CRYPTOGATEKEEPERS AS A RESPONSE TO CONFLICTS OF INTEREST IN DECENTRALIZED FINANCE

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ABSTRACT

Decentralized Finance (DeFi) emerged with the promise of eliminating traditional financial intermediaries and hierarchies, replacing them with trustless, automated, and decentralized systems. However, the reality of DeFi governance shows that disintermediation does not eliminate conflicts of interest or the need for trust. Cryptoenterprises—financial Decentralized Autonomous Organizations (DAOs)—operate without conventional governance structures such as boards of directors or managerial oversight, relying instead on code-based mechanisms. This absence of internal governance frameworks creates fertile ground for misaligned incentives, governance opacity, and unchecked internal controls, ultimately exacerbating conflicts between insiders (cryptopromoters) and investors (cryptoasset holders).

This article examines the emerging role of cryptogatekeepers: a new category of cryptointermediaries that counterbalance these governance failures. It explores the structural deficiencies of cryptoenterprises, including the absence of internal monitoring mechanisms, and identifies the conflicts. The analysis highlights how cryptopromoters—those in control of DeFi protocols—retain significant decision-making power while obscuring accountability that leads to agency problems reminiscent of traditional finance sans regulatory safeguards. By assessing the function of cryptointermediaries as potential de facto governance enforcers, this article argues that cryptogatekeepers can introduce a layer of oversight that compensates for the governance void in DeFi. It outlines best practices for mitigating conflicts of interest, enhancing disclosure standards, and

improving the monitoring of cryptointermediaries. The study also considers transnational regulatory approaches to bolster accountability in DeFi through proposing mechanisms such as cryptointermediary registries, mutual recognition of licensed cryptointermediaries, and standardized reporting frameworks.

Ultimately, this article contends that while DeFi presents an innovative model for financial services, it cannot escape fundamental governance challenges. The rise of cryptogatekeepers suggests that some level of re-intermediation is inevitable and necessary to balance decentralization with maintaining investor protection and market integrity.

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INTRODUCTION

"In finance, our whole legal system is pretty much designed around trying to mitigate the risk of one individual having to trust another with money. We have a lot of laws around intermediaries and rules around how they're able to act—all designed to protect consumers from the conflicts of interest that those intermediaries might have. In a peer-to-peer system, like you can have with a blockchain, you don't need intermediaries."[1] This claim, while appealing in its simplicity, overlooks the complexities of financial markets and the role of legal safeguards. The very foundation of financial regulation and corporate governance lies not in eliminating trust, but in managing and mitigating its risks. In modern financial systems, this mitigation increasingly takes the form of technological automation—tools that reduce, but do not remove, the need for legal and institutional oversight.

Blockchain technology has powered the Decentralized Finance (DeFi) market, facilitating the technological/automated distribution of financial products and services.[2] Automation has produced a reduction in transaction fees and reliance on traditional financial intermediaries, allowing participants to bypass conventional market barriers and access services directly.[3] As part of this transformation, the DeFi ecosystem has also given rise to Decentralized Autonomous Organizations (DAOs), which represent a new model of digitally coordinated financial governance.

DAOs are innovative, blockchain-powered structures that enable collective ownership, management, and decision-making without central authority or mediating hierarchies. They issue digital assets (cryptoassets) with incorporated economic and voting rights (governance tokens).[4] Through voting rights, they decide (theoretically) on every aspect of the organization. These code-based rules facilitate capital raising, resource management, and activity coordination.[5] What distinguishes DeFi is that all organizations within this alternative financial system operate under the DAO model,[6] which

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[1] Miles Jennings, *3 ways to organize decentralization in your startup*, A16ZCRYPTO (June 24, 2024), https://a16zcrypto.com/posts/article/what-decentralization-looks-like-frameworks-for-startups/.

[2] Dirk A. Zetzsche, Douglas W. Arner & Ross P. Buckley, *Decentralized finance*, 6 J. FIN. REG. 172–203 (2020).

[3] *Id.*

[4] PRIMAVERA DE FILIPPI & AARON WRIGHT, BLOCKCHAIN AND THE LAW 100 (2018).

[5] Aaron Wright, *the Rise of Decentralized Autonomous Organizations: Opportunities and Challenges*, 4.2 STAN. J. BLOCKCHAIN L. POL'Y 152 (2021).

[6] Jonathan Rohr & Aaron Wright, *Blockchain-Based Token Sales, Initial Coin Offerings, and the Democratization of Public Capital Markets*, 70 HASTINGS L.J. 463–524 (2019). The term DAO is not new; it was first used in a paper in the 90s regarding intelligent home

claims to resolve agency problems that have long been central to corporate governance debates.[7]

However, this claim must be evaluated by considering the same corporate governance mechanisms that have traditionally addressed such agency problems. Agency problems arise when, in a relationship, the agent operates on behalf of the principal, who cannot effectively monitor the agent's operations and actions since the principal lacks sufficient information.[8] This dynamic is particularly evident in corporate structures, where the separation of ownership and control allows management to act on behalf of shareholders. Their actions are shaped by internal governance mechanisms, such as boards of directors and committees, and by external oversight from auditing firms and other institutional gatekeepers.[9]

The role of gatekeepers in corporate law was assessed by imposing liability on private parties (financial intermediaries) capable of breaking the chain of misconduct by refusing to cooperate with wrongdoers (directors and managers) in misleading, fraudulent, or other illegal activities. Such activities are, in one way or another, supported by their services. Gatekeepers function as reputational intermediaries or reputational renters by certifying and verifying corporate information and signaling issuers' quality to investors. As repeat players, intermediaries not only have few incentives to deceive[10] but also serve as collectivizing agents for shareholders, thereby reinforcing trust in corporate governance.[11] These gatekeepers help mitigate agency costs that internal corporate governance mechanisms may not fully address, reducing but not entirely eliminating them.

But what happens when management and boards do not exist, and there

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systems. Werner Dilger, *Decentralized autonomous organization of the intelligent home according to the principle of the immune system*, 1 *in* PROCEEDINGS OF THE IEEE INTERNATIONAL CONFERENCE ON SYSTEMS, MAN AND CYBERNETICS 351–356 (1997). Their current understanding, however, refers to organizations developed in blockchain. Samer Hassan & Primavera De Filippi, *Decentralized autonomous organization*, 10 INTERNET POL'Y REV. 1–10 (2021).

[7] Wright, *supra* note 5.

[8] Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305–360 (1976).

[9] Reinier H. Kraakman, *Gatekeepers: The anatomy of a third-party enforcement strategy*, 2 J. L., ECON. ORGAN. 53–104 (1986).

[10] Gatekeepers lend their reputation capital to the corporation (the value of corporate intangible assets about the corporation's quality), allowing investors to rely on corporate disclosures and enhancing investors' trust. JOHN C. COFFEE, GATEKEEPERS. THE PROFESSIONS AND CORPORATE GOVERNANCE 2 (2006).

[11] *See generally* John C Coffee Jr, *Understanding Enron: It's about the Gatekeepers, Stupid*, 57 BUS. LAWYER 1403 (2002).

is no centralized entity to oversee? Do agent-principal costs disappear? Would gatekeepers still be necessary? While the cryptocommunity argues that distributed networks and DAOs have solved agency problem-related issues and traditional hierarchies, these challenges still persist despite blockchain's groundbreaking technology.[12]

DAOs are governed by the radical assumption that encoded rules sufficiently confer investors' control over the organization. While boards of directors play a key role in monitoring management and reducing agency costs,[13] cryptoenthusiasts argue that the decentralized nature of blockchain-based organizations—alongside the freedom to design alternative governance models—is a great catalyst for distributed (shared) governance. Unsurprisingly, distributed governance in DeFi has yet to be implemented. Agency costs between cryptoasset holders (principals) and cryptopromoters (agents) persist, with insiders acting in their self-interest rather than in the best interest of cryptoasset holders.

Conflicts and agency costs have been obscured by the perceived attributes of DAOs, leading to the misconception of these organizations being decentralized, disintermediated, and autonomous. In reality, none of these attributes are accurate, as these organizations are heavily centralized and rely on (crypto)intermediaries and agents to function.[14] Rather, their financial nature,[15] driven by DeFi, positions them as economic enterprises, more accurately described as cryptoenterprises.[16]

Cryptoenterprises have several distinct characteristics. First, ownership is usually dispersed among many investors rather than concentrated in the hands of a few (although this dispersion could be illusory). Second, control is

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[12] Wulf Kaal, *Blockchain-Based Corporate Governance*, 4.1 STAN. J. BLOCKCHAIN L. POL'Y 3, 11 (2020).

[13] ADOLF A. BERLE & GARDINER C. MEANS, THE MODERN CORPORATION AND PRIVATE PROPERTY 4 (2ND ED.1967); Jensen and Meckling, *supra* note 8, at 308.

[14] For a discussion on decentralization and disintermediation in DeFi and DAOs, see Vanessa Villanueva Collao, *DeFi's Premise and Promise of Decentralization and Disintermediation*, SSRN ELECTRON. J. (2025), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5119593.

[15] Andrea Peña-Calvin, Jorge Saldivar, Javier Arroyo & Samer Hassan, *A Categorization of Decentralized Autonomous Organizations: The Case of the Aragon Platform*, IEEE TRANS. COMPUT. SOC. SYST. 1–13 (2023).

[16] Cryptoenterprises are cryptoasset-based ventures, commonly referred to as "financial DAOs," that rely on blockchain and smart contract code as a source of governance by defining and encoding some or all of their rules. Villanueva Collao, *supra* note 14, at 6. Since all DeFi projects and protocols operate within a DAO structure, this article will refer to those with a predominant business or economic focus as "cryptoenterprises" to distinguish them from other organizations in the ecosystem.

exercised through either liquid democracy or direct voting by investors instead of traditional delegated management structures. Third, despite claims of participation, control in cryptoenterprises remains highly centralized in the hands of insiders, particularly founders (cryptopromoters). Finally, these organizations typically lack a board of directors or clear divisions of responsibilities among those managing the cryptoenterprise.[17]

Cryptoenteprises operate in a world permeated with opacity due to the pseudonymity of DeFi participants. Since the last months of 2022, several issues in DeFi determined the beginning of the crypto-winter with significant backlash and loss of trust in the ecosystem. The new governance model emerging in DeFi—the cryptoenterprise—built on decentralized decision-making, faces challenges in functioning effectively due to known coordination and collective action problems.

In this context, legal sanctions imposed on promoters of these ventures fall short of enhancing investor protection due to the fast technological development and jurisdictional issues. Regulators and agencies struggle to police, oversee, and eradicate every fraudulent scheme, not solely due to the transactions' cross-border nature but because of the continuous evolution and emergence of new actors. In addition, market sanctions (such as reputational sanctions) may not work appropriately because market incentives are insufficient to curb self-interested behavior. Reputational sanctions are particularly important in influencing behavior among market participants because they must build and maintain their "good standing" reputational status to operate. However, this self-regulatory mechanism functions only among small communities when reputation works as a filter to enter a market. On the contrary, in DeFi, there are ultimately no barriers to promoters[18] re-entering the DeFi market under a different pseudonym. Therefore, reputation has a limited (or nil) deterrent function because pseudonymity in an open market, such as DeFi, encourages fraudulent schemes. Furthermore, asymmetric information creates barriers for participants to use contractual methods to protect themselves.

Traditionally, contractual relationships are used to (re)establish the balance between promoters and investors to reduce or frame their conflicts of interest, albeit only by setting a price for defection.[19] Ultimately, the

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[17] See *infra* Part I.A. The Structure of the Cryptoenterprise.

[18] Cryptopromoters or DeFi-promoters are persons who launch the project and are actively involved in the coding, setting up, and managing of the cryptoenterprise.

[19] Overtime contracting out corporate fiduciary duties has become a recurrent practice between the board and investors to tailor those duties according to the specific corporate needs. Gabriel Rauterberg & Eric Talley, *Contracting out of the Fiduciary Duty of Loyalty:*

characteristics of DeFi make even this possibility challenging to pursue.

In this scenario, the examination of cryptoenterprises and their lack of a board structure sheds light on how cryptogatekeepers, can partially address conflicts and protect retail investors' interests. Such challenges have encouraged a process of disintermediation, re-intermediation, and the development of new intermediaries operating through blockchain-based digital platforms that serve specific roles, such as mediating transactions, reducing information asymmetry, and mitigating risk.[20]

This article offers an overview for understanding cryptoenterprises and the vertical conflicts between insiders at these organizations and dispersed investors (cryptoasset holders) and how cryptogatekeepers can respond to those conflicts. The conflicts of the cryptoenterprise have arisen from a structure that claims to be non-hierarchical yet maintains hierarchies that remain largely unexplored.[21] Before analyzing cryptoenterprises, a methodological caveat must be noted. The lack of assessment of how power structures govern cryptoenterprises depends on the unavailability of primary data, while secondary data is either difficult to verify or self-serving. Most of the information about cryptoenterprises comes from their own websites and forums. To understand these organizations' structure and governance, I supplemented my research through original qualitative work on blockchain organizations by attending meetings for proposals and interacting with their main actors during in-person decision-making processes.[22] In this context, Part I lays the groundwork for Part II of this article, which discusses how

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An Empirical Analysis of Corporate Opportunity Waivers, 117 COLUM. L. REV. 1075 (2017).

[20] Cryptointermediaries emerged because, despite the peer-to-peer, participants lacked the technological means to search and find a counterparty or eradicate scams. Vanessa Villanueva Collao, *The Functions of (Cyrpto)Intermediaries. The Decline of Cryptoexchanges and the Rise of Cryptoauditors as the White Hats of DeFi* (2025), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5161329.

[21] The literature around DAOs has provided definitions and descriptions of this new type of organization, the benefits of this new model, and policy implications for future autonomous systems and non-hierarchical systems. See Laila Metjahic, *Deconstructing the DAO: The need for legal recognition and the application of securities law to decentralized organizations*, 39 CARDOZO L. REV. 1533–1567 (2018); Carla L. Reyes, *If Rockefeller were a coder*, 87 GEORGE WASHINGTON L. REV. 373–429 (2019); Samer Hassan & Primavera De Filippi, *Decentralized autonomous organization*, 10 INTERNET POL'Y REV. 1–10 (2021); Wright, *supra* note 148; Cristiano Bellavitis, Christian Fisch & Paul P. Momtaz, *The rise of decentralized autonomous organizations (DAOs): a first empirical glimpse*, 25 VENTUR. CAP. 187–203 (2023).

[22] These observations were based on in-person meetings of the Cardano DAO during one proposal development. I am especially grateful to Adam Rusch, the Cardano Blockchain, the Champaign Blockchain Meetup Group, and the Champaign Blockchain Community for introducing me to the world of DAO governance.

cryptogatekeepers could be a response to conflicts in the cryptoenterprise.

The article is divided into two parts. The first part examines the structure of cryptoenterprises, actors, and governance mechanisms. This analysis will uncover an unconventional model alternative to traditional corporate structures beyond the idiosyncratic perspectives of the cryptocommunity. It argues that the structural features of the cryptoenterprise (namely, the lack of internal controls, insiders' specialized knowledge, and misalignment of incentives) create fertile ground for conflicts of interest between cryptopromoters and cryptoasset holders (investors). It identifies a non-exhaustive number of these conflicts, such as the unilateral variation of governance rules, misappropriation of funds, and opaque self-serving compensation schemes. The second part suggests how cryptogatekeepers can enhance good internal corporate governance and promote integrity in the DeFi market through a series of best practices in which cryptogatekeepers would act as natural enforcers due to their existing roles. These policies include implementing a disclosure system of the cryptoenterprise structure and business model, comprised of technical risks, review, availability of financial and risk management information, and the use of digital identities through decentralized identity (DID) systems. Furthermore, these policies incorporate certification mechanisms and audit reviews, which would help reduce information asymmetries and pseudonymity that currently shield misbehavior. Alongside these mechanisms, recommendations extend to transnational solutions for cryptogatekeepers oversight, such as a registry of cryptointermediaries and the mutual recognition of licensed cryptointermediaries as equivalent entities. Finally, the article concludes.

I. PART I. CONFLICTS OF INTEREST IN THE CRYPTOENTERPRISE STRUCTURE

Traditional firm structures move along the spectrum of sole proprietorship, manager-controlled corporations with different rights incorporated in the shares, and dispersed ownership. However, sole proprietorship does not pose principal-agent problems since it has no agents acting on behalf of the proprietors. Instead, in public corporations where the firm asks the public for capital and management decides on the business future, principal-agent costs arise and thus require a modified type of structure that can reduce agent costs of shirking on their management and self-dealing of directors.[23] As a result, public corporations usually fall within the concentrated ownership structure[24] (where a block of investors, or

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[23] STEPHEN M. BAINBRIDGE, CORPORATE LAW 98 (4TH ED., 2020).
[24] Rafael La Porta, Florencio Lopez-de-Silanes & Andrei Shleifer, *Corporate Ownership*

controller, owns a large number of common shares with equal economic and voting or control rights)[25] and the dual-class structure (where voting is concentrated in management and thus has full control of decision-making with no possibility of replacement).[26] The US takes a middle-ground approach, combining dispersed ownership with shareholder control rights, such as the ability to replace directors, alongside centralized management that controls decision-making.[27]

This corporate structure has been successful because delegating control has some positive perks, such as facilitating investor risk diversification and aggregation of capital to achieve economies of scale.[28] However, despite having clearly defined functions, executive management may have fewer incentives to perform diligently and could engage in opportunistic behavior, such as seeking personal benefits—especially when shareholders, despite holding ultimate control rights, are unable to monitor them effectively.[29] To address this, boards act as the necessary monitoring agents.[30] But who monitors the monitoring agent? Legislative reforms have sought to strike a balance: deferring to board decisions through doctrines like the business judgment rule and fiduciary duties, alongside imposing constraints through disclosure requirements, liability rules, and governance regulations. In such dynamics, shareholders retain some influence over corporate business plans

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around the World, 54 J. FIN. 471–517 (1999) (showing that in most jurisdictions worldwide, the concentrated ownership structure is the recurred model).

[25] Thus, agent control becomes uncontestable once they own more than 50% of the shares. Zohar Goshen & Assaf Hamdani, *Corporate Control and Idiosyncratic Vision*, YALE L. J. 560–617 (2016). This firm structure thus follows the one share, one vote with equal control and economic or cash flow rights. Sanford J. Grossman & Oliver D. Hart, *The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration*, 94 J. POL. ECON. 691–719 (1986).

[26] Zohar Goshen & Richard Squire, *Principal costs: A new theory for corporate law and governance*, 117 COLUM. L. REV. 767, 806 (2017). Within this model, control is exercised by managers with special voting rights and a share of cash flows commonly within the threshold of 40% (becoming also controlling shareholders). *Id.* Outside investors can only sell their shares if they do not agree with the management strategy, but they cannot fully withdraw from their investment, allowing controllers (managers) to maintain control over the same set of assets without reducing capital. Henry Hansmann & Reinier Kraakman, *The Essential Role of Organizational Law*, 110 YALE L. J. 387, 394-399 (2004).

[27] BERLE & MEANS, *supra* note 13, at 4.

[28] Jensen and Meckling, *supra* note 8, at 313, 331.

[29] Armen Alchian & Harold Demsetz, *Production, Information Costs, and Economic Organization*, 62 AM. ECON. REV. 777, 782 (1972) (stating that the ultimate control rights are reposed on residual claimants (those who have a claim on cash flows), thus shareholders through the voting exercise).

[30] Jensen and Meckling, *supra* note 8.

by replacing board members and modifying the capital structure,[31] supported by both contractual and fiduciary protections.

Boards play an important role, carrying out a mix of management, service, and oversight functions,[32] with the latter receiving particular attention in corporate law scholarship for its role in reducing agency costs[33]— even though these roles often overlap in practice.[34] Board roles include but are not limited to supervising management (a monitoring activity),[35] providing a collective memory for problem-solving, responding to contingencies,[36] offering technology feedback,[37] approving specific transactions,[38] assuring the interests of shareholders, assessing risk factors, evaluating the performance and compensation of the CEO,[39] and, most recently, making decisions over the ethical operations of the corporation.[40] These mixed functions are primarily shaped by the demands and expectations of stakeholders or constituents rather than being mandated by federal law.[41]

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[31] Capital structure can be modified when a majority of shareholders agree, as shareholders have "priority with liquidation protection." Hansmann and Kraakman, *supra* note 26, at 394.

[32] In closely held or family-owned businesses, boards primarily focus on management. In startups, boards emphasize service, offering guidance to the team and access to key resources through networking and capital infusion. By contrast, management fulfills the operation and service in public companies, while boards oversee management performance. STEPHEN BAINBRIDGE & M. TODD HENDERSON, OUTSOURCING THE BOARD. HOW BOARD SERVICE PROVIDERS CAN IMPROVE CORPORATE GOVERNANCE 33 (2018).

[33] A function that has progressively become primary since the 1970s due to corporate scandals. Jeffrey N. Gordon, *The Rise of Independent Directors in the United States, 1950-2005: Of Shareholder Value and Stock Market Prices*, 59 STAN. L. REV. 1465 (2007).

[34] BAINBRIDGE & HENDERSON, *supra* note 32, at 49.

[35] Melvin Aron Eisenberg, *The Structure of Corporation Law*, COLUM. L. REV. 1461, 1486 (1989) (describing alternative corporate models as a result of private ordering because "most of a corporation's constitutive rules concern the roles, coordination, supervision, and monitoring of corporate agents below the level of top managers, and such rules should and will be determined by private ordering").

[36] Stephen M. Bainbridge & M. Todd Henderson, *Boards-R-US: Reconceptualizing Corporate Boards*, 66 STAN. L. REV. 1051, 1064 (2014).

[37] Mark Fenwick, Wulf A. Kaal & Erik P. M. Vermeulen, *The "Unmediated" and "Tech-Driven" Corporate Governance of Today's Winning Companies*, 16 N.Y.U. J.L. BUS. 75 (2019).

[38] MODEL BUS. CORP. ACT §11.04(a) ("The plan of merger or share exchange shall first be adopted by the board of directors").

[39] Followed by an advisory vote of shareholders. Rule 14a-21(a) of the Dodd-Frank Act, known as Say on Pay. 17 C.F.R. §240.14a-21.

[40] Robin J. Ely & David A. Thomas, *Getting Serious About Diversity: Enough Already with the Business Case*, 2020 HARV. BUS. REV. 115 (2020). Although this role might be shaped by the anti-DEI position of the current administration.

[41] In this sense, some commentators have argued that boards mediate between competing interests across constituencies in the broader mediating hierarchy: the public corporation.

Accordingly, the firm's shareholders can decide or influence the board's function and role.[42] This relationship between governance and organizational structure is equally relevant in cryptoenterprises. While traditional firms have evolved mechanisms to mitigate principal-agent costs, the unique structure of cryptoenterprises necessitates an alternative approach to internal governance.

Cryptoenterprises show that creativity has a limit grounded on corporate safeguards against conflicts, which would emerge in one way or another. In the corporate world, compensating managers with stock is one of the many mechanisms to minimize agent conflict costs.[43] When such a mechanism is absent, it is often attributed to managers limiting shareholder powers to hide opportunistic behaviors, such as self-dealing and shirking. However, corporate governance structures encompass a range of approaches in which none is inherently superior. DeFi introduces a distinct organizational model (cryptoenterprises) where investors or cryptoasset holders contribute capital or labor,[44] expecting those in charge to pursue a common goal: using technology to reduce hierarchies and ultimately distribute power or control.[45]

While commonly associated with for-profit businesses operating in DeFi and offering financial services and products, cryptoenterprises are used for various purposes.[46] They ultimately represent a modernized

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Margaret M. Blair & Lynn A. Stout, *A Team Production Theory of Corporate Law*, 85 VA. L. REV. 247, 276 (1999).

[42] Different corporate structures are allowed to include some provisions allowing for shareholders' control in their constitutional documents. See, for instance, DEL. CODE ANN. TIT. 8, §141(a) about corporations ("[…] the powers and duties conferred or imposed upon the board of directors by this chapter shall be exercised or performed to such extent and by such person or persons as shall be provided in the certificate of incorporation"); Uniform Partnership Act §401(h) regarding partnerships ("Each partner has equal rights in the management and conduct of the partnership's business").

[43] The superiority of this enhanced governance structure is often supported by empirical research showing a correlation between board ownership and performance. Several key studies have examined and supported this claim. Randall Morck, Andrei Shleifer & Robert W Vishny, *Management Ownership and Market Valuation. An Empirical Analysis*, 20 J. FIN. ECON. 293–315 (1988); John J.McConnell & Henri Servaes, *Additional evidence on equity ownership and corporate value*, 27 J. FIN. ECON. 595 (1990); Clifford G Holderness & Randall S Kroszner, *Were the Good Old Days That Good? Changes in Managerial Stock Ownership since the Great Depression*, 54 J. FIN. 435–469 (1999).

[44] Bellavitis, Fisch, and Momtaz, *supra* note 21., at 191; Wright, *supra* note 5., at 153.

[45] Cryptoenterprises have indeed been described as an "algorithmic organizational form" by business scholars. KEVIN WERBACH, THE BLOCKCHAIN AND THE NEW ARCHITECTURE OF TRUST 110 (2018). See also Oscar Borgogno & Edoardo D. Martino, *Decentralised Autonomous Organizations: Targeting the Potential Beyond the Hype*, SSRN ELECTRON. J. 1, 10 (2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4692754.

[46] DAOs were initially envisioned by technologists as distinct from traditional business

conceptualization of decentralized organizations that rely on technology for governance rather than traditional institutions or markets.[47]

Although cryptoenterprises are often compared to Fintech startups in terms of their capital raising mechanisms and the potential for being transformative, the similarities are more superficial than structural. Newly established startups[48] operate under regulations and corporate structures that include capital formation processes with built-in controls and protections for early and late investors.[49] In contrast, cryptoenterprises raise capital much like equity crowdfunding, drawing funds online from a broad pool of investors, often without comparable safeguards or protections for startups' late investors.[50] Governance in these organizations is also distinct, rather than relying on traditional hierarchies, cryptoenterprises adopt forms of online direct (or liquid) democracy, where participants vote on almost all decisions.[51] Despite the presence of encoded rules, this governance model is largely unstructured and increasingly concentrated among insiders, lacking

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organizations, serving as online platforms for unlimited participant interaction rather than virtual property. See Vitalik Buterin, *DAOs, DACs, DAs and More: An Incomplete Terminology Guide*, ETHEREUM FOUNDATION BLOG: RES. & DEV. (May 6, 2014), https://blog.ethereum.org/2014/05/06/daos-dacs-das-and-more-an-incomplete-terminology-guide. For an overview of the different applications of DAOs with no financial purposes, see Youssef El Faqir, Javier Arroyo & Samer Hassan, *An overview of decentralized autonomous organizations on the blockchain*, *in* ACM INTERNATIONAL CONFERENCE PROCEEDING SERIES 1 (2020).

[47] Organizational theory scholars point out the diverse practices in governance as a response to specific contingencies outside institutions and markets. MARK BEVIR, A THEORY OF GOVERNANCE 15 (2013).

[48] Wulf Kaal, *Reputation as Capital—How Decentralized Autonomous Organizations Address Shortcomings in the Venture Capital Market*, 16 J. RISK FIN. MGMT. 1–14 (2023). A growing sector of Venture DAOs is emerging, focused on investing in startups through the use of blockchain technology or Web 3. Ivan Fan, *Startup Investing and Venture DAOs*, U. CHI. BUS. L. REV. ONLINE 1 (2023), https://businesslawreview.uchicago.edu/online-archive/startup-investing-and-venture-daos.

[49] Elizabeth Pollman, *Startup Governance*, 168 U. PA. L. REV. 155 (2019). The degree of protection or control depends upon the stage in which investors appear. Gad Weiss, *A Theory of Seed Financing*, SSRN ELECTRON. J. (2023), https://ssrn.com/abstract=4668015.

[50] *See* Dirk A. Zetzsche, Ross P. Buckley, Douglas W. Arner & Linus Föhr, *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 (2019).

[51] The cryptocommunity got the inspiration for the internal governance of cryptoenterprises from liquid democracy, a parliamentary theory by Lewis Carroll dating back to 1884, becoming popular during the 2000s with the Internet explosion due to the Pirate Party movement, an online movement fostering direct democracy through the use of software code. Jan Behrens, *The Origins of Liquid Democracy*, 2017 LIQUID DEMOCRACY J. 7–17   (2017),   https://liquid-democracy-journal.org/issue/5/The_Liquid_Democracy_Journal-Issue005-02-The_Origins_of_Liquid_Democracy.html.

effective oversight and accountability mechanisms, while creating a recipe for conflicts.

This governance void amplifies classic agency problems, aligning with the foundational framework established by Jensen and Meckling. Their model identifies three core agency costs: bonding costs (ensuring that managers work efficiently and diligently), monitoring costs (investors' efforts to deter managers from shirking and diverting), and direct control costs of self-dealing (residual costs of misconduct, bonding, and monitoring do not prevent).[52] Yet agency costs are only one facet of the broader set of organizational risks that these new entities must bear.

Early discussions on corporations' costs were centered on agents, treating managerial conflicts as the sole conflict that reduced a firm's value.[53] However, scholars have theorized that principal costs (comprising both competence and conflict costs) also play a significant role.[54] Therefore, a corporate governance structure would reflect the sum of agent costs when managers exercise control and principal costs when control shifts to investors.

The complex structure of cryptoenterprises amplifies these costs. The voting mechanism, which lets every cryptoasset holder vote on most decisions through liquid democracy, often proves challenging and leaves them poorly informed. Most cryptoasset holders are unable to stay updated on the daily operations of the cryptoenterprise, making meaningful participation unrealistic.[55] In addition to the challenges of liquid democracy, undisclosed privileges granted to insiders have led to a progressive concentration of capital allocated among founders, insiders, and controlling investors that monopolize governance without adequate internal controls.[56]

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[52] The non-pecuniary benefits of management are associated with factors such as physical appointments, the prestige of the environment, relationships with staff, staff quality, the degree of authority over subordinates, networking opportunities, and external connections, among others. Jensen and Meckling, *supra* note 8., at 312.

[53] *Id.* at 313.

[54] Goshen and Squire, *supra* note 26., at 770.

[55] *Id.* Voters' apathy is also a product of diversification in DeFi through cryptofunds. *See* Jonathan Cardenas, *The rise of the crypto asset investment fund: an overview of the crypto fund ecosystem*, *in* BLOCKCHAIN & CRYPTOCURRENCY REGULATION 49 (Josias Dewey, ed., 1st ed., 2018); Douglas J. Cumming, Niclas Dombrowski, Wolfgang Drobetz & Paul P. Momtaz, *Decentralized Finance, Crypto Funds, and Value Creation in Tokenized Firms*, SSRN ELECTRON. J. 1 (2022), https://ssrn.com/abstract=4102295.

[56] Andrea Peña-Calvin et al., *Concentration of Power and Participation in Online Governance: the Ecosystem of Decentralized Autonomous Organizations*, *in* WWW 2024 COMPANION - COMPANION PROCEEDINGS OF THE ACM WEB CONFERENCE 927–930 (2024).

In many instances, the cryptoenterprise structure has been designed to increase information asymmetries, as cryptoasset holders' (investors') control is considered an added cost (principal costs).[57] However, despite the legitimate investor's freedom of choice of the corporate form, the specific features of cryptoenterprises currently limit protection for small cryptoasset holders (retail investors), thereby encouraging instances of fraud and undermining market integrity.

The following sections provide an analysis of the cryptoenterprise structure, the actors that interact with cryptointermediaries, and the absence of internal governance mechanisms. This analysis of the cryptoenterprise structure draws on a combination of unofficial sources found on websites and official data gathered through direct observation of decision-making and coordination within these organizations. Together, these perspectives provide a nuanced view of how cryptoenterprises operate in practice.

A. *The Structure of the Cryptoenterprise*

The blockchain infrastructure is developed around independent layers. Every layer has a specific function, and every subsequent layer is built on top of the previous one, primarily for easy technology management.[58] Cryptoenterprises operate in layer 3 or the protocol layer on top of a blockchain and depend on a primary ecosystem at the base layer (layer 1), customarily the Ethereum blockchain.[59] A useful analogy for understanding blockchain layer 1 and the organizations developed on top of it is comparing them to cities and firms. In this analogy, blockchain layer 1 provides essential resources and services (like electricity and water), similar to how a city operates. Meanwhile, the organizations built on top of this blockchain (or city) are similar to firms that require additional effort to be established and operate. On the one hand, the layer 1 foundational structure consists of validators, miners, and other dispersed and decentralized actors who are not part of the cryptoenterprise but enable its operation. On the other hand, cryptoenterprises involve external (exogenous) and internal (endogenous)

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[57] Goshen and Squire, *supra* note 26, at 785.

[58] The layers combining the blockchain architecture and DeFi stack are layer 1 (settlement layer), layer 2 (asset layer), layer 3 (protocol layer), layer 4 (application layer), and layer 5 (aggregation layer). Villanueva Collao, *supra* note 14, at 12.

[59] The distinction into multiple layers is important because decentralization in blockchain and DeFi has long revolved around the distributed or decentralized control of an alternative market. Nevertheless, every layer of the blockchain/DeFi stack introduces centralized points and thus limits bottom-up governance. For the discussion on the blockchain layers, see *Id.*

actors influencing their governance.[60] Exogenous actors, such as miners, operate outside the cryptoenterprise but impact it through several mechanisms embedded into the blockchain infrastructure.[61] While these stakeholders can influence the governance of the cryptoenterprise, their impact is akin to how changes in a city might affect firms.

Therefore, this article will not examine the structure and governance of blockchains (layer 1 architecture), which, though important, mainly concerns the technological evolution, upgrades, and security of decentralized systems.[62] Instead, the focus remains on the organizations resembling firms in DeFi, commonly referred to as financial DAOs or, for the purposes of this article, cryptoenterprises.[63]

Cryptoenteprises play a fundamental role in DeFi, offering a wide range of products and services. While many focus on financial activities, such as swaps and derivatives (Uniswap)[64] or lending services (Aave),[65] others facilitate the sale of digital art through NFTs (Apecoin)[66] or support investments that blend artistic, entertainment, gaming, and charitable objectives. The overview of the actors, structure, and governance mechanisms of the cryptoenterprise highlights and informs the challenges it faces in the DeFi market, as well as the conflicts of interest between cryptopromoters and cryptoasset holders (investors).

1. Actors

Many cryptoenterprises have successfully attracted numerous supporters to join and fund cryptoenterprises for many purposes. These promises include direct participation in decision-making and high return expectations on their

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[60] Under the De Filippi and McMullen framework, they interpret exogenous governance as an off-chain type of governance outside the community and thus imposed by third parties, such as the law. PRIMAVERA DE FILIPPI & GREG MCMULLEN, *Governance of blockchain systems: Governance of and by Distributed Infrastructure*, BLOCKCHAIN RESEARCH INSTITUTE AND COALA, AT 20 (2019). This interesting approach to governance encompasses a broader scope of research and will not be the focus here.

[61] Such as the consensus mechanisms of the base layer (layer 1). Darcy Allen & Chris Berg, *Blockchain Governance: What We Can Learn from the Economics of Corporate Governance*, 3 J. BR. BLOCKCHAIN ASS'N 1, 2 (2020).

[62] DE FILIPPI AND MCMULLEN, *supra* note 60.

[63] Several DeFi organizations with intermediary functions follow the DAO structure, such as wallets and cryptoexchanges. This account isolates cryptointermediaries from cryptoenteprises, albeit their structures are similar.

[64] *See* Uniswap, https://app.uniswap.org/.

[65] *See* Aave, https://aave.com/.

[66] *See* ApeCoin, https://apecoin.com/about.

investments. But who are the actors within the cryptoenterprise, and how do they interact with each other?

The key actors in cryptoenterprises include cryptopromoters, coders, smart contract developers, and initial coin offering (ICO) participants.[67] Cryptopromoters are persons involved in the coding or setting up of the firm and oftentimes manage the cryptoenterprise.[68] They are the initiators of the project who drive it forward by attracting investments and setting strategic directions prior to raising capital through initial coin offerings (pre-ICO).[69] By setting a business strategy, cryptopromoters define the purpose or scope of their organization, the contours of the bounty hunt[70] (a contest for posting the open-source project in a repository and attracting coders for code review), and the appraisal of the future value of the cryptoassets they would sell during the ICO.[71] A common misconception about cryptopromoters (also referred to as catalysts) is that their critical role is confined to the initial stages of developing the cryptoenterprise. It is often assumed that cryptopromoters' power over shaping the cryptoenterprise is merely temporary, fading as they step back from their duties and concede control to small cryptoasset holders (retail investors).[72] On the contrary, empirical and case studies have demonstrated that they stay longer at the apex of the organization and fulfill an active role even post-ICO, namely in the operational phase.[73]

Coders and smart contract developers are responsible for creating and maintaining the technological backbone of the cryptoenterprise. They have the same expertise but intervene at different times within the organization and have different roles. Coders are freelance reviewers (sometimes volunteers)

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[67] ICOs are low-cost funding mechanisms through which crypto enterprises ask the public for capital in exchange for a cryptoasset. See the next section, Part I.A.2. Structure.

[68] The blockchain literature often refers to these actors as founders, borrowing terminology from the startup world. While it is accurate to call them founders, the term "cryptopromoters" is preferred here to specify the area in which they operate—DeFi.

[69] In some instances, cryptopromoters work with catalysts, external advisors, or influencers to help promote the project and ensure alignment with trends.

[70] Moran Ofir & Ido Sadeh, *ICO vs IPO: Empirical Findings, Information Asymmetry and the Appropriate Regulatory Framework*, 53 VAND. J. TRANSNAT'L L. 525–613 (2020). A recent trend since 2021 is to hire an auditing company for the bounty hunt process. See section on "Cryptoauditors," Villanueva Collao, *supra* note 20.

[71] By receiving feedback from the code review (or bounty hunt), crypto promoters are able to have a better sense of the quality of the project and a closer look at the potential and capabilities (and flaws) after the bounty hunt period has ceased. For the cryptoenterprise capital formation through ICOs, see the next section, Part I.A.2. Structure.

[72] Raina S. Haque et al., *Blockchain Development and Fiduciary Duty*, STAN. J. BLOCKCHAIN L. POL'Y 139–188 (2019). Shaanan Cohney, David Hoffman, Jeremy Sklaroff & David Wishnick, *Coin-Operated Capitalism*, 119 COLUM. L. REV. 591, 604 (2019).

[73] Peña-Calvin et al., *supra* note 15.

of the cryptoenterprise source code through bounty hunts.[74] Cryptopromoters later hire smart contract developers who create cryptoassets, deploy them directly into the network, and implement the cryptoenterprise with encoded rules to develop its business strategy.

Finally, cryptoasset holders are a broad and heterogeneous category of investors and stakeholders with governance rights, a diversity significantly influenced by the ICO process through which these organizations raise capital.[75] In the ICO process, several actors—including catalysts, cryptopromoters, coders, smart contract developers, and ICO participants—receive cryptoassets with differing rights.[76] While ICO participants are a large category of investors acquiring cryptoassets during the offering, cryptopromoters, coders, and smart contract developers obtain cryptoassets as rewards or compensation allocated before the ICO (pre-mined). Therefore, most ICO participants are a category comprised of small investors or small cryptoasset holders.[77] All cryptoasset holders, irrespective of the particular features of their tokens, exert some degree of influence over the governance of the cryptoenterprise, as these assets almost invariably come with voting or governance rights.[78]

2. Structure

A common trait between cryptoenterprises and innovation enterprises (startups) is the complexity of their financial structure.[79] This complexity distinguishes cryptoenterprises and startups from other corporate structures,

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[74] Freelance coders performing code reviews for free do it for different reasons connected with prestige, showcase of their work, and future employee positions in organizations such as the ones emerging in DeFi. Josh Lerner & Jean Tirole, *Some simple economics of open source*, 50 J. IND. ECON. 197–234 (2002).

[75] See the next section on capital formation. During ICOs, the dispersion of ownership diversifies the types of investors, leading to known misalignment of incentives and collective action problems. HENRY HANSMANN, THE OWNERSHIP OF ENTERPRISE 41 (1996).

[76] These participants provide the necessary capital or labor for the project's launch and development. Allen and Berg, *supra* note 61, at 3.

[77] The dispersed ownership resulting from capital raised through ICOs has also led to the concentration of capital in the hands of *whales* or large cryptoasset holders. As participants with large stakes in the organization, whales can exert significantly more influence over the cryptoenterprise than smaller participants.

[78] Peña-Calvin et al., *supra* note 15. In some instances, the economic nature of cryptoassets can change according to the cryptoenterprises phases. Yuliya Guseva, *A Conceptual Framework for Digital-Asset Securities: Tokens and Coins as Debt and Equity*, 80 MD. L. REV. 166 (2021).

[79] Will Gornall & Ilya A. Strebulaev, *Squaring venture capital valuations with reality*, 135 J. FIN. ECON. 120–143 (2020).

such as closely held corporations (which remain private) and public corporations.[80] This convergence of complexity resides in the different types of cryptoasset holders (investors) and the types of rights conferred to them. For example, startup ownership remains across specific types of actors, such as founders, employees, VC funds, strategic investors, angel investors, etc.[81] Each one of these actors participates progressively in the startup financing with a new class of equity interest (control and economic rights) every twenty-four months. Cryptoenterprises also release different types of cryptoassets with encoded rights to several insiders, ranging from cryptopromoters to coders.[82] What sets cryptoenterprises apart is that they turn to low-cost financing methods, such as ICOs or IEOs, that resemble equity crowdfunding in form but lack regulatory compliance, thereby opening the door for a multitude of participants to contribute capital, whether through cryptoassets (like Ether or Bitcoin) or fiat money. The ICO method creates a dispersion of ownership in the cryptoenterprise without prior ownership (since it has not been developed yet)[83] and reallocates control in an unconventional way (different from a single common class or dual-class shares in public companies), resulting in different types of cryptoasset holders (investors).[84]

The types of cryptoasset holders vary according to the distribution of control and economic rights. In some instances, the encoded rules provide answers in terms of liquidation at the expense of ICO participants or small cryptoasset holders.[85] These differences among cryptoasset holders are shaped by the specific rights granted to early investors, smart contract developers, catalysts (cryptopromoters who step back from their roles), and cryptopromoters. As a result, small cryptoasset holders joining through the ICO have fewer methods to contend with other types of investors and issues arising from conflicts with management (cryptopromoters and other insiders).[86] Once cryptoenterprises reach dispersion of ownership, issues

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[80] Pollman, *supra* note 49, at 176. (explaining that securities laws, with their mandatory actors, roles, and disclosure requirements, tend to reduce complexity within large companies that decide to remain private longer).

[81] Gornall and Strebulaev, *supra* note 79.

[82] Cohney et al., *supra* note 72, at 614. (analyzing encoded vesting promises upon cryptopromoters (referred to as founders borrowing from the startup literature)).

[83] Alexis Collomb, Primavera De Filippi & Klara Sok, *Blockchain Technology and Financial Regulation: A Risk-Based Approach to the Regulation of ICOs*, 10 EUR. J. RISK REGUL. 263–314 (2019).

[84] Hansmann and Kraakman, *supra* note 26. HANSMANN, *supra* note 75, at 40. These different types of investors create coordination challenges due to the heterogeneity of interests among cryptoasset holders.

[85] Cohney et al., *supra* note 72.

[86] The differentiation in contractual rights and provisions is also observed in private

similar to those of public companies emerge, albeit without governance mechanisms and other measures for investor protection and market integrity.

Because cryptoenterprises share similarities with the startup lifecycle, this section is organized around that framework and the crowdfunding model, with a focus on capital formation and control mechanisms that illuminate the structural conflicts involved.

Ideation (Pre-seed)

Cryptoenterprises start as DeFi projects, originating from a technical idea that is unwrapped and shared on public or open repositories (such as GitHub) for multiple purposes. These DeFi projects then attract participants to join and later recruit coders for code review (freelance coder auditing).[87] Like in crowdfunding, cryptopromoters design the cryptoenterprise and publicize it through social media channels. They form a community[88] driven by the desires and expectations of DeFi participants with utopian promises of distributed governance and access to capital markets rather than an accurate strategy.[89]

The creation of a cryptoenterprise typically follows opening a wallet

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companies that reach unicorn status (valued at one billion dollars). As a result, the varied types of investors and their differing powers reduce the likelihood of class action lawsuits, as it becomes challenging to identify a common interest in litigation (commonality). Verity Winship, *Unicorn Shareholder Suits*, 100 INDIANA L. J. 1, 45 (2024).

[87] Code release is a consolidated practice among cryptopromoters. They publish the DeFi encoded project to get feedback from their community. Lerner and Tirole, *supra* note 74., at 225 (explaining the benefits of proprietary code release in software companies). *See also* Josh Lerner & Jean Tirole, *The economics of technology sharing: Open source and beyond*, 19 J. ECON. PERSPECT. 99, 105 (2005) (inferring that one of the potential outcomes for commercial software firms to compete with open source is their ability to encourage their programmers to interact with customers and receive feedback for programming implementation).

[88] In DeFi, creating a community is fundamental to raising capital to develop the cryptoenterprise. In equity crowdfunding, building a community means that investors benefit from direct interaction with entrepreneurs, although this might not be true among cryptoenterprises. Paul Belleflamme, Thomas Lambert & Armin Schwienbacher, *Crowdfunding: Tapping the right crowd*, 29 J. BUS. VENTUR. 585–609 (2014). (concluding that building a community is one of the strategies for effectively raising capital in early-stage firms).

[89] This is similar to how crowdfunding campaigns are designed. Valtteri Kaartemo, *The Elements of a Successful Crowdfunding Campaign: A Systematic Literature Review of Crowdfunding Performance*, 15 INT. REV. ENTREP. ARTIC. 291–318 (2017) (synthesizing the literature review regarding crowdfunding and establishing that fund-seekers or promoters rely heavily on intuition rather than on strategy).

account and the issuance of the (nonnative) protocol cryptoasset.[90] There are multiple ways to set up a cryptoenterprise: one involves directly writing the code, while another utilizes automated platform services.[91] These platform services have made it incredibly easy for cryptopromoters to establish a cryptoenterprise without even requiring coding skills and allowing the configuration of governance mechanisms.[92] Before cryptopromoters decide on cryptoasset distribution, they decide on the voting mechanisms embedded in the source code and the cryptoassets with governance rights (also known as governance tokens). This creation mechanism goes beyond equity crowdfunding by eliminating the need for a crowdfunding platform to showcase the venture idea. Instead, the idea is developed with minimal or no platform support and, once completed, operates independently of platform services.

Once this initial stage has ended, it is not uncommon for cryptopromoters (also early investors and catalysts) to receive cryptoassets pre-mined with incorporated economic and voting rights. Cryptopromoters also include some provisions to guarantee their control in the cryptoenterprise,[93] promising to gradually step out of these roles and give back control to the organization through distributed governance.[94]

Seed/Early-Stage Financing

In the early stages of financing, cryptoenterprises raise capital through low-cost funding mechanisms or initial coin offerings (ICOs) and initial exchange offerings (IEOs). A successful ICO/IEO typically has these factors:

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[90] Cryptoassets issued by cryptoenterprises are deemed to be nonnative because they rely on a base layer (layer 1) infrastructure for their development. For instance, nonnative protocol cryptoassets of Uniswap (UNI) are developed on top of Ether, the Ethereum blockchain cryptoasset (also referred to as token). Carla L. Reyes, *Emerging Technology's Language Wars: Cryptocurrency*, 64 WILLIAM MARY L. REV. 1193, 1216 (2023).

[91] The main platforms that allow easy development of cryptoenterprises (financial DAOs) are Aragon, DAOstack, and DAOhaus. El Faqir, Arroyo, and Hassan, *supra* note 46.

[92] Peña-Calvin et al., *supra* note 15.

[93] These vested provisions are lock-up agreements in which cryptoassets are secured in a smart contract and released later. In theory, this would align the incentives of the cryptoenterprise and its investors' incentives. Cohney et al., *supra* note 72, at 614. However, there is no evidence that this system works properly.

[94] However, cryptopromoters stepping outside of control within cryptoenterprises arguably happen. DE FILIPPI AND MCMULLEN, *supra* note 60, at 23. See Part II. Conflicts of Interest between Cryptopromoters and Cryptoasset holders (investors).

white papers,[95] team members,[96] cryptoexchanges,[97] know-your-customer procedures (KYC),[98] and (crypto)audits.[99]

White papers play a fundamental role in the pre-ICO process by not only building a community but also providing information about the cryptoenterprise during the ICO. They vary significantly in content, offering anything from technical details and cryptoasset (or token) distribution plans to the cryptopromoters' vision for the future cryptoenterprise.[100] White papers' information is disclosed on the cryptoenterprise's websites alongside information about team members, signaling trust and competency to potential investors.

The IEO process, on the other hand, involves a decision by cryptopromoters and catalysts to list their organizations on cryptoexchanges. ICOs and IEOs are low-cost funding mechanisms that allow raising capital in exchange for cryptoenterprise cryptoassets, differing significantly from startups that go through pre-seed, seed, or early financing rounds by arms-length financiers, such as angel investors or VCs.[101] While angel investors

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[95] Aakash Nair & Ashish Mamgain, *What factors determine the success of an Initial Public Offering?*, 2018, https://www.bbva.com/en/7-key-steps-to-a-successful-ipo/.

[96] Some empirical studies have shown a correlation between the team size members and the success of the ICOs. *See* Ryan Amsden & Denis Schweizer, *Are Blockchain Crowdsales the New "Gold Rush"? Success Determinants of Initial Coin Offerings*, SSRN ELECTRON. J. 1–64 (2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3163849; Peter Roosenboom, Tom van der Kolk & Abe de Jong, *What determines success in initial coin offerings?*, 22 VENTUR. CAP. 161–183 (2020), https://doi.org/10.1080/13691066.2020.1741127.; Giancarlo Giudici & Saman Adhami, *The impact of governance signals on ICO fundraising success*, 46 J. IND. BUS. ECON. 283–312 (2019), https://doi.org/10.1007/s40812-019-00118-w.

[97] Cristiano Bellavitis, Christian Fisch & Johan Wiklund, *A comprehensive review of the global development of initial coin offerings (ICOs) and their regulation*, 15 J. BUS. VENTUR. INSIGHTS 1 (2021), https://doi.org/10.1016/j.jbvi.2020.e00213.; Dmitri Boreiko & Navroop Sahdev, *To ICO or not to ICO – Empirical analysis of Initial Coin Offerings and Token Sales*, SSRN ELECTRON. J. 1–25 (2018); Hugo Benedetti & Leonard Kostovetsky, *Digital Tulips? Returns to investors in initial coin offerings*, 66 J. CORP. FIN. 1–20 (2021).

[98] *See* Paul P. Momtaz, *Initial coin offerings*, 15 PLOS ONE 1–30 (2020); Christian Fisch & Paul P. Momtaz, *Institutional investors and post-ICO performance: an empirical analysis of investor returns in initial coin offerings (ICOs)*, 64 J. CORP. FIN. 1–24 (2020), https://doi.org/10.1016/j.jcorpfin.2020.101679; Vanessa Villanueva Collao, *Empirical Methods in Comparative Law: Data Talks*, 12/2 COMP. L. REV. 55, 72 (2023).

[99] DANIEL RABETTI, *Auditing Decentralized Finance* (2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4458298.

[100] Jiri Chod & Evgeny Lyandres, *A Theory of ICOs: Diversification, Agency, and Information Asymmetry*, MANAGE. SCI. 1, 2 (2021). In some instances, this information contains infographics and projections of future earnings.

[101] Fenwick, Kaal, and Vermeulen, *supra* note 37.

and VCs negotiate some control over their investments, participants in an ICO/IEO do not retain any rights or control beyond receiving a cryptoasset, with incorporated governance rights.

Cryptoexchanges have been instrumental in raising capital through IEOs[102] by standardizing the process and facilitating primary and secondary transactions.[103] Indeed, cryptoexchanges as online trading platforms have had the primary role of providing liquidity in the DeFi ecosystem. Although this liquidity function is not followed by the lawmaking function as with traditional exchanges, they typically handle KYC procedures during IEOs.[104] Cryptoenteprises commission audits from cryptoauditing companies before or after the ICO/IEO, which can go from the technical code to other areas of increasing importance, also correcting deficiencies from the lack of lawmaking function of cryptoexchanges.[105]

The ICO/IEO process, unique to cryptoenterprises, allows them to sell assets that represent a fractionalized interest without prior ownership or dilution, as the cryptoenterprise does not exist. In contrast, corporations going public issue securities, providing a secondary market where investors can trade shares without directly involving the firm, ensuring liquidity. However, blockchain technology enables cryptoenterprises to 'go public' through cryptoasset sales.[106] The ICO/IEO process creates a dispersion of future ownership and gives participants a stake in the organization, resembling primary transactions in private placement or equity crowdfunding and secondary market transactions (when available) through cryptoexchanges.[107]

Within this phase, ICOs/IEOs are often compared to IPOs, but the similarities are limited to the label. Unlike IPOs, which serve as an exit

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[102] Marten Risius et al., *On the performance of blockchain-based token offerings*, 33 ELECTRON. MARK. 31 (2023).

[103] ICOs/IEOs democratize access to capital similarly to equity crowdfunding for technology-driven enterprises, but with fewer costs since the platform in DeFi is either substituted with the cryptoenterprise itself (direct funding through ICO) or with cryptoexchanges (IEO). In both cases, there is an overall reduction to the already minimal costs for a launch. Joan Macleod Heminway, *The Legal Aspects of Crowdfunding and U.S. Law*, *in* CROWDFUNDING: A GUIDE TO RAISING CAPITAL ON THE INTERNET 165 (Steven Dresner ed., 2014).

[104] Founders/promoters typically gather information before launching to build a database of future investors. In contrast, cryptoexchanges collect KYC information to comply with anti-money laundering regulations. Ralf Wandmacher, *Tokenomics*, *in* CRYPTOFINANCE AND MECHANISMS OF EXCHANGE 113, 116 (2019).

[105] For an overview of cryptoenterprises' audits, *see* Villanueva Collao, *supra,* note 20.

[106] Collomb, De Filippi, and Sok, *supra* note 83.

[107] This lack of a secondary market led to the development of cryptointermediaries. See Villanueva Collao, *supra* note 20.

strategy for startup investors when an enterprise is ready to be governed by markets without investors' guidance, ICOs/IEOs are merely the initial financing stage with notable differences, including the lack of regulatory compliance regarding disclosures.[108] A more appropriate comparison is with equity crowdfunding, where contributors are similarly exposed to the enterprise's future endeavors but typically receive a reward rather than a stake in the organization.[109] Unlike equity crowdfunding, where securities regulation provides participant protections, such protections are largely absent in DeFi.[110]

After these passages, the cryptoenterprise is ready to go live or be deployed on the mainnet. Nevertheless, there are no late-stage investors that can bargain for hard controls as all the controlling functions are either established pre-ICO or acquired by buying cryptoassets in blocks on secondary markets, when available.

Growth (scaling)

After raising capital, cryptoenterprises allocate funds in treasuries—multi-signature wallets governed by smart contracts.[111] These funds are released according to community votes, primarily serving to invest in R&D for the cryptoenterprise's development and foster innovation in the DeFi ecosystem. Treasuries, which could hold billions of dollars in the organization protocol cryptoasset,[112] are often challenging to manage and

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[108] The lack of disclosure is often linked to the need to prevent hacks. Lars Hornuf, Theresa Kück & Armin Schwienbacher, *Initial coin offerings, information disclosure, and fraud*, 58 SMALL BUS. ECON. 1741–1759 (2022).

[109] Heminway, *supra* note 103.

[110] The CROWDFUND ACT has preempted state law offering a wide range of investor protections, largely mitigating the effects of the limited disclosures of information by reducing the amount of investment, incorporating liability for misstatements, and adding civil actions for boards and managers, leaving jurisdiction to states over intermediaries and issuers in case of fraud. Andrew A. Schwartz, *Crowdfunding Securities*, 88 NOTRE DAME L. REV. 1457, 1465–66 (2013).

[111] The funds are cryptoassets earmarked for the public good of the cryptoenterprise. DARCY ALLEN, CHRIS BERG & AARON M. LANE, *Trust and Governance in Collective Blockchain Treasuries*, SSRN ELECTRONIC J. (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3891976. Treasuries can be funded with pre-mined cryptoassets (before their distribution) or post-launch cryptoassets.

[112] Reyes, *supra* note 90. Most blockchain literature identifies cryptoenterprise's cryptoassets as native tokens. Since cryptoenterprises are developed on top of a blockchain infrastructure that releases their native token, the cryptoenterprise's cryptoasset depends on it for certain functionalities. *Id.* at 1216. Therefore, they are referred to in this article as protocol cryptoassets.

lack transparency.[113] Sometimes, treasuries are divided into sub-treasuries to separate funds for specific projects.[114] to engage in external relationships, such as hiring or acquiring services, cryptopromoters or voting holders designate sub-treasuries for targeted initiatives.

Expansion Stage (Broadening the Market)

Treasuries play a crucial role in attracting contributors and expanding the network, as cryptoasset holders can participate in the governance of specific projects associated with these segregated funds. In order to manage these sub-treasuries, some cryptoenterprises have used traditional business structures named legal wrappers. These legal entities (commonly under some variation of the LLC model) are wrapped around some or all the activities of the cryptoenterprise and their related sub-treasuries.[115]

Cryptoenterprises often use legal wrappers, like the DAO LLC model, where statutory regulations have enabled an organizational model that is a variation of the LLC model;[116] the foundation model (from offshore and international jurisdictions such as the Cayman Islands and Switzerland); and the trust model (from offshore jurisdictions).[117] The legal wrapper governs only a sub-project of the cryptoenterprise. Parallel with traditional business structures, these projects could be equated to branches of the organization in a similar relationship to parent companies and their subsidiaries. However, it is important to note that each legal wrapper tailored to an individualized project does not correspond to a mature product or service that cryptoenterprises aim to offer.[118] These sub-treasuries are merely segregated

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[113] See *supra* Part I.A.1. Actors.

[114] These funds are sometimes strategically directed into on-chain asset management. BGroup Finance, *On-Chain Asset Management and the Future of Investment*, MEDIUM (Feb. 19, 2023), https://medium.com/@bgroup_official/onchain-asset-management-and-the-future-of-investment-bf85b62249d9.

[115] Christopher J. Brummer & Rodrigo Seira, *Legal Wrappers and DAOs*, SSRN ELECTRON. J. 1–31 (2022), https://ssrn.com/abstract=4123737.

[116] Since the DeFi explosion of 2018 until 2024, four states have allowed an alternative organizational model of cryptoenterprises: Vermont, Wyoming, Tennessee, and Utah. VT. STAT. ANN. Tit. 11§4173 (2018); WYO. STAT. § 17-31-101 (2021); TENN. CODE. ANN. §§48-250-11-118 (2022); UTAH CODE ANN. § 48-5-101 (2023).

[117] Brummer and Seira, *supra* note 115.

[118] Additionally, it can be said that these sub-projects do not even equate to a minimal viable product (MVP) or lean startup. See Haje Jan Kamps, *Your MVP is neither minimal, viable nor a product*, TECHCRUNCH:STARTUPS (May 3, 2022), https://techcrunch.com/2022/05/03/your-mvp-is-not/. Instead, cryptoenterprises allocate resources to create lucrative financial lending products, primarily aiming to pursue profits in DeFi. They focus on rapid technological development rather than conducting thorough

and/or have earmarked cryptoassets with varied constraints on their use, depending on the legal structure employed. A combination of encoded rules, centralized/delegated management, and community votes governs these sub-projects or branches of the cryptoenterprise.

Legal wrappers, though, are not the final point of expansion. In some instances, the funds allocated in a legal wrapper are just a means to develop the cryptoenterprise and somehow hold accountable the cryptopromoters or the managing team.[119] There have been cases where cryptoenteprises established foundations and returned cryptoassets to the main treasury, effectively reversing the process by dissolving the legal structure of a branch of the cryptoenterprise, thus rendering their operations more opaque, as they will be less subject to regulations.[120]

Token distribution

Cryptoenterprises have established a governance structure that relies on the direct participation of investors and other stakeholders.[121] Those holding governance tokens can influence the future direction of the cryptoenterprise and the allocation of treasury resources. Consequently, this governance structure is shaped by the initial distribution of tokens (who receives governance tokens and when), treasuries' management, the ability to propose initiatives, and the voting mechanisms in place.

The distribution of governance tokens varies widely. First, cryptopromoters typically receive cryptoassets through acquired rights (pre-mined tokens) when the cryptoenterprise is deployed on-chain. Second, cryptoassets issued during the ICO/IEO are allocated to employees (smart contract developers) and all investors joining through the ICO/IEO, granting

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market research.

[119] However, the choice of incorporation may send mixed signals about the legality of these organizations, on the one hand suggesting a desire for recognition through regulatory oversight, while on the other hand favoring jurisdictions with minimal regulatory constraints. WILLIAM J MOON, *Havens for Corporate Lawbreaking*, SSRN ELECTRONIC JOURNAL (2025), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5148347. (analyzing the trend among emerging jurisdictions supplying corporate law to US firms, which weakens shareholder enforcement by introducing procedural barriers that shield directors and officers even when they engage in wrongdoing).

[120] See *The Maker Foundation Returns Dev Fun Holdings to the DAO*, MAKERDAO:BLOG (May 3, 2021), https://blog.makerdao.com/the-maker-foundation-returns-dev-fund-holdings-to-the-dao/. ("The Foundation has placed no conditions or expectations o MakerDAO regarding the returned MKR [the cryptoasset of MakerDAO]").

[121] Carla L Reyes, Nizan Geslevich Packin & Benjamin P Edwards, *Distributed Governance*, 59 WILLIAM MARY L. REV. ONLINE 1, 14 (2017).

them both economic and voting rights. Finally, the remaining cryptoassets are distributed to the community, typically with at least governance rights.[122] Cryptoenterprise's members may receive governance tokens in exchange for capital and labor or as a loyalty reward through methods like airdrops.[123]

Cryptopromoters generally decide whether their governance tokens will have a fixed supply, mainly to generate scarcity (although the promises of fixed or limited supply are hardly fulfilled).[124] Cryptoassets with governance rights may also be burned or sold to treasuries after a decision from the organization's hierarchy, often without the holders' knowledge. They can be obtained in the secondary market.[125] Treasuries are managed by a single person or a few numbers of persons.

Voting systems and Governance

Investors do not typically exercise voting power for day-to-day operations or business strategies in corporations. Their limited involvement in organizational decision-making typically arises only in extreme situations that could significantly impact the organization, such as mergers or the removal and replacement of board members (directors).[126] These actions could alter the board's business plan or future vision and also modify the governance structure or its capital. In public companies with dispersed ownership, investors can gain control either by purchasing the majority of

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[122] INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS (IOSCO), *IOSCO Decentralized Finance Report* 26 (2022). However, in some instances, founders, early investors, advisors, and developers can receive pre-mined governance tokens, indicating a concentration of power within the organization. In fact, a few cryptoenterprises have developed a fair launch strategy to primarily maintain system decentralization and avoid falling within regulatory frameworks. Tom Barbereau, Reilly Smethurst, Orestis Papageorgiou, Alexander Rieger & Gilbert Fridgen, *DeFi, Not So Decentralized: The Measured Distribution of Voting Rights*, 2022-January PROC. ANNU. HAWAII INT. CONF. SYST. SCI. 6043, 6046 (2022).

[123] Airdrop is a procedure for free token distribution among community members, enabling the DAO to develop a database of "trusted" members for future compliance with KYC and AML regulations. CAROL GOFORTH & YULIYA GUSEVA, REGULATION OF CRYPTOASSETS 761 (2ND ED., 2022).

[124] Charlotte Shiao-Han Wu, Huang-Chih Sung & Tsung-Chi Cheng, *Measuring ICO Performance Indicators: An Empirical Study Via White Papers*, ICBC 2019 - IEEE INT. CONF. BLOCKCHAIN CRYPTOCURRENCY 128, 131 (2019). See also Cohney et al., *supra* note 72., at 619 (analyzing how the supply promises are altered later in time).

[125] Chris Brummer, *Disclosure, Dapps and Defi*, 5 STAN. J. BLOCKCHAIN L. POL'Y 137, 157 (2022); Peña-Calvin et al., *supra* note 15.

[126] Discretionary control powers are allowed under Delaware law. DEL. CODE ANN., tit. 8, §141(k).

shares through a tender offer[127] or by rallying shareholder support in a proxy contest.[128] Other ownership structures often involve concentrated ownership or dual-class shares with distinct voting rights for management and investors. Overall, voting rights in corporations are limited and can only be exercised in extraordinary circumstances.

The governance of cryptoenterprises falls within the spectrum of these models, characterized by a complex structure, but unlike traditional corporate structures, complexity is not reduced by regulation (as it is largely ignored by cryptopromoters). By widely distributing governance tokens to a diversified number of classes among cryptoasset holders, stakeholders (including members and smart contract developers) can also participate in decision-making entirely on-chain (or online).[129] The governance structure of cryptoenterprises has shifted from a "one person, one vote" democratic model, designed to curb individual dominance, to alternative systems, due to concerns about the tyranny of the majority.[130] Most now rely on token-based voting, where each governance token equals one vote. This system grants participants voting power in proportion to their token holdings, conferring more voting power according to the number of cryptoassets (governance tokens) they hold.

Compared to traditional finance, cryptoenterprises voting systems comprise a wide array of unusual electoral mechanisms.[131] Most of them use

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[127] This purchase occurs often with an added premium to incentivize the sale. This strategy, pursued by hostile raiders, has the goal of building a control block of about 10% of outstanding shares. Goshen and Squire, *supra* note 26, at 809.

[128] Proxy contests are seen by shareholders as the only way to communicate with management. BAINBRIDGE & HENDERSON, *supra* note 32, at 35. However, these voting strategies are typically used by hedge funds, which naturally depersonalize this relationship.

[129] In on-chain governance, the rules for every participant interaction in an organization in blockchain are embedded in the software code. Wessel Reijers, Iris Wuisman, Morshed Mannan, Primavera De Filippi, Christopher Way, Vienna Rae-Looi, Angela Cubillos Vélez & Liav Orgad, *Now the Code Runs Itself: On-Chain and Off-Chain Governance of Blockchain Technologies*, 40 TOPOI 821, 822 (2021). Rarely do coding governance rules have the role of facilitating interactions, as most of the interactions appear off-chain. See Part I.B.1. Misalignment of Incentives.

[130] Darcy W.E. Allen, Chris Berg, Aaron M. Lane & Jason Potts, *Cryptodemocracy and its institutional possibilities*, 33 REV. AUSTRIAN ECON. 363, 371 (2020) (explaining how the democratic franchise of one-person, one-vote in public voting is economically inefficient since it ignores the intensity of preferences). Tom Barbereau, Reilly Smethurst, Orestis Papageorgiou, Johannes Sedlmeir & Gilbert Fridgen, *Decentralised Finance's Unregulated Governance: Minority Rule in the Digital Wild West*, SSRN ELECTRON. J. (2022), https://ssrn.com/abstract=4001891 (analyzing cryptoenterprises voting and showing concentration of power upon few cryptoasset holders).

[131] Yixuan Fan et al., *Insight Into Voting in DAOs: Conceptual Analysis and a Proposal*

the liquid voting system or liquid democracy,[132] a governance system featuring proxy representation, voluntary delegation, and direct online deliberation, blending elements of direct and representative democracy.[133]

Participants can submit governance proposals on the cryptoenterprise dedicated website by briefly outlining the content. Similar to proxy voting, delegates or representatives—often active members of the community, experts, or insiders—can accumulate and cast votes on behalf of others, sometimes for a small fee,[134] thereby reintroducing a degree of hierarchy and centralization into the voting process.[135]

Although liquid democracy attempts to mitigate conflicts within cryptoenterprises, their complex structures have enabled insiders to retain significant voting power and control rights. This has allowed cryptopromoters to adjust control rights over time, enlarging or limiting their influence as needed.[136] Cryptopromoters progressively incorporate multiple classes of rights into cryptoassets, often extending beyond just two classes.[137]

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for Evaluation Framework, 38 IEEE NETW. 92–99 (2024). Experiments with voting systems range from majority-driven methods without a quorum (Permissioned Relative Majority or a simple majority of actual voters) to token-based quorum mechanisms, which add a relative majority but require a high level of participation, as well as asymmetric voting weights (Quadratic Voting). Quadratic voting, derived from democratic political studies and the Vickrey-Clarke-Groves mechanism, allows individuals to express preference intensity by purchasing votes at an increasing quadratic cost, making its way from political theory to corporate governance and blockchain; for example, one vote costs one token, two votes cost four tokens, and so on. See Eric A. Posner & E. Glen Weyl, *Quadratic Voting as Efficient Corporate Governance*, 81 U. CHI. L. REV. 251–272 (2014); Steven P. Lalley & E. Glen Weyl, *Quadratic Voting: How Mechanism Design Can Radicalize Democracy*, 108 AEA PAP. PROC. 33–37 (2018).

[132] Ethereum, *Ethereum Whitepaper*, ETHERUM.ORG 1–36, https://ethereum.org/en/whitepaper/.

[133] ROBIN FRITSCH, MARINO MÜLLER & ROGER WATTENHOFER, *Analyzing Voting Power in Decentralized Governance: Who controls DAOs?* (2022), https://arxiv.org/abs/2204.01176. Liquid democracy is also referred to delegative democracy. BRYAN FORD, *Delegative Democracy* (2002), https://infoscience.epfl.ch/entities/publication/d5cb1470-86cd-413e-9109-d5f7eccb953d. See also Chiara Valsangiacomo, *Clarifying and Defining the Concept of Liquid Democracy*, 28 SWISS POLIT. SCI. REV. 61, 66 (2022). It gained traction among the cryptocommunity as it was supported by Ethereum, the infrastructure from which cryptoenterprises depend for their functionality.

[134] Alex Dolphin, *Scaling DAOs Through Fiduciary Duties*, 48 BRIGH. YOUNG U. L. REV. 977–1013 (2023).

[135] Insights gained from observing blockchain organizations and cryptoenterprise governance.

[136] Peña-Calvin et al., *supra* note 56.

[137] In this sense, their structure is much more similar to that of startups as their financing rounds incorporate progressively hard controls. Pollman, *supra* note 49. Allegedly, these

This feature sets them apart from other ownership structures.[138] For example, control remains contestable in concentrated ownership structures if a shareholder owns less than fifty percent of the shares. By contrast, in cryptoenterprises, just one percent of holders (usually concenttated in the hands of insiders) may control fifty percent of the voting power, making control largely incontestable.[139] In dual-class structures, often used by Big Tech companies, management gains significant control and autonomy by issuing a special class of shares with superior rights, enabling them the freedom to pursue idiosyncratic visions for the project,[140] while investors hold shares with limited or no voting rights.[141] However, this allocation of control rights results from a bargaining process and regulatory protections that most cryptoenterprises do not provide.

3.   Absence of Internal Governance Mechanisms

In the realm of startups, it is common practice for early-stage investors to sit on the board, a move traditionally seen as a means of exerting control over the venture. However, this board access also serves another purpose: it provides investors with continuous information about the startup's operations, especially when traditional instruments to assess the venture's value are lacking.[142] By lacking a formal board of directors or similar mechanisms, cryptopromoters wield significant discretion, including control over treasuries and the allocation of cryptoassets, often reserving substantial privileges for unilateral decision-making. In this context, the only way for investors to exert control or monitor the enterprise is through the acquisition of cryptoassets with voting rights (governance tokens), which fosters a plutocratic/oligarchic/timocratic structure, similar to corporations.[143] This

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hard controls would be the product of bargaining power at later stages of financing. Weiss, *supra* note 49. However, it remains unclear whether there are negotiations on hard controls or an offer for loyal behavior to insiders.

[138] This characteristic makes them similar to startups with several classes and consequent allocation of control rights. Gornall and Strebulaev, *supra* note 79.

[139] Peña-Calvin et al., *supra* note 15, at 929.

[140] Goshen and Hamdani, *supra* note 25, at 590.

[141] These rights deter misbehavior by ensuring that poor decisions directly impact management's shares, particularly when they hold over forty percent. However, when ownership falls below this threshold, their risk exposure decreases, potentially raising agency costs. Goshen and Squire, *supra* note 26, at 807.

[142] Weiss, *supra* note 49, at 17.

[143] Barbereau et al., *supra* note 122; Tom Barbereau, Reilly Smethurst, Orestis Papageorgiu, Johanness Sedlmei & Gilbert Fridgen, *Decentralised finance's timocratic governance: The distribution and exercise of tokenised voting rights*, 73 TECHNOL. SOC. 1 (2023). Voting rights in corporations in the US have fluctuated between different models,

plutocratic organization is often desirable among insiders, as greater trust in a cryptoenterprise's assets is associated with more significant influence and standing within the organization due to higher stakes.[144] However, encoded rules and voting systems are not a good substitute for internal governance mechanisms. This section offers an overview of how this absence of internal governance mechanisms affects control over the cryptoenterprise.

The cryptoenterprise has often been seen as an example of the nexus of contract theory made by the sum of interrelated contracts with the different constituencies.[145] While it is debatable whether relationships enabled by smart contracts qualify as contracts (a topic not explored in this research), cryptopromoters promise to perform specific tasks to build an organization with contributions from participants.[146] In return, participants receive cryptoassets that grant them certain rights to govern the cryptoenterprise, with the development timeline designed to align with their expectations.[147]

Furthermore, the hybrid structure of cryptoenteprises cannot be equated to traditional dual-class ownership structures, where control privileges are vested in management. In dual-class structures, removing voting rights from investors gives management greater freedom to pursue long-term economies of scale. Contrarily, cryptoenterprises achieve economies of scale despite multiple "classes" or allocated privileges for insiders, which are sometimes negotiated.[148] Insiders in cryptoenterprises are granted various encoded privileges, but these vary widely. On the contrary, small cryptoasset holders who obtained their rights through an ICO do not possess these exact control

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eventually evolving into a governance model that empowers large shareholders. Colleen A. Dunlavy, *From Citizens to Plutocrats: Nineteenth-century Shareholder Voting Rights and Theories of the Corporation*, in CONSTRUCTING CORPORATE AMERICA: HISTORY, POLITICS, CULTURE 66–93 (Kenneth Liparito & David B. Sicilia eds., 2007).

[144] Barbereau et al., *supra* note 143.

[145] WERBACH, *supra* note 45, at 110.

[146] Cohney et al., *supra* note 72.

[147] However, as the system grows more complex with the introduction of new actors and risks, these expectations will likely shift further. The timeline for meeting these expectations may extend beyond initial projections, but this risk is neither considered by cryptoasset holders nor disclosed by cryptopromoters. Primavera De Filippi, Morshed Mannan & Wessel Reijers, *Blockchain as a confidence machine: The problem of trust & challenges of governance*, 62 TECHNOL. SOC. 1, 6 (2020).

[148] These privileges follow a vesting schedule in which crypto assets will be progressively allocated to a branch at later stages, for example, allocated in an offshore foundation. Cohney et al., *supra* note 72, at 629. Other privileges are possibly allocated when the cryptoasset allows for their ex-post registration. Arguably, privileges are negotiated later in time or post-ICO when cryptopromoters have a pool of capital to start the developmental phase. However, there is limited information about these processes.

mechanisms.

In this landscape, enforcement rights under contract law and fiduciary duties (or duty-enforcement rights)[149] are not available, as not many jurisdictions would assess the extent of a contractual relationship, rendering a more difficult path to fiduciary obligations,[150] particularly when cryptopromoters expand into offshore jurisdictions through legal wrappers.[151] The absence of bargaining power for small cryptoasset holders underscores the lack of alternatives for contractual protections, leaving the ultimate authority only to those with significant concentrations of cryptoassets with governance/voting rights.

Some cryptoenterprises, therefore, leave cryptoasset holders the only option of withdrawing their investments through *rage quitting*, leaving the cryptoenterprise during a grace period after a proposal that does not meet their expectations has been launched for voting.[152] Rage quitting is an atypical mechanism since withdrawal from investment is not an option in public corporations. In corporations, investors' shares can only be sold, so they shift from one investor to another, but management control over a specific pool of assets remains unchanged. This way, corporations are protected against premature liquidation following investors' discontent with management,[153] which could result from a lack of information and managerial competence or conflicts.[154] In cryptoenterprises, in the limited cases in which rage quitting (as a voting option) is exercised, the organization could be forced into liquidation, even without the approval of a majority of cryptoasset holders. Rage quitting makes cryptoenterprises a weaker form of

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[149] Goshen and Squire, *supra* note 26, at 779. See *infra* Part II. Conflicts of Interest between Cryptopromoters and Cryptoasset holders (investors).

[150] In a longstanding dispute with Ripple Labs, the Southern District of N.Y. determined that the sale of Ripple cryptoasset XRP does not constitute an investment contract but that their offers were primarily targeting institutional investors, in spite of having XRP being sold in cryptoexchanges and Ripple Labs being a permissioned blockchain (thus with centralized control). Although the outcome would have possibly been different if Ripple were a permissionless blockchain, the ruling does not establish a precedent but signals an inclination for courts to treat these schemes as noncontractual. See Securities and Exchange Commission v. Ripple Labs, Inc., 682 F.Supp.3d 308, 324 (S.D.N.Y. 2023).

[151] Particularly if cryptoasset holders are aware of these rights or if the business relationship admits these types of rights (legal wrappers eradicate fiduciary duties upon management by default).

[152] El Faqir, Arroyo, and Hassan, *supra* note 46, at 3.

[153] Hansmann and Kraakman, *supra* note 26, at 395. This form of affirmative asset partitioning classifies legal entities as strong-form, providing sufficient protection from liquidation.

[154] It also allows management to follow an idiosyncratic vision of their own projects without interference from investors. Goshen and Hamdani, *supra* note 25.

entity while still providing a degree of control, allowing small cryptoasset holders to challenge cryptopromoters, and serving as a tool to monitor and ensure efficiency (a board substitute).[155]

However, the attempt to introduce a monitoring structure through liquid democracy as an internal governance mechanism has proved ineffective. Rage quitting is only accessible to cryptoenterprises developed under the DAOhaus platform (an automated platform service). Yet, the majority of cryptoenterprises are developed under the Aragon platform, which does not have this added option.[156] Furthermore, even for cryptoenterprises developed through the DAOhaus platform, there is no information on how much this degree of control is exercised.[157] Empirical studies showing the ongoing concentration of capital and the ability of whales (large cryptoasset holders) to step in and acquire (even momentarily) cryptoassets would suggest that rage quitting is not consistently seen.[158] As a result, cryptoenterprises hold substantial control without incorporating the boasted governance mechanisms for cryptoasset holders.

The management of resources is often decided at a higher level among cryptopromoters, such as establishing a foundation or committees for managing specific funds, all without investor involvement, typically through off-chain methods.[159] This occurs because cryptopromoters remain actively involved in the organization, retaining significant voting power (as large cryptoasset holders) and exercising discretion in operations that bypass the voting process.[160]

Additionally, despite efforts to create distributed governance, the current voting mechanisms fail to account for the different phases of a cryptoenterprise's lifecycle.[161] This consequently leads to cryptoenterprises

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[155] In this sense, the cryptoenterprise could fit the features of a partnership. Michael Anderson Schillig, *Decentralized Autonomous Organizations (DAOs) under English law*, 16 L. FIN. MARK. REV. 68–78 (2022), https://doi.org/10.1080/17521440.2023.2174814.

[156] Peña-Calvin et al., *supra* note 15.

[157] The voting process does not require a quorum; a proposal can pass with over 50% up-votes, regardless of how many participants vote. El Faqir, Arroyo, and Hassan, *supra* note 46.

[158] Wulf A Kaal, *DAO Fallacies-Common Myths and Uses for Decentralized Autonomous Organizations* 1, 5 (2022), https://ssrn.com/abstract=4067783. (describing the myths around distributed governance or controls and how whales actually control them).

[159] Brummer and Seira, *supra* note 115.

[160] DE FILIPPI AND MCMULLEN, *supra* note 60, at 23.

[161] The design (which reflects the creation/ideation of a product), the development or minimum viable product (a jargon used for startups testing product/service), the operational and the evolvement or crisis phases. Olivier Rikken, Marijn Janssen & Zenlin Kwee,

being treated as if they are in the operational phase, disregarding the initial stages.

Moreover, when on-chain governance is available (when all the transactions are visible on the chain), the pursuit of distributed governance through online voting removes the strategic business guidance that startups typically benefit from.[162] Indeed, governance involves more than just voting on treasury funds; it also includes strategic, long-term decisions often made internally by cryptopromoters or designated committees.[163] This explains the lack of internal governance mechanisms, the greater influence of off-chain governance over on-chain or distributed governance, and why cryptopromoters continue to maintain control in order to pursue their evolving vision for the cryptoenterprise.[164]

While centralization itself would not necessarily be problematic if balanced with a structure that ensures control and accountability over the cryptopromoters' activities,[165] cryptopromoters often conceal their discretionary control rights, fearing that centralization might make investors suspicious, as they tend to equate it with fraud.[166] However, the lack of hierarchies, balances, and centralization has attracted different problems.

Governance challenges of blockchain and decentralized autonomous organizations, 24 INF. POLITY 397, 405 (2019). The authors observe three stages of an organization in the blockchain: design, operation, and evolvement or crisis, making parallelism with startups. However, neither startups nor cryptoenterprises move directly from ideation to operation; they require an intermediate phase to test their products or services, making it necessary to include this stage in the model.

[162] Beyond the early-stage phases, tech startups often rely on feedback providers (directors and other unmediated actors) to help them organize strategies that will remain relevant in the future. See Fenwick, Kaal, and Vermeulen, *supra* note 37, at 112-117.

[163] ALLEN, BERG, AND LANE, *supra* note 111.

[164] Goshen and Hamdani, *supra* note 25.

[165] Even in the startup environment, founders have more freedom in the startup's direction, and early investors have only soft controls over their investments, precluding excessive interference over management. Despite this structure, early investors have some protections through deferred equity instruments (an option to transform those instruments and become shareholders of the organization). Weiss, *supra* note 49.

[166] See Amanda Cassatt, *FTX Showed the Problems of Centralized Finance, and Proved the Need for DeFi*, COINDESK:OPINION (Nov. 11, 2022), https://www.coindesk.com/opinion/2022/11/11/ftx-showed-the-problems-of-centralized-finance-and-proved-the-need-for-defi/; Linn Anker-Sørensen & Dirk Andreas Zetzsche, *From Centralized to Decentralized Finance: The Issue of "Fake-DeFi"*, SSRN ELECTRON. J. 8 (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3978815.

B. Problems Caused by the Cryptoenterprise Structure

The structure of the cryptoenterprise exemplifies how cryptopromoters and insiders directly control the organization, a view that may seem counterintuitive to blockchain scholars who often depict these entities as fully decentralized and free from hierarchies. In practice, cryptoenterprises maintain a centralized governance approach.

This delegation of control is a common feature in corporate law. Corporations have often delegated centralized control to management (managers and board of directors) for strategy and decision-making, while shareholders maintain some amount of (limited) control. Investors accept this type of organization for multiple reasons. Managing requires significant information and specialized knowledge, leading to high competence costs. However, the primary reason for delegating control is the conflicting interests among investors, which makes centralized management more practical.[167]

The structure of the cryptoenterprise emphasizes cryptopromoters' control, in spite of the promises of distributed governance. This situation places cryptopromoters on top of a hierarchy that does not respond to external feedback on their operations and accountability, thereby creating conflicts on cryptopromoters-side. However, these agency costs are not the only costs that emerge upon cryptopromoters; there are also cryptopromoters' competence costs, which might not be related to their technical capabilities as coders but as business entrepreneurs.[168]

Likewise, cryptopromoters see dispersed cryptoasset holders as a cost since they represent neither skilled entrepreneurs (as venture capital investors would be considered) nor technological experts. Access to distributed governance is limited to mitigate these costs, preventing uncoordinated participants from exerting governance power over a new, young, unconventional business structure. While delegates and other mechanisms aim to introduce investor controls and democratize governance, they often reinforce centralized control since delegates are typically insiders or experts. Despite on-chain voting and transparency suggesting distributed governance, cryptoenterprises largely depend on off-chain dynamics and relationships

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[167] Goshen and Squire, *supra* note 26, at 791.

[168] The downfall of FTX was primarily due to the incompetence of its leadership, who frequently exaggerated their confluence of interests with investors and customers while masking their lack of entrepreneurial expertise behind the impressive cash flow figures showcased on their website. See David Yaffe-Bellany, *New Chief Calls FTX's Corporate Control a 'Complete Failure'*, N.Y.TIMES:BUSINESS (Nov. 17, 2022), https://www.nytimes.com/2022/11/17/business/ftx-bankruptcy.html.

that significantly impact governance overall.

Cryptoenterprises are within a spectrum of different ownership structures in traditional corporate models. The distinction of rights among insiders provides cryptopromoters (owner-managers) with complete and uncontested control.[169]

In the rare circumstances in which voting is available, small cryptoasset holders (small/retail investors) seldom have the opportunity to exert control over technical implementations and strategies, as participation rates tend to be low and voting power is largely concentrated among large cryptoasset holders.[170] The unique characteristics of cryptoenterprises have disproportionately increased agency costs, leading to specific challenges. The next sections explore the problems caused by the cryptoenterprise structure, focusing on the misalignment of incentives, failure of critical internal oversight, and specialized knowledge. These problems highlight the lack of checks and balances within cryptoenterprises, granting cryptopromoters and other insiders discretionary control rights (or voting power) that would struggle to mitigate without a board of directors. However, external actors, such as intermediaries and other gatekeepers, could help to address these issues.

1.	Misalignment of Incentives

Misalignments arise from the absence of well-designed rules or internal governance mechanisms within cryptoenterprises. Aligning incentives relies on how cryptopromoters structure the organization, implement controls, and establish decision-making processes to balance the interests of cryptoasset holders (principals) with those of cryptopromoters or insiders (agents). Initially, cryptopromoters are tasked with balancing these interests; however, without a monitoring system, even encoded rules become ineffective, as insiders control both voting power and management of the cryptoenterprise. This creates a potential imbalance where the interests of cryptoasset holders are often overlooked, facilitating opportunistic management of treasuries and fraud.

Similar to startups, these misalignments are most pronounced in the initial stages. Dispersed cryptoasset holders (retail investors) rely on the online information they have received. Cryptopromoters use various methods to

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[169] Goshen and Squire, *supra* note 26. The hybrid structure of cryptoenterprises in DeFi is unprecedented in the sense that these firms have access to an amount of capital that is normally only accessible when companies are at a mature stage.

[170] Peña-Calvin et al., *supra* note 56.

advertise the products or services they seek to fund through the ICO/IEO, encouraging investments from participants who expect the organization to align with their initial interests.[171] These nonconservative transactions, rather than signaling or sharing information that accrues the value of the cryptoenterprise, often mislead investors,[172] who frequently present and advertise a finished product at a fast pace, often without a clear roadmap of the cryptoenterprise's proposed evolution and/or phases.[173] The reality is that cryptopromoters frequently do not know how they will structure the cryptoenterprise, and/or do not have a clear vision of the future venture, a business plan, and prefer to maintain asymmetric information with future investors.[174]

In fact, there is no guarantee that the economic incentives of cryptopromoters will align with those of cryptoasset holders during the initial phases of direct capital injections through the ICO/IEO. For instance, cryptopromoters may lose interest in pursuing the organization's original objectives, and the same may hold true for cryptoasset holders. This divergence can lead some investors to disengage and seek a quick payout rather than participate in governance through voting. While cryptoasset holders' actions, such as selling their assets, are visible because they are registered on the chain, cryptopromoters decisions to alter the cryptoenterprise's goals often remain concealed, masking their centralized control.

Unless lock-up agreements with escrow-secured cryptoassets in a smart

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[171] Boreiko and Sahdev, *supra* note 97. Beyond quick and easy returns, cryptoasset holders may also have expectations regarding the project's direction (e.g., that it will follow a specific purpose: charitable, for-profit, not-for-profit, etc.).

[172] Sometimes misrepresentations extend to trading, business strategies, risks, business models, financial solvency, etc. See SEC, Press Release, N. 2013-133, SEC Charges Celsius Network Limited and Founder Alex Mashinsky with Fraud and Unregistered Offer and Sale of Securities (Jul. 13, 2023), https://www.sec.gov/newsroom/press-releases/2023-133.

[173] Most of the time, the information posted helps to create a community on social media and facilitates engagement to develop trust. Wulf A. Kaal & Marco Dell'Erba, *Initial Coin Offerings: Emerging Practices, Risk Factors, and Red Flags*, SSRN ELECTRON. J. (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3067615.; José Campino, Ana Brochado & Álvaro Rosa, *Initial coin offerings (ICOs): Why do they succeed?*, 8 FIN. INNOV. (2022), https://doi.org/10.1186/s40854-021-00317-2; Hugo Benedetti & Ehsan Nikbakht, *Returns and network growth of digital tokens after cross-listings*, 66 J. CORP. FIN. 1–18 (2021).

[174] The reasons cryptopromoters maintain asymmetric information are varied. They might want to reduce the costs of small cryptoasset holders interfering with management (due to the lack of technical or entrepreneurial skills), or they might want to avoid accountability or, even worse, conceal a potential Ponzi or pump-and-dump scheme. Goshen and Squire, *supra* note 26.

contract have been previously established, cryptopromoters are incentivized to centralize governance and make decisions that preserve their positions and perks rather than achieving the cryptoenterprise's promised goals or increasing the value of the cryptoassets.[175] To some extent, this outcome is the result of cryptopromoters creating a structure with minimal or no financial risk.

The ICO/IEO model used by cryptopromoters introduces significant risks for investors, as it involves selling cryptoassets for speculative ventures with no operating history, limited accountability, and often misaligned incentives for continued project development. Companies going public do not sell their entire capital during an IPO, and even if proposed, they are unlikely to succeed as potential investors would guard against a company without an operation history or assets. Cryptopromoters, by contrast, offer cryptoassets to the public for a future venture through an ICO. Since cryptopromoters and insiders have no personal investment or "skin in the game," there are few incentives to continue developing the project after the ICO and more incentives to either repurpose the organization from scratch (even changing the name) or misappropriate the funds.[176] The complex financial structure of cryptoenterprises increases the likelihood of inflating cryptoasset prices after the ICO and facilitates pump-and-dump schemes. Cryptopromoters retain particular privileges, controls, and valuation connected to pre-minted/issued cryptoassets and assign them to insiders before offering cryptoassets to the public. Subsequently, the incentives of cryptopromoters and insiders shift to either inflate the price (momentarily) of cryptoassets and resell them or flip them to other buyers for short profits and leave the organization, or continue the development without feedback or accountability.[177]

After the ICO/IEO, cryptoassets' supply also shows how cryptopromoters or insiders frequently ignore the interests of cryptoasset holders. Cryptoenterprises issue a limited supply of cryptoassets to create scarcity, often setting soft-caps or hard-caps.[178] However, these supply limits are often

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[175] Moreover, decisions are made through voting mechanisms without a quorum, relying solely on the majority of votes, which can be dominated by a single person or group of persons with multiple wallet accounts. Peña-Calvin et al., *supra* note 15.

[176] ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD), *Initial Coin Offerings (ICOs) for SME Financing* 33 (2019), http://www.oecd.org/finance/ICOs-for-SME-Financing.pdf.

[177] *Id.* at 15. See Vitalik Buterin, *Analyzing Token Sale Models*, VITALIK BUTERIN'S WEBSITE (Ju. 09, 2017), https://vitalik.eth.limo/general/2017/06/09/sales.html.; Lyandres, Palazzo, and Rabetti, *supra* note 135 (showing that post-ICO performance of the cryptoenterprise is correlated with the volatility in prices of cryptoassets).

[178] Kaal, *supra* note 158.

disregarded, even when capital is raised through cryptoexchanges, resulting in continued issuance that dilutes value and leaves retail investors unable to verify the full extent of the dilution. In other words, cryptopromoters frequently raise capital beyond the amounts initially outlined in white papers or on social media, causing dilution unknown to cryptoasset holders, making their cryptoassets less valuable and without effective discretionary control rights or contractual rights to address this issue.

Later in the cryptoenterprise lifecycle, the situation does not change. Cryptopromoters and a small group of insiders govern most treasuries through a multi-signature smart contract designed to ensure flexibility and security.[179] Unlike corporations and startups, where management holds all business strategies, the voting system of a cryptoenterprise misleads cryptoasset holders into perceiving this voting power as distributed control. Small cryptoasset holders expect their governance tokens to enable decentralized decision-making, but in reality, most decisions are centrally determined by cryptopromoters or insiders without investors' knowledge.[180]

Most dispersed investors (or small cryptoasset holders) are unaware that there is not a single investors' class but a series of classes. This structure creates competing interests among three groups: coders and smart contract developers, who receive cryptoassets as rewards; catalysts and cryptopromoters, who hold superior rights and privileges; and ICO/IEO participants, typically small cryptoasset holders. For small or dispersed cryptoasset holders, decentralized or distributed governance is a false choice. In corporations with dispersed ownership, a consolidated problem is that shareholders' interests are insufficiently homogeneous to use the shareholder-centered, consensus-based forms of corporate decision-making.[181] Good governance arising from a collective decision-making

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[179] ALLEN, BERG, AND LANE, *supra* note 111.

[180] For example, it is possible for one person to vote from multiple accounts. While cryptoassets are sometimes awarded to community members as a sign of loyalty, they do not always confer greater voting power—holders either have voting rights or they do not. In some cases, however, the technology fails to clearly differentiate between cryptoassets that carry voting rights and those that do not. Rainer Feichtinger, Robin Fritsch, Yann Vonlanthen & Roger Wattenhofer, *The Hidden Shortcomings of (D)AOs – An Empirical Study of On-Chain Governance*, 13953 LNCS FIN. CRYPTOGR. DATA SECUR. 2023 INT. WORK. 165, 174 (2024) (finding that within pointless governance transactions, there are instances of votes cast by accounts holding no voting power). This suggests that cryptopromoters may, at times, present cryptoassets as mere economic rewards, while in practice, these tokens carry voting privileges.

[181] As consolidated across scholars in the study of organizations, unless members have comparable information and interests, it would be challenging for a complex organization to be governed through direct or participatory democracy. KENNETH J. ARROW, THE LIMITS OF

process from small cryptoasset holders has not been implemented so far, and it eventually caused voters to be apathetic. In some instances, cryptopromoters aim to create voter apathy to enable them to have less accountability and more discretion over the cryptoenterprise's funds in spite of their promises of shared control.[182] Small cryptoasset holders are less interested in governance and rather view their cryptoassets as yield while fueling investment diversification.[183] This inhomogeneity of classes among cryptoasset holders is exacerbated by the possibility of variations of privileges and encoded rules, adding further classes and controls upon certain categories of cryptoasset holders (mainly to reward loyalty to insiders).

These already known agency and collective action problems are deeper in DeFi because several limitations for cryptoasset holders (small or large) exist to prevent them from exercising power to replace cryptopromoters. The only possible option to enact change when cryptoasset holders are discontent with the business strategy and feel that the incentives are not correctly aligned is to force a *fork* or division of the assets. This extremely costly and complicated procedure seeks to create a copy of the software code and, thus, an alternative cryptoenterprise.[184] When the first forks emerged in 2019, the process was costly but feasible. However, as DeFi becomes more interconnected, the likelihood of participants successfully coordinating and

ORGANIZATION 69 (1974).

[182] BERLE & MEANS, *supra* note 13, at 86.

[183] To some extent, these voters' apathy and their inability to search for good projects have led to the development of cryptofunds. For some scholars, concentrated voting power on large stockholders can improve governance by finding an institutional monitor with voice. Thus, concentrated voting power might be better at enabling monitoring of a firm's performance and making changes in board composition, especially when performance is weak. See Roberta Romano, *Public Pension Fund Activism in Corporate Governance Reconsidered*, 93 COLUM. L. REV. 795 (1993); and Mark J. Roe, *Managers as the Problem?*, *in* STRONG MANAGERS, WEAK OWNERS: THE POLITICAL ROOTS OF AMERICAN CORPORATE FINANCE 235 (1994). However, other commentators have shown that institutional investors and mutual funds tend to be lax in monitoring on behalf of shareholders over time. Their focus on providing low-cost, diversified investment vehicles and increasing assets under management often leads shareholders to remain passive rather than actively making governance proposals or driving change. Ronald J Gilson & Jeffrey N Gordon, *The Agency Costs of Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863 (2013). In DeFi, concentrated voting power, voters' apathy, and the development of cryptoexchanges and cryptolending platforms have been determinants in favoring some problems, such as vote buying, temporarily selling away cryptoassets with voting rights.

[184] In open source projects (or permissionless blockchain), forking software code implies the possibility of creating a copy of the existing program (modifiable by anyone) and distributing that copy. Angela Walch, *Open-Source Operational Risk: Should Public Blockchains Serve as Financial Market Infrastructures?*, 2 *in* HANDBOOK OF BLOCKCHAIN, DIGITAL FINANCE, AND INCLUSION 243, 259 (1 ed. 2018).

forcing a fork has become increasingly improbable. Amid the uncertainty of relying on a fork, cryptointermediaries can play a valuable role in providing incentives to align interests.

2. Failure of Critical Internal Oversight

Another critical problem emerging from the cryptoenterprise structure is the failure of internal oversight mechanisms due to a lack of division of functions. In traditional finance, various functions such as risk management, compliance, and internal audit are divided to prevent conflicts and ensure checks and balances. However, in many cryptoenterprises, these divisions are either nonexistent or poorly implemented, leading to oversight failures. Cryptopromoters vastly expand their competencies into management direction or strategy of the cryptoenterprise, taking on roles such as representatives advancing proposals, managing daily operations and thus treasuries, selecting employees and advisors, establishing connections with VCs, and contracting with third parties.

This lack of critical internal oversight is deeply reflected in the governance of resources held in treasuries. Those governing these treasuries through centralized committees may be either elected or unelected.[185] When going through the voting process, a delegate who is either an expert and/or active member of the community around the cryptoenterprise (and likely an insider) collects votes and influences the outcome of the decision-making process.[186] When the person governing sub-treasuries is appointed, the role is usually assigned to an undisclosed insider within the organization. In both circumstances, there is no clear accountability for who is in charge of the cryptoenterprise and who covers the different roles of the organization, such as who the delegates are, who are usually merged and placed upon insiders.

Although cryptopromoters serve multiple functions, cryptoenterprises lack the necessary internal oversight mechanisms, such as a board of directors, to ensure governance integrity or establish proper control measures, leaving small cryptoasset holders vulnerable to cryptopromoters' discretion. Even as these organizations mature, they remain dominated by cryptopromoters and insiders with overlapping roles. Unlike startups, where late-stage investors have mechanisms to exercise control and remove

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[185] ALLEN, BERG, AND LANE, *supra* note 111.
[186] *Who is a "Community Delegate?" Understanding Their Role in Governance*, MOONBEAM TEAM (Jun. 21, 2023), https://moonbeam.network/news/who-is-a-community-delegate-understanding-their-role-in-governance.

underperforming management, small cryptoasset holders lack the ability to hold cryptopromoters accountable because they are unaware of their operations, may not be able to properly assess their performance, and/or remove them from their role.[187] While in the abstract, it could be possible to propose a ballot for the replacement of cryptopromoters, this has not happened yet. This stands in sharp contrast to public companies, where shareholders can utilize proxy access to review governing documents and propose board composition changes.[188] These voting proposals, though advisory and non-binding (and do not directly influence managers' business plans or board strategies), allow shareholders to take control of the board's narrative and serve as the only means of communication with management.[189]

Cryptoenterprises may eventually prioritize liquid democracy to facilitate proposals for organizational changes such as cryptopromoters' removal or succession—an essential component for complex structures, especially those with offshore branches. However, neither access rights, removal, nor communication functions are present in cryptoenterprises, leaving them in obscurity while centralized management operates.[190]

Whenever voting mechanisms are present, voting power tends to be concentrated, destroying the ideals of liquid/direct democracy or shared control. Cryptoasset holders' inaction in voting may suggest their inexperience as business strategists, undermining investors' confidence—unlike late-stage startup investors, who are typically eager to participate in governance. Presumably, many cryptoasset holders may be interested in DeFi, but they do not have discretionary control rights promised through voting or contractual rights (or even fiduciary protections), relying entirely

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[187] This controlling mechanism exists for late-stage VC and Delaware corporations. See DEL. CODE ANN, TIT. 8, §141 (k). Weiss, *supra* note 49, at 16.

[188] Rule 14a-8(i)(8). Dodd-Frank Act 17 C.F.R. §240.14a-8. Proxy contests as a mechanism for shareholder control have progressively expanded the number of shareholder rights after the Dodd-Frank Act. However, this method has been rarely used for shareholder activism due to the high cost of disclosure requirements. 17 C.F.R. §240.14a-6.

[189] BAINBRIDGE & HENDERSON, *supra* note 32, at 35.

[190] Voting delegation systems in DeFi often lack clear rules and may even permit votes from cryptoasset holders who do not possess formal voting rights. Meanwhile, in regulated markets, the SEC has increasingly intervened in corporate governance, extending its oversight to include board succession proposals in their proxy statements (Rule 14a-8) and expanding significant rights to shareholders through universal proxy cards for proposals for directors' election contests (Rule 14a-19), even without ownership. This allows shareholders to vote for their preferred combination of candidates from both slates in a director election. 17 C.F.R. § 240.14a-8 and §240.14a-19.

on cryptopromoters.[191]

There are certain functions, such as hiring employees, that require centralization since effective strategy and execution demand sufficient control, making it impractical to manage the hiring and firing of employees and contractors collectively. In this context, voting mechanisms are not only ineffective but also counterproductive. Despite considering how centralized management of cryptoenterprises may be a viable option for daily operations, the lack of transparency, accountability, and proper controls would greatly benefit from checks and balances, whether from internal or external actors.

3. Specialized Knowledge

Information asymmetries create significant issues since cryptopromoters and developers hold far more understanding than small cryptoasset holders (retail investors), making it difficult to detect mismanagement or misconduct.[192] By becoming code-literate and gaining technical insights from cryptoauditors and other cryptointermediaries, cryptopromoters sharpened their specialized knowledge—a depth of technological understanding once widely shared within the cryptocommunity until 2017. After the ICO boom, dispersed, non-code-literate cryptoasset holders joined these organizations, expecting to exercise control over enterprises where they had invested through liquid democracy, a promise and expectation that remains unfulfilled. Cryptopromoters' expertise and informational advantage affects three aspects: the project's valuation, the cryptoassets' valuation, the management of treasuries, and the cryptopromoters' performance.

Assessing the long-term value of a traditional business is already complex, and valuing a cryptoenterprise has proven to be even more challenging. Cryptoenterprises often exaggerate the quality of their projects and the technological automation beyond puffery. This evaluative complexity

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[191] However, some VCs with profound experience in Fintech and DeFi, such as those involved in MakerDAO, do exercise control over cryptoenteprises by sitting on the board, supporting theories that link late-stage investors' appetite for governance due to their confidence in such experience. Ola Bengtsson & Berk A. Sensoy, *Investor abilities and financial contracting: Evidence from venture capital*, 20 J. FIN. INTERMEDIATION 477–502 (2011), http://dx.doi.org/10.1016/j.jfi.2011.02.001. See also Ivan Cryptoslav, *10 A16z Portfolio Companies*, COINMARKETCAP, https://coinmarketcap.com/academy/article/10-a16z-portfolio-companies.

[192] This lack of information mirrors challenges in the startup world, where early-stage investors face information asymmetries that limit their ability to evaluate projects. Cryptopromoters control disclosures, leaving investors with little ability to assess performance (often without a proof of concept, business plan, or growth roadmap), making informed evaluation nearly impossible. Pollman, *supra* note 49.

often results from a lack of industry practices for continuous auditing of treasuries, reserves, voting processes, operations, and legal compliance, leaving investors without reliable measures for short-term or long-term productivity.

Valuation of cryptoenterprises is thus often more speculative, typically focusing on the technical capabilities rather than governance mechanisms, with tokenomics design being overlooked. The absence of guidance in the economic structure and incentive mechanisms that govern cryptoasset issuance, distribution, and utilization impacts sustainable growth and alignment between investors and cryptopromoters interests. In part, this is due because benchmarking cryptoenterprises is nearly impossible, even as they populate the DeFi ecosystem, since they pursue different approaches to governance that are mostly a response to immediate contingencies rather than an accurate strategy or a thoughtful business model. To reliably assess the potential success of a DeFi project and transform it into a successful or promising cryptoenteprise, future investors must be code-literate. The necessity of such technical skills highlights the need for either standardized valuation tools (currently lacking) or cryptointermediaries to help process and communicate this information to future cryptoasset holders (investors) who are non-code literate.[193] As a result, non-code literate cryptoasset holders often accept less favorable protections due to their lower technical sophistication.[194]

Problems like these are not new and have already been observed in venture-backed startups, where different types of investors with varying rights create complex financial structures and make valuation intricate.[195] Despite these challenges, in startups, late-stage investors, who provide a capital influx not seen among companies before going public, possess deal methods for accessing valuation and aligning incentives with founders, whereas cryptoenterprises do not.[196]

Specialized knowledge in the valuation of the cryptoenterprise is also connected with the valuation of cryptoassets. Small cryptoasset holders face significant challenges in valuing cryptoenterprises, as they are often forced

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[193] Vanessa Villanueva Collao & Verity Winship, *The New ICO Intermediaries*, 5 ITAL. L. J. 731, 744 (2019) (identifying code translation as one of the main roles of future intermediaries in the ICO process).

[194] Weiss, *supra* note 49, at 32.

[195] Pollman, *supra* note 49, at 201 (exemplifying the difficulties in the valuation of startups such as the fallen Theranos with a $9 billion valuation before its collapse).

[196] *Id.* at 174.

to rely on their uncertain future value.[197] Cryptopromoters set the future price of cryptoassets to be offered during the ICO/IEO without any other assistance or intervention of underwriters or other intermediaries (not uncommon in recent business developments),[198] predicated on the hype created within the community. Even after the ICO/IEO process is finished, there are reduced chances of accurately assessing the market value of these cryptoassets, particularly because there are instances where there is no secondary market.[199] Consequently, cryptoassets' value is measured at cost rather than at market price, which fails to accurately reflect the performance of cryptopromoters or the true worth of the cryptoenterprise.[200] The absence of a reliable valuation method increases information asymmetry among cryptoasset holders, further incentivizing cryptopromoters to neglect their responsibilities.

The same reasoning is applicable to the valuation of treasuries, which may indicate the financial health of the cryptoenterprise but from which there is no public information or understanding of its management. However, because a fair representation of treasuries requires to be done at cost (with no mechanisms to determine their value accurately), this presents an issue, as price remains the most reliable way to measure value.[201] Post-ICO, initial treasury management and fund allocation decisions often lack strategic foresight, resulting in immature choices that impose costs on cryptoasset holders who lack insights into business development or the creation of a viable product. Cryptoasset holders may assume that whoever is in charge of the internal operations, such as a cryptopromoter-manager, will rely on strategy once the groundwork is laid, but it is almost impossible for cryptoasset holders to determine when that point has been reached without an expert to help them evaluate the project or its code.[202]

Furthermore, the opacity in using treasuries is accentuated by firm-

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[197] Although in some cases it is possible to assess a project's value by examining its code, this is uncommon due to the lack of demand for such services and the limited availability of independent experts qualified to perform these evaluations.

[198] James J Park, *Investor Protection in an Age of Entrepreneurship*, 12 HARVARD BUS. LAW REV. 107, 146 (2022).

[199] Minh Anh Tran Bui, *Initial Exchange Offering and the Presence of Underpricing*, 2020, https://opus4.kobv.de/opus4-rhein-waal/frontdoor/index/index/docId/1468., at 28-29. (describing that great ex-ante uncertainty is connected to greater underpricing in the high-tech sector and that such predictors are present in IEOs).

[200] Hamman Schoonwinkel, *Towards Fair Presentation of DAO Treasuries: An Evaluation of Native Governance Token Reporting Practices*, 6 J. BR. BLOCKCHAIN ASSOC. 1–8 (2023).

[201] *Id.*

[202] Weiss, *supra* note 49, at 20.

specific investments unilaterally decided and unaudited. Firm-specific investments, for example, in advanced programming knowledge for decentralized lending, limit flexibility and are challenging to transfer or apply to other financial products or services.[203] Cryptopromoters might, therefore, decide to keep human resources and investments in software even if they are inefficient, as cryptoasset holders cannot attest to their competence or quality. This holdup of control disincentivizes cryptopromoters from diminishing information asymmetries as they internalize the costs of underperforming as part of the process of entering DeFi. As a result, unless an investor (cryptoasset holder) is also an insider with concentrated capital and/or cryptoassets with governance rights and code-literate, it is highly unlikely that they can detect cheating.

Cryptoasset holders struggle to monitor cryptopromoters due to knowledge gaps in technical, business, and legal expertise, with cryptopromoters having clearer insight into project value and performance. As cryptoenterprises expand, they increasingly require structured support and regulatory compliance, yet often resist external guidance, which limits investor oversight.[204]

C. Conflicts of Interest Between Cryptopromoters and Cryptoasset Holders

DeFi introduces a distinct governance model through cryptoenterprises, combining elements from traditional corporate governance structures while incorporating unique, innovative features. The structural characteristics of cryptoenterprises (dispersed ownership, direct democracy, no traditional board of directors to oversee management, or a clear distinction of managerial functions) have enabled a series of conflicts that the technology was supposed to eliminate through a distributed decision-making system that would foster accountability.

The promise of DeFi is that through participation, cryptoasset holders will have a different set of controls, monitoring, access to information, and voting rights.[205] Lacking the competence to influence governance decisions, cryptoasset holders leave power concentrated in the hands of cryptopromoters and insiders. Since cryptoasset holders lack duty-enforcement rights, there are no contractual obligations, but most importantly, fiduciary duties to restrain cryptopromoters or insiders.

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[203] *Id.* at 40.
[204] See Part I.C.3. Lack of Transparency in Cryptopromoters' Compensation.
[205] Zetzsche, Arner, and Buckley, *supra* note 2, at 83.

Similarly, the high cost of monitoring insiders prevents effective oversight, making it difficult to balance control within cryptoenterprises despite claims of distributed governance.[206]

This lack of fiduciary duties and oversight mechanisms heightens the risk of conflicts of interest, a fundamental challenge in corporate governance.[207] To encourage the fulfillment of their responsibilities, common law and regulations impose certain duties on directors. Typically, directors have two primary duties toward the corporation and its shareholders: the duty of care and the duty of loyalty.[208] However, only the duty of loyalty relates to conflicts of interest.[209] Both duties are paramount to effectively running a corporation diligently and eradicating self-interest. Still, directors acting in their own interests through self-dealing transactions (rather than negligently) are more difficult to spot.[210]

The reason why people care about fiduciary duties and the duty of loyalty, in particular, is connected to the issue of trust. Those who invest in a corporation want directors to act in their best interests by effectively overseeing management.[211] They allow directors to fulfill their tasks without meaningful interference because it is a desirable social norm for directors to be honest and trustworthy, and for investors to trust those in charge.[212] However, this trust is undermined when directors have conflicts of interest.

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[206] Goshen and Squire, *supra* note 26, at 780.

[207] Dodge v. Ford Motor Co., 170 N.W. 668 (Mich. 1919).

[208] The duty of care is connected to fiduciaries' negligence. Some scholars argue against recognizing the duty of care as a fiduciary duty, reasoning that the expanded scope of negligence law, which applies to everyone, does not meaningfully increase fiduciary liability. Larry E. Ribstein, *Fencing Fiduciary Duties*, 91 B. U. L. REV. 899, 908 (2011).

[209] This section does not adopt a specific narrow or broad view of fiduciary duties but deals with them in general terms. See *Id.* at 903; Frank H. Easterbrook & Daniel R. Fischel, *Contract and Fiduciary Duty*, 36 J. L. ECON. 425–446 (1993); Tamar Frankel, *Fiduciary Duties*, THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 127 (1998); TAMAR FRANKEL, FIDUCIARY LAW 4 (2011). However, it must be noted that the type of socio-technical relationships in blockchain would unlikely be part of a contractual relationship since smart contracts are not legal contracts, but the trust element of fiduciary relationships is still present. See Farshad Ghodoosi, *Contracting in the age of smart contracts*, 96 WASHINGT. L. REV. 51–92 (2021). De Filippi, Mannan, and Reijers, *supra* note 147.

[210] BAINBRIDGE, *supra* note 23, at 175.

[211] Margaret M. Blair & Lynn A. Stout, *Trust, trustworthiness, and the behavioral foundations of corporate law*, 149 U. PA. L. REV. 1735–1736 (2001).

[212] This social norm is reflected in the way courts and scholars emphasize the phrase "punctilio of honor" to underscore the broad articulation of the duty of loyalty established in *Meinhard v. Salmon*. 164 N.E. 545 (N.Y. 1928).

For this reason, the duty of loyalty is traditionally enforced more rigorously than the duty of care. Human and capital resource contributions create specific incentives to maximize both pecuniary and non-pecuniary personal benefits from directors' roles, reducing the firm's value.[213] Acknowledging the frailties of human nature, fiduciary duties have served to legitimate questioning of directors' self-dealing transactions.

There are two ways of dealing with conflicts. The fiduciary duty of loyalty requires that a fiduciary (such as a corporate director), either eliminate (prophylactic function)[214] or disclose all the conflicts that could influence their advice or actions. These conflicts of interest have been policed by the application of the entire fairness test.[215] The "entire fairness" test is the highest standard of review in corporate law, primarily due to the trust-related issues central to violations of the duty of loyalty.[216] In DeFi, trust has been theoretically substituted with technology. For some, when entering this ecosystem, one must trust but verify (a negative connotation of trust);[217] for others, participants are guided by confidence in the technology that eventually fosters trust.[218] In both cases, the emphasis on technology conceals that behind the technological infrastructure, there are people who manage the cryptoenterprise. These same people, because of their activities and promises, infuse trust, that trust erodes when cryptopromoters prioritize their own interests and those of insiders over participants, especially in the absence of any oversight.

Among cryptoenterprises, conflict costs arise because both parties cryptopromoters (or insiders) and small cryptoasset holders (retail investors), share control over resources (the treasuries) by delegation or through direct voting, and access to profits (or cash flow).[219] Cryptoenterprises' absence of a board of directors has deprived cryptoasset holders of a precious internal

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[213] Jensen and Meckling, *supra* note 8.

[214] The no-conflict rule indicates that as a matter of public policy, all possibilities of directors' exploitation of their role or temptation should be removed. Guth v. Loft, Inc., 5 A.2d 503 (Del. 1939).

[215] This test evaluates the transaction's procedures, including how and when it was initiated, structured, negotiated, disclosed to other directors, and the timing of approval (fair dealing), along with a substantial review focused primarily on the transaction's intrinsic factors, such as asset or market value, and other elements influencing the stock's inherent value (fair price). Cinerama, Inc. v Technicolor, Inc. 663 A.2d 1156, 1163 (Del. 1995).

[216] However, it has been examined that there is a trend of continuous reduction of the duty of loyalty. Julian Velasco, *The Diminishing Duty of Loyalty*, 75 WASH. LEE L. REV. 1035–1096 (2018).

[217] WERBACH, *supra* note 45.

[218] De Filippi, Mannan, and Reijers, *supra* note 147.

[219] Goshen and Squire, *supra* note 26, at 791.

governance mechanism, substituting it with online voting but with no duty enforcement rights, arising from different contractual and non-contractual sources to mitigate conflicts.[220] Ultimately, the ecosystem of DeFi, by using blockchain technology, oversimplifies the relationship between technology and society and human interactions that are very much present. DeFi was never envisioned as a system for the solution of conflicts or provision of remedies.

The promise that disintermediation and technology would resolve conflicts of interest in cryptoenterprises has proven false. Insider opportunism, largely motivated by financial gain, continues to harm small cryptoasset holders.[221] Activities like self-dealing, cheating, and misappropriation have become lucrative opportunities that they have exploited and that would violate fiduciary duties, from which small cryptoasset holders cannot get redress. While not all conflicts of interest warrant prohibition, three are especially harmful to cryptoasset holders: the unilateral alteration of core cryptoenterprise documents, misappropriation of assets, and cryptopromoters' compensation. The following sections examine each of these critical issues in turn.[222]

1. Unilateral Variation of Fundamental Documents of the Cryptoenterprise

The cryptoenterprise's structure is built on computer code and customarily disclosed to participants before being launched.[223] In a cryptoenterprise, code serves a function similar to corporate documents but lacks structural divisions. For example, corporate documents such as charters and bylaws have distinct roles—the former being constitutive and the latter operational. Usually, constitutional corporate documents, such as the certificate of incorporation (or charter), can be amended but only according to specific conditions depending on the time of reception of payment for

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[220] The right of a principal to sue an agent has different sources in corporate law, such as statutory provisions of incorporation, contract law, fiduciary duties, and standards (such as the duty of good faith). See Delaware General Corporation Law (DGCL) §141, Del. Code Ann. tit. 8 §141 (2024); Aronson v. Lewis, 473 A. 2d 805 (Del. 1984); Cede & Co. v. technicolor, Inc. 634 A.2d 345 (Del. 1993).

[221] FRANKEL, *supra* note 208, at 108-109.

[222] In this ecosystem, the level of agentness is not a clear-cut division. Cryptopromoters, unlike other insiders, take on roles typically associated with directors, such as setting direction and strategy, while other insiders (often developers) handle operational functions akin to officers' obligations. However, categorizing them is complex, as cryptopromoters occasionally defer non-core decisions to cryptoasset holders, blurring the lines of authority and hiding their position at the top of the organization.

[223] See *infra* Part I.A. The Structure of the Cryptoenterprise.

stock.[224] Particularly before receipt of payment for stock, charters can be modified at any time by a majority of incorporators (likely directors). Instead, when there has already been payment for stock, or when there are shareholders, the board of directors and shareholders must agree.[225] Similarly, bylaws—rules and procedures governing the corporation's internal management and operations—can be amended unilaterally by either the board of directors or the shareholders.[226]

In DeFi, similar constitutional and operational documents of cryptoenterprises are established by encoded rules. For example, a series of lines of code contain rules for the supply, distribution, and rights incorporated in cryptoassets, but there are no indications regarding the purpose or agent information. Operational rules are also included as lines of code. These lines of code are not finite instructions but can be modified over time. It has been demonstrated that these encoded rules are intentionally left incomplete to allow for future modification.[227]

The modifiability of these encoded rules became increasingly necessary due to the system's complexity as a system of intra-transaction composability of multiple smart contracts triggering each other and connecting to other cryptoenterprises (interoperability).[228] Once the transaction triggered by the smart contract is sent, it is difficult to revert. Thus, leaving spaces for filling instructions was a solution for the rigidities of a system relying on immutable code. This rigidity, however, induced trust in cryptocommunity participants. Small cryptoasset holders entered DeFi with the expectation that computer code would remain unchanged, ensuring that the rights associated with their cryptoassets (and the underlying rules) would remain stable.

Liquid democracy principles suggest that such changes should be submitted to a vote, with legitimacy granted only if the outcome is favorable.[229] In practice, fundamental document changes are often made unilaterally. Cryptopromoters deliberately alter the code to include specific provisions not disclosed initially to cryptoasset holders and enforce these

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[224] DGCL §241, §242. Changes to the Delaware Certificate of Incorporation can encompass corporate powers, the purpose of the corporation, original shareholders (if any), stock issuance authorizations, dividend rights and allocations, registered agent information, the addition of new classes of stock, and duration. DGCL §242 (a).

[225] DGCL § 241.

[226] DGCL §109(b).

[227] Cohney et al., *supra* note 72, at 620-623.

[228] Fabian Schär, *Decentralized Finance: On Blockchain- and Smart Contract-based Financial Markets*, FED. RESERV. BANK ST. LOUIS REV. 153–174 (2021).

[229] Feichtinger et al., *supra* note 180.

changes through smart contracts without adequate investor voting or oversight.[230] These code variations are diverse, ranging from increasing controls and adding perquisites for cryptopromoters and other insiders to introducing new classes of cryptoasset holders with voting rights, adjusting cryptoasset supply during the ICO, and more. This unilateral power creates a significant imbalance, undermining cryptoasset holders' (investors') confidence and trust while raising questions about decision-making authority.

In theory, cryptopromoters may modify lines of code to address specific contingencies, provided there is no intent to act against the best interests of the cryptoenterprise.[231] However, these unilateral modifications often reveal an intention to act contrary to those interests and to conceal their actions. Unilateral code variations affect both non-code and code-literate. For code literates, spotting these changes is virtually impossible, as reviewing thousands of lines of code closely is challenging. In contrast, cryptopromoters can hide these variations for non-code literates by making the code inactive in repositories where the code was disclosed.[232]

Consequently, these activities involve conflicts of personal[233] or familial financial interest,[234] without traditional corporate safeguards for these transactions, such as a vote from disinterested directors.[235] Applying fiduciary duties means minimizing the impact of permissible conflicts with preventative measures.[236] Even when placing the variation on a ballot, the low attendance and the concentration of voting power in the hands of cryptopromoters and insiders[237] would unlikely prove the transaction fairness because the result would arise from conflicted parties.[238]

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[230] Luca Enriques & Dirk Andreas Zetzsche, *Corporate Technologies and the Tech Nirvana Fallacy*, 72 HASTINGS L. J. 55–98 (2019) (elaborating on information asymmetries that will continue to exist through corporate technologies).

[231] Stone v. Ritter, 911 A.2d 362 (Del. 2006).

[232] Cohney et al., *supra* note 72.

[233] One element in recognizing self-dealing transactions is whether these are direct or indirect transactions. In indirect transactions, the director is not dealing with the firm but has an interest in a person or an entity that is dealing with the firm. Unilateral code line variation could be a direct or indirect conflicted transaction. BAINBRIDGE, *supra* note 23, at 176.

[234] See Villanueva Collao, *supra* note 20 (providing a case study of FTX).

[235] DGCL §144 (b).

[236] FRANKEL, *supra* note 208, at 108.

[237] Peña-Calvin et al., *supra* note 56.

[238] See Fliegler v. Lawrence, 361 A.2d 218 (Del. 1976) (establishing that in the approval of conflicted transactions by shareholders, interested shareholders' votes should not count). DGCL §144(a)(2).

2. Misappropriation of Assets

Cryptoasset holders often have limited insight into cryptopromoters' use of funds, raising suspicions of fund misuse and potential misappropriation, where cryptopromoters could exploit the cryptoenterprise for personal gain.[239] Cryptopromoters aim to show that on-chain governance (governance decisions taken entirely online) mitigates or eliminates opportunism.[240] On the contrary, cryptopromoters (and other insiders) have centralized control.[241] The primary reason for this centralized approach is the ability to make faster decisions.[242] These decisions include strategy and day-to-day operation and pertain to the governance of resources, including liquidity for the cryptoenterprise management and capital for long-term operations or solvency.[243] However, due to the structure of cryptoenterprises' governance, with no internal control mechanisms, most of the decisions occur off-chain or through a decision-making process that relies on endogenous activities of insiders to the organization, sometimes holding cryptoassets with governance rights in multiple pseudonymous accounts.[244] The system theoretically allows for real-time visualization of transactions, creating an expectation that no one would allegedly steal without being caught. Nonetheless, transactions are displayed as a string of alphanumeric codes.[245]

Due to these constraints, it is unsurprising that cryptopromoters might receive unauthorized benefits from the relationship with cryptoasset holders. These benefits could be extracted in different ways: during the ICO, after the ICO, when capital is allocated in treasuries, and when cryptopromoters

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[239] In DeFi, the theme of misappropriation often leads to the theme of theft or robbery of cryptoassets arising from external participants or attackers/hackers of the cryptoenterprise system. The global reach of cryptoenterprises raises issues concerning proprietary concepts, such as the material or immaterial nature of cryptoassets, specifically, whether they represent a proprietary interest or a credit relationship. Vincenzo Zeno-Zencovich, *Digital Euro as a Platform and Its Private Law Implications*, MEDIALAWS 1 (2023). There is limited interest in the diversion of funds effected by cryptopromoters post-ICO.

[240] Reijers et al., *supra* note 129.

[241] Feichtinger et al., *supra* note 180; Primavera De Filippi, *Blockchain Technology and Decentralized Governance: The Pitfalls of a Trustless Dream*, SSRN ELECTRON. J. (2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3524352; Peña-Calvin et al., *supra* note 15; Peña-Calvin et al., *supra* note 56.

[242] Alessandra Arcuri & Giuseppe Dari-Mattiacci, *Centralization versus decentralization as a risk-return trade-off*, 53 J. L. & ECON. 359–378 (2010).

[243] ALLEN, BERG, AND LANE, *supra* note 111, at 6.

[244] It is challenging to determine how much influence a single insider has through voting when votes are linked to addresses rather than individual persons, and a cryptopromoter can hold cryptoassets in multiple accounts. DE FILIPPI AND MCMULLEN, *supra* note 60.

[245] Etherscan, a blockchain explorer, allows monitoring of incoming and outgoing transactions of specific crypto assets in real-time. Etherscan, https://etherscan.io/.

establish a sub-project.[246]

During the ICO, cryptopromoters are capable of misappropriating assets by leaving the cryptoenterprise right after they have raised capital, similar to pump-and-dump and Ponzi schemes. Similarly, after the ICO and the establishment of treasuries, cryptopromoters might either inform cryptoasset holders that they have not reached the expected hard cap or merely issue more cryptoassets than initially planned, accept additional contributions, and retain the excess beyond the original cap.

Treasuries often face the issue of being materially overstated, leading investors to rely on misinformation about decentralized governance of treasury funds when they are governed centrally.[247] Similar to asset management funds, a single person or a small group is appointed to manage the earmarked cryptoassets. These operations frequently lack accountability, as cryptoasset holders (mainly retail or unsophisticated investors) are unaware of the role of the "treasury manager" and have no means of holding them accountable despite the technical sophistication and alleged audit trail of blockchain transactions.[248]

On some occasions, the cryptoenterprise establishes committees to administer proposals submitted by cryptoasset holders. However, these committees are appointed by cryptopromoters, and the process of selecting them and their operations is not particularly transparent. For example, the Uniswap Community Treasury was initially established to develop a legal defense fund[249] and was later repurposed for financial literacy through the "DeFi education fund."[250] Although publicly known individuals managed this fund, they had considerable discretion over it (despite being earmarked) without appropriate accountability or mechanisms for their collegial decisions or a way for investors to trace or remove committee members. This raised concerns about fund misuse since most funds were invested in

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[246] This self-dealing practice is labeled in the corporate scholarship as tunneling. Simon Johnson et al., *Tunneling*, 90 AM. ECON. REV. 22 (2000). Vladimir Atanasov, Bernard Black & Conrad S. Ciccotello, *Unbundling and Measuring Tunneling*, 2014 U. ILL. L. REV. 1697, 1701 (2014) (describing different types of tunneling, cash flow tunneling, asset tunneling, and equity tunneling).

[247] Schoonwinkel, *supra* note 200.

[248] David Yermack, *Corporate governance and blockchains*, 21 REV. FIN. 7–31 (2017).

[249] *See* Uniswap Proposal, *DeFi Governance Updates for May 2021: Funding a Political Defense of DeFi*, CONSENSYS, https://consensys.net/blog/blockchain-explained/defi-governance-updates-for-may-2021/ (stating "Should UNI governance allocate 1-1.5M UNI to fund a policy operation to defend the protocol and DeFi from legal and regulatory threats?"). The proposal passed with 64.49% of votes, representing 32M of UNI).

[250] ALLEN, BERG, AND LANE, *supra* note 111, at 14.

stablecoins rather than implementing financial literacy programs.[251] Besides not using them in the best interest of the cryptoenterprise, it has been argued that there is a connection between this type of misappropriation and money laundering, thus, an abuse of cryptopromoters position, exposing the cryptoenterprise to fraud charges.[252]

Lastly, cryptopromoters also resort to legal wrappers by incorporating sub-projects and allocating funds in treasuries held in offshore jurisdictions. Theoretically, incorporation through legal wrappers would at least confer visibility to those in charge of a branch.[253] However, legal wrappers are either self-serving to cryptopromoters by shielding them from the application of fiduciary duties and other types of accountability (specifically the lack of mandatory disclosures)[254] or are incorporated in jurisdictions of light regulatory touch, creating challenges to the applicable law.[255] Most of these legal wrappers are not necessarily a product of a joint decision-making process, as they would be, but arbitrary decisions of cryptopromoters for diverting those funds.[256] Cryptopromoters unilaterally incorporate entities and allocate funds to serve their own interests, thereby widening governance

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[251] Samuel Hag, *Concern as Unisawp-backed 'DeFi Education Fund' dumps $10M worth of UNI*, COINTELEGRAPH (Jul. 14, 2021), https://cointelegraph.com/news/concern-as-uniswap-backed-defi-education-fund-dumps-10m-worth-of-uni. ("On June 12, the fund tweeted that it was selling 500,000 UNI to Genesis Trading for 10.2 million USDC in an over-the-counter (OTC) trade […] without explanation […] despite hundreds of people asking them.").

[252] Wulf A. Kaal, *Digital Asset Market Evolution*, 46 J. CORP. L. 909, 933 (2021).

[253] However, the number of cryptoenterprises incorporated in jurisdictions that allow legal wrappers is relatively small compared to the overall number of cryptoenterprises. As of 2025, there are more than 50,000 aggregated governances, namely financial DAOs and their sub-DAOs (in this article, financial DAOs are cryptoenterprises and sub-cryptoenterprises to distinguish them from non-financial DAOs). See *DAOs & DeFi*, DeepDAO (Aug. 4, 2025), https://deepdao.io/daos_and_defi. Ernst & Young Global, *How to navigate tax and legal complexity associated with DAOs*, EY (Aug. 2, 2023), https://www.ey.com/en_gl/insights/tax/how-to-navigate-tax-and-legal-complexity-associated-with-daos. The number of cryptoenterprises (and their sub-entities) is still disproportionate compared to the jurisdictions allowing legal wrappers through the LLC model, indicating that the DAO LLC model remains a failed experiment. For instance, Wyoming, the first and most successful jurisdiction for legal wrappers in the US, had around 800 entities registered as of March 2023. Mark Harrington, *Best Country to Incorporate a DAO*, BUSINESS (April 11, 2023), https://korporatio.com/2023/04/11/best-country-to-incorporate-a-dao/.

[254] The US jurisdictions that allow legal wrappers in the DAO LLC form and the complete annulment of fiduciary duties contradict the recent reforms of one of the most flexible corporate statutes, the Delaware LLC statute, in which fiduciary duties are the default rule for alternative organizations. See DEL. CODE ANN. §18-1104.

[255] Brummer and Seira, *supra* note 115.

[256] *See* Villanueva Collao, *supra* note 20.

gaps in yet another critical area: the lack of transparency surrounding cryptopromoters' compensation.

3. Lack of Transparency in Cryptopromoters' Compensation

Directors' compensation has been an object of debate in the corporate literature, not only on how to compensate but also on who should establish their compensation.[257] According to statutory provisions, directors have the authority to decide on their compensation, provided there are no restrictions in corporate documents.[258] Investors in tech corporations have challenged directors' decisions due to the extraordinary amount set for their compensation.[259] Nevertheless, contract law and fiduciary standards have reduced the potential for self-dealing transactions through disclosures, the establishment of compensation committees, and the approval of disinterested directors to ensure their fairness.[260]

Cryptopromoters, with access to the cryptoenterprise's resources, may use their positions to initiate numerous grant proposals that primarily benefit themselves or a small circle of closely associated individuals. These grants are often used to attend events or for marketing purposes, but mostly to compensate cryptopromoters.[261] Due to the code culture, cryptopromoters often exclude small cryptoasset holders from decision-making, driven by overconfidence biases that lead them to believe their expertise and knowledge surpass that of the broader group of investors.[262] Undoubtedly,

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[257] David Yermack, *Remuneration, Retention, and Reputation*, LIX J. FINANCE 2281–2308 (2004).; LUCIAN A. BEBCHUK, JESSE FRIED, PAY WITHOUT PERFORMANCE: THE UNFULFILLED PROMISE OF EXECUTIVE COMPENSATION (2004); Lucian A. Bebchuk, Yaniv Grinstein & Urs Peyer, *Lucky CEOs and Lucky Directors*, 65 J. FIN. 2363–2401 (2010); Kathleen A. Farrell, Geoffrey C. Friesen & Philip L. Hersch, *How do firms adjust director compensation?*, 14 J. CORP. FIN. 153–162 (2008).

[258] DGCL §141 (h); MODEL BUS. CORP. ACT. §8.11.

[259] Espinoza ex rel. Facebook, Inc. v. Zuckerberg, 124 A.3d 47 (Del. 2015).

[260] Provided that disinterested directors have approved directors' compensation, it shifts the burden of proof to the plaintiff in proving waste. Zupnick v. Goizueta, 698 A.2d 384 (Del. 1997). Meeting the threshold for the theory of waste is challenging, as it does not require instances of self-dealing, fraud, or negligence of directors' duties, but instead applies in cases where disinterested directors approve transactions without justifying the compensation value. In re Walt Disney Co. Derivative Litigation, 906 A.2d 27 (Del. 2006).

[261] See Richard Red, *Observations of the Dash Treasury DAO*, MEDIUM (May 17, 2018), https://richardred.medium.com/observations-of-the-dash-treasury-dao-c94231b2b5c4.

[262] Thomas S. Ulen & Russell B. Korobin, *Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics*, 88 CAL. L. REV. 1051, 1091 (2000). Cryptopromoters often see themselves as more capable than board experts or venture capital advisors, viewing their ability to raise funds through ICOs or IEOs—without network ties or intermediaries—as proof of superior skill. Empirical research suggests that their success

cryptopromoters compensation is a conflicted transaction; their compensation is not subject to vote or to a contractual agreement with cryptoasset holders. Cryptoasset holders lack access to a bargaining process, where the issuance of cryptoassets and encoded rules would ideally form a contractual agreement between them and cryptopromoters. In this setup, cryptoasset holders might accept limited prerogatives and protections while cryptopromoters and insiders secure limited compensation, minimal oversight, and extensive control over the cryptoenterprise. Nevertheless, in DeFi, coded rules and smart contracts are not well-suited to offer robust contractual protections.

The lack of transparency around cryptopromoters' compensation is closely linked to the processes used to determine how their value is tied to their performance. Cryptoasset holders lack effective mechanisms to monitor cryptopromoters' performance. Small cryptoassetholders, in particular, face challenges in evaluating cryptopromoters' use of treasury funds to drive innovation, meet the goals voted upon, ensure technology quality, and assess the competencies of developers and fund managers within the organization.[263] Cryptopromoters' justification for compensation resides not only in technical coding skills but also in business or entrepreneurial skills and legal knowledge that firms need. Such skills are often lacking, making their compensation hard to justify.[264]

Federal regulations have stepped in to improve transparency in directors' compensation through non-financial disclosures, such as those imposed by the Dodd-Frank Act.[265] In particular, disclosures filed before the annual shareholder meetings (or proxy statements). These disclosures allow shareholders to make informed voting decisions on board matters, including

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might stem from other factors, not personal talent alone. Additionally, the time and resources cryptopromoters invest in building a community, often seen as "bonding costs" or agent competence costs, can reduce accountability by fueling overconfidence. *Id*. To the best of my knowledge, there are no studies testing the overconfidence of cryptopromoters connected to the ICO or cryptoassets sales success.

[263] This uncertainty is common in early-stage ventures. Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the American Experience*, 55 STAN. L. REV. 1067, 1076 (2003) (analyzing how uncertainty is reflected in every step of the capital formation of startups).

[264] In the rare cases in which a claim for waste was established, the courts elaborated on a series of standards to assess fairness, such as whether there were ISR deductions, the value of the compensation compared to other employees, the capacity/skills, the salary's history, and its reasonableness with respect to the corporation's goals. Wilderman v. Wilderman, 315 A.2d 610 (Del. Ch. 1974).

[265] The Dodd-Frank Wall Street Reform and Consumer Protection Act, § 1502, Pub. L. No. 111-203, 124 Stat. 1376, at 2213–18.

executive compensation issues.[266] Issuers must disclose the link between compensation and the issuer's performance,[267] the disparity between CEO and average employee compensation,[268] and whether employees or directors are permitted to purchase financial instruments or engage in transactions to hedge or offset, or that are designed to hedge or offset, any decrease in the value of equity securities granted as compensation or held directly or indirectly by them.[269] Cryptoenterprises do not disclose key information such as bonuses, cryptoassets tied to weighted votes, or other voting rights privileges, preventing holders from making informed voting decisions. Although management removal proposals could be made, cryptopromoters are rarely replaceable, leading to the deliberate concealment of such details.

In conclusion, the structure of cryptoenterprises and the inherent conflicts between cryptopromoters and investors pose significant challenges. The technological architecture of blockchain, while innovative, introduces complexities that make effective governance and oversight difficult. External corporate governance mechanisms, such as gatekeepers, can help address these issues, which is crucial for the sustainable growth and integrity of the DeFi sector.

II. PART II. CRYPTOGATEKEEPERS AS A RESPONSE TO CRYPTOENTERPRISES' CONFLICTS. BEST PRACTICES

Gatekeepers play an essential role in promoting transparency and accountability in financial markets.[270] Auditors are often the first gatekeepers to come to mind. Acting as reputational renters for their clients, auditors enhance trust by monitoring corporations' internal controls and certifying information. While auditors face challenges such as industry concentration, mergers, and regulatory dynamics, their presence remains crucial to maintaining high standards.[271]

However, auditors are not solely responsible for providing the much-needed external corporate governance. Alongside auditors, underwriters, lawyers, and other figures with similar gatekeeping attributes have emerged

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[266] *Id.* at §953, "Executive Compensation Disclosures".

[267] Pay Versus Performance. *Id.* at §953(a).

[268] Ratio Employees and CEO. *Id.* at §953(b).

[269] Employee and Director Hedging. *Id.* at §955, amending Section 14 of the Exchange Act '34 (codified at 15 U.S.C. 78n).

[270] Coffee Jr, *supra* note 11; Steven Toms, *Financial scandals: a historical overview*, 49 ACCOUNT. BUS. RES. 477–499 (2019).

[271] COFFEE, *supra* note 10, at 158.

to verify and certify information and mediate transactions.[272] Eventually, this public function has served to protect dispersed investors by addressing information asymmetries, reducing risks, and enhancing market efficiency. Somehow, the disintermediation trend has had the effect of eradicating this function.[273] This is precisely where the concept of cryptogatekeepers (whether cryptointermediaries that conduct due diligence, cryptoauditors who certify code and financial practices, or exchanges that impose disclosure requirements) could serve as decentralized but effective mechanisms to restore investor protection, mitigate conflicts, and enhance market integrity.

This section explores essential considerations for governing decentralized finance (DeFi). These policies aim to mitigate conflicts of interest and information asymmetries within the cryptoenterprise, focusing on policies that cryptointermediaries can implement, considering them cryptogatekeepers of DeFi. Several nuances are considered, including whether these should be voluntary or mandatory and how these might be implemented through cryptointermediaries.

The term best practices is widely used, particularly by international organizations, often without a clear definition. From a regulatory perspective, best practices are ineffective since their compliance hardly curbs wrongdoing.[274] In addition, best practices are often deemed copycat or formalistic reproductions of the industry's common practices or settled standards[275] rather than empirically validated practices.[276] However, the DeFi environment is still in its infancy and has hardly reached the point of having

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[272] Joan MacLeod Heminway, *The New Intermediary on the Block: Funding Portals under the CROWDFUND Act*, 13 UC DAVIS BUS. L. J. 177–205 (2013).

[273] The SEC has increasingly faced challenges in ensuring that emerging companies provide an appropriate substitute for the traditional uncertainty-reducing function of underwriters, beyond crypto. Park, *supra* note 198.

[274] Asaf Eckstein & Roy Shapira, *Compliance Gatekeepers*, 41 YALE J. REGUL. 469, 489 (2024) (establishing that corporate compliance gatekeepers are ineffective due to a lack of accountability, as they tend to acquiesce to their clients by relying on so-called industry "common" practices, which are not necessarily sound, effective, or best practices).

[275] See William R. Heaston, *Copycat Compliance and the Ironies of Best Practice*, 24 U. PENNSYLVANIA J. BUS. L. 750 (2022).

[276] See Steven Van Uytsel, *The International Competition Network, Its Leniency Best Practice and Legitimacy: An argument for Introducing a Review System*, in NETWORKED GOVERNANCE, TRANSNATIONAL BUSINESS AND THE LAW, 185 (Mark Fenwick, Steven Van Uytsel, & Stefan Wrbka eds., 2014) (examining the role of transnational regulatory networks, such as the International Competition Network (ICN) and advocating for mechanisms to periodically review and evaluate the effectiveness of their best practices, as experience and data might change); also see Mathias M. Siems & Oscar Alvarez-Macotela, *The OECD Principles of Corporate Governance in Emerging Markets: A Successful Example of Networked Governance?*, in the same volume.

shared industry standards that foster accountability, transparency, and ethical conduct.

Consequently, the practices offered here are not a collection of consolidated industry practices. On the contrary, they might serve as a foundational framework for future regulatory compliance, risk assessment, and mitigation while safeguarding the integrity of markets and the reputation of valuable projects in DeFi. In addition, these best practices suggest how policymakers can tailor future compliance programs, adapting them to organizational culture and context, and less mimicking industry norms.[277]

The following should be encouraged:

Information and Disclosures

- Disclosure of the cryptoenterprise structure and business model
- Disclosure of risks in cryptoenterprises
- Review & availability of cryptoenterprises' financial and risk management information
- Standardized reporting of audit results
- The use of digital identities (DIDs)

Oversight of Cryptointermediaries

- Monitoring of cryptointermediaries through a registry
- Mutual recognition of licensed cryptointermediaries

A. *Information and Disclosures*

Information-forcing mechanisms are available in securities transactions to reduce conflicts and prevent fraud. These disclosures make shareholders aware of management and board operations, thereby allowing shareholders to initiate lawsuits for breach of fiduciary duties. They also draw the line between public and non-public information and put emphasis on transactions by corporate insiders for personal benefits or insider trading.[278] Thus, this advantage in timing for trading can be contrasted by either corporate insiders

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[277] Eckstein and Shapira, *supra* note 274.

[278] A doctrine developed around a series of federal statutory provisions and a line of cases that prohibits corporate directors and officers from trading on the basis of non-public information (narrow or classic theory). Section 10(b) of the Exchange Act '34 (codified at 15 U.S.C. § 78j(b)) and Rules 10b-5, 10b5-1, and 10b5-2.

disclosing that information or abstaining from trading.[279]

The conventional approach to ensuring information dissemination relies on mandatory disclosures. Mandatory disclosures play a crucial role in capital markets because information has the characteristics of a public good, which in securities is often underprovided due to high search costs and the limitations of voluntary disclosure.[280] It further enhances allocative efficiency by providing technical data to securities analysts and professionals.[281] By collectivizing information production, mandatory disclosure reduces social waste from investors' pursuit of trading gains and mitigates agency problems.[282] Nevertheless, the effect of disclosures can vary in scope and content. For example, investors tend to disregard corporate disclosures, notwithstanding the plain language used to release financial information, because the costs of obtaining and digesting that information remain high.[283]

In the US, reporting mechanisms for public companies follow a series of rules and statutory provisions establishing a system of periodic disclosures[284] to allow investors, intermediaries, and sometimes the press (and analysts) to obtain information on issues regarding the organization.[285] Through

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[279] Joan Macleod Heminway & Adam J. Sulkowski, *Blockchains, Corporate Governance, and the Lawyer's Role*, 65 WAYNE L. REV. 17 (2019). (citing Chiarella v. United States, 445 U.S. 222, 226–30 (1980) and Dirks v. SEC, 463 U.S. 646, 659 (1983)).

[280] John C Coffee, *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717, 722, 738 (1984) (analyzing from a law and economics perspective that the theory of self-induced voluntary disclosures has limitations, as management has incentives to withhold adverse information and that a system of mandatory disclosures can address these costs).

[281] Andrew A Schwartz, *Mandatory Disclosure in Primary Markets*, 2019 UTAH L. REV. 1069 (2019).

[282] There are key ways in which mandatory disclosure rules serve the investor protection goal, such as deterring fraud by requiring companies to provide accurate information, equalizing access to information by preventing investors from gaining an unfair advantage over others having access to private information, restoring investor confidence by preventing others to withdraw their investments in fear of exploitation and reducing costs for retail investors to acquire and verify relevant companies and securities information. Frank H. Easterbrook & Daniel R. Fischel, *Mandatory Disclosure and the Protection of Investors*, 70 VA. L. REV. 669 (1984).

[283] Omri Ben-Shahar & Carl E. Schneidern, *The Failure of Mandated Disclosure*, 159 U. PA. L. REV. 647–749 (2011).

[284] Firms that have publicly offered or traded stock must comply with a series of filings, transactional (quarterly and annual) reports, proxy, going-private, and tender offer statements. Section 13(a) of the Exchange Act '34 (codified at 15 U.S.C. § 78m(a)) or Section 15(d) of the Exchange Act '34 (codified at 15 U.S.C. § 78o(d)).

[285] Regulation FD includes information that must be disclosed when conveyed to securities market professionals, such as broker-dealers, and analysts. See 17 C.F.R. §

legislation, reporting mechanisms create a duty to disclose corporate information[286] on specific actors[287] to enhance internal controls and prevent securities fraud.[288]

Public companies are subject to regulations that require attestations from management (officers) that financial statements (annual and quarterly reports) have gone through adequate audit systems.[289] This reporting system is designed to strengthen internal controls regarding disclosures that continue after the going public process.

Corporate law has developed mandatory disclosure systems to address conflicts, a concept that the cryptocommunity has effectively revived. Cryptoenterprises often avoid regulatory oversight by not adhering to registration requirements for selling securities or making the associated disclosures, such as the nature of cryptoassets, the rights incorporated, the issuer's business model, or the identities of cryptopromoters.[290] This reluctance stems from various reasons, including the cryptocommunity's distrust of government, the desire to avoid the costs and complexities of compliance, and the aim to prevent cryptoassets from being classified as securities, which would necessitate navigating an intricate legal framework requiring specialized legal expertise.[291]

Unlike corporations, cryptoenterprises do not disclose whether they have effective internal controls or processes for financial oversight. They typically perform only technical audits, mostly conducted ex-ante during an ICO/IEO,[292] while cryptoauditors rarely offer financial audits or detailed reports about the structure, procedures, or internal governance mechanisms

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243.100(b)(1).

[286] See section 16(a) of the Exchange Act '34 (codified at 15 U.S.C. §78p(a)); Rule 13d-1 of the Exchange Act '34 (codified at 17 C.F.R. §240.13d-101).

[287] Such as directors, officers, and principal stockholders detaining at least ten percent of any class of equity and beneficial owners of five percent of equity security.

[288] Section 10(b) of the Exchange Act '34 (codified at 15 U.S.C. § 78j(b)); Rule 10b-5 of the Exchange Act '34 (codified at 17 C.F.R. § 240.10b-5).

[289] These additional disclosures related to auditing and financial regulations for public companies were introduced by the Sarbanes-Oxley Act of 2002. Pub. L. No. 107-204, 116 Stat. 745 (codified as amended at 15 U.S.C. §§ 7201-7266), at §7262.

[290] Such as periodical and other reports. Section 13(a) of the Exchange Act '34 (codified at 15 U.S.C. § 78m(a)).

[291] Macleod Heminway and Sulkowski, *supra* note 279.

[292] Although it is unclear whether cryptopromoters follow the recommendations of professional audits or accurately follow suggestions from the crowd of coders during the bounty hunt. *See* Villanueva Collao, *supra* note 20.

beyond limited tokenomics advice and occasional proof of reserves audits.[293]

Cryptoenteprises could use emerging growth companies' exemptions for their ICOs or IEOs, yet they often choose not to take advantage of the most entrepreneur-friendly regulations. Since 2012, reporting companies' executive compensation disclosures have been relaxed for emerging growth companies or issuers with less than $1 billion in annual gross revenues in the most recently completed fiscal year through the JOBS Act, wherein many companies satisfying their requirements are exempted.[294] The rationale of this regulation is to reduce the burden for companies going public,[295] but it remains unclear whether cryptoenteprises will fall under the JOBS Act's provisions.[296] Additionally, the ICO mechanism does not enable an assessment of whether cryptoenterprises genuinely need relief from these fixed costs, since revenues do not follow standardized reporting.[297] Yet information-forcing mechanisms are even more essential in this context, where the high risk of investor fraud is compounded by the costs tied to assessing agent competence. Moreover, unlike established companies, cryptopromoters lack extensive analyst coverage. Information about ICOs is sparse and often hidden within community online forums, sometimes with restricted access.

Although DeFi relies on visible transactions and voluntary disclosures

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[293] In DeFi, cryptopromoters sometimes seek advice on tokenomic design to structure their capital formation and to have better outcomes in the long term. Cryptoenterprises rely mostly on cryptopromoters desires and expectations of growth and, in the best scenario, on the community of holders of governance tokens to make decisions for future growth. However, this form of liquid or democratic governance is consistently disregarded. Sam Kessler, *Contentious Uniswap Vote Highlights the Opaqueness of Decentralized Governance*, COINDESK:TECHNOLOGY (Feb. 8, 2023), https://www.coindesk.com/tech/2023/02/08/contentious-uniswap-vote-highlights-the-opaqueness-of-decentralized-governance/.

[294] Jumpstart Our Business Startups Act, Pub. L. 112-06, 126 Stat. 306

[295] Particularly, this regulation aims to ease disclosures after market capitalization on smaller companies.

[296] Determining whether they meet the $1 billion revenue criterion is difficult due to the absence of orderly accounting procedures, with most of their funds commingled in treasuries, making an accurate revenue assessment challenging. However, segregation of assets would be possible in permissioned structures. Federico Panisi, Ross P Buckley & Douglas Arner, *Blockchain and Public Companies: A Revolution in Share Ownership Transparency, Proxy Voting and Corporate Governance?*, 2.2 STAN. J. BLOCKCHAIN L. POL'Y 189–220 (2019).

[297] Most of the ICOs provide a capital infusion in the millions, with EOS.IO being one of the most successful ICOs, with $4 billion raised for unregistered securities. See SEC, Press Release N.2019-202, SEC Orders Blockchain Company to Pay $24 Million Penalty for Unregistered ICO, Sept. 30, 2019, https://www.sec.gov/newsroom/press-releases/2019-202.

like white papers or source code to build community trust.[298] These mechanisms serve different purposes from the mandatory disclosures in regulated capital markets.[299] Rather than addressing conflicts or enhancing transparency in line with securities regulations, disclosures primarily aim to attract participants, instill trust, and promote the cryptoenterprise.[300]

Even when transactions are visible to cryptoasset holders, they are not accessible, and information asymmetries persist, as simply decrypting data often fails to clarify the significance or scope of what is disclosed. DeFi's technological architecture, which makes transactions visible yet detached from identifiable individuals, lacks meaningful antifraud disclosures. Without reporting systems or on-chain transaction monitoring, investors cannot grasp the purpose or significance of cryptoasset transfers. Only insiders with the key for multi-signature wallets can access treasuries and use the funds for the most convenient purposes, siphoning resources. For example, constant online monitoring of activity/transactions cannot help identify cryptopromoters' suspicious trades. These transactions will likely be buried across the pile of multiple transactions in an online/on-chain monitoring system.[301]

The failure of the purported on-chain audit trail system offered by blockchain lies in the limited information accessible to participants who are not directly involved in the transaction. The public information is encrypted, revealing only a string of code and the addresses of the individuals involved. Currently, despite its potential, no cryptoenterprises have implemented a system of continuous or even periodic disclosures via blockchain as advertised.

This lack of information-forcing allows several key facts to be kept

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[298] Yermack, *supra* note 248, at 24. ("Anyone could aggregate the firm's transactions into the form of an income statement and balance sheet at any time, and they would no longer need to rely on quarterly financial statements prepared by the firm and its auditors.")

[299] Macleod Heminway and Sulkowski, *supra* note 279.

[300] Often, cryptoasset holders learn about it through unofficial sources such as online forums. Magnus Schückes & Tobias Gutmann, *Why do startups pursue initial coin offerings (ICOs)? The role of economic drivers and social identity on funding choice*, SMALL BUS. ECON. 2 (2020). (describing that one factor driving the pursuit of ICOs is the ability of cryptoenterprises to foster community-building and a more collective approach to entrepreneurship). Chod and Lyandres, *supra* note 100.

[301] Suspicious transactions are trades connected to the sale of securities requiring disclosure filings with the SEC occurring within 90 days and for 5,000 shares or when their value does not exceed $50,000. 17 C.F.R. §239.144. Moreover, the complications regarding identifying cryptoenterprises jurisdiction can also reduce the scope of disclosures, particularly Regulation FD, from which foreign issuers are exempt.

hidden from the public and or cryptoasset holders. The code does not reveal ownership in the cryptoenterprise, management of the cryptoenterprise, and cryptopromoters' identities and their compensation. Cryptopromoters often rely on pseudonymity to obscure performance metrics, such as reputation, that would otherwise attest to their quality of work.[302] Information asymmetries extend to the progress of R&D, the reporting of profits, and the transparency of selection procedures for third-party contractors engaged in various services.

The absence of strong rules or mechanisms that require cryptoenterprises to disclose important details is especially pronounced in advanced-stage cryptoenterprises using legal wrappers, which often minimize disclosures. DAO LLCs, offshore foundations, and trust models restrict access to essential information, whether by eliminating fiduciary duties, as with DAO LLCs, or by limiting beneficiaries' rights to information in offshore setups.[303]

The above account shows how the current mandatory disclosures are ineffective in DeFi. In these scenarios, the lack of transparency is even more pronounced than in traditional business structures and startups since no information-forcing rules are embedded into the technology.[304] Although some voluntary disclosures are made, cryptopromoters exploit the information-forcing gap in DeFi to avoid oversight from cryptoasset holders, resulting in no ex-ante or ex-post verification of information. The outcomes of limited or no financial information impact cryptoenterprises' value and

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[302] DeFi and their hostility towards intermediaries uncovered the inefficiencies of high-profile financial intermediaries that rent their reputation to corporations, signaling a wrong message about the state of the firms they served to shareholders. This wrong signaling lowered investors' guard and reduced their research for market information by relying on intermediaries' reputations. Stephen Choi & Jill E Fisch, *How to Fix Wall Street: A Voucher Financing Proposal for Securities Intermediaries*, 113 YALE L. J. 269 (2003). Nevertheless, concealing information about the cryptopromoter's performance ultimately leads to the same outcomes as those in a traditional intermediated system.

[303] See VT. STAT. ANN. Tit. 11§4173 (2018); WYO. STAT. § 17-31-101 (2021); TENN. CODE. ANN. §§48-250-11-118 (2022); UTAH CODE ANN. § 48-5-101 (2023). See also Brummer and Seira, *supra* note 115. Offshore trusts, particularly in the Cayman Islands, Guernsey, and foundations in Switzerland and Liechtenstein, often override beneficiaries' rights to information and, sometimes, the duty to account. This is done by substituting beneficiaries with guardians and enforcers, typically nominated by trustees appointed by cryptopromoters. For an analysis of legal wrappers and the jurisdictions employed by financial (cryptoenterprises) and non-financial DAOs see Vanessa Villanueva Collao, *Decentralized (?), But Far From Disorganized: A Comparative Analysis of Legal Wrappers and the Evolving Structure of DAOs*, SSRN ELECTRON. J. (2025), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5143035#.

[304] The information gap is further widened by the fact that cryptoasset holders have neither board representation nor access to management documents.

performance while encouraging insiders' opportunism.[305]

This overview of the failed accomplishment of mandatory disclosures points to the difficulties of a system that is unable to accommodate alternative governance structures and technological innovation. The proposed disclosures consider an approach that differs from the current regulatory system and adapts to these new structures by focusing on cryptointermediaries as the main vehicle for disclosures in DeFi, facilitating the flow of cryptoenterprise information.

1. Disclosure of the Cryptoenterprise Structure and Business Model

Clearly outlining the organizational hierarchy and business model helps mitigate pseudonymity. These disclosures would effectively function through cryptointermediaries, such as cryptoexchanges and wallet providers. A system of disclosures would greatly benefit cryptoasset holders, particularly the information listed in this section.

Business model – This type of disclosure regards information about the technology used. In other words, the description of the L1 blockchain system and native cryptocurrency upon which cryptopromoters will develop their projects, the DeFi layer in which they aim to operate (L3 protocol, L4 application, L5 aggregator), and the level of automation within their system. This automation is connected to the governance of the cryptoenterprise, whether there are intermediated platforms used for development and implementation. In this regard, the developmental phase would require particular skills to maintain and grow a cryptoenterprise, which would vary by timing and expertise. For this reason, specifications on whether the cryptoenterprise has been built from scratch or through a platform service are important to understand, for instance, the exit options cryptoasset holders might have (such as rage quitting). If a platform service was used, the specific type should be disclosed, as service offerings can vary, especially in terms of available voting system implementations.[306] This type of information would

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[305] The lack of non-financial disclosures, such as those required by the Dodd-Frank Act, prevents cryptoasset holders from making informed decisions on executive compensation and board matters. Unlike traditional issuers, cryptoenterprises do not reveal key information like bonuses, options, or voting rights, deliberately concealing details that could influence management decisions. *See supra* Part I.C.3. Lack of Transparency in Cryptopromoters' Compensation.

[306] Youssef Faqir-Rhazoui, Javier Arroyo & Samer Hassan, *A comparative analysis of the platforms for decentralized autonomous organizations in the Ethereum blockchain*, 12 J. INTERNET SERV. APPL. (2021).

benefit from mandatory disclosures.

Capital structure – This element should include the method for raising capital (ICO or IEO), which is not a trivial distinction since the cryptointermediary changes depending on which type of low-cost method is used. When cryptopromoters raise capital through ICOs, wallet providers serve as a more suitable cryptointermediary, whereas for IEOs, cryptoexchanges are the preferred choice. Disclosures are also related to the supply of cryptoassets, those that have been burned or removed from circulation, and those pre-mined or allocated as a reward. Moreover, since unilateral code variations and inclusions of classes of rights appear after the ICO, it would be necessary to inform about these variations by comparing the source code before the ICO and after the ICO, to confirm that new classes of investors (cryptoasset holders) have not been added. This type of information is particularly sensitive to conflict-related issues and, therefore, should be mandatory.

Governance – Involves disclosing the type of voting system adopted, if any, along with the allocation of rights. Each option should be briefly described, even if multiple voting systems are under consideration but not yet finalized. Classes of rights should be described along with the specific rights assigned to each class. It should also be mentioned whether these rights have been implemented in the code and thus are vested, or merely mentioned on the website or white paper. Similarly, if the code is only referenced initially and implemented later, the implementation date should be disclosed. These disclosures should remain voluntary, reflecting the evolving nature of cryptoenterprises and their limited access to expert support in early stages, since exposing their flaws to an expert eye may have counterproductive effects.[307]

Team and hierarchy – Team information should establish the different roles within the organization, whether some are cryptopromoters, catalysts, developers, or other insiders, together with a brief description of their roles and biographies. In the case of cryptopromoters and catalysts, the indications should also consider the timeline for their eventual departure from the

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[307] In the early stages of a cryptoenterprise, governance remains fluid and varies based on factors such as the amount of funds raised, the number of participants, the distribution of cryptoassets in treasuries, and the development of subprojects. This complexity can be overwhelming and ineffective for small cryptoasset holders. Empirical studies on consumer behavior and disclosures suggest that individuals often disregard multiple warnings, especially in areas they do not fully understand. Joshua Mitts, *How Much Mandatory Disclosure is Effective?*, SSRN ELECTRON. J. (2014), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2404526.

organization. This timeline should be described as a suggested departure, showing they might continue fulfilling their role. Any variation of the cryptoenterprise hierarchy should be communicated to the cryptointermediary and should be mandatory.

Subprojects – Since cryptoenterprises might choose to develop subprojects after raising capital, it would be helpful to have information about the incorporation of these subprojects through legal wrappers. The information should include the jurisdiction, the amount destined for a subtreasury, the description of the subproject, and the designated person running the subproject. These disclosures should be mandatory.

One effective approach is for cryptoexchanges to require cryptoenterprises to disclose business information as a condition for listing. Most of these elements are voluntarily delivered through different means (such as websites and white papers), albeit in scattered form. However, other aspects, such as governance, are not included. All this information could be inserted and disclosed by code. However, even if code disclosure is a standard practice, it exposes the cryptoenterprise to security risks as it might contain proprietary software information. Instead, cryptoexchanges should receive the information (either encoded or in plain language) and deliver it to cryptoasset holders in plain language posted on their websites.

When cryptopromoters have instead raised capital through an ICO, then the cryptointermediary should be a wallet provider.[308] These software applications allow users to securely store, manage, and make transactions with their cryptoassets and fiat (digital) assets.[309] The wallet provider should consider these disclosures to ascertain the reliability and trustworthiness of cryptopromoters, to avoid pump-and-dump schemes.

2. Disclosure of Risks in Cryptoenterprises

Disclosure of risks involves a preliminary risk assessment of crucial

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[308] Wallets differ in terms of the cryptoassets they support, key management to access their platforms, transaction capabilities, and recovery methods. Saurabh Suratkar, Mahesh Shirole & Sunil Bhirud, *Cryptocurrency Wallet: A Review*, *in* 4TH INTERNATIONAL CONFERENCE ON COMPUTER, COMMUNICATION AND SIGNAL PROCESSING, ICCCSP 2020 (2020).

[309] Although multiple wallets serve only specific types of technologies (and thus are available to only some cryptoenterprises and not others), there could be space for developing a universal wallet with greater interoperability. Kim Peiter Jørgensen & Roman Beck, *Universal Wallets*, 64 BUS. INF. SYST. ENG. 115–125 (2022), https://doi.org/10.1007/s12599-021-00736-6.

aspects associated with cryptoenterprises operations. Ongoing risk assessments help cryptoenterprises adapt to changing market conditions and emerging threats. The following risks should be disclosed:

Code and Security Risks – These disclosures imply awareness of both code issues affecting the organization and the potential threats from outsiders. Disclosures of this type should be mandatory because they connect code vulnerabilities, such as bugs or loopholes, to financial losses and, if available, how these issues are corrected. These disclosures should indicate whether the coding was performed or not performed according to coding practices, whether they have disclosed it (or exposed the code in open-source repositories), and the security measures taken to avoid external attackers.

Automation Risks – These disclosures concern the potential risks associated with automation trading and automation of the cryptoenterprise. Disclosures should particularly address the types of automation systems used in cryptoexchanges where cryptoassets are listed. Each type of automated trading system—such as High-Frequency Trading (HFT) or Automatic Market Maker (AMM) models—should be linked to specific technical vulnerabilities, including risks like flash crashes, frontrunning, and backrunning, namely when there is an unfair technological advantage by certain actors holding this technology (and whether is allowed by the cryptoenterprise). Additionally, while rare, disclosures should include information on the level of automation of cryptoenterprises, where the technological infrastructure is located, and identify any individuals who maintain ultimate control over the enterprise prior to full automation.[310] This information, due to its relevance to the project's success, should be mandatorily disclosed.

Legal risks – Disclosure of these risks involves whether cryptoenterprises have sought qualified support from legal experts who can understand the project and meet the community's needs while providing legal advice for compliance with transnational regulation.[311] Whenever cryptoenterprises have not searched for legal assistance, or this information is unavailable, it should be stated that the project is exposed to litigation and enforcement from regulatory authorities. This information should be made publicly available on

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[310] RAPHAEL AUER ET AL., *The Technology of Decentralized Finance (DeFi)*, BIS WORKING PAPER 24 (2023), https://www.bis.org/publ/work1066.htm. (explaining that technology and economic complexity make the interpretation, evaluation, and risk assessment of financial products in DeFi increasingly difficult).

[311] For example, assistance about the best jurisdiction in which cryptoenterprises should incorporate their sub-projects/sub-treasuries. See Villanueva Collao, *supra* note 303, at 18.

a voluntary basis.[312]

Financial Risks – These disclosures involve systemic risks arising from the interdependence of protocols, where interconnected systems amplify vulnerabilities across DeFi. Disclosing the type of product or service connected to a cryptoasset and the cryptoasset characteristics would allow other cryptointermediaries to interpret their volatility risks and exposure.[313] The disclosures should consider the number of treasuries, the system for measuring the value of cryptoassets in treasuries, whether there has been an over-collateralization of the cryptoassets held in treasuries, and any liquidity or solvency issues.[314] This information should be mandatorily disclosed.

Cryptointermediaries capable of accessing and disclosing this information on their websites are cryptoexchanges and cryptoauditors.[315] Through their services and platforms, they have prime access to this essential information. Consequently, they are well-suited to identify and assess the relevance of these risks. Even when risks are recognized, they can vary in degree and type—not all automation risks are problematic, only those that exceed a certain threshold. In this context, cryptointermediaries could play a key role in developing shared standards for risk assessment.

3.   Review and Availability of Financial and Risk Management Information

Reviewing or auditing financial and risk management information is crucial in DeFi, as it helps identify and monitor risks, compensates for the lack of internal oversight within cryptoenterprises, mitigates operational and security   vulnerabilities,   and   ultimately   enhances   transparency,

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[312] Cryptoenterprises rarely seek advice from seasoned business or legal experts, whom they often distrust, partly because such guidance could introduce greater oversight and reduce their incentives to adopt these services. Legal experts might also find it difficult to recycle and apply this knowledge to another cryptoenterprise.

[313] Comm'r Caroline A. Crenshaw, Statement of DeFi Risks, Regulations, and Opportunities, Nov. 9, 2021, SEC:SPEECHES & STATEMENTS, https://www.sec.gov/newsroom/speeches-statements/crenshaw-defi-20211109. (stating that manipulation in DeFi leaves retail investors vulnerable without access to professional financial advisors or other intermediaries that provide fraud reduction and risk assessment in traditional finance).

[314] FINANCIAL STABILITY OVERSIGHT COUNCIL (FSOC), *Report on Digital Assets Financial Stability Risks and Regulation* 65 (2022) (stating that there is little information about how price manipulation occurs and that DeFi activities may not provide recourse other than the cryptoasset itself).

[315] For the role of cryptoexchanges and cryptoauditors see Villanueva Collao, *supra* note 20.

accountability, and investor protection.[316] Providing these data through auditing practices will be crucial for long-term sustainability, improve security, build participant trust in the DeFi ecosystem, and align more effectively with regulatory standards. Thus, these reviews should be mandatory.

Disclosure of the following audits should be encouraged:

Financial Audits – Regular financial audits help maintain financial integrity and reassure users of a cryptoenterprise's financial health. A particularly important audit concerns tokenomics design or the economics of cryptoassets issued. This review provides information about capital formation, the parameters used to raise capital, and whether there has been a proof-of-concept of the project, allowing cryptointermediaries to determine a more accurate value of the future cryptoasset distributed. Disclosures should also include information about the availability of proof-of-reserves or non-standardized procedures for public verification of solvency, liabilities, ownership of accounts (whether these accounts are held on a cryptoexchange or hot wallet), and segregation of assets or steps taken for the segregation of assets.[317]

Code Audits – Conducting codebase audits ensures the underlying technology's robustness and security as challenges arise in the later stages of the cryptoenterprise lifecycle, particularly the costs of maintaining system security and integrity and managing growth.[318] Disclosures of code formal verification/mathematical verification should include a report with a systematic collection of instructions for evading bugs and errors, whether errors remain, and their feasibility in terms of costs to be improved. Furthermore, it should be disclosed whether the audit/review was performed before the smart contract was deployed on the blockchain. This review should include the methods for code auditing, whether they were performed through crowdsourcing or a cryptoauditor (or a combination of both).[319]

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[316] Laura Grassi et al., *Do we still need financial intermediation? The case of decentralized finance – DeFi*, 19 QUAL. RES. ACCOUNT. MGMT. 323, 327 (2022). (discussing the lack of traditional intermediaries raises concerns about the rigidity, inflexibility, and accountability of these systems).

[317] In this regard, technological solutions for cryptoenterprises could be more effectively tailored to their specific needs. Kara Bruce, Christopher K Odinet & Andrea Tosato, *Bankrupt   Crypto   Organizations*,   SSRN   ELECTRON.   J.   1–61   (2025), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5115277.

[318] El Faqir, Arroyo, and Hassan, *supra* note 46.

[319] For the analysis of code audits and the function of cryptoauditors see Villanueva Collao, *supra* note 20.

Security Audits – This disclosure involves the review of policy, procedures, and the entire operating environment against vulnerabilities or flaws in the system. Disclosures on security audits should emphasize whether a blockchain protocol audit or pen testing was performed, and the existence of on-chain monitoring systems and their application.

Due diligence audits – This review is connected to compliance with broadly defined regulations and different procedures required to fight money laundering, among other issues. These disclosures will ensure that Know-Your-Customer (KYC) and Know-Your-Business (KYB) procedures have been held according to international standards. In cases where identifying counterparties would be particularly challenging, KYC or KYB procedures should be replaced with Know-Your-Transaction (KYT) protocols. This review should specify the amount of cryptoassets transferred between accounts and indicate if a transaction appears anomalous based on the average transfer patterns.[320]

Cryptointermediaries should state whether the information was unavailable or the service was not offered. Methods for review of this information include the collaboration of:

Cryptoexchanges could integrate auditing requirements into their listing requirements and policies, adding an additional layer of oversight. Cryptoexchanges play a pivotal role as vehicles for mandatory disclosures, making critical financial, code, security, and due diligence audit information accessible to users and investors. By facilitating transparency through these disclosures, cryptoexchanges enhance trust, improve internal oversight, and contribute to the overall security and regulatory alignment of DeFi projects.

Oracles can disclose real-time data for on-chain monitoring systems, enhancing the accuracy and reliability of on-chain reporting. These cryptointermediaries can prove the provenance and properties of online data, updating the system.[321]

Cryptoauditors who can ensure an independent assessment of disclosures while adding credibility to the information provided. By being composed mostly of academics or having academic connections, cryptoauditors can leverage their influence over their students to ensure compliance with

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[320] *Id*.

[321] Fan Zhang et al., *DECO: Liberating Web Data Using Decentralized Oracles for TLS*, PROC. ACM CONF. COMPUT. COMMUN. SECUR. 1919–1938 (2020). Oracles are an important component of DeFi, introducing external financial data, such as cryptoassets' exchange rates, and connecting this information to smart contracts.

industry standards. Additionally, as academics primarily focus on research, cryptoauditors have the opportunity to integrate innovative solutions developed from their studies.[322]

The information about the cryptoenterprise audits should be available through specific repositories on the cryptoauditors' website, with a description in plain language of the results. The information should indicate the type of risk effectuated by the cryptoauditor, the date, and the outcome. Furthermore, these audits should emphasize whether their recommendations were implemented and when.[323] Eventually, this information could also be connected to the cryptoexchange's website through a link that shows whether the listed cryptoenterprise has been audited and who has performed the audit.[324]

4.   Standardized Reporting of Audit Results

Establishing a certification system to indicate audit results is essential in formalizing the role of cryptoauditors within the DeFi ecosystem. Cryptoauditors offer technical and security audits that assess code integrity, security vulnerabilities, and regulatory compliance for cryptoenterprises. Despite offering similar services, cryptoauditors' reporting systems lack standardization. Each cryptoauditor establishes its own workflow for releasing information—ranging from source code disclosures, simplified PDF reports, and scholarly-style research to single-page summaries with traffic light indicators for audit success.[325] Without a standardized certification system, the reliability of these audits can vary greatly, impacting investor confidence and overall trust in DeFi projects.

A certification system would provide cryptoauditor's assessment process and establish a uniform metric for evaluating audit outcomes, allowing cryptoasset holders to make more informed decisions. This standardized certification could include a graded security score, similar to traditional financial audit ratings, reflecting code compliance levels, security robustness, and adherence to future industry best practices. Ultimately, such a certification system would enhance the credibility of cryptointermediaries and support the growth of a more secure and transparent DeFi landscape.

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[322] Villanueva Collao, *supra* note 20.

[323]   *Id*. (analyzing the different consolidated practices of cryptoauditing companies).

[324]   IOSCO, *Issues, Risks and Regulatory Considerations Relating to Crypto-Asset Trading Platforms* (2020) (emphasizing that the lack of verification and auditing processes is a significant risk for trading platforms).

[325] See Villanueva Collao, *supra* note 20.

5. Use of Digital Identities and Decentralized Identifiers (DID)

Decentralized identifiers (DID) associate digital identities with an identity document.[326] They provide a method to assess and transfer personal information more safely. Through DIDs, it would be possible to address issues related to pseudonymity, anti-money laundering, and KYC compliance. Furthermore, it could become an essential tool for identifying issues with automated accounts, such as bots or algorithms that initiate transaction requests without any physical person behind them, potentially revealing malicious intent. DIDs should include details about the cryptographic keys, verification methods,[327] and communication endpoints.[328]

Combined with digital identities, DIDs would serve as a foundation for establishing trust and enabling secure interaction and governance in DeFi. Disclosures of DIDs' use would improve cryptoasset holders' voting rights. Because of pseudonymity, blockchain addresses used for voting cannot be linked to specific individuals during the voting process. As a result, multiple votes may originate from the same address, as the identities associated with these addresses remain encrypted and pseudonymized, concealing their origin. These disclosures can reveal account associations without revealing personal information, enhancing governance by highlighting the concentration of voting power among specific cryptoasset holders. In addition to combating money laundering, the mandatory use of decentralized identifiers (DIDs) should be required, along with clear disclosures about their application.

DIDs could be implemented through the following cryptointermediaries:

Certifiers could verify and validate digital identity authenticity, eventually providing credentials once users have engaged with disclosure information. With growing efforts toward interoperability, these access credentials could potentially eliminate the need for repeated identity

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[326] Digital identities are the electronic information associated with individuals that describe their unique properties and can be recognized within a specific context. They consist of three main components: identifiers (such as passport numbers, email addresses, or employee IDs), credentials (like digital certificates or biometric data), and the issuance and authentication processes to generate and use these digital representations. Shorouq Alansari, *A Blockchain-Based Approach for Secure, Transparent and Accountable Personal Data Sharing*, 2020, https://eprints.soton.ac.uk/447633/. (PhD Thesis).

[327] Jørgensen and Beck, *supra* note 309, at 117 (explaining that DIDs could leverage biometric credentials). As a result, disclosing the methods for DIDs would be necessary to assess compliance with privacy legislation.

[328] Brummer, *supra* note 125, at 171.

disclosures when accessing multiple platforms in the future.[329]

Wallets could integrate DIDs directly into cryptocurrency wallets and enhance user identification and compliance.[330] Progressively DIDs would be essential for wallets to be implemented in their systems.

Oracles already act as certifiers of information by verifying that a piece of information came from a particular website and optionally proving statements about the data.[331] In this case, the extent of information transmitted through the DID could involve any aspect of a person's background, from mere information about their identity (such as driver's license information) to other qualifications and achievements. Furthermore, since oracles are attestators and relayers of information in DeFi, DIDs would provide a standardized system to enhance operations between multiple actors.[332]

B. Oversight of Cryptointermediaries

The establishment of cryptointermediaries marks the beginning of a pathway toward market integrity. However, the persistent question of who will oversee these gatekeepers requires careful consideration. Future oversight may involve creating a registry and licensing system for cryptointermediaries, ultimately facilitating their recognition across jurisdictions.

1. Monitoring of Cryptointermediaries through a Registry

Maintaining a registry of cryptointermediaries adds an additional layer of oversight, allowing for increased accountability within DeFi. The requirements for registration would depend on each type of cryptointermediary and the function each performs. Commentators have advocated specific registration of cryptoexchanges, indicating the products or services they offer and the extent of intermediation in their services.[333] A self-certification system was also suggested, where each cryptoexchange would voluntarily designate a specific regulator for this process.[334] While a

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[329] For the role of certifiers in DeFi *See* Villanueva Collao, *supra* note 20.

[330] Jørgensen and Beck, *supra* note 309.

[331] Zhang et al., *supra* note 321.

[332] Vanessa Villanueva Collao, *DeFi: A Framework of the Automated Financial System*, 26 Tulane J. Technol. Intellect. Prop. 75 (2024).

[333] Kristin N. Johnson, *Decentralized Finance: Regulating Cryptocurrency Exchanges*, 62 William Mary L. Rev. 1911 (2021).

[334] *Id.*

self-certification system would be interesting from the point of view of potential compliance, it creates confusion on whether their own assessment of their functions can actually be subjected to a specific stream of regulation and regulators. The labels used by cryptoauditors and cryptoexchanges might imply some similarity, but the functions they perform are significantly different from their traditional counterparts.[335]

A safer solution would be to establish a separate registry for cryptointermediaries at a national level to which every participant can adhere based on the primary functions they accomplish. An individual registry would distinguish them from traditional financial intermediaries, offering a caveat to investors about the potential risks of cryptoasset transactions. A significant aspect of this system is that they need to state that they do not operate solely at a national level. Those cryptointermediaries operating only within domestic markets would not be part of the categories of the registry but would need to comply with national (traditional) regulations for the auditing profession, banking regulations, exchange regulations, etc. A registry would signal to future cryptoasset holders that the cryptointermediary is a reliable and trusted DeFi participant. As the system evolves and categories of cryptointermediaries are more organized, it would be possible to integrate registration requirements with licensing and accreditation for those cryptointermediaries (such as cryptoauditors and wallet providers) that comply with future shared standards for working on that specific business.

Cryptointermediaries would need to fulfill minimum registration requirements. In this sense, the first step would be to assess the disclosures of their products, services, and business model (as stated in the disclosure section) and the level of intermediation. Furthermore, an essential component, particularly for cryptoexchanges, is to include the type of technology employed as a requirement for registration. Understanding the type of technology and its infrastructure allows for verifying its localization. This localization is increasingly important for fostering stability in cases of management crises, as it identifies which parts of the infrastructure are within national or international borders.[336]

2. Mutual Recognition of Licensed Cryptointermediaries

Registration and licensing of cryptointermediaries is the first step for preserving market integrity in DeFi. The second step would be to make those

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[335] See Villanueva Collao, *supra* note 20.
[336] Zetzsche, Arner, and Buckley, *supra* note 2.

national registrations functional or equivalent in other jurisdictions. The reason is evident: cryptointermediaries facilitate cross-border transactions. As a result, a system of mutual recognition would allow a national entity to determine whether certain participants satisfy their internal legal requirements for their operation.

The core of mutual recognition should be to establish DeFi as a system that, despite the structural difference with traditional capital markets, ensures shared global goals similar to the ones drafted in the 'IOSCO's Objectives and Principles of Securities Regulation (OPSR)' containing 38 principles based upon three primary objectives: *i.* the protection of investors; *ii.* ensuring markets are fair, efficient, and transparent; and *iii.* reduction of systemic risk.[337] These minimum objectives should clearly show how these goals can be achieved, given the increasing regulation in this area.[338]

One way to implement these shared goals could be by establishing a system for substituted compliance that also tailors avenues for enforcement.[339] This regulatory approach would allow foreign entities to comply with the regulations of their home jurisdiction instead of the regulations of the jurisdiction where they are operating.[340] Substituted compliance, achieved through the equivalence and recognition of licensed projects, can mitigate issues with cross-border transactions, escaping fragmented regulatory regimes and promoting regulatory harmonization.[341]

This regulatory approach has been applied in securities regulation, derivatives trading, and cross-border financial services.[342] Among the several ways to implement substituted compliance there has been proposed a multi-

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[337] INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS (IOSCO), *Objectives and Principles of Securities Regulation* 3 (2017).

[338] With specific regard to the European Union MiCA Regulation. Regulation (EU) 2023/114 of the European Parliament and of the Council on markets in crypto-assets and amending Regulations (EU) No. 1093/2010 and (EU) No. 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937, O.J. (L 150).

[339] Jonas Schürger, *The Approach of Substituted Compliance in the United States*, *in* EQUIVALENCE AND SUBSTITUTED COMPLIANCE IN FINANCIAL MARKETS LAW 212–262 (2023); Zetzsche, Arner, and Buckley, *supra* note 2, at 193.

[340] Howell E. Jackson, *Substituted Compliance: The Emergence, Challenges, and Evolution of a New Regulatory Paradigm*, 1 J. FIN. REGUL. 169–205 (2015) (indicating that assessing factors like regulatory oversight, enforcement, and investor protection measures would allow comparability).

[341] Mathias M. Siems, *The Foundations of Securities Law*, 20 EUR. BUS. L. REV. 141,163 (2009) (highlighting that leveling the playing field and emphasizing economic performance are among the benefits of harmonizing securities laws).

[342] Sean J. Griffith, *Substituted compliance and systemic risk: How to make a global market in derivatives regulation*, 98 MINN. L. REV. 1291, 1331 (2014).

step process, including a petition from the foreign entity, a discussion between the regulator, negotiations and agreements, and a public notice and comment period.[343] However, its implementation has faced challenges, particularly in determining comparability and ensuring adequate oversight. In this sense, substituted compliance should not be a mere reduction of regulatory costs and burdens for foreign cryptointermediaries operating across multiple jurisdictions but more based on an alliance of jurisdictions committed to regulatory standards rather than a race to the bottom.[344] A rule-based approach comparison in DeFi would not efficiently serve the purpose of investor protection or market integrity. Instead, a principle-based approach and technology's advantage to provide better-tailored measures would allow more flexibility in a changing environment like DeFi.

CONCLUSION

This article analyzed the structure of the cryptoenterprise as well as the actors, governance mechanisms, and conflicts of these organizations in the alternative market of Decentralized Finance (DeFi). It also highlighted how the rise of new intermediaries, or cryptogatekeepers, can address these conflicts and outlined best practices to help mitigate them.

The first part of this article draws on the study and observation of unconventional financial organizations that use blockchain and smart contract code as a source of governance or, as proposed, cryptoenterprises. Their structure is built on the assumption that boards or hierarchies are unnecessary; indeed, one salient aspect of this analysis is the absence of internal governance mechanisms. The main actors involved in these organizations include different types of relationships with different attributes. On one side, insiders such as cryptopromoters (cryptoenterprise founders), catalysts, and developers fulfill decisional or operational roles. On the other side are dispersed cryptoasset holders (or investors) who receive cryptoassets in exchange for capital during the ICO but hold limited control beyond the asset itself.

This article analyzed how the structure of cryptoenterprises (characterized by dispersed ownership, direct democracy mechanisms, and the absence of traditional boards) paradoxically consolidates control in the hands of cryptopromoters and insiders. Although these organizations promise

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[343] Cheryl Nichols, *Mutual Recognition Based on Substituted Compliance: An Integral Component of the SEC's Mandate*, 34 NC J INT'L L COM REG 1–109 (2008) (elaborating on Tafara-Peterson's approach to jurisdiction).

[344] *Id.* at 5.

distributed governance, in practice, they replicate agency problems familiar to corporate law, while lacking the internal controls and fiduciary duties that typically mitigate them. The analysis explored three critical areas/problems: the misalignment of incentives, failures of internal oversight, and the burdens imposed by specialized knowledge. Without mechanisms like lock-ups, independent boards, or meaningful investor rights, cryptopromoters face few constraints, allowing self-serving strategies that erode trust and value. Liquid democracy or direct voting systems often reinforce this dynamic by concentrating power among insiders, leaving small cryptoasset holders with illusory control and little recourse. The article further highlighted how information asymmetries (rooted in technical complexity and opaque treasury management) limit investors' ability to monitor or value these ventures, deepening vulnerabilities. Ultimately, these structural flaws underscore why external governance interventions and knowledgeable intermediaries are essential to protect investors and stabilize DeFi's evolving ecosystem.

The final section of the article's first part examined the persistent conflicts of interest between cryptopromoters and cryptoasset holders within cryptoenterprises. It showed how, despite promises of decentralized control, the absence of fiduciary duties, internal oversight, and enforceable rights enables cryptopromoters to dominate governance, fostering self-dealing and undermining trust, issues traditionally addressed by the duty of loyalty in corporate law. The analysis highlighted three conflicts: the unilateral variation of governance code by cryptopromoters without meaningful investor approval, the misappropriation of assets facilitated by opaque treasury management and insider-dominated committees, and the lack of transparency around cryptopromoters' compensation, which is neither subject to robust disclosure nor to checks by independent stakeholders. By detailing these structural vulnerabilities, where encoded governance fails to substitute for contractual or fiduciary protections, the section underscores the critical need for external governance mechanisms and oversight in DeFi to protect dispersed investors and ensure the credibility of this emerging financial ecosystem.

The second part of the article advanced concrete recommendations for addressing the structural vulnerabilities of DeFi by focusing on the pivotal role of cryptointermediaries as gatekeepers. It argued that just as auditors, underwriters, and lawyers have historically upheld trust, mitigated agency costs, and reduced information asymmetries in traditional markets, cryptointermediaries—including cryptoexchanges, cryptoauditors, wallet providers, and oracles—could serve similar functions within DeFi. The proposed best practices encompass robust disclosures of cryptoenterprises' structures, business models, risks, and financial health; the establishment of

audit standards with clear reporting protocols; and the use of decentralized identifiers (DIDs) to balance pseudonymity with accountability. Additionally, the section advocated for national registries of cryptointermediaries tied to technology localization and the creation of mutual recognition frameworks to navigate cross-border activities through substituted compliance. Altogether, these measures highlight how external governance via cryptogatekeepers can compensate for the absence of internal controls, promote transparency, and preserve market integrity, offering a foundational blueprint for future regulatory approaches to DeFi.

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