Offering Circular, *supra* note 156, at 51, 76; Blockstack Circular, *supra* note 156, at 12.

Helix Inc.	07-2018		
Buying.com LLC	08-31-2018	Declared abandoned	9 Months after filing
Blockstack (Blockstack Token LLC & Blockstack PBC)	09-12-2018	Withdrawn, resubmitted, qualified (07-10-2019)	9 Months after filing
YouNow, Inc.	09-28-2018	Qualified (07-11-2019)	9 Months after filing
ConnectX, Inc.	10-09-2018	Declared abandoned	10 Months after filing
CERES Coin LLC	12-13-2018	Amended and resubmitted several times. Qualified (03-30-2021)	27 Months after filing
AW Blockchain Mining, Inc.	01-28-2019	Withdrawn	6 Months after filing
Priza Technologies Inc. (d/b/a Prizatech)	11-05-2019	Declared abandoned	21 Months after filing

For comparison, several companies that filed Forms 1-A for offerings of conventional securities in tokenized form were also rarely successful.

Table 6: Form 1-A Filings for Tokenized Stock (January 2017-July 2021)

Gab AI Inc.	01-30-2018	Withdrawn	14 Months after filing (offering tokenized non-voting common stock)
Startengine Crowdfunding, Inc.	06-28-2018	Qualified (2019-03-11)	9 Months after filing (originally proposing a sale of shares of stock in the form of

			electronic tokens)
Rentalist, Inc	08-02-2018	Abandoned	15 Months after filing (offering RNTL Tokens (Class B Common Stock))
Item Banc	08-08-2018	Abandoned	10 Months after filing (offering Common Shares exchangeable for ITEM BANC Tokens, “when and if issued”)
QuantmRE, Inc	10-10-2018	Appears abandoned	(offering tokens representing preferred stock)
EmpireBIT, Inc.	05-23-2019	Withdrawn	13 Months after filing (offering stock convertible into security tokens)
Exodus Movement, Inc.	09-02-2020	Qualified (04-09-2021)	7 Months after filing (offering tokenized shares of stock)

4. Ongoing Reporting Obligations

4.1. Liability and Reporting

In addition to the expected costs of time, drafting, marketing, liability, and regulatory approvals, the other outlays would stem from compliance with the ongoing reporting obligations under the Exchange Act. The Exchange Act reporting obligations apply to issuers that have conducted public offerings and, on a smaller scale, to Tier 2 Regulation A issuers.¹⁵⁹

Just like in the above-discussed primary-offering scenarios, data-driven issuers may find it “difficult to capture [in periodic reports] a highly complex objective reality with very rudimentary English Language and accounting, visual, and other tools on which depictions must primarily rely.”¹⁶⁰ These difficulties transform into higher costs of drafting reports—a particularly thorny issue in financial innovations since some reporting

¹⁵⁹ 15 U.S.C. § 78m; 17 C.F.R. § 230.257(b), (d) (2021).

¹⁶⁰ Hu, *supra* note 123, at 1652-53.

regulations date from the 1970s-1980s¹⁶¹ when digital assets were science fiction.

The limitations of (possibly) outdated plain-English disclosure as applied to complex financial products suggest that ambiguities and inaccuracies are almost invariably bound to be incorporated in issuer reports. Similar to the risks in registration statements, the discrepancies between the code and the language of reports would expose innovators to a heightened risk of securities class action litigation and SEC enforcement.¹⁶²

The main plaintiff's tool under the Exchange Act is Section 10(b) and Rule 10b-5, i.e., the antifraud regime. Since the '34 Act does not have the same strict liability provisions as does the Securities Act, the liability risk for the "slippage" between the code and the reports should be lower. For example, the antifraud provisions of securities law have heightened pleading requirements, including factual specificity and pleading scienter with particularity (a well-developed topic that is beyond the scope of this paper).¹⁶³ Nevertheless, there is always a nonzero probability of investor class actions (or SEC enforcement).

The expected problems with the Exchange Act periodic disclosure would not end there. Recall that the Exchange Act centers on disclosure and market efficiency, which are impacted by the accuracy and informativeness of issuer reports. Scholars have questioned how effective U.S. reporting regulation is in application to complex financial innovations.¹⁶⁴ The rules are not easily amenable to adaptation,¹⁶⁵ rely heavily on prescriptive line-item

¹⁶¹ See, e.g., Release No. 33-10668, *supra* note 129, at 8-9, 48.

¹⁶² Hu, *supra* note 123, at 1637.

¹⁶³ Extensive literature exists on the pleading requirements in securities law cases involving fraud and market manipulation. See James D. Cox et al., *Do Differences in Pleading Standards Cause Forum Shopping in Securities Class Actions?: Doctrinal and Empirical Analyses*, 2009 WIS. L. REV. 421, 430-38 (2009); Merritt B. Fox, et al., *Stock Market Manipulation and Its Regulation*, 35 YALE J. ON REGUL. 67, 124-25 (2018); Marilyn F. Johnson, Karen K. Nelson & A.C. Pritchard, *In re Silicon Graphics Inc.: Shareholder Wealth Effects Resulting from the Interpretation of the Private Securities Litigation Reform Act's Pleading Standard*, 73 S. CAL. L. REV. 773 (2000); Joseph A. Grundfest & A.C. Pritchard, *Statutes with Multiple Personality Disorders: The Value of Ambiguity in Statutory Design and Interpretation*, 54 STAN. L. REV. 627, 652-55 (2002).

¹⁶⁴ See, e.g., Dan Awrey, *Regulation Financial Innovation: A More Principles-Based Alternative?*, 5 BROOK. J. CORP. FIN. COM. L. 273 (2011) (discussing derivatives); Steven Schwarcz, *Rethinking the Disclosure Paradigm in a World of Complexity*, 2004 UNIV. ILL. L. REV. 1.

¹⁶⁵ See, e.g., Paul G. Mahoney, *Is There A Cure For "Excessive" Trading?*, 81 VA. L. REV. 713, 747-48 (1995) (observing that innovation costs can be raised by regulation and discussing how new "funds were required to apply to the SEC for a number of exemptions," that it was costly to obtain the exemptions, and that it took the SEC more than five years to lift the restrictions).

reporting,¹⁶⁶ and may produce either overcomplicated or over-simplified disclosures¹⁶⁷ of low utility. In the end, both the issuers and the market consuming issuer information may struggle with unsuitable disclosures, get lost in the “information thicket”¹⁶⁸ of too much data, and find it challenging to present *and* to process reports.

The data presentation and processing obstacles of the overly-prescriptive rules may manifest in behavioral biases such as the Heisenberg effect, a well-known phenomenon describing situations where measurements impact the systems being measured.¹⁶⁹ Just as we develop theories and measurements that, in turn, impact our behavior,¹⁷⁰ SEC-prescribed specific line items “heavily influence what data fields market participants actually use in their decision making.”¹⁷¹ Insofar as market participants are not impartial bystanders but willing participants in a market, they are operating within it while simultaneously trying to understand the underlying rules and play by them.¹⁷² In doing so, they are guided not only by the knowledge of regulations but also by individual biases and perception of risk.

A cautious crypto-issuer seeking to comply with a prescriptive obligation might follow the rule to a tee, even when it was substantively obsolescent or even irrelevant. The pressure of such periodic reporting obligations would weigh on the firm’s management and, as research suggests, enervate the velocity of innovation.¹⁷³ The issuer would innovate less and spend more on compliance, possibly above the level that was

¹⁶⁶ See, e.g., Release No. 33-10668, *supra* note 129, at 7-9, 24-25, 45-48, 77-81. For an analysis of rule- and principles-enforcement and financial innovations, see, e.g., James J. Park, *Rules, Principles and the Competition to Enforce the Securities Laws*, 100 CALIF. L. REV. 115 (2012); Awrey, *Financial Innovation*, *supra* note 164; Cristie L. Ford, *New Governance, Compliance, and Principles-Based Securities Regulation*, 45 AM. BUS. L.J. 1 (2008). The U.S. securities regime is generally perceived as somewhat prescriptive or as a combination of rules and principles. John C. Coffee, Jr., & Hillary A. Sale, *Redesigning the SEC: Does the Treasury Have a Better Idea?*, 95 VA. L. REV. 707, 749-58 (2009).

¹⁶⁷ Schwarcz, *supra* note 164.

¹⁶⁸ Robert Bartlett III, *Inefficiencies in the Information Thicket: A Case Study of Derivatives Disclosures During the Financial Crisis*, 36 J. CORP. L. 1 (2010); Awrey, *Complexity*, *supra* note 96, at 238-39, 252.

¹⁶⁹ Hu, *supra* note 123, at 1686. See also George Soros, *Fallibility, Reflexivity, and the Human Uncertainty Principle*, 20 J. ECON. METHODOLOGY 309 (2013) (describing the Heisenberg effect, Knightian uncertainty, and how established frameworks affect the underlying subject matter).

¹⁷⁰ Awrey, *Complexity*, *supra* note 96, at 257 (“Economists develop theories of market behavior, which in turn influence the very behavior of market participants whom economists seek to understand.”).

¹⁷¹ Hu, *supra* note 123, at 1686.

¹⁷² GEORGE SOROS, *THE ALCHEMY OF FINANCE* 2 (2003).

¹⁷³ See, e.g., Reinhui Fu et al., *Financial Reporting Frequency and Corporate Innovation*, 63 J.L. & ECON. 501, 506 (2020).

efficient and socially optimal, i.e., when an efficient information output occurs at the intersection of marginal costs and benefits.

4.2. Decentralization and Reporting Obligations

The SEC, to its credit, is consistently striving to keep up with the market and valences of risk by amending the issuer disclosure obligations under Regulation S-K.¹⁷⁴ In relevant parts, the reforms recognize the imperative to modernize reporting according to the realities of new businesses and the technology-based economy.¹⁷⁵

However, the rules have yet to acknowledge an important quality of digital assets—there are circumstances where issuers do not control their cryptoassets, including asset circulation, pricing, and, ultimately, investors' return after a platform launch and asset delivery.¹⁷⁶ All the while, the issuers would be subject to disclosure obligations.

By way of example, in the two major cases of 2020, *Telegram* and *Kik*,¹⁷⁷ defendants raised capital, promised to distribute future cryptoassets to investors, and claimed that the cryptoassets' pricing, circulation, and valuation would be independent of the issuers and that platforms would be decentralized.¹⁷⁸ If such autonomy, independence, and decentralization became reality, the securities sold by the issuers to investors to raise capital for their projects could expire, whereas the distributed cryptoassets would survive.¹⁷⁹ The cryptoassets would be akin to commodities with prices determined by market forces, encoded formulas, and other independent mechanisms.¹⁸⁰ Ether is an apropos illustration: it started off as a financial instrument used for raising capital for Ethereum and its ecosystem and is now deemed a cryptocurrency and commodity.¹⁸¹

In these cases, the original crypto-issuer would lack material nonpublic information that might secure its economic advantage over the rest of the market. Cryptoasset developers may be perplexed (perhaps genuinely) about

¹⁷⁴ 17 C.F.R. § 229.1 *et seq.* (2021).

¹⁷⁵ *See, e.g.*, Release No. 33-10668, *supra* note 129; U.S. Sec. & Exch. Comm'n, Release No. 33-10618, 103 (Mar. 20, 2019), <https://www.sec.gov/rules/final/2019/33-10618.pdf>.

¹⁷⁶ Guseva, *A Conceptual Framework*, *supra* note 4, at 179-84, 191-93.

¹⁷⁷ U.S. Sec. & Exch. Comm'n v. Telegram Grp. Inc., 448 F.Supp.3d 352 (S.D.N.Y. 2020); U.S. Sec. & Exch. Comm'n v. Kik Interactive, Inc., 492 F.Supp.3d 169 (S.D.N.Y. 2020).

¹⁷⁸ *See* Guseva, *A Conceptual Framework*, *supra* note 4, at 188-201.

¹⁷⁹ If investors no longer expected the issuer to serve as a central enterprise generating investors' profits through continuing managerial efforts, the distributed cryptoasset would fall outside the scope of the term "investment contract" as construed by the Supreme Court *Howey* test. SEC v. W. J. Howey Co., 328 U.S. 293 (1946); *see also* The SEC Framework, *supra* note 4, at 5; Guseva, *A Conceptual Framework*, *supra* note 4, at 179-88.

¹⁸⁰ Guseva, *A Conceptual Framework*, *supra* note 4, at 179-88.

¹⁸¹ *See, e.g.*, U.S. Commodity Futures Trading Commission, Release No. 8051-19 (Oct. 10, 2019), <https://www.cftc.gov/PressRoom/PressReleases/8051-19>.

the very purpose of mandatory periodic reporting. Telegram, for instance, seemed puzzled as to why the future holders of the native tokens of Telegram's blockchain would need issuer reports after the launch of the open-source decentralized public blockchain.¹⁸²

Provided markets were efficient,¹⁸³ the issuer without material inside information would be unable to move the needle on asset prices. Simultaneously, issuer reports would not make secondary market trading more informative or supply investors with valuable information. Reporting obligations in these cases would embody a pure social cost until the issuer could terminate or suspend its reporting obligations.

The current rules by their very design cannot capture the moment when a security ceases to exist, and a commodity emerges in the manner described above. The regulations concerning reporting obligations have been developed for traditional companies and presume the need for a nonzero amount of time between the offering and the termination or suspension of issuer reporting obligations.¹⁸⁴ The purpose is to ensure that securities are not traded in an information-less market, because it is the issuer who is the presumptive source and lowest-cost provider of material information to the market.

Self-evidently, whenever crypto-projects are not sufficiently decentralized and independent for the initial securities to “expire,” crypto-issuers’ compliance and reporting costs remain analogous to those of conventional firms. There is, however, one exception—a typical crypto-issuer would anticipate that its project at some point would become decentralized once the work was completed. As a result, its reporting and corporate governance costs would be modified (and possibly increased) by the need to continuously examine whether the assets were sufficiently decentralized and whether it was safe to terminate the reporting obligations without risking SEC enforcement and/or securities class actions.

Consider a pertinent example: Blockstack, the first Regulation A crypto-issuer, included in its offering circular a paragraph stating that it

¹⁸² See, e.g., Ex. 2, Document 73-2, U.S. Sec. & Exch. Comm’n v. Telegram Grp. Inc., 448 F.Supp.3d 352 (S.D.N.Y. Jan. 15, 2020) (No. 19-cv-9439(PKC)).

¹⁸³ On the relationship between market prices, information, and efficiency, see, e.g., Ronald J. Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 552-60 (1984).

¹⁸⁴ Termination and suspension rules include, *inter alia*, delisting and decreasing the number of holders of record and assets below a certain threshold. 17 C.F.R. §§ 240.12g-4; 240.12d2-2; 240.12h-3; 230.257 (d), (e) (2021); U.S. Sec. & Exch. Comm’n, Form 15, *available at* <https://www.sec.gov/files/form15.pdf>; U.S. Sec. & Exch. Comm’n, Form 25, *available at* <https://www.sec.gov/files/form25.pdf>; U.S. Sec. & Exch. Comm’n, Form 1-Z, *available at* <https://www.sec.gov/files/form1-z.pdf>. During the fiscal year following an offering, issuers generally do not terminate or suspend their obligations. See, e.g., 15 U.S.C. § 78o(d); 17 C.F.R. § 230.257 (2021).

would engage in an ongoing determination process as to whether its tokens were securities.¹⁸⁵ Its 2020 Annual Report pursuant to Regulation A reiterated that “[t]he board of directors... will be responsible for regularly considering and... determining whether the Stacks Tokens no longer constitute securities issued by us under the... securities laws...”¹⁸⁶

Periodic reporting thus effectively necessitates that issuers’ boards of directors regularly examine whether the underlying cryptoassets remain securities. Accountants and auditors need to ponder how to reclassify the firms’ cryptoassets on the balance sheet and how to record transactions on the cash flow statement. Simultaneously, the firms’ counsel have to verify the level of asset and platform decentralization while grappling with the uncertainties as to what is a security, which is not defined through a formal rule or guidance on crypto but on the bases of the functional and all-embracing “investment contract” test developed by the Supreme Court in *Howey* in 1946.¹⁸⁷

Boards and attorneys would undertake these inquiries with an implicit understanding that should they make a mistake, the SEC’s interpretation of securities law would not be easily challenged in court.¹⁸⁸ Only after making these complex determinations would the issuer look to the current rules on suspension and termination of reporting obligations. In short, the costs of public and Regulation A offerings, the resultant liability regime, and the reporting obligations are considerable.

5. The Inherent Uncertainty of Benefits

And what about offsetting benefits? A rational issuer would attempt to balance its costs against the expected benefits of an offering. In this analysis, the benefits could be more uncertain and harder to quantify than the foregoing costs.¹⁸⁹ Let us begin with an analysis of securities law liability. Companies pursuing public and “mini-public” offerings face liability under Securities Act Sections 11 (in registered offerings) and

¹⁸⁵ Blockstack Circular, *supra* note 156, at 11.

¹⁸⁶ Blockstack PBC, Form 1-K, at 5,

<https://www.sec.gov/Archives/edgar/data/1693656/000119312520124379/d918967dpartii.htm>. Blockstack’s board examines the assets under the *Howey* test to determine whether “purchasers of... Tokens reasonably expect [the issuer] to carry out essential managerial or entrepreneurial efforts, and whether [the issuer] retains a degree of power over the governance of the network such that its material non-public information may be of special relevance to the future of the [issuer’s] network, as compared to other network participants.” *Id.*

¹⁸⁷ *SEC v. W. J. Howey Co.*, 328 U.S. 293 (1946). For the related effects of uncertainty, see Guseva, *Game Theory*, *supra* note 46, at 634-40, 673.

¹⁸⁸ See *supra* Part C.

¹⁸⁹ Frank, *supra* note 97, at 928 (mentioning this point as part of the critique of cost-benefit analysis in rulemaking).

12(a)(2). Both grant security-purchasers a cause of action for material misstatements and omissions in offering documents.¹⁹⁰ The risk of fraud liability also lingers.

An issuer, however, should also consider that compliance may mitigate the risk of an SEC enforcement action for failure to register digital-asset securities under Securities Act Section 5 and lower the risk of liability under Securities Act Section 12(a)(1) for offering and selling securities in violation of Section 5.¹⁹¹ The issuer would try to measure and/or equipoise these two sets of liabilities, which is, admittedly, a complex assessment.

A recent series of actions against a major fintech firm, for instance, suggest that legitimate crypto-companies present a hard nut to crack for plaintiffs alleging fraud on the basis of statements describing digital assets and their utility.¹⁹² Specifically, in an October 2020 order on a second motion to dismiss,¹⁹³ Judge Hamilton of the U.S. District Court for the Northern District of California pared down the plaintiffs' complaint, dismissing many allegations of fraud.¹⁹⁴ In that action, the defendants were less successful in their motions to dismiss the claims concerning unregistered securities offered and sold in violation of Section 5.¹⁹⁵ From this and similar actions, an average crypto-firm may infer that the Securities Act exposes crypto-issuers to a serious liability risk.

The SEC's follow-on action, filed on December 22, 2020, lends support to this panoramic assessment. In its complaint, the SEC did not even make any allegations of fraud but charged the defendants with offering and selling securities in violation of the registration provisions of the Securities Act.¹⁹⁶ Consequently, compliance with the Securities Act's registration provisions and exemptions may be, but only may be, net-beneficial from an individual issuer's perspective. I do not want to draw conjectural generalizations because each inquiry is fact-specific, and because issuers can look to various exemptions from registration.¹⁹⁷

The other purported advantages of registered and Regulation A offerings are rooted in the presumption that issuer disclosure is typically associated with lower agency costs and information asymmetry, cumulating

¹⁹⁰ 15 U.S.C. §§ 77k-77l(a)(2).

¹⁹¹ 15 U.S.C. § 77l(a)(1).

¹⁹² *Zakinov v. Ripple Labs, Inc.*, 2020 WL 5877864, **3-6 (N.D.Cal. 2020).

¹⁹³ *Id.*

¹⁹⁴ In an earlier decision, the court also dismissed several claims under California state law, including the California Corporation Code and California Business & Professions Code. *Id.* at *1.

¹⁹⁵ *Id.* at *13.

¹⁹⁶ *Ripple Complaint*, *supra* note 69, ¶¶ 394-404; 15 U.S.C. §§ 77e(a), (c). The SEC also claimed that the executives of Ripple were liable as control persons under 15 U.S.C. § 77o(b).

¹⁹⁷ *See infra* Part E.

into better access to public investors and a lower cost of capital.¹⁹⁸ In crypto, this presumption has yet to be proven empirically. Dozens of articles on crypto-offerings examine mainly voluntary disclosure by crypto-issuers,¹⁹⁹ meaning that the economic benefits of *mandatory* disclosure are not yet formally quantified. Some empiricists have even suggested that crypto-markets do not react positively to securities regulation and/or are not fully sensitive to its purported protections.²⁰⁰

Germane anecdotal evidence, albeit unreliable, is informative: One of the first Regulation A issuers, Blockstack, planned to raise up to \$40,000,000 in its July 2019 Tier 2 Offering.²⁰¹ Its first semiannual report showed, however, that the issuer had raised only \$15.5 million.²⁰² There, of course, could be temporary delays with Blockstack's project,²⁰³ or other factors at play. We also lack a counterfactual. Would Blockstack have raised more capital had it structured its offering abroad in a crypto-friendly jurisdiction or under Regulation D? Would Blockstack have raised more capital if it had done an IPO, because Regulation A had long been deemed

¹⁹⁸ This is a typical consequence of initial and periodic disclosures. See, e.g., Fox, *Retaining Mandatory Securities Disclosure*, *supra* note 130, at 1365–67 (“[W]ithout [mandatory disclosure], the market knows that managers will be subsequently tempted to switch to a lower disclosure regime and thus the market will discount the share price at the time of the IPO to reflect this possibility.”).

¹⁹⁹ Ofir & Sadeh, *supra* note 112, at 24–32, 44 (summarizing empirical papers).

²⁰⁰ There are multiple empirical papers on ICOs, and their conclusions on the impact of law are not uniform. See generally Jeroen Koenraadt & Edith Leung, *The Impact of Transparency on Investor Reactions to Crypto Token Regulation*, VAND. J. TRANSNAT'L L. (forthcoming 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3339197 (finding that securities regulation may be net costly); Giancarlo Giudici & Saman Adhami, *The Impact of Governance Signals on ICO Fundraising Success*, 46 J. IND'L & BUS. ECON. 283, 290–310 (2019) [hereinafter Giudici & Adhami, *Governance Signals*] (suggesting that markets do not perceive jurisdictional choice as a positive signal). For a literature review, see Ofir & Sadeh, *supra* note 112; Moxoto et al., *supra* note 4, at 4182.

²⁰¹ Blockstack Circular, *supra* note 156, at 1–2.

²⁰² Blockstack PBC, Form 1-SA, Semiannual Report (Sept. 27, 2019), at 1, 7, https://www.sec.gov/Archives/edgar/data/1693656/000110465919051845/a19-18670_11sa.htm. The notes to Consolidated Financial Statements in the Report state that “[i]n July 2019, the Securities and Exchange Commission qualified the Company’s offering statement to sell Stacks Tokens in a public offering pursuant to Tier 2 of Regulation A (the “Regulation A Sale”). The Company offered up to 140,333,333 Stacks Tokens (including 78,333,333 to voucher-holders at a price of \$0.12 per token) for an aggregate amount of \$28.0 million for the cash offering of the Regulation A Sale. The cash offering ended on September 9, 2019 and the Company sold approximately 74.3 million tokens and generated proceeds of \$15.5 million....” *Id.* n. 6.

²⁰³ See, e.g., Danny Nelson, *Blockstack Ran on Token Sales in 2019, Says Latest SEC Filing*, COINDESK (Apr. 30, 2020, 4:00 AM), <https://coindesk.com/business/2020/04/30/blockstack-ran-on-token-sales-in-2019-says-latest-sec-filing> (last updated Sept. 14, 2021).

an ugly distant cousin of public offerings?²⁰⁴ Was it about the first-mover disadvantage?

It is easy to engage in a simulation heuristic in this and similar cases. Instead, we need (and lack) reliable data on registered and Regulation A crypto-offerings and their effect on the amount of raised capital, the cost of capital, liquidity, and returns. For their part, crypto-issuers would be more willing to incur the costs associated with public offerings if they could determine the resultant net payoffs.

In addition to the lack of data, the other variable that interferes with this analysis is the pure-information environment of cryptoassets. If the maxim of a market is that investors have access to the underlying publicly available data, then the market is less dependent on and in need of the SEC mandatory integrated disclosure system under the Securities Act and the Exchange Act.

If market participants *expect* that digital-asset issuers provide only a fraction of material information, the market should shift its focus to the variables observable outside of issuer reports and financial statements. To name a few examples, the value of cryptoassets may depend on the network effect, adoption by users, developer activity, network and product functionality, decentralization, listing and liquidity, scalability, and other factors, many of which are objective facts and public information accessible through alternative data feeds,²⁰⁵ and some of which may be outside issuers' control.²⁰⁶

By contrast, disclosures within the control of issuers may be simply irrelevant. A pertinent example is corporate governance, communications between boards and equity-holders, proxy rules, and voting procedures.²⁰⁷ For instance, a promoter floating financial instruments giving access to a decentralized autonomous organization ("DAO") or a decentralized finance application could envision that the code and the partnership-like community would replace legacy corporate governance arrangements and bylaws.²⁰⁸

²⁰⁴ See, e.g., Lookback Study, *supra* note 37, at 13-15 (observing that many Regulation A issuances are "best-efforts, self-underwritten offerings with limited institutional participation" and with low liquidity). For the data on offerings, see Release No. 33-10763, *supra* note 113, at 9.

²⁰⁵ For related examples, see Yadav, *supra* note 92, at 1131.

²⁰⁶ For specific examples and literature review, see Ofir & Sadeh, *supra* note 112; Moxoto et al., *supra* note 4, at 4179-80; *Sec. & Exch. Comm'n v. Telegram Grp. Inc.*, 448 F.Supp.3d at 362-63; Expert Rebuttal Report of Stephen McKeon at 16-19, U.S. Sec. & Exch. Comm'n v. Telegram Grp. Inc., 448 F.Supp.3d 352 (S.D.N.Y. Jan. 15, 2020) (No. 19-cv-9439(PKC)).

²⁰⁷ For discussion of relevant arguments and governance structures, see, e.g., Brummer et al., *supra* note 102, at 19-21.

²⁰⁸ See generally PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW: THE RULE OF CODE 148-52 (2018); The DAO Report, *supra* note 84, at 4-8 (describing DAO governance and voting); Reyes, *Rockefeller*, *supra* note 110, at 387-89, 391-400, 416-17 (discussing the partnership and business trust approaches to DAOs); Guseva, *A Conceptual*

This change not only raises corporate law questions but also requires reporting adjustments.

The old accounting and financial statement rules may also be off the mark. Digital-asset startups (and even more mature crypto-companies) may not have voluminous historical financial information to share with investors. Their assets are their code, talent, network, and reputation. The source code underlying cryptoassets is an intangible asset, whose valuation is always opaque. Cryptoassets depend on relevant security protocols ensuring long-term asset safety and operation, the future use of the assets and/or platform, the network effect, the replication of the technology by competitors, secondary market trading, the quality of pre-launch audit, and other factors.²⁰⁹ Accounting tools and generally accepted accounting principles have not been designed with these factors and analyses in mind, which may lead to information losses from this adaptive incongruence, require coordination between accountants and tech experts, and make conventional issuer disclosure less relevant to investors. Even the SEC acknowledges that some disclosure rules date “back to a time when companies relied significantly on plant, property, and equipment to drive value.”²¹⁰

Another example of irrelevance is the rules on securities description. Recall that these rules require that unusual financial instruments be described in a manner “comparable” to the well-known species such as debt and equity.²¹¹ For one, the diverse and evolving array of cryptoassets may not be easily analogized with traditional securities.²¹² Even if issuers can draft comparable descriptions, these statements may not produce tangible benefits in the market where crypto-investors are risk-takers, tech-enthusiasts, professionals, and expert institutions.²¹³ Furthermore, crypto-investors may be interested in the brand-new financial instruments precisely

Framework, *supra* note 4, at 205 (discussing MakerDAO). MakerDAO is a quasi-bank with its own stable cryptocurrency. MakerDAO, Whitepaper, *The Maker Protocol: MakerDAO's Multi-Collateral Dai (MCD) System*, <https://makerdao.com/en/whitepaper/#evolving-oracles> (last accessed on Dec. 9, 2020).

²⁰⁹ *Supra* note 206.

²¹⁰ Release No. 33-10668, *supra* note 129, at 48; *see also* Brummer et al., *supra* note 102, at 17.

²¹¹ 17 C.F.R. § 229.202 (2021); *see also supra* Section D(3).

²¹² For a general analysis and literature review, *see, e.g.,* Guseva, *A Conceptual Framework*, *supra* note 4, at 175-79.

²¹³ Crypto-investors are a heterogeneous group. In addition to professional investors, retail investors also participate in the cryptoasset market. A 2020 report by the UK Financial Conduct Authority states that most consumers understood the risks of cryptocurrencies and had some knowledge of technology. FINANCIAL CONDUCT AUTHORITY at 5, 10-11, CRYPTOASSET CONSUMER RESEARCH 2020, (June 30, 2020), <https://www.fca.org.uk/publication/research/research-note-cryptoasset-consumer-research-2020.pdf>. These results point at either some level of sophistication or the overconfidence bias.

because they are not traditional bonds and equity, help to diversify away the risks associated with the legacy capital markets, and/or allow for speculation. It is important to first determine who the investors are before assuming that they need a generic level of protection designed for an average conventional investor.

A caveat is in order: this is not to say that all mandatory disclosure has no place in crypto-markets. An apropos example is the amended rules expanding human capital reporting. In August 2020, the SEC supplemented the previous rules targeting primarily directors and officers²¹⁴ with more principles-based guidelines.²¹⁵ The 2020 amendments should enable investors to compare and contrast Item 101 (which is more principles-based and covers human capital resources) with Item 401 (which is more prescriptive and focuses on directors and executives). This approach should allow investors gain valuable insights into the issuers' broader human capital policies and objectives, as well as unique circumstances and risk profiles.²¹⁶

The role of human capital in crypto is indeed paramount and instantiates an intersection of the past and the future. It hearkens to the original SEC disclosure rules that assumed that investors were more interested in "the incentive structure facing the seller, typically a corporate promoter... than... the characteristics of the company being floated."²¹⁷ In the same vein, today's crypto-investors put considerable store in the reputation of the promoter's team and care about their incentives.²¹⁸ The

²¹⁴ 17 C.F.R. § 229.401 (2021).

²¹⁵ 85 Fed. Reg. 63726-29 (Oct. 8, 2020).

²¹⁶ See, e.g., Release No. 33-10668, *supra* note 129, at 6-7, 44; U.S. SEC. & EXCH. COMM'N, REPORT ON REVIEW OF DISCLOSURE REQUIREMENTS IN REGULATION S-K (2013), <https://www.sec.gov/news/studies/2013/reg-sk-disclosure-requirements-review.pdf>.

²¹⁷ Mahoney, *supra* note 165, at 741.

²¹⁸ See, e.g., Sabrina T. Howell et al., *Initial Coin Offerings: Financing Growth with Cryptocurrency Token Sales* 4, 26-28 (NBER, Working Paper No. 24774, 2019), <http://www.nber.org/papers/w24774>; Giudici & Adhami, *Governance Signals*, *supra* note 200; Bourveau et al., *supra* note 117, at 36; Paul P. Momtaz, *Initial Coin Offerings* 4-5, 12-14 (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3166709; Paul P. Momtaz, *Entrepreneurial Finance and Moral Hazard: Evidence from Token Offerings* (Feb. 27, 2019) (unpublished manuscript) (available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3343912) [hereinafter Momtaz, *Moral Hazard*]; Paul P. Momtaz et al., *Token Offerings: A Revolution in Corporate Finance?*, 49 CAPCO INST. J. FIN. TRANSFORMATION 32 (2019) [hereinafter Momtaz, *Revolution*]. See also Brief of Amicus Curiae, the TON Community Foundation in Support of Telegram Group Inc. and TON Issuer Inc. at 19, U.S. Sec. & Exch. Comm'n v. Telegram Grp. Inc., 448 F.Supp.3d 352 (S.D.N.Y. Feb. 14, 2020) (No. 19-cv-9439(PKC)) ("Community trusts Pavel and Nikolai Durov who had previously created the product (Telegram messenger) used by millions of people and known for years of its efficient and secure performance."); Plaintiff Securities and Exchange Commission's Memorandum of Law in Support of Its Motion of Summary Judgment at 15, U.S. Sec. & Exch. Comm'n v. Telegram Grp. Inc., 448 F.Supp.3d 352

reason is that the ultimate projects are innovative and often unpredictable, and their success depends entirely on the abilities and adequate incentives of the developers.²¹⁹ To the extent that mandatory standardized disclosure reduces the costs of searching, comparing, and verifying the information about issuers, it should generate efficiencies.²²⁰

It is important to understand, however, that not all regulations are relevant to crypto-entrepreneurs and crypto-investors, and that issuer compliance with the Securities Act registration and the Exchange Act reporting rules and, consequently, their enforcement may fail to generate investor benefits comparable to those in legacy markets. When investors do not realize the full benefits from mandatory disclosure, they may be less likely to reward issuers for compliance. This shortage of investor benefits and issuer payoffs catalyzes a feedback loop dampening crypto-firms' incentives to pursue costly public (or "mini-public") offerings. On balance, it is not surprising that cryptoasset issuers should prefer private placements. This outcome is *ex ante* foreseeable and results from the current structure of securities law.

E. ISSUERS' PREFERENCES: PRIVATE PLACEMENTS

If crypto-issuers surmise that the payoffs from public offerings are negative more often than not, they will be driven away from public distributions toward alternatives such as private placements.²²¹ Regulation D, the most popular exemption, reduces the costs of compliance and resolves, *inter alia*, the above-discussed timing and opportunity cost concerns. By way of example, there is no qualification or regulatory review of placement memoranda by the SEC, and an issuer merely files a very limited in substance Form D²²² within 15 days after sale.²²³

(S.D.N.Y. Jan. 15, 2020) (No. 19-cv-9439(PKC)) ("One of Durov's friends told him, for example, that he felt it was important for the 'employees and developers' to be 'subject to the same lockup restrictions as the investors.' The friend explained that...it 'would help to know to ensure your stake is as I assume it is fundamental [sic] aligned with the success of TON (more is better!).'").

²¹⁹ This presumption is well-established in startup financing. Edward G. Fox, Merritt B. Fox & Ronald J. Gilson, *Economic Crisis and the Integration of Law and Finance*, 116 COLUM. L. REV. 325, 344 (2016).

²²⁰ In the first crypto-offerings, information asymmetry and disclosure variability were serious problems. Ofir & Sadeh, *supra* note 112, at 43-48; Bourveau et al., *supra* note 117, at 19; Klayman, *supra* note 139, at 64; Cohnsey et al., *supra* note 61, at 609.

²²¹ Another alternative is technologies that put crypto-projects outside the securities law perimeter. An example is decentralized finance discussed in *supra* Part C.

²²² See, e.g., Jennifer S. Fan, *Regulating Unicorns: Disclosure and the New Private Economy*, 57 B.C. L. REV. 583, 593 (2016).

²²³ U.S. Sec. & Exch. Comm'n, Filing a Form D Notice (May 19, 2020), <https://www.sec.gov/smallbusiness/exemptofferings/formd>; U.S. Sec. & Exch. Comm'n,

On the disclosure side, issuers face an obligation to provide non-financial and specified financial information only to *non-accredited* investors who do not meet certain income, net worth, investment, and asset requirements.²²⁴ Even conventional issuers, however, rarely sell Regulation D securities to non-accredited investors.²²⁵ For digital-asset firms, this limited mandatory disclosure requirement should also be moot for the following reasons: Crypto-firms advertise their offerings broadly and through social media,²²⁶ which has been associated with better chances of offering completion, future employment, and higher asset liquidity.²²⁷ These mechanisms qualify as “general solicitation,” which means that only accredited investors can purchase such securities (that is, if the issuer wants to stay compliant with Regulation D).²²⁸

Central to issuers’ costs in private placements, therefore, is the definition of *accredited investor* and the requirement to verify that all purchasers are accredited.²²⁹ The verification process is complex and often necessitates the use of intermediaries.²³⁰ Mistakes are costly because the SEC has already initiated Regulation D enforcement actions related to verification errors by crypto-firms.²³¹ Yet, Regulation D placements are not subject to the same liability provisions as registered offerings,²³² and Regulation D still offers less expensive compliance options.

The 2020 reforms should make private placements even more appealing to crypto-firms. For example, the 2020 Final Release sent a policy

Form D, General Instructions (2021), <https://www.sec.gov/about/forms/formd.pdf>.

²²⁴ 17 C.F.R. § 230.502(b) (2021).

²²⁵ Release No. 33-10734, *supra* note 36, at 105 (estimating that in 2013-2018, even outside of Rule 506(c), “only 6% of the offerings... under Rule 506(b) included non-accredited investor purchasers.”).

²²⁶ See, e.g., Mathieu Chanson et al., *Initial Coin Offerings (ICOs): The Role of Social Media for Organizational Legitimacy and Underpricing* 6 (2018) (unpublished manuscript) (available at

<https://pdfs.semanticscholar.org/6b7e/bf91cdc67d80c20d1d1f554b4801f9711c32.pdf>); Lauren Rhue, *Trust Is All You Need: An Empirical Exploration of Initial Coin Offers (ICOs) and ICO Reputation Scores* 8 (May 16, 2018) (unpublished manuscript) (available at <https://ssrn.com/abstract=3179723>); Howell et al., *supra* note 218, at 16.

²²⁷ See, e.g., Bourveau et al., *supra* note 117, at 5, 25; Howell et al., *supra* note 218, at 34.

²²⁸ 17 CFR § 230.506(c) (2021).

²²⁹ See, e.g., Usha Rodrigues, *In Search of Safe Harbor: Suggestions for the New Rule 506(c)*, 66 VAND. L. REV. EN BANC 29, 36-39 (2013).

²³⁰ See, e.g., Dale A. Oesterle, *Intermediaries in Internet Offerings: The Future is Here*, 50 WAKE FOREST L. REV. 533 (2015); see also Release No. 33-10734, *supra* note 36, at 117-118 n.281; Release No. 33-10763, *supra* note 113, at 86-88.

²³¹ An example was an action against SimplyVital, which conducted an initial coin offering. In the Matter of SimplyVital Health, Inc., Securities Act Release No. 10671, 2019 WL 3780055 (Aug. 12, 2019).

²³² See, e.g., SEC OFFICE OF INVESTOR EDUCATION AND ADVOCACY, INVESTOR ALERT: PRIVATE PLACEMENTS UNDER REGULATION D (Sept. 24, 2014), https://www.sec.gov/oiea/investor-alerts-bulletins/ib_privateplacements.html.

signal emphasizing that verification of the investor status should be *principles-based*, and that the Regulation offered non-exclusive examples.²³³ Depending on the future implementation of this policy commitment, issuers may enjoy more control over their selected verification methods and, consequently, the costs of their offerings. To name a few other cost-reducing changes, the reforms add anti-integration rules,²³⁴ enable issuers to run concomitant offerings to investors in the U.S. and offshore,²³⁵ introduce “demo days,”²³⁶ and permit issuers to more broadly “test the waters” before determining an exemption for their actual offering.²³⁷

Although it is possible that the SEC under Chair Gensler will revisit some of these reforms,²³⁸ the current regime is favorable to innovative firms in such competitive and time-sensitive industries as fintech. Having a more cost-effective vehicle to promptly raise capital in the U.S. and abroad should profit developers seeking funding. Issuers now may gauge the future demand for their securities and, if the prospective demand is insufficient, swiftly pivot, modify their projects, and look to alternate sources of capital.

The SEC concatenated these supply-side reforms with the new rules expanding the definition of “accredited investor.”²³⁹ Having more prospective accredited purchasers, *ceteris paribus*, moves the demand curve, strengthens investor competition, and may increase the price investors are willing to pay for securities,²⁴⁰ thus lowering the cost of capital for firms. In other words, these reforms should allow issuers to raise capital faster and tap larger cohorts of accredited investors. Note that these benefits will accrue to issuers without any additional disclosure obligations or expensive reporting and compliance. Logically, Regulation D should remain the favored exemption for crypto-firms.

F. THE FUNDAMENTAL DISCONNECT BETWEEN THE STATUTORY GOALS AND ENFORCEMENT

1. Doubtful Investor Sophistication

²³³ Release No. 33-10884, *supra* note 113, at 104-111.

²³⁴ *Id.* at 17-75.

²³⁵ *Id.*

²³⁶ *Id.* at 76-85.

²³⁷ *Id.* at 89-90, 226-27; 17 C.F.R. § 230.241 (2021).

²³⁸ SEC, *Rulemaking List*, *supra* note 35.

²³⁹ U.S. Sec. & Exch. Comm’n, Release No. 33-10824 (Aug. 26, 2020), <https://www.sec.gov/rules/final/2020/33-10824.pdf>; 85 Fed. Reg. 64277 (Oct. 9, 2020).

²⁴⁰ Release No. 33-10734, *supra* note 36, at 107-132. These arguments apply to both Regulation D and Regulation A. Regulation A imposes an investment limit on non-accredited investors if the offered securities are not listed on an exchange. 17 C.F.R. § 230.251(d)(2) (2021).

As the preceding Section demonstrates, the current status quo rooted in private placements is the optimal and preferred option for crypto-issuers. But is it likewise profitable for crypto-investors, whose protection is the chief statutory objective of the Commission? For one thing, all markets axiomatically benefit from information,²⁴¹ and a well-known downside of conventional privately placed securities is information asymmetry and illiquidity.²⁴² Even though private placements give investors access to possibly high-growth, high-performance investment opportunities,²⁴³ this access is accompanied by risk.

Does the pure-information environment where crypto-investors have access to the code, i.e., the main asset of firms, override these problems? Not necessarily. Although highly informative, the pure-information model does not guarantee that investors do not need or rely on issuer information, only that material crypto-issuer disclosure may not fit within the rules prescribed by the Commission in registered offerings and that the code and other relevant data are often publicly available.

Even with blockchain transparency and code disclosure, investors in private crypto-placements must be sophisticated enough to understand which data an issuer has in its possession and possibly wishes to conceal, the nature of the projects, and which questions to ask to elicit disclosure when necessary.²⁴⁴ Only then can they appropriately negotiate for relevant offering terms²⁴⁵ and “fend for themselves,”²⁴⁶ meaning that the securities laws’ registration and reporting become unnecessary.

Unfortunately, it is questionable whether stereotypical Regulation D investors are sophisticated enough. Since the early days of private placements, “accredited investors” were supposed to be “persons [with the] financial sophistication and ability to sustain the risk of loss of investment

²⁴¹ Gilson & Kraakman, *supra* note 183.

²⁴² Release No. 33-10734, *supra* note 36, at 125-129.

²⁴³ *Id.* at 121.

²⁴⁴ See, e.g., Baird et al., *supra* note 99, at 95-96, 317 (discussing voluntary disclosure, defining unravelling result, and emphasizing the propensity to disclose when information is verifiable and the uninformed knows that its counterparty has the information). Investors need to have a certain demand for information to incentivize additional disclosure by issuers. Palmiter, *supra* note 13, at 4 (“[T]here is strong evidence that investor informational demands often propel issuers to provide disclosure at levels beyond that mandated – as a private, contractual matter.”).

²⁴⁵ For a review of major contractual terms and major problems, see, e.g., Rodrigues, *Financial Contracting*, *supra* note 102, at 422-23, 434-38.

²⁴⁶ *S.E.C. v. Ralston Purina Co.*, 346 U.S. 119, 125 (1953). “Congress did not design the securities laws to protect investors capable of protecting themselves.” Edward Fletcher, *Sophisticated Investors Under the Federal Securities Laws*, 1988 DUKE L.J. 1081, 1133. See also Stephen Choi, *Regulating Investors Not Issuers: A Market-Based Proposal*, 88 CAL. L. REV. 279, 306 (2000).

or fend for themselves.”²⁴⁷ The ultimate proxies embedded in Regulation D, however, are limited to wealth, income, investments, and assets.²⁴⁸ These metrics do not necessarily translate into investor sophistication and capacity to make appropriate inquiries.²⁴⁹ Scholars observed over the years that wealth, for instance, was an imperfect yardstick for measuring sophistication.²⁵⁰

The added concern in digital-asset markets is not merely the financial sophistication of investors but the complexity of the market for technology and financial innovations.²⁵¹ Various cohorts of crypto-investors may either lack the required technical knowledge to assess innovative projects or ignore the hard information—the code—disclosed by issuers.²⁵² Even sophisticated

²⁴⁷ Regulation D Revisions: Exemption for Certain Employee Benefit Plans, 52 Fed. Reg. 3015, 3017 (Jan. 30, 1987); Accredited Investor, *supra* note 37, at 88 (“The accredited investor concept... was designed to identify... a category of investors whose financial sophistication and ability to sustain the risk of loss of investment or ability to fend for themselves render the protections of registration unnecessary.”). Ideally, accredited investors would have the ability to analyze the risks and rewards, allocate investments to mitigate risks, gain access to information about either the issuer or the investment, and bear the risk of loss. Release No. 33-10734, *supra* note 36, at 16.

²⁴⁸ Release No. 33-10734, *supra* note 36, at 18-19, 21. A limited number of entities are accredited investor because of their status.

²⁴⁹ See, e.g., Usha Rodrigues, *Securities Law’s Dirty Little Secret*, 81 FORDHAM L. REV. 3389, at 3418-25 (2013) [hereinafter Rodrigues, *Dirty Little Secret*] (discussing how the SEC equates wealth and sophistication and examining relevant scholarship); Joan MacLeod Heminway, 70 OKLA. L. REV. 189, 211 (2017) (“Accredited investors have the financial capacity to bear risk but may not have the capacity to acquire, understand, and efficaciously process the information necessary to optimal investment decision making.”); Fox, *Truly New Securities*, *supra* note 130, at 721 (“[The] restriction does little to increase the percentage of buyers that would be sophisticated enough to do effective diligence on the quality of an issuer.”).

²⁵⁰ See, e.g., Thompson & Langevoort, *supra* note 17, at 1610-19 (discussing possible concerns in Regulation D offerings and the accredited investor definition); Rodrigues, *Dirty Little Secret*, *supra* note 249, at 3418-25; Howard M. Friedman, *On Being Rich, Accredited, and Undiversified: The Lacunae in Contemporary Securities Regulation*, 47 OKLA. L. REV. 291, 299-300 (1994); Choi, *supra* note 246, at 311; Fontenay, *supra* note 18, at 467, 481 (discussing similar concerns in the context of privately placed shares and observing that “[t]he concept of an accredited investor was designed to be a proxy for investor sophistication, but in practice it captures investors... with financial means deemed sufficient to absorb a certain amount of losses”); Fletcher, *supra* note 246, 1124 (in various exemptions, “the SEC assumes either that wealthy investors are always sophisticated or that they, no matter how naive, do not need the protection of the 1933 Act’s registration provisions.”).

²⁵¹ Even the SEC admits that “financial product and process innovation over the past three decades have led to more complex financial markets.” Accredited Investor, *supra* note 37, at 5.

²⁵² See, e.g., Ofir & Sadeh, *supra* note 112, at 44-45, nn. 305-319 (summarizing the literature); Collao & Winship, *supra* note 108, at 732-33; L. Lin & D. Nestarcova, *Venture Capital in the Rise of Crypto Economy: Problems and Prospects*, 16 BERKELEY BUS. L.J. 533, 547, 554 (2019); Cohnen et al., *supra* note 61, at 598, n.7. But see FINANCIAL CONDUCT AUTHORITY, *supra* note 213.

hedge fund managers, such as Mark Cuban, may make mistakes and invest in floundering and unaudited projects.²⁵³

A commonplace scenario may be illustrated as follows: Take a sophisticated but not yet wealthy PhD student with almost no assets and low income. With her computer engineering degree, she would be well-qualified to assess the technology and source code. Alas, under the current regulation, the student would be cut off from participating in many digital-asset placements under Regulation D.

Consider, in turn, a retired musician²⁵⁴ with a net worth of \$1,200,000, i.e., an “accredited investor” under Regulation D.²⁵⁵ Having read dazzling whitepapers and feeling overwhelmed by the information from multiple social media sources, the musician, a neophyte in crypto, might buy low-value securities in reliance on soft information, overpaying for the assets of low value and opaque quality.²⁵⁶

The less sophisticated investor may miss certain encoded features (or their absence) and bugs, rely on the naked representations made by zealous self-promoting developers, and overemphasize soft information without evaluating the underlying technology.²⁵⁷ Taking into account only basic technical signals, she could be “unable to assess the true quality of the code,”²⁵⁸ even when it was disclosed to the public. Although code audits could help her ascertain the true asset value (and many but not all projects are audited),²⁵⁹ tech experts might pay attention only to the relevant

²⁵³ See, e.g., MacKenzie Sigalos, *Why the Crash of Crypto Token “Titan” That Burned Mark Cuban May Not Foretell Bitcoin Plunge*, CNBC (June 24, 2021, 8:53 AM), <https://www.cnbc.com/2021/06/24/why-titan-crypto-crash-that-burned-mark-cuban-may-not-signal-similar-bitcoin-plunge.html>.

²⁵⁴ For a relevant empirical review of financial literacy issues involving investor age, see, e.g., Michael Finke & Tao Guo, *The Unsophisticated “Sophisticated”: Old Age and the Accredited Investors Definition* (Sept. 24, 2019) (unpublished manuscript) (available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2634818).

²⁵⁵ 17 C.F.R. § 230.501(a) (2021).

²⁵⁶ These knowledge and sophistication problems are typical in capital market regulation. See, e.g., *supra* note 249; Choi, *supra* note 246, at 279, 310-11 (“The definition of an accredited investor... may treat otherwise financially sophisticated investors as nonaccredited, while treating financial neophytes as accredited.”). Logically, the same reasoning should apply to technology.

²⁵⁷ See, e.g., Cohn et al., *supra* note 61, at 627-30, 635-39 (discussing investor control promises), 660 (highlighting that only sophisticated parties can read and understand the code); Langevoort, *supra* note 108, at 759 (underscoring the general investor tendency to rely on heuristics); Ofir & Sadeh, *supra* note 112, at 18, 44-45.

²⁵⁸ Ofir & Sadeh, *supra* note 112, at 47.

²⁵⁹ Even large projects are not always audited before launch, which means that market participants commit their funds to the projects that have not been separately certified. Brief of Amicus Curiae, the Ton Community Foundation in Support of Telegram Group Inc. and Ton Issuer Inc. at 20-21, U.S. Sec. & Exch. Comm’n v. Telegram Grp. Inc., 448 F.Supp.3d 352 (S.D.N.Y. Feb. 14, 2020) (No. 19-cv-9439(PKC)) (noting that there was no systematic

technology and cybersecurity risks, missing inaccuracies in the issuer's soft information and false promises on which our less sophisticated investor relied.²⁶⁰

A final wrinkle is that the more sophisticated investors may have no incentives to enlighten their less sophisticated brethren regarding the underlying value of the assets. An obvious reason is that the more sophisticated may participate in the projects early on, simulate demand, and dump the assets onto the unsophisticated. Economic models also suggest that the sophisticated are not incentivized to inform the myopic about the true asset values and simply opt out of the unnecessary features of products and services.²⁶¹

The above-discussed 2020 amendments to Regulation D may exacerbate these concerns by opening access to crypto-markets to more entities and individuals without the necessary level of sophistication. For example, one new category is persons holding professional designations or certifications that should enable them to evaluate the merits and risks of investments.²⁶² The first designations and exams on the list are administered by FINRA.²⁶³ Naturally, these new provisions call for a reevaluation of the exams to make sure the knowledge of technological innovations is adequately tested, before allowing such investors to participate in digital-asset offerings as accredited investors and increasing their risk exposure.

A related concern is that these professionals licensed by FINRA²⁶⁴ are not only accredited investors under the new Rule but also parties providing professional services to others. By virtue of being licensed professionals, they must fully understand the crypto-market and its private placements variety to adequately advise their clients. As knowledgeable financial ramparts and gatekeepers, these licensed brokers and investment advisers

security analysis "of Bitcoin or Ethereum protocols available pre-launch" and that "[n]obody certified Bitcoin before it was launched.").

²⁶⁰ See, e.g., Cohney et al., *supra* note 61, at 645 (mentioning that some "audits focus on the antihacking aspects of cybersecurity, not specific instantiation of economically relevant promises"); Ofir & Sadeh, *supra* note 112, 53-54 (emphasizing the need for better audit in light of inadequate analysis performed by investors).

²⁶¹ Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q. J. ECON. 505, 509 (2006) ("Firms exploit myopic consumers. In turn, when consumers become sophisticated, they take advantage of these exploitative firms. Finally, when sophisticated consumers exist, firms cannot rid themselves of them. In equilibrium, nobody has an incentive to deviate except the myopic consumers. But the myopes do not know any better, and often nobody has an incentive to show them the error of their ways").

²⁶² 85 Fed. Reg. 64234, 64241-42 (Oct. 9, 2020).

²⁶³ *Id.*

²⁶⁴ The list includes The Licensed General Securities Representative (Series 7), Licensed Investment Adviser Representative (Series 65), and Licensed Private Securities Offerings Representative (Series 82). *Id.* at 64237.

can reduce the information gap between crypto-issuers and the less sophisticated investors. Naturally, their knowledge should be tested through exams and licensing requirements. In fact, similar approaches have been already implemented in foreign jurisdictions.²⁶⁵

Another example of possibly vulnerable accredited investors is small institutions meeting the asset or investment threshold of \$5,000,000²⁶⁶ or having equity owners who are accredited investors.²⁶⁷ Neither of these criteria is sufficient to ensure their sophistication. The SEC itself, for instance, acknowledged that owning \$5,000,000 in assets could be a weaker measure of investment acumen than having \$5,000,000 in investments.²⁶⁸ However, the 2020 reforms did not replace the \$5,000,000 asset test and added to the list “any entit[ies] owning ‘investments’ ... in excess of \$5 million that [were] not formed for the specific purpose of acquiring the securities being offered.”²⁶⁹

While the asset test is admittedly weak, the investment test also does not guarantee the technological sophistication of investing entities. The term “investment” is defined in a rule promulgated under the Investment Company Act and generally includes “securities, real estate, commodity interests, physical commodities, and non-security financial contracts held for investment purposes, and cash and cash equivalents.”²⁷⁰ Having a \$5,000,000 stake in a local shopping mall does not translate into being properly sophisticated in investing in digital-asset securities, even when the securities are collateralized by real estate.

2. Commissioner Peirce’s Proposal and Standardized Disclosure

2.1. *The Positive Value of Relevant Disclosures*

Under these conditions, a disclosure reform in crypto is needed. Based on the analysis in Parts D and E, there are two first-order conditions for this reform: providing a modernized set of *relevant* disclosures and accounting for the pure-information data distribution in crypto-markets. Both can be achieved without superimposing the gamut of the Securities Act onto the novel assets and nudging crypto-issuers toward private placements via enforcement.

²⁶⁵ See, e.g., Collao & Winship, *supra* note 108, at 740 (discussing similar approaches introduced in Malta).

²⁶⁶ 17 C.F.R. § 230.501(a)(3),(9) (2021).

²⁶⁷ 17 C.F.R. § 230.501(a)(8) (2021).

²⁶⁸ 85 Fed. Reg. 64234, 64249 (Oct. 9, 2020) (“We continue to believe that an investments test may be more likely than an assets-based test to serve as a reliable method for ascertaining whether an entity is likely to require the protections of Securities Act registration”).

²⁶⁹ *Id.*

²⁷⁰ *Id.* at 64247-48.

As yet, there is only one proposal that aims to ensure this outcome—Commissioner Peirce’s 2021 Proposal (“Proposal”). Its principal provision is that “the Securities Act of 1933 does not apply to any offer, sale, or transaction involving” a cryptoasset (specifically, a token).²⁷¹ The Proposal gives developers up to three years from a crowdfunding event to project completion. This safe harbor helps to solve the timing, opportunity cost, competition, the need for interim financing, and other issues that contribute to the decision to pursue more expedient private placements as opposed to public offerings in the fast-evolving, pure-information environment of crypto-markets.²⁷²

More importantly, the Proposal grapples with the information asymmetry typical of private crypto-placements and puts forward a set of disclosures relevant to *both* developers and crypto-investors. For one, it mandates source code disclosure.²⁷³ Although there are incentives to voluntarily disclose the code,²⁷⁴ the absence of a baseline mandatory rule opens the possibility for secretive (and possibly fraudulent) actors to solicit capital from investors without fully revealing the main asset and justifying their lack of transparency by the need to preserve a competitive edge.²⁷⁵ A formal rule would create the necessary baseline, whereas proprietary and competition issues could be handled through contract between an issuer and investors.

The other proposed disclosures would tackle the discussed challenges of the ossified rule-based line-item approach. To recap, crypto-project valuation depends on the factors that are not directly implanted in the current regulations. Those factors include, *inter alia*, the network effect and platform membership. Under the Proposal, material items, such as transaction history, token economics, asset supply, and transaction history verification, are mandatory disclosure points.²⁷⁶ A warning legend is also recommended to alert the unsophisticated to the dangers of the novel crypto-instruments²⁷⁷ (provided, of course, that investors actually read these legends).

Furthermore, the proposed notice filing and periodic reporting provisions²⁷⁸ should facilitate information dissemination to broad swaths of

²⁷¹ The Proposal, *supra* note 7.

²⁷² *Supra* Sections D(2)&(3).

²⁷³ The Proposal, *supra* note 7.

²⁷⁴ See, e.g., Collao & Winship, *supra* note 108, at 737-38 (mentioning that code publication is positively associated with the amount of capital raised); Ofir & Sadeh, *supra* note 112, at 29-30; Howell et al., *supra* note 218, at 16,34 (discussing GitHub and the impact of GitHub disclosure on project employment and success).

²⁷⁵ *Supra* note 117 and accompanying text.

²⁷⁶ The Proposal, *supra* note 7.

²⁷⁷ *Id.*

²⁷⁸ *Id.*

public markets (i.e., investors, professional traders, and market analysts), which should jumpstart market efficiency mechanisms.²⁷⁹ In turn, promoting and understanding efficiency, which correlates with the availability of information and its processing by the market, “should allow the design of more effective reform”²⁸⁰ in cryptoasset markets.

The next proposed provision appertains to the incentive structure of crypto-firms and their human capital. Recall that these data are crucial to all investors and of particular value to crypto-markets.²⁸¹ The Proposal duly addresses these topics by asking the developers to disclose prior sales, lockup agreements, insiders’ preferential rights and options to buy, as well as the qualification of the promoters. The Proposal bolsters these disclosures via the provisions on the sales of tokens by insiders and on related transactions.²⁸²

Finally, the Proposal fits into the existing regulatory framework by ensuring a transition from the safe harbor to a general registration of securities on Form 10 if a crypto-firm is unable to achieve its end goal,²⁸³ i.e., when the firm cannot develop a mature and sufficiently decentralized network. If, however, the developers successfully complete their project, they can cost-effectively exit the temporary safe harbor by filing a report accompanied by an opinion by outside counsel concerning network maturity.²⁸⁴ This mechanism solves the above-discussed “Blockstack problem” in corporate governance.²⁸⁵ Namely, it should reduce the costs and uncertainty crypto-issuers and their boards are currently confronted with—the imperative to regularly review whether the tokens are securities under the *Howey* test.²⁸⁶

2.2. Critiques and Modifications

Despite its potential, the Proposal is a stepping-stone in some respects. For instance, given the centrality of reputation and expertise in crypto, a sensible amendment would be to add the data on developers’ competency and business history in addition to the disqualification provisions identifying bad actors.²⁸⁷ Such standardized disclosures would help the global crypto-market to pinpoint actors who had led failed projects and to decide whether to trust these actors again. Crypto-markets find the information about the

²⁷⁹ See generally Gilson & Kraakman, *supra* note 182, at 570.

²⁸⁰ *Id.* at 553.

²⁸¹ See *supra* Section D(4), *supra* note 218 and accompanying text.

²⁸² The Proposal, *supra* note 7.

²⁸³ *Id.*

²⁸⁴ *Id.*

²⁸⁵ *Supra* Section D(4).

²⁸⁶ *Id.*; S.E.C. v. W. J. Howey Co., 328 U.S. 293 (1946).

²⁸⁷ The Proposal, *supra* note 7 (referring to Regulation D disqualification provisions).

past experience of developers exceptionally important.²⁸⁸ Since crypto-entrepreneurs can unrestrainedly move from one jurisdiction to another, having more detailed upfront disclosures would help investors economize on relevant global search costs. This is one area where the pure-information *modus vivendi* of crypto can be supplemented with issuer disclosures.

Similarly, the Proposal could benefit from more specific reporting of the sales of more than 5% of tokens by insiders, who are principally defined as the initial development team.²⁸⁹ Taking a more expansive approach and including various financial backers who might seek an early exit on the basis of their access to inside information would be a valuable amendment ensuring market integrity and transparency, as well as investor protection.

The other paragraphs that warrant further consideration concern gatekeepers. Here, the Proposal includes a contradictory proposition. Laudably, it recommends upfront disclosure of listing and trading venues.²⁹⁰ This approach is firmly rooted in the research on crypto-markets, the importance of liquidity,²⁹¹ and the need for gatekeeping,²⁹² reassuring investors that reputational intermediaries would stand sentinel in crypto-offerings.

Yet, the Proposal simultaneously defeats its very purpose by excluding marketplaces and persons engaged in transactions for the account of others from the definitions of “exchange” and “broker,” respectively. Properly regulated gatekeepers, however, are something that the cryptoasset market urgently needs to realize its self-regulatory potential.

Self-regulation—the ability to mitigate some of the discussed risks without much regulatory intervention—is feasible, *ex hypothesi*, when a market has gatekeeping mechanisms and reputational intermediaries lending credence to issuer representations and ensuring proper monitoring.²⁹³ Many

²⁸⁸ *Supra* note 218 and accompanying text; Giudici & Adhami, *Governance Signals*, *supra* note 200; Moxoto et al., *supra* note 4, at 4180 (reviewing relevant research).

²⁸⁹ The definition of “related persons” for purposes of related transactions, however, is broader and covers directors, family members, and others. The Proposal, *supra* note 7. A similar approach may be applied to token sale disclosure.

²⁹⁰ *Id.*

²⁹¹ See generally Howell et al., *supra* note 218; Moxoto et al., *supra* note 4, at 4179-80 (discussing studies connecting liquidity and success).

²⁹² See, e.g., Ofir & Sadeh, *supra* note 112, 53-54 (“Our analysis suggests that while disclosing the source code significantly predict success, the number of mismatches between promises made in white papers and the actual code does not affect ICO success. These results imply that investors value the disclosure of the source code but are unable to assess its true quality. Therefore, the focus here should not be on the requirement to disclose the source code—which the majority of ICOs disclose voluntarily anyway—but on an intermediary that will audit the source code.”).

²⁹³ For a discussion on gatekeepers and intermediaries, see, e.g., *supra* note 30; Andrew F. Tuch, *Multiple Gatekeepers*, 96 VA. L. REV. 1583 (2010); Lawrence A. Cunningham, *Beyond Liability: Rewarding Effective Gatekeepers*, 92 MINN. L. REV. 323, 328-30 (2007); John C.

crypto-gatekeepers, however, display fundamental limitations that may prevent them from properly monitoring the digital-asset market.

For example, among the major gatekeeping mechanisms are the canonical transparency of blockchains, their security, and the quality of consensus protocols. To date, however, these developing technologies have exhibited a number of constraints, including potential governance conflicts within the community and emergence of controlling groups.²⁹⁴

The other group of crypto-gatekeepers are similar to those in legacy markets and include, broadly speaking, broker-dealers, crypto-exchanges, and rating agencies. Many of these institutions have become known for variable (and questionable) quality services, susceptibility to conflicts of interest, market manipulation, fraud, technological failures, and weak reputational capital.²⁹⁵ Broker-dealers and online trading platforms in particular have been a cause for concern that has called for regulatory attention.²⁹⁶ The reliability of crypto-exchanges as vetting mechanisms,

Coffee, Jr., *Gatekeeper Failure and Reform: The Challenge of Fashioning Relevant Reforms*, 84 B.U. L. Rev. 301 (2004).

²⁹⁴ See, e.g., Reyes, *(Un)Corporate*, *supra* note 114, at 1884-90 (discussing conflicts in blockchain governance); Angela Walch, *The Bitcoin Blockchain as Financial Market Infrastructure: A Consideration of Operational Risk*, 18 NYU J. LEGIS. & PUB. POL'Y 837, 876-77 (2015) (expressing concerns about conflicts of interest, delays in code maintenance and repair, and governance issues). See also Weinstein, *supra* note 43, at 515, 539, 545, 565 (discussing examples of discrimination in permissioned and permissionless blockchains and related financial services).

²⁹⁵ Strong intermediaries are important in cryptoasset offerings. See, e.g., Moxoto et al., *supra* note 4, at 4181 (referring to relevant studies). Crucially, due to the discussed above crypto-issuers' preference for private placements (and less so for Regulation A placements), prospective investors may be solicited through unregistered intermediaries. Lookback Study, *supra* note 37, at 24-25. In addition, even if broker firms are registered, many emerging crypto-brokerages are smaller institutions lacking deep balance sheets and reputation. See, e.g., Noel Acheson, *Crypto Long & Short: The Emergence of Prime Brokers Adds Resilience but Also Risk*, COINDESK (June 1, 2020) https://www.coindesk.com/crypto-prime-brokers-resilience-risk-coinbase-bitgo-genesis/?utm_source=newsletters&utm_medium=blockchainbites&utm_campaign=&clid=00Q1I00000MN3GkUAL. The online trading platforms called "crypto-exchanges" are another illustrative example of gatekeeping inefficiencies. See *infra* note 297. As of the time of this writing, there were only a few registered crypto-ATS (see U.S. SEC. & EXCH. COMM'N, ALTERNATIVE TRADING SYSTEMS WITH FORM ATS (June 30, 2021), <https://www.sec.gov/foia/docs/atlist.htm>), and no crypto-exchange registered with the SEC as a national securities exchange (see U.S. SEC. & EXCH. COMM'N, NATIONAL SECURITIES EXCHANGES (modified July 14, 2021), <https://www.sec.gov/fast-answers/divisionsmarketregmrexchangesshtml.html>). Crypto-rating agencies and various aggregators also have exhibited conflicts of interest and inefficiencies. See, e.g., Rhue, *supra* note 226 (discussing problems with ratings and finding that the current information environment makes it hard for investors to find reliable data); Ofir & Sadeh, *supra* note 112, at 48-50, 54-55; Boreiko & Vidusso, *New Blockchain Intermediaries: Do ICO Rating Websites Do Their Job Well*, 21 J. ALTERNATIVE INV. 67 (2019).

²⁹⁶ See *supra* note 94. The new SEC leadership recently received a "nudge" from some

liquidity providers, and trading venues varies and depends on the strength of their underlying technology and trading protocols. Alas, in the past three years, reports from regulators and journalists warned that crypto-exchanges did not have the ammunition to deal with conflicts of interest, exhibited operational vulnerabilities to hacking and manipulative trading, attempted to evade U.S. regulation, and crashed locking out thousands of users.²⁹⁷

If the Proposal is promulgated as is in this fluid and unstable milieu, a cascade of events may ensue: Placing domestic *and* foreign broker-dealers and exchanges outside the purview of U.S. securities law and regulatory agencies may expose U.S. markets to the risk of fraud; transaction costs may rise; the self-regulatory potential of the crypto-market may be undermined; and the onus of ensuring asset valuation will be placed squarely on investors. These problems emphasize the need for developing proper guidelines for crypto-gatekeepers.

In designing these new rules for the digital-asset market, it is crucial not to fall into the regulatory trap that Anita Krug explored—a misbalance between the overemphasized upstream, investor- and disclosure-focused regulation and the underemphasized downstream “regulation of those who provide securities-related financial services....”²⁹⁸ This is precisely what the Proposal does by focusing on the upstream regulation of issuers and investors and ignoring the value of downstream services, which are a crucial component of securities law, “a perceived source of regulatory weakness [and] a route through which to create a more robust and stable financial

members of Congress to address these issues. Letter from Elizabeth Warren to Gary Gensler, July 7, 2021,

<https://www.warren.senate.gov/imo/media/doc/Draft%20SEC%20Crypto%20Exchange%20Letter%2007.7.2021%20clean.pdf>.

²⁹⁷ See, e.g., Simon Brandler, John Castiglione, Brian Whitehurst & Joseph Mueller, *Virtual Markets Integrity Initiative Report*, OFFICE OF THE N.Y. STATE ATT. GEN. (Sept. 18, 2018), <https://virtualmarkets.ag.ny.gov>; Steven Russolillo & Eun-Young Jeong, *Cryptocurrency Exchanges Are Getting Hacked Because It's Easy*, WALL ST. J. (July 16, 2018); Sebastian Sinclair, *Bitcoin Price Slides 2% After Deribit, Coinbase Flash Crash*, NASDAQ (Oct. 31, 2019), <https://www.nasdaq.com/articles/bitcoin-price-slides-2-after-deribit-coinbase-flash-crash-2019-10-31>; Letter from Daniel Sangeap, Deputy Superintendent, NEW YORK STATE DEPARTMENT OF FINANCIAL SERVICES (Apr. 10, 2019), <https://www.dfs.ny.gov/system/files/documents/2019/04/dfs-bittrex-letter-41019.pdf> (stating that the exchange did not have adequate due diligence and internal compliance rules); Michael del Castillo, *Leaked 'Tai Chi' Document Reveals Binance's Elaborate Scheme To Evade Bitcoin Regulators*, FORBES (Oct. 29, 2020), <https://www.forbes.com/sites/michaeldelcastillo/2020/10/29/leaked-tai-chi-document-reveals-binance-elaborate-scheme-to-evade-bitcoin-regulators/?sh=6f84a1cb2a92> (discussing reports that a major foreign exchange attempted to avoid U.S. securities regulation while “feigning” compliance); Patricia Kowsmann & Caitlin Ostroff, *Binance Froze When Bitcoin Crashed. Now Users Want Their Money Back*, WALL ST. J. (July 11, 2021).

²⁹⁸ Anita K. Krug, *Downstream Securities Regulation*, 94 B.U.L. REV. 1589, 1598 (2014).

regulatory system.”²⁹⁹ Instead of an outright acceptance of the Proposal’s *laissez-faire* approach or the current one-size-fits-all tactic (i.e., imposing conventional pre-crypto regulations on new species of gatekeepers), the SEC would benefit from more research on the development of reputational intermediaries and crypto-gatekeepers.

In other respects, however, Commissioner Peirce has put forward a robust agenda targeting the crucial inefficiencies of the current enforcement-based status quo, i.e., the information-less world of unregistered placements. As the crypto-market’s infrastructure matures (and the downstream regulations are in the works), the SEC can easily guarantee that crypto-issuers provide some level of standardized disclosure, without which investors (mainly the unsophisticated ones) are faced with the lack of “digestible” and relevant issuer information, and issuers with only a few cost-effective options.

3. The Risks of Voluntary Disclosure

This Section lays out the key arguments for a disclosure reform, like the one proposed by Commissioner Peirce. The dominant theme here is the potential failure of the oft-cited justifications for the lenient disclosure regime in unregistered offerings. The familiar rationale behind this regime rests on the issuers’ incentives to voluntarily provide information,³⁰⁰ as is explained by the following game-theoretic arguments:

[T]he willingness of a party to agree voluntarily to a [disclosure] term in a contract may signal the party’s type. Imposing a mandatory term may prevent this signaling and thereby reduce the amount of information transferred.³⁰¹

“Good” firms in private placements without mandatory rules are expected to disclose their inside information.³⁰² By taking voluntary actions to reveal private information, they signal, *inter alia*, their transparency, management’s quality, and profitability.³⁰³ Bayes’ rule dictates that this

²⁹⁹ *Id.* at 1592.

³⁰⁰ See, e.g., Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669, 683 (1984).

³⁰¹ Baird et al., *supra* note 99, at 147.

³⁰² *Id.* at 91 (“Someone with information will disclose it, rather than be subject to the inference that arises from the failure to disclose it....”).

³⁰³ Disclosures and offerings are usually positively associated. See, e.g., Richard Frankel et al., *Discretionary Disclosure and External Financing*, 60 ACCT. REV. 135 (2011). The same logic applies to firms issuing cryptoassets. See, e.g., Giudici & Adhami, *Governance Signals*, *supra* note 200; Ofir & Sadeh, *supra* note 112, at 29-30; Howell et al., *supra* note 218, at 4, 22, 16, 34-36 (discussing, *inter alia*, GitHub and the impact of GitHub disclosure on project

disclosure by the good actors affects the beliefs of investors about these issuers' quality.³⁰⁴

To a degree, this approach works in crypto-markets. Research on crypto-offerings suggests that investors reward more transparent issuers with a lower cost of capital, higher offering success, and better liquidity.³⁰⁵ Alas, although issuer information is valued by investors, it is also possible that the nature of cryptoassets *per se* may adulterate the standard incentives for accurate voluntary disclosure.

First, when disclosure erodes competitive advantages and increases the risk of hacking,³⁰⁶ a crypto-issuer may find it best not to disclose. In that case, issuer's silence or under-disclosure neither signifies low project quality nor suggests how good or bad a particular project is *vis-à-vis* similarly situated issuers.³⁰⁷ Under these conditions of imperfect signaling, investors cannot properly distinguish between high- and low-quality firms or reward good-quality issuers with a lower cost of capital. A set of standardized disclosures would help both issuers and investors reduce adverse selection,³⁰⁸ while the risks to the issuers' competitive advantages could be handled contractually, between issuers and investors.

employment and success).

³⁰⁴ Baird et al., *supra* note 99, at 80-87, 302 (Bayes's rule "provides a method for updating beliefs in light of new information.").

³⁰⁵ Howell et al., *supra* note 218, at 26 (finding that "ICO issuers are mindful of the importance of transparency"); Bourveau et al., *supra* note 117, at 5 (more informative disclosures are associated with ICO success); Lyandres et al., *supra* note 115, at 20 (finding an association between specific disclosure language and capital raising).

³⁰⁶ Collao & Winship, *supra* note 108, at 739 ("[T]he availability of the programming code source increases hacking chances," (citing S. Adhami et al., 'Why Do Businesses Go Crypto?' *An Empirical Analysis of Initial Coin Offerings*, 100 J. ECON. & BUS. 64 (2018))); Rodrigues, *supra* note 132, at 704-705 (discussing The DAO); Bourveau et al., *supra* note 117, at 40. *See also* Yadav, *supra* note 92, at 1145 (mentioning unwillingness to reveal proprietary algorithms).

³⁰⁷ *See, e.g.,* Fox, *Truly New Securities*, *supra* note 130, at 719 ("[S]ignaling can fail to solve the adverse-selection problem for a number of reasons: issuer claims of high quality are not fully credible, issuers have reasons not to disclose positive information and so silence does not necessarily mean that the issuer is low quality, silence by a low-quality issuer does not reveal how much worse it is compared to the issuer that is affirmatively disclosing facts demonstrating its high quality, and many retail investors are not attentive to the absence of disclosure on each of a myriad of different topics nor sophisticated in the inferences that they draw."); Fox, *Retaining Mandatory Securities Disclosure*, *supra* note 130, at 1361 ("Silence is not a complete substitute for affirmatively disclosing a lack of good news because the market knows that an issuer could choose a low-disclosure regime for reasons other than a lack of good news. As we have seen, an issuer may choose not to disclose because revealing the information might put it in an inferior position vis-à-vis a competitor, major supplier, or major customer.").

³⁰⁸ Pritchard, *Revisiting*, *supra* note 15, at 1020-21 (2013) ("[S]ome standardization of disclosure practices would likely benefit both investors and issuers. The size of today's private offerings also raises the possibility of a collective-action problem for investors,

Second, as I argued elsewhere, an investment contract to develop and deliver cryptoassets is often akin to bonds.³⁰⁹ It is not the bond-purchasers but the shareholders of an issuer-developer who bear the costs of disclosure.³¹⁰ In cases where developers-shareholders cannot receive the entrepreneurial surplus, giving them “a pro rata claim on the expected positive cash flow generated by the project,”³¹¹ their incentives to incur disclosure costs may be insufficient, resulting in a suboptimal information environment.

Third, while sophisticated parties such as individual hedge funds and venture capital firms have the bargaining power to negotiate for better disclosure and other provisions constraining agency costs and information asymmetry³¹² and examine the code directly, our concern is with smaller, less sophisticated crypto-investors. These parties may be unable to bargain for and receive comparable and adequate disclosures.

Their unsophistication should weaken “unravelling” in the crypto-market (i.e., the process where once some issuers disclose, others follow suit). For unravelling to work, investors must have “the ability... to infer the other player’s information from that player’s silence.”³¹³ When no inferences can be drawn concerning the unobserved nature of a crypto-project and its founders’ silence, there should be fewer incentives to disclose.³¹⁴ The resulting lack of comparability and inadequate issuer reporting should expose investors, particularly the unsophisticated ones, to risk, raise the discount investors apply to crypto-assets, and in the end, increase the cost of capital for digital-asset issuers.

To date, crypto-markets have approached these issues mainly through two vectors: (1) third-party auditing and review by the community and crypto-gatekeepers,³¹⁵ and (2) developers’ reputation.³¹⁶ I have already

thereby making it difficult for them to negotiate for contractual representations and warranties.”).

³⁰⁹ Guseva, *A Conceptual Framework*, *supra* note 4, at 179-88.

³¹⁰ Paul G. Mahoney, *The Exchange as Regulator*, 83 VA. L. REV. 1453, 1458 (“Disclosures about a particular firm are useful to all investors but the cost of disclosure is borne only by the shareholders of that firm.”)

³¹¹ Fox, *Retaining Mandatory Securities Disclosure*, *supra* note 130, at 1358.

³¹² For an overview of related contracting practices, see Darian M. Ibrahim, *Public or Private Venture Capital?*, 94 WASH. L. REV. 1137, 1163-67 (2019).

³¹³ Baird et al., *supra* note 99, at 95.

³¹⁴ *Id.* In addition, “[w]hen information is verifiable and the uninformed party knows that the other party possesses information, the informed party is likely to disclose the information.” *Id.* at 317.

³¹⁵ *Supra* Section D(2).

³¹⁶ As Reyes pointed out, a “founder’s reputation will rise or fall with the success of the public blockchain protocol he or she created,” while “core developers exist in a loop of reputational intermediaries... allowing their own reputation to rise or fall with the integrity of the protocol.” Reyes, *(Un)Corporate*, *supra* note 114, at 1919.

emphasized that the depth of community reviews and gatekeeping may vary and that audit firms are typically not subject to regulatory oversight.³¹⁷

The second vector is similarly imperfect because the value of reputation and trust are the strongest in long-term interactions where retaliation for misbehavior has a positive probability. If a bad issuer wished to do a crypto-offering only once, as some developers do, the investors, the users of the assets, and the developer community would have fewer chances to retaliate against that actor and downgrade its reputation.³¹⁸ The firm could inveigle purchasers into its short-term project by making exaggerated and aspirational claims and even disappear with the “loot,” which may be both money and private information. Evidence from early ICOs corroborates this paradigm and shows that embroidered and inaccurate statements were both common³¹⁹ and associated with crowdfunding success.³²⁰

The final variable in our map of private crypto-placements and the need for information is the positive correlation between a lower risk of securities law liability and decreased voluntary disclosure.³²¹ A rational firm establishes its optimal level of reporting by weighing the private costs of reporting against the costs of nondisclosure.³²² Compliance with exemptions from the Securities Act entails a lessened liability regime compared with public offerings³²³ and shields issuers from the strictures of Securities Act Section 5.³²⁴ In essence, the issuer’s main risk concerns engaging in fraud, using manipulative or deceptive devices, and/or making material misstatements or omissions with scienter.³²⁵ As discussed elsewhere, this liability framework places the onus of pleading the elements of fraud on

³¹⁷ See *supra* note 295 and accompanying text; Brummer et al., *supra* note 102, at 33. While self-regulatory mechanisms are developing, and there are codes of ethics and data authentication services, those organizations are often not subject to regulation. Collao & Winship, *supra* note 108, at 737-38, 740, 752-53 (discussing self-regulatory mechanisms).

³¹⁸ On the relevant issues in ICOs, see, e.g., Momtaz, *Moral Hazard*, *supra* note 218, at 8 (“[T]oken issuers can tap the finance market only once, which increases the pressure on the venture to raise enough funding to be able to realize the project.”). See also Momtaz, *Revolution*, *supra* note 218. See also ROBERT AXELROD, *THE EVOLUTION OF COOPERATION* 182 (1984).

³¹⁹ See generally Cohnsey et al., *supra* note 61; Zetzsche et al., *The ICO Gold Rush*, *supra* note 44 (examining how developers do not disclose crucial information).

³²⁰ Momtaz, *Moral Hazard*, *supra* note 218, at 12-37.

³²¹ See, e.g., Paul M. Healy & Krishna G. Palepu, *Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature*, 33 J. ACCT. & ECON. 405, 422-23 (2001) (summarizing the debate on the association between shareholder litigation and disclosure); Jinyoung Park Wynn, *Legal Liability Coverage and Voluntary Disclosure*, 83 ACCT. REV. 1639 (2008).

³²² Rational firms would carefully weigh their costs. Baird et al., *supra* note 99, at 25, 28.

³²³ To recap, Securities Act Sections 11 and 12(a)(2) are inapplicable. *Supra* Parts B&C.

³²⁴ *Id.*

³²⁵ 15 U.S.C. § 78j; 17 C.F.R. § 240.10b-5 (2021). Section 17 liability is also a relevant risk. 15 U.S.C. § 77q.

plaintiffs and, thus, may be more costly to investors than Securities Act claims.³²⁶ This reduced liability may dampen issuers' motivation to disclose.

To summarize, it is reasonable to assume that crypto-issuers seeking capital through private placements are incentivized to disclose less rather than more information, *ergo*, the market for digital-asset offerings may be affected by the improper fit of the disclosure regime of the Securities Act and the lack of information in private placements. The ramifications of the reduced disclosure should be harmful to investors, primarily unsophisticated investors. The only appropriate solution is a rule ensuring some level of uniform disclosure and reporting by crypto-issuers.

G. CONCLUSION

Our narrative is complete. Through empirical and policy analysis, this Article has explored a fundamental disconnect between the statutory objectives of the Commission and the actual outcome of its policies in digital-asset markets. The SEC regulates crypto-markets via enforcement and ignores the significant pure-information component of cryptoassets.

Avoiding enforcement, crypto-issuers attempt to comply with securities law by resorting to private placements, which do not entail mandatory disclosure in most offerings. Consequently, while compliance with the private placement exemptions staves off SEC enforcement and lowers the offering costs of crypto-issuers, it also channels their behavior toward less transparent markets.

Cryptoasset purchasers are exposed to the information asymmetry of private placements aggravated by the unique risks of crypto. This information-less environment is particularly harmful to less sophisticated investors who may be unable to elicit voluntary disclosure from issuers and ensure that the disclosed information is adequate and material to their cryptoasset purchases. All the while, more sophisticated cryptoasset purchasers rely on the pure-information model that exists independently of the SEC regulations and the Securities Act.

The means (*viz.*, enforcement) undermine the end (*i.e.*, protecting investors and facilitating fair and efficient markets). Taking these arguments further, in pursuing regulation via enforcement, the Commission may have funneled crypto-issuers into *de facto* information-less, perfunctory, and lackadaisical compliance with exemptions. The investors do not receive the promised informational benefits of securities law, while the SEC spends its enforcement resources on promoting the status quo that does not benefit the very persons the Commission was created to protect.

³²⁶ *Supra* note 163.

Finally, if investors are unable to evaluate cryptoassets and run comparisons across crypto-projects, they apply higher discounts which raise the cost of capital for all crypto-issuers. No one wins in this scenario. To resolve these problems, a reform ensuring a basic standardized crypto-issuer disclosure regime is urgently needed.