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## ARTICLE

ANTITRUST LIVE:  
THE NEW BLOCKCHAIN ERA OF ANTITRUST

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*The reports of antitrust's death at the hands of decentralized blockchains were an exaggeration. The premise is logical: decentralized markets should mitigate the need for antitrust laws, which typically address abuses of power by, and secret collusion among, centralized firms in concentrated markets. Indeed, blockchains strive to prevent market structures that facilitate collusion and monopolization in the first place through decentralization, a form of antitrust self-regulation. And blockchain communities are debating and deciding how to effect this self-regulation, with the potential for autonomous implementations of market constraints designed to preserve decentralization, in real time and in public. All of this means that antitrust principles are very much alive on the blockchain. However, there exists a conflict: recent efforts to self-regulate antitrust may constitute per se violations of the very laws that such efforts are intended to preempt.*

*The first to identify this conflict, this Article proposes that antitrust is entering a new blockchain era, one that is self-regulated and transparent, but not without risks. This Article then argues that self-regulation efforts in the blockchain context that would normally receive per se condemnation by U.S. courts, like price fixing, should instead receive more fulsome reviews under the rule of reason. The procompetitive potential of such self-regulation, combined with judicial inexperience in complex blockchain markets, warrants such an approach.*

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\* Counsel, Vinson & Elkins LLP. The views expressed in this Article are solely those of the author and do not necessarily represent the policies or views of Vinson & Elkins LLP. I am grateful to the editors of the Columbia Science and Technology Law Review for their incisive comments and diligent editing.

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## I. INTRODUCTION

Blockchain is not the death of antitrust.<sup>1</sup> To the contrary, blockchain is ushering in a new era of antitrust: *Antitrust Live*. The name evokes a live broadcast—while antitrust violations usually are shrouded in secrecy, the blockchain community's commitment to self-regulation and transparency means that new attempts to restrain markets are happening live and in public view. Compelling stories need a conflict, and *Antitrust Live* does not disappoint. Decentralized staking protocols have recently considered implementing forms of antitrust self-regulation—market allocation and pricing rules that are intended to achieve the same outcome as antitrust laws—to prevent one or a small group of competitors from monopolizing a market and engaging in anticompetitive conduct. But if adopted, such rules likely would constitute per se violations of those same antitrust laws by artificially limiting competition. This Article explores that conflict and considers whether market allocation and price fixing in the blockchain context, which may be reasonably necessary to achieve procompetitive benefits such as network security, are deserving of more searching inquiries under the rule of reason.

This Article begins by providing a primer on blockchain staking protocols, the targets of recent efforts to self-regulate antitrust through market share limits, in Section II. Section III identifies unique characteristics of blockchains that motivate and support the practice of self-regulation. This Section also expands on the concept of *Antitrust Live* and distinguishes it from traditional antitrust. Section IV analyzes recent market share allocation proposals under Section 1 of the Sherman Act and concludes that this type of conduct, albeit a proposed form of antitrust self-regulation, likely constitutes a type of price fixing that U.S. courts regularly condemn as per se illegal. Section V argues that judicial inexperience

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<sup>1</sup> See Thibault Schrepel, *Is Blockchain the Death of Antitrust Law? The Blockchain Antitrust Paradox*, 3 GEO. L. TECH. REV. 281 (2019).

with blockchain markets justifies withholding per se treatment in favor of a more fulsome review of allegedly unlawful conduct under the rule of reason.

## II. BLOCKCHAIN STAKING PRIMER

To properly explain the origins of *Antitrust Live*, we must first establish foundational knowledge around blockchain staking protocols, as these protocols were the targets of recent efforts to self-regulate antitrust. Specifically, we must answer what is the function of blockchain staking, what about staking has given rise to fears of blockchain monopolization, and what would constitute an abuse of that monopolization. Answering these questions will allow us to identify the potential anticompetitive harms that self-regulation is intended to prevent.

### A. *Blockchain Staking*

To momentarily over-simplify, a blockchain is a distributed database of transactions. The database is distributed to a number of network participants, referred to as “nodes.” Nodes record and validate transactions on the blockchain by proposing new “blocks” that contain data about recent on-chain activity. Nodes receive fees from users and earn rewards for recording and validating on-chain transactions.

Decentralized blockchains require a “consensus mechanism” for nodes to confirm that the data in the proposed block is accurate. Reaching consensus in this way allows the network to be “trustless.” That is, network participants do not need to trust that a central authority, such as a bank, is providing accurate information about network activity, such as transactions and account balances. Instead, a set of individual nodes validate network information. This decentralized process allows users to place trust in the system itself, as opposed to any single entity. As discussed in Section III, this preference for trustlessness motivates blockchains to self-regulate.

The two most common consensus mechanisms are Proof-of-Work (“PoW”) and Proof-of-Stake (“PoS”). PoW blockchains, like Bitcoin, require nodes to use computing power to solve cryptographic puzzles—the quickest node to solve the puzzle earns the right to propose the next block and receives a reward for its effort. PoS blockchains require nodes to lock up a certain amount of the blockchain’s native token. These locked tokens serve as the node’s stake in the system and are subject to forfeiture if the node engages in harmful activity. By virtue of having more skin in the game, nodes with larger stakes have a greater chance of being selected to propose new blocks and earn rewards.

### B. *Ethereum's Staking Upgrade*

In what was largely considered the most anticipated event in blockchain,<sup>2</sup> Ethereum, the blockchain with the most developer activity and highest demand for blockspace,<sup>3</sup> upgraded its consensus mechanism from PoW to PoS in September 2022. The upgrade is often referred to as “The Merge” because Ethereum’s main network “merged” with a PoS consensus layer called the Beacon Chain, which had been live since December 2020.

Staking on Ethereum requires a significant amount of capital. To establish a staking node, users must deposit 32 ETH (Ethereum’s native token)—the equivalent of more than \$150,000 using ETH’s all time high price of \$4865.57—to the network.<sup>4</sup> Once staked, this ETH is completely illiquid: users cannot move, trade, or use their staked ETH. This creates significant opportunity costs for stakers. Ethereum intends to enable withdrawals of staked ETH in the future, but the timing for such an upgrade is uncertain. These high barriers to direct staking on Ethereum created a market for pooled staking services.

Staking pools allow many users with much smaller amounts of ETH to pool their resources to satisfy the minimum requirement of 32 ETH to operate a node. In exchange for coordinating the pools, the staking pool operator keeps a percentage of the pool’s staking rewards, a portion of which is shared with the node operator. Staking pools can be centralized or decentralized. Centralized staking pools are most commonly operated by centralized cryptocurrency exchanges like Coinbase, Binance, and Kraken. By offering staking services to their large user bases, each exchange is able to consolidate a large amount of ETH to run a large number of nodes. Ethereum.org warns that “[t]his can be dangerous for the network and its users as it creates a large centralized target and point of failure, making the network more vulnerable to attack or bugs.”<sup>5</sup> In contrast, decentralized staking pools operate using smart contracts: users deposit funds to the smart contract, which trustlessly manages and tracks the user’s stake.

Decentralized staking protocols typically are governed by Decentralized Autonomous Organizations (“DAO”). DAOs operate by creating a type of cryptocurrency called a governance token and then issuing that token to users of and stakeholders in the underlying protocol. The tokens correspond to a set amount of voting power (e.g., one token equals one vote), allowing token holders to vote on governance proposals regarding how the protocol should operate.

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<sup>2</sup> Sam Kessler and Sage Young, *Merge Ahead: Ethereum's Dress Rehearsal (and a Hiccup)*, CoinDesk (June 1, 2022), <https://www.coindesk.com/layer2/2022/06/01/merge-ahead-ethereums-dress-rehearsal-and-a-hiccup/> [<https://perma.cc/37JC-EYQ2>].

<sup>3</sup> *State of Crypto 2022*, a16z Crypto, [https://a16zcrypto.com/wp-content/uploads/2022/05/state-of-crypto-2022\\_a16z-crypto.pdf](https://a16zcrypto.com/wp-content/uploads/2022/05/state-of-crypto-2022_a16z-crypto.pdf) [<https://perma.cc/AN6H-3WNS>], at 16.

<sup>4</sup> *Ethereum staking*, Ethereum.org, <https://ethereum.org/en/staking/> [<https://perma.cc/TEZ5-JUH2>].

<sup>5</sup> *How to stake your ETH*, Ethereum.org, <https://ethereum.org/en/staking/> [<https://perma.cc/TEZ5-JUH2>].

C. *Liquid Staking Protocols and Market Dominance Risks*

In an attempt to solve the illiquidity problem posed by direct staking, some pools issue tokens that represent the value of a user's staked ETH and the rewards earned through staking that ETH. These tokens are called "liquid staking derivatives" ("LSD").

LSD protocols quickly became popular because they allow LSD holders to stake ETH and earn staking rewards while simultaneously preserving their ability to move, trade, or use that ETH in other ways through their LSDs. In effect, LSD protocols significantly reduce the opportunity cost of staking on Ethereum.

LSD protocols benefit from direct network effects because each protocol's value to holders grows as a direct result of attracting more holders. For example, LSD protocols with higher levels of staking activity benefit from having greater liquidity, which allows holders to more easily trade their LSDs.<sup>6</sup> To provide additional value to their holders, LSD protocols have strived to build ecosystems around their LSDs that support uses beyond trading. Decentralized lending platforms accepting LSDs as collateral for loans, and enabling borrowing and lending for staked ETH, are popular use cases. Building an ecosystem of services around an LSD is a way for protocols to harness indirect network effects—the more people that hold a specific LSD, the more likely third-party protocols are to integrate that LSD into their services. This attracts even more holders, creating a positive feedback loop.

LSD protocols have observed that the strong network effects at play make it likely that the market for staked ETH will be a winner-takes-most market,<sup>7</sup> which could lead to one staking protocol controlling the majority of Ethereum's nodes. Immediately prior to The Merge, the leading LSD protocol was Lido Finance, which hosted approximately 31% of staked ETH (and accordingly, an equivalent share of Beacon Chain validator nodes).<sup>8</sup> Coinbase, a centralized exchange, was the second-largest staking pool operator at that time with approximately 15% of staked ETH.<sup>9</sup> Researchers argue that the potential for one protocol to gain control over the majority of nodes puts Ethereum at risk for monopolization and cartelization.

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<sup>6</sup> See Gergios Konstantopoulos and Hasu, *On Staking Pools and Staking Derivatives*, Paradigm Research (Apr. 23, 2021), <https://research.paradigm.xyz/staking> [<https://perma.cc/LBC8-VUE9>].

<sup>7</sup> See *The Next Chapter for Lido*, Lido (Apr. 14, 2022), <https://blog.lido.fi/the-next-chapter-for-lido/> [<https://perma.cc/GFM4-N9KF>].

<sup>8</sup> Gareth Jenkinson, *64% of staked ETH controlled by 5 entities – Nansen*, Cointelegraph (September 12, 2022), <https://cointelegraph.com/news/64-of-staked-eth-controlled-by-five-entities-nansen> [<https://perma.cc/BDJ2-D7KS>]; see *Pool Distribution*, Beaconcha.in, <https://beaconcha.in/pools> [<https://perma.cc/UT5F-QM9S>] (showing current distribution of staked ETH among staking pools).

<sup>9</sup> See *Pool Distribution*, *supra* note 8. Coinbase announced the launch of cbETH, its own LSD, in August 2022. *cbETH White Paper*, Coinbase (August 2022), <https://www.coinbase.com/cbeth/whitepaper> [<https://perma.cc/QFR2-6RK2>].

In a report titled “The Risks of LSD,” Danny Ryan, a researcher at the Ethereum Foundation, concluded that “[l]iquid staking derivatives (LSD) such as Lido and similar protocols are a stratum for cartelization and induce significant risks to the Ethereum protocol and to associated pooled capital when exceeding critical consensus thresholds.”<sup>10</sup> Ryan argues that, “[i]n the extreme, if an LSD protocol exceeds critical consensus thresholds such as 1/3, 1/2, and 2/3, the staking derivative can achieve outsized profits compared to non-pooled capital due to coordinated MEV extraction,<sup>11</sup> block-timing manipulation, and/or censorship — the cartelization of block space.”<sup>12</sup> As a result, “staked capital becomes discouraged from staking elsewhere due to outsized cartel rewards, self reinforcing the cartel’s holding on staking.”

Ryan explains that the ability for LSD protocols to decide who gets to be a node operator “is the primary cause of cartelization.”<sup>13</sup> For example, if holders of a protocol’s governance token get to decide who operates a node, “then the token holders can force cartel activities . . . or else the [node operator] is removed from the set.”<sup>14</sup> Ryan concludes that, with respect to token governance, the network must “rely on the benevolence of the DAO or however control is structured,” which “is not safe, and we must assume not sufficient in the long run.”<sup>15</sup> Similar risks arise in protocols that use an automatic and trustless process for selecting node operators, such as profitability thresholds. Ryan explains that such an approach “works well when all operators are using ‘honest’ techniques, but if any amount of [node operators] defect to [cartel activity] . . . then they skew the profitability target such that [most node operators] will eventually be automatically ejected if they do not join in on the [cartel activity].”<sup>16</sup>

To address these concerns, LSD protocols like Lido Finance, StakeWise, and Rocket Pool considered adopting outright limitations on their market shares. This is a form of antitrust self-regulation that, if implemented, may well violate antitrust laws.

### III. ANTITRUST SELF-REGULATION

Antitrust laws and self-regulation most commonly conflict when competitors have agreed to set industry standards that allegedly restrain competition. This

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<sup>10</sup> *The Risks of LSD*, Ethereum Foundation, <https://notes.ethereum.org/@djrtwo/risks-of-ld> [<https://perma.cc/498V-KN95>].

<sup>11</sup> MEV refers to “Maximal Extractable Value,” which is the profit that network validators can extract beyond block rewards and gas fees via their ability to decide which transactions to include in a block and in what order. This allows validators to take advantage of decentralized exchange arbitrage opportunities, front run large trades, and trigger liquidations. PoS networks pre-select block proposers, creating an opportunity for validators to collude to strategically order transactions in multiple consecutive blocks to increase their MEV.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

often takes the form of a central authority, like a professional association, promulgating standards to its members. The Supreme Court has consistently ruled that standards that affect the pricing of services, for example, violate Section 1 of the Sherman Act.<sup>17</sup> The blockchain era of antitrust has created a new type of self-regulation—one that is focused on principles that are complementary to antitrust; mainly, decentralization.

Self-regulation is a core ethos of decentralized blockchains for several reasons. For one, blockchain participants prefer to place trust in a decentralized and autonomous system rather than a government. Fumbled attempts by governments to regulate the blockchain space have reinforced this preference.<sup>18</sup> Additionally, a structural element of decentralized blockchains is that, by virtue of their decentralization, they strive to be censor proof, meaning that a single entity or government should not be able to suppress activity on the network through regulation or other means. A network susceptible to external regulation would offend this core tenet of decentralization. Thus, blockchains are less likely to rely on external enforcement of antitrust laws to prevent monopolization and instead rely on self-regulation.

Existing laws alone also may be insufficient to achieve a blockchain's goals, which further highlights the advantages of self-regulation for blockchains. For example, outside of the merger context,<sup>19</sup> antitrust laws primarily focus on market behavior, not market structure. Section 2 of the Sherman Act makes it unlawful for any person to “monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nationals . . . .” But just as courts have decided that Section 1 does not make unlawful “every contract . . . in restraint of trade,” only those that unreasonably restrain trade, courts have similarly narrowed Section 2. Accordingly, Section 2 does not prohibit companies from obtaining large market shares or even monopoly power outright.<sup>20</sup> Instead, it

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<sup>17</sup> See, e.g., *Goldfarb v. Virginia State Bar*, 421 U.S. 773 (1975) (holding minimum fees schedule violated Section 1 of the Sherman Act); *National Soc’y of Prof. Engineers v. United States*, 435 U.S. 679 (1978); *Arizona v. Maricopa County Medical Society*, 457 U.S. 332 (1982) (holding rule prohibiting members from bargaining with a customer over price until the customer selected a specific engineer for the job violated Section 1 of the Sherman Act).

<sup>18</sup> Evan Miller, *A Tale of Two Regulators: Antitrust Implications of Progressive Decentralization in Blockchain Platforms*, 77 WASH. & LEE L. REV. Online 387, 396 (2021), <https://scholarlycommons.law.wlu.edu/wlulr-online/vol77/iss2/6/> [<https://perma.cc/HXJ8-5MBT>].

<sup>19</sup> Section 7 of the Clayton Act prohibits mergers and acquisitions where the effect “may be substantially to lessen competition, or tend to create a monopoly.” 15 U.S.C. § 18. In applying Section 7 to proposed mergers and acquisitions, the U.S. antitrust agencies have historically used market concentration thresholds to support a presumption of competitive harm.

<sup>20</sup> See *Standard Oil Co. of New Jersey v. United States*, 222 U.S. 1, 62 (1911) (stating the Sherman Act does not include “any direct prohibition against monopoly in the concrete”); *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 430 (2d Cir. 1945) (recognizing that monopolies are not unlawful per se, explaining that “having been urged to compete, [the successful competitor] must not be turned upon when he wins.”); *United States v. Grinnel Corp.*, 384 U.S. 563, 570-71 (1966) (identifying the two elements of a Section 2 monopolization case as “(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or

is acquisition or maintenance of that power through *improper* means, or the use of that power to unreasonably restrain competition that violates Section 2.<sup>21</sup> Decentralization attempts to preempt monopolization-based antitrust harms by establishing structural hurdles that, in theory, prevent any one firm from obtaining large market shares in the first place, let alone monopoly power. As a result, antitrust laws, like Section 2 of the Sherman Act, alone would be ill-equipped to achieve or preserve market decentralization.

Finally, unique technical characteristics make self-regulation more feasible and reliable on decentralized blockchains than on centralized networks. As one example, many blockchains are run by DAOs, which allow for a large number of stakeholders to vote on self-regulation measures. This form of bottom-up decision making, where decisions are crowdsourced to the community, is in high contrast to a centralized network's top-down approach, where decisions are made by a small set of managers, officers, and directors. In the DAO model, business decisions are debated and voted on publicly. In theory, this democratization of decision making should lead to better outcomes for the broader community, as opposed to a smaller subset of shareholders. Additionally, blockchains can codify self-regulation measures in smart contracts that automatically trigger once certain conditions are satisfied. This autonomous aspect of blockchains removes the risk that a single person may interfere with the network's self-regulation. Blockchain's data transparency also uniquely supports self-regulation by allowing the public to confirm that self-regulation is both occurring and having the desired effect.

All of these characteristics help to define the *Antitrust Live* era—where business decisions that involve antitrust issues are debated publicly, decided through a public vote, and implemented autonomously in real time. The dual goals of avoiding government intervention and preserving decentralized markets mean that antitrust self-regulation will be a recurring phenomenon in the blockchain space.

### Contrasting Traditional Antitrust with *Antitrust Live*

	<b>Antitrust</b>	<i>Antitrust Live</i>
<b>Method of Regulation</b>	Enforcement of antitrust laws by government or private plaintiffs	Self-regulation autonomously enforced through smart contracts
<b>Visibility of Conduct</b>	Private	Public

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maintenance of that power as *distinguished from* growth or development as a consequence of a superior product, business acumen, or historic accident.”) (emphasis added).

<sup>21</sup> *Byars v. Bluff City News Co., Inc.*, 609 F.2d 843, 853 (6th Cir. 1979) (explaining that “mere possession of monopoly power is not illegal” but that the abuse of that power may violate the Sherman Act).



<b>Targeted Harms</b>	Anticompetitive behavior	Market structures that facilitate anticompetitive behavior
<b>Relevant Actors</b>	Agents of centralized company	Members of governance DAO
<b>Standard of Review for Price Fixing</b>	Hardcore antitrust crimes, like price fixing, typically receive per se treatment	Distinguishing characteristics of blockchain markets support application of the rule of reason

#### IV. ANTITRUST ANALYSIS OF SELF-LIMITING PROPOSALS

For the same reason that blockchain’s transparency supports self-regulation, it also facilitates anticompetitive collusion by enabling a cartel to confirm that its members are abiding by the cartel’s rules. Indeed, legal observers have repeatedly identified the facilitation of cartel activity as one of the chief antitrust risks associated with blockchains.<sup>22</sup> In this regard, however, blockchain transparency is a double-edged sword for cartels: it facilitates enforcement of the cartel’s rules, but it also means that such activity is easily detectable by the public (and regulators). For private blockchains, evidence of cartel activity is recorded and transmitted to all of the cartel’s members—any one of which could defect and take advantage of leniency policies by reporting the cartel to authorities.<sup>23</sup> For permissionless blockchains, cartel activity is immutably recorded and broadcasted publicly in real time. Again, this is a unique characteristic of the *Antitrust Live* era.

Staking protocols recently attempted to self-regulate antitrust in what may become the prototypical example of *Antitrust Live*, given the public decision-making process and substantive public communications by multiple competitors. It bears repeating that the LSD protocols discussed here *did not* engage in self-limiting. The purpose of this Section is twofold. First, to identify the hypothetical risks of antitrust self-regulation by imagining what an antitrust claim against such conduct would look like. Second, to demonstrate *Antitrust Live* in practice.

<sup>22</sup> See Thibault Schrepel, *Collusion by Blockchain and Smart Contracts*, 33 HARV. J.L. & TECH. 117, 143 (2019).

<sup>23</sup> See Antitrust Division Leniency Policy and Procedures, U.S. Dep’t of Just., Just. Manual § 7–3.300 (2022), <https://www.justice.gov/atr/page/file/1490246/download> [<https://perma.cc/X9S3-UE8T>].

*A. Self-Limiting Proposals by LSD Protocols*

On May 10, 2022, Danny Ryan, the researcher who wrote the report outlining the risks of LSD centralization (which was summarized in Section II of this Article), tweeted that “Lido passing 1/3 [of staked ETH] is a centralization attack on PoS.”<sup>24</sup> Three days later, Superphiz, who is known as Ethereum’s “Health Consultant” tweeted: “I wonder, who will be the first staking provider to publicly commit to limiting themselves to not operating more than 22% of validators on the chain?”<sup>25</sup> Vitalik Buterin, one of the co-founders of Ethereum, quote-tweeted Superphiz’s tweet to his four million followers adding his own “controversial” take:

“Speculative controversial take: we should legitimize price gouging by top stake pool providers. Like, if a stake pool controls > 15%, it should be accepted and even \*expected\* for the pool to keep increasing its fee rate until it goes back below 15%.”<sup>26</sup>

Two of Lido’s competitors—StakeWise and Rocket Pool, both decentralized LSD protocols—signaled support for self-limiting their shares of the staked ETH market. On May 13, 2022, StakeWise responded to Superphiz’s tweet, stating that “[it] will actively stop deposits to remain below this critical threshold once [it] get[s] there,” explaining that “the health of the network should come above all else.” At the end of its tweet, StakeWise asked: “where do we sign?”<sup>27</sup> Superphiz responded: “You just did!”<sup>28</sup> The following day, Darren Langley, the General Manager of decentralized LSD protocol Rocket Pool, tweeted: “As a core team, we fully support limiting @Rocket\_Pool, if it threatens Ethereum’s credible neutrality or operational stability.”<sup>29</sup>

On May 21, 2022, Lido, the market leader in staked ETH, began publicly considering self-limiting. A summary of the self-limiting debate along with FAQs were posted to the Lido forum under the category titled “Department of

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<sup>24</sup> Danny Ryan (@DannyRyan), Twitter (May 10, 2022 11:11), <https://twitter.com/dannyryan/status/1524044527828303872> [<https://perma.cc/X99B-U3RF>].

<sup>25</sup> @Superphiz, Twitter (May 13, 2022 4:56), <https://twitter.com/superphiz/status/1525218193756807169> [<https://perma.cc/525J-QP73>].

<sup>26</sup> Vitalik Buterin (@VitalikButerin), Twitter (May 13, 2022 10:25), <https://twitter.com/VitalikButerin/status/1525301234516652032> [<https://perma.cc/XMX6-NNFT>].

<sup>27</sup> @Stakewise\_io, Twitter (May 13, 2022 5:23), [https://twitter.com/stakewise\\_io/status/1525225299146944513](https://twitter.com/stakewise_io/status/1525225299146944513) [<https://perma.cc/3PQ6-KCKN>].

<sup>28</sup> @Superphiz, Twitter (May 13, 2022 5:26), <https://twitter.com/superphiz/status/1525225898554843136> [<https://perma.cc/BCZ8-54XQ>].

<sup>29</sup> Darren Langley (@Langerstwit), Twitter (May 14, 2022 1:14) <https://twitter.com/langerstwit/status/1525343785219018752> [<https://perma.cc/KZR9-NAKE>]. Langley explained that the “decision [to self-limit] rests with the community” through Rocket Pool’s DAO, but that “the @Rocket\_Pool core team will put their weight behind an initiative to limit deposits . . . .”

Decentralisation.”<sup>30</sup> The summary explains that “you might be in favour of limiting Lido” if you believe that Lido’s share of Ethereum validators exceeding a certain threshold “poses an existential threat to Ethereum” and “that exchanges, and other liquid staking solutions — like Alluvial — will follow suit and agree to limit themselves in the same way as Lido.”<sup>31</sup> Opponents of the proposal argued that limiting competition will just “allow inferior options to unnaturally increase in size”<sup>32</sup> and that “[c]ompeting protocols receiving more Eth just because Lido is limiting its intake, is not a good outcome for the network as it doesn’t encourage high performance.”<sup>33</sup> Their main concern was that centralized alternatives would capture Lido’s forfeited market share, which would exacerbate the centralization problem that self-limiting was intended to solve. Another opponent of self-limiting summarized well the potential harm to competition: “Placing limits and constraints now is going to make competition later magnitudes more difficult, and the best solution is not to constrain the market leader but to do everything we can collectively to make it the best version of itself.”<sup>34</sup> The DAO scheduled a yes-or-no vote on self-limiting following a brief discussion period, pledging to hammer out the details of self-limiting if the DAO approved the general measure.

On June 9, 2022, while members of the Lido DAO debated its self-limiting proposal, StakeWise’s Business Development lead tweeted that StakeWise was working on a technical solution for self-limiting “to be formally voted upon by the StakeWise DAO as part of the next key protocol upgrade.”<sup>35</sup>

The voting period for Lido’s self-limiting proposal opened on June 24, 2022 and closed on July 1, 2022. Lido’s DAO overwhelmingly rejected self-limiting Lido’s share of staked ETH by a vote of approximately 80,000,000 (99.81%) to 156,000 (0.19%) from 278 unique wallets holding the DAO’s governance token.<sup>36</sup> Voting power in the Lido DAO is concentrated among a handful of wallets, which distorts the true popularity of the self-limiting measure. On a wallet-by-wallet

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<sup>30</sup> Vsh, *Should Lido on Ethereum be limited to some fixed % of stake?*, Lido (May 21, 2022), <https://research.lido.fi/t/should-lido-on-ethereum-be-limited-to-some-fixed-of-stake/2225/> [<https://perma.cc/4QBT-JG6R>].

<sup>31</sup> *Id.*

<sup>32</sup> DegenSpartan, *Should Lido on Ethereum be limited to some fixed % of stake?*, Lido (May 30, 2022), <https://research.lido.fi/t/should-lido-on-ethereum-be-limited-to-some-fixed-of-stake/2225/55> [<https://perma.cc/N8F7-ZHK8>].

<sup>33</sup> Lifelines, *Should Lido on Ethereum be limited to some fixed % of stake?*, Lido (June 1, 2022), <https://research.lido.fi/t/should-lido-on-ethereum-be-limited-to-some-fixed-of-stake/2225/61> [<https://perma.cc/F6V7-X9EM>].

<sup>34</sup> Izzy, *Should Lido on Ethereum be limited to some fixed % of stake?*, Lido (May 27, 2022), <https://research.lido.fi/t/should-lido-on-ethereum-be-limited-to-some-fixed-of-stake/2225/12> [<https://perma.cc/D5UV-UUEQ>].

<sup>35</sup> Jordan Sutcliffe (@JstarCS), Twitter (Jun. 9, 2022), <https://twitter.com/JstarCS/status/1534990504647090177> [<https://perma.cc/D5RQ-BPFE>].

<sup>36</sup> *Should Lido consider self-limiting?*, Snapshot, <https://snapshot.org/#/lido-snapshot.eth/proposal/0x10abedcc563b66b1adee60825e78c387105110fa4a1e7354ab57bc9cc1e675c2> [<https://perma.cc/SZ4N-VYX5>].

basis, 113 wallets (or approximately 41% of all voting wallets) supported the proposal.<sup>37</sup>

While Lido's DAO likely avoided significant antitrust risks by rejecting the proposal to self-limit, there undoubtedly will be future attempts at antitrust self-regulation by protocols, which may include other proposals to self-limit. As Section III explains, antitrust self-regulation will be a defining characteristic of this new blockchain era of antitrust. With that in mind, the Lido DAO's near miss is a prudent reminder for DAOs and blockchain protocols that antitrust laws *do* apply to this type of conduct, and that self-regulation designed to achieve outcomes that would seem complimentary to the big-picture policy goals of antitrust laws actually may violate those laws.

*B. Self-Limiting as Illegal Market Allocation under the Sherman Act*

Courts have long held that agreements between competitors to divide markets are per se illegal under Section 1 of the Sherman Act.<sup>38</sup> Under the per se rule, there is no need to balance the anticompetitive effects of the agreement against its procompetitive benefits.<sup>39</sup> The justification behind the per se rule is that courts have sufficient experience with certain anticompetitive practices, like price fixing, to be confident that the anticompetitive harms will always outweigh the procompetitive benefits and thus such practices are always illegal. If Lido's DAO had approved the self-limiting proposal, it easily could have been construed as part of an illegal market allocation scheme, which is a form of price fixing. Price fixing is considered a "hardcore" antitrust violation, and the Department of Justice frequently brings criminal charges against market allocation conspirators. The Clayton Act also permits private plaintiffs to sue violators for treble damages.

This section poses (and then answers) two initial defensive questions: First, do antitrust laws even apply to conduct approved by a DAO and implemented by a decentralized protocol? Second, how could Lido's DAO face liability for independently planning to limit *its own* market share when Section 1 claims require the existence of an agreement between competitors?

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<sup>37</sup> *Id.*

<sup>38</sup> *See* United States v. Topco Assocs., Inc., 405 U.S. 596, 608 (1972) ("One of the classic examples of a per se violation of § 1 is an agreement between competitors at the same level of the market structure to allocate territories in order to minimize competition.").

<sup>39</sup> *See* United States v. Socony-Vacuum Oil, 310 U.S. 150, 224 (1940) ("Whatever economic justification particular price-fixing agreements may be thought to have, the law does not permit an inquiry into their reasonableness. They are all banned.").

## 1. Antitrust Liability for DAOs

To answer the first question, there is absolutely no doubt that antitrust laws apply to DAOs and their members. State laws in Vermont<sup>40</sup> and Wyoming<sup>41</sup> recognize DAOs as limited liability companies. Outside of these states, the default legal structure for DAOs is a general partnership.<sup>42</sup> Antitrust laws apply to both entity types. This creates significant liability risks for DAOs, as members of a general partnership are jointly and severally liable for the partnership's conduct.

In one recent case, plaintiffs sued a blockchain protocol's governance DAO and its members for acting negligently in failing to properly secure the protocol, from which hackers stole \$55 million worth of cryptocurrency. As plaintiffs' counsel in that case explained to the press: "Those who form DAOs apparently believe that they can use the word 'decentralized' to evade corporate and individual responsibility," but "[t]he opposite is true: without protection of a corporation or limited liability company, everyone involved in a DAO's governance is liable for the protocol's negligence and illegality."<sup>43</sup>

In another recent case involving the same protocol, the Commodity Futures Trading Commission ("CFTC") sued the protocol's DAO for violating the Commodity Exchange Act ("CEA").<sup>44</sup> Treating the DAO as an unincorporated association, the CFTC argued that members of the DAO who voted on protocol governance matters chose to participate in running the business and are liable for the alleged violations of the CEA. In its complaint, the CFTC highlighted statements from the protocol's founders suggesting that transferring control of the protocol to a DAO would make the protocol "enforcement-proof" by virtue of its decentralization.<sup>45</sup> The CFTC argue that "the [founders] were wrong" and that "DAOs are not immune from enforcement and may not violate the law with impunity."<sup>46</sup>

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<sup>40</sup> Vt. Stat. Ann. tit. 11., § 4173, available at <https://legislature.vermont.gov/statutes/section/11/025/04173> [<https://perma.cc/ZN9L-CFQV>].

<sup>41</sup> Wyo. Stat. Ann. § 17-31-104, available at <https://www.wyoleg.gov/Legislation/2021/SF0038> [<https://perma.cc/3GZC-XWLF>].

<sup>42</sup> As DAO Consultant David Kerr and Miles Jennings, General Counsel, Crypto, Andreessen Horowitz explained: "when two or more individuals are engaged in even a tenuous business relationship, the imputed structure is that of a general partnership." <https://a16zcrypto.com/wp-content/uploads/2022/06/dao-legal-framework-part-1.pdf> [<https://perma.cc/QR3W-BZY4>]. And in one recent case, plaintiffs sued a DAO and its members arguing that the DAO should be treated as a general partnership under the law. This has a significant effect on potential liability. Under a general partnership structure, DAO members are jointly and severally liable for the DAO's conduct.

<sup>43</sup> Ben Strack, *Hacked DAO Faces Lawsuit as Users Try to Recoup Stolen Funds*, Blockworks (May 3, 2022), <https://blockworks.co/hacked-dao-faces-lawsuit-as-users-try-to-recoup-stolen-funds/> [<https://perma.cc/Y6BJ-2UZA>].

<sup>44</sup> Complaint, Commodity Futures Trading Comm'n v. Ooki DAO, No. 22-cv-05416 (N.D. Cal. Sept. 22, 2022).

<sup>45</sup> *Id.* at 3.

<sup>46</sup> *Id.*

Private plaintiffs and government enforcers would likely make similar arguments against a DAO in the antitrust context.<sup>47</sup>

## 2. Pleading a Conspiracy under Section 1 of the Sherman Act

As to the second question, it is true that antitrust law treats self-limiting differently depending on whether the conduct is undertaken unilaterally or jointly with competitors. Unilateral self-limiting is allowable because firms, not antitrust regulators, are best situated to determine their own optimal output and it is expected that firms will modify their prices to reflect their market position. Higher prices that reflect a larger market share should theoretically invite additional competition to enter the market, leading to increased competition, higher output, and lower prices. On the other hand, for a *group* of firms to effectively reduce output, each firm must first reduce their own output to below competitive levels and then prevent other firms, motivated by higher prices, from expanding their output and undercutting their competitors. In the joint conduct context, higher prices are achieved, and maintained, by artificially limiting competition. This is generally viewed as an undesirable outcome. For this reason, Congress designed Section 1 of the Sherman Act to capture joint conduct by including an agreement requirement, thereby prohibiting *agreements* that unreasonably restrain trade.<sup>48</sup>

Courts have recognized that “the typical conspiracy is ‘rarely evidenced by explicit agreements,’ but must almost always be proved by ‘inferences that may be drawn from the behavior of the alleged conspirators.’”<sup>49</sup> Thus, in the absence of an explicit agreement, plaintiffs can prove a Sherman Act agreement through circumstantial evidence. To prove an agreement through circumstantial evidence, plaintiffs typically rely on parallel behavior and so-called “plus factors.” Parallel behavior simply means that competitors have engaged in similar conduct. Here, several LSD protocols considered limiting their own shares of the staked ETH market during the same two-month period. Parallel behavior, however, is not itself illegal because it does not preclude lawful unilateral activity. Plaintiffs must present circumstantial evidence of “plus factors” that “tends to exclude the possibility’ that the alleged conspirators acted independently.”<sup>50</sup>

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<sup>47</sup> The CFTC’s attempt to hold a DAO and their members liable for legal violations at the protocol level have spurred significant opposition. See Amicus Curiae Brief of LeXpunk Regarding Plaintiff’s Motion for Alternative Service, No. 22-cv-05416 (N.D. Cal. Oct. 17, 2022) (arguing that a DAO is not a “person” under the CEA; publication of the complaint on the DAO’s forum is inappropriate alternative service for individual DAO members; and the DAO’s governance of the protocol at issue is distinguishable from governance in typical corporate structures).

<sup>48</sup> 15 U.S.C. § 1 (2018).

<sup>49</sup> *ES Dev., Inc. v. RWM Enters.*, 939 F.2d 547, 553–54 (8th Cir. 1991) (quoting *H.L. Moore Drug Exch. v. Eli Lilly & Co.*, 662 F.2d 935, 941 (2d Cir. 1981)).

<sup>50</sup> *Matsushita Electrical Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 588 (1986) (quoting *Monsanto Co. v. Spray-Rite Service Corp.*, 465 U.S. 752, 764 (1984)).

Courts have declined to adopt an exhaustive list of plus factors that prove the existence of a conspiracy. Courts typically agree, however, that there are at least three common plus factors: (1) evidence of a motive to conspire; (2) evidence that the parallel acts were against the individual economic interest of the alleged conspirators; and (3) evidence implying a traditional conspiracy, such as a high level of interfirm communication.<sup>51</sup>

First, demonstrating a motive to conspire is relatively straightforward. In the price-fixing context, it can be as simple as showing that the conspiring firms believed that decreasing competition would increase profits.<sup>52</sup> Here, hypothetical plaintiffs would have argued that allocating market shares would permit LSD protocols to fix or increase pool fees.

Second, proving that self-limiting market shares is against the individual economic interest of the alleged conspirators also is seemingly straightforward.<sup>53</sup> Self-limiting, by its nature, constrains the protocol's ability to capture more staked ETH, and by virtue of operating more nodes, additional fees. This is especially true where, as in this example, the alleged conspirators have identified the market for ETH staking as a "winner-takes-most" market.

Third, evidence implying a traditional conspiracy usually takes the form of inter-competitor communications. The new *Antitrust Live* era of antitrust potentially makes this prong the most easy to prove. The logic of relying on such evidence is that communications between competitors allow them to reach a collusive agreement and agree to details around how the cartel will operate. Along these same lines, courts also recognize invitations to collude as a plus factor implying a traditional conspiracy because it signals that at least one firm is prepared to engage in collusion.<sup>54</sup> The Supreme Court, has held, for example, that "[a]cceptance by competitors, without previous agreement, of an invitation to participate in a plan, the necessary consequence of which, if carried out, is restraint of interstate commerce, is sufficient to establish an unlawful conspiracy under the Sherman Act."<sup>55</sup>

Here, multiple LSD protocols made public pledges to self-limit on Twitter, and a Lido DAO member indicated that "[a]s the market leader, Lido is in a

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<sup>51</sup> See *Gelboim v. Bank of America Corp.*, 823 F.3d 759, 781 (2d Cir. 2016); *In re Flat Glass Antitrust Litigation*, 385 F.3d 350, 360 (3d Cir. 2004) (quoting *Petruzzi's IGA Supermarkets, Inc. v. Darling-Delaware Co., Inc.*, 998 F.2d 1224, 1244 (3d Cir. 1993)).

<sup>52</sup> See *In re Musical Instruments & Equip. Antitrust Litig.*, 798 F.3d 1186, 1194–95 (9th Cir. 2015) ("Any firm that believes that it could increase profits by raising prices has a motive to reach an advance agreement with its competitors.").

<sup>53</sup> See *Williamson Oil Co., Inc. v. Philip Morris USA*, 346 F.3d 1287, 1310 (11th Cir. 2003) ("It is firmly established that actions that are contrary to an actor's economic interest constitute a plus factor that is sufficient to satisfy a price fixing plaintiff's burden in opposing a summary judgment motion.").

<sup>54</sup> See *Interstate Circuit v. United States*, 306 U.S. 208, 227 (1939); *United States v. American Airlines, Inc.*, 743 F.2d 114 (5th Cir. 1984). Invitations to collude gone unaccepted are often prosecuted under Section 5 of the FTC Act.

<sup>55</sup> *Interstate Circuit v. United States*, 306 U.S. 208, 227 (1939).

position to set a precedent which others might be likely to adhere to.”<sup>56</sup> Hypothetical plaintiffs likely would have argued that such statements were invitations to collude. Additionally, Lido and its competitors’ consideration of self-limiting appeared to be in response to the same tweet by Superphiz, which implies some level of inter-competitor communication, given that the communications had the same genesis and were available on a public forum. Hypothetical plaintiffs likely would have mined the relevant tweets for any interactions between members of competing DAOs, which would have further supported the existence of inter-competitor communications.

Hypothetical plaintiffs would have pointed to additional factors supporting the existence of an agreement as well. The effectiveness of Lido’s self-limiting proposal, for example, was dependent on its competitors also agreeing to limit their market shares. Recall that the Lido report summarizing the self-limiting proposal noted that those in favor of self-limiting believe other staking pool operators will also agree to self-limit.<sup>57</sup> Approval of the measure would have indicated that members of Lido’s DAO believed that Lido’s competitors would have accepted its invitation to collude.

Additionally, hypothetical plaintiffs would have argued that information transparency on the blockchain is a unique factor that would have made it easy for conspirators to confirm market allocation rules without directly communicating. In fact, one member of the Lido DAO proposed implementing an adjustable share limit: “For example, Lido could initially target a market share of 30% with a high fee penalty for exceeding that. Then, if a [centralized exchange] derivative threatened to take over, that 30% share target could be adjusted to 45% or the fee slope could be lessened to a ‘medium’ fee penalty instead of high.” This would have demonstrated both the ability to track market shares and automatically (and jointly) raise limits to exclude competitors from the market.

### *C. Illegal Invitation to Collude under the FTC Act*

There may still be antitrust liability even where no agreement exists. Unsuccessful attempts to enter into market allocation and price fixing arrangements do not violate the Sherman Act, but they may violate Section 5 of the FTC Act, which prohibits “unfair methods of competition,” including mere invitations to collude. Congress intended the FTC Act to address practices that are anticompetitive but that do not fall within the scope of the Sherman Act, and gave the FTC significant discretion over how to enforce the law. For example, Section 5 of the FTC Act does not include the Sherman Act’s agreement requirement.

Due to its broader scope, liability under the FTC Act is considerably less than under the Sherman Act. The FTC Act does not create a private right to action and

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<sup>56</sup> *Should Lido on Ethereum be limited to some fixed % of stake?*, Lido (May 21, 2022), <https://research.lido.fi/t/should-lido-on-ethereum-be-limited-to-some-fixed-of-stake/2225> [<https://perma.cc/47K3-Q2ZC>].

<sup>57</sup> *Id.*



does not authorize the FTC to seek criminal penalties for violations. Instead, the typical remedy for Section 5 cases is a cease and desist order, which is an injunction on the allegedly harmful conduct. This makes Section 5 a helpful tool when the legality of novel conduct is ambiguous, and where harsh criminal and monetary penalties may deter procompetitive conduct.

#### V. PROPOSAL TO APPLY THE RULE OF REASON TO BLOCKCHAIN ANTITRUST SELF-REGULATION

Antitrust regulators have recognized blockchain's procompetitive potential; particularly, the potential for decentralized platforms to disrupt existing centralized platforms.<sup>58</sup> Accordingly, there is a desire among antitrust regulators not to unnecessarily restrict blockchain's growth or development and to prevent incumbent firms from stymieing blockchain-based competitors. Efforts to preserve decentralization then may be particularly attractive to antitrust regulators. To that end, regulators could exercise prosecutorial discretion and choose not to bring cases involving antitrust self-regulation for blockchains. The Sherman Act does establish a private right of action, however, meaning that injured parties could initiate litigation on their own in federal court, where they are likely to argue for per se condemnation of such conduct. Accordingly, we must evaluate whether applying the per se rule to this type of self-regulation is desirable. Departures from per se treatment for traditionally anticompetitive conduct in other contexts may be instructive in advocating for a more permissible standard for blockchain antitrust self-regulation.

The Supreme Court has observed that "the doctrine of per se illegality should not be immovable"<sup>59</sup> and that antitrust doctrines "evolv[e] with new circumstances and new wisdom."<sup>60</sup> The Court has, in the past, moved agreements from the per se category to the rule of reason when warranted by market complexities, the creation of a new product, and the increasing need for competitors to collaborate. For example, in one case, the Supreme Court ruled that vertical pricing restraints are no longer subject to per se treatment.<sup>61</sup> And in another case, the Supreme Court applied the rule of reason to a horizontal price-fixing agreement because the Court had "never examined a practice like [the one at issue in that case] before."<sup>62</sup> Citing these cases, the Seventh Circuit explained that "[i]t is a bad idea to subject a novel way of doing business . . . to

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<sup>58</sup> See Makan Delrahim, Assistant Att'y Gen. Dep't of Just., Never Break the Chain: Pursuing Antifragility in Antitrust Enforcement, Remarks at the Thirteenth Annual Conference on Innovation Economics (Aug. 27, 2020), <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-tirteenth-annual-conference> [<https://perma.cc/X3NX-A3G6>] ("The potential of blockchain is the ability to operate a marketplace or network without a centralized intermediary.").

<sup>59</sup> *Leegin Creative Leather Products, Inc. v. PSKS, Inc.*, 551 U.S. 877, 900 (2007).

<sup>60</sup> *Business Electronics Corp. v. Sharp Electronics Corp.*, 485 U.S. 717, 732 (1988).

<sup>61</sup> See *supra* note 60.

<sup>62</sup> *Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.*, 441 U.S. 1, 10 (1979) (discussing blanket licenses for copyrighted musical compositions).

per se treatment under antitrust law,” noting that “[t]he per se rule is designed for cases in which experience has convinced the judiciary that a particular type of business practice has no (or trivial) redeeming benefits ever.”<sup>63</sup>

Blockchain is a nascent technology, and markets related to blockchain have not been explored by courts at length, especially in the antitrust context. Different technologies, structures, and incentives are at issue in decentralized blockchain markets than traditional, centralized markets. This fact alone should favor withholding per se treatment in certain blockchain cases, at least initially. And in fact, antitrust defendants have already raised this argument in the blockchain context.

The case, which was one of the first antitrust cases involving cryptocurrencies,<sup>64</sup> included per se bid-rigging and group-boycott claims against a group of bitcoin miners. Defendants argued in their motions to dismiss that per se treatment was inappropriate in this case because the court, and in fact, no court, “has yet had ‘considerable experience’ in deciding whether the alleged ‘hijacking’ of a single cryptocurrency network is a per se automatic violation of the federal antitrust laws.”<sup>65</sup> During a court hearing, the defendants’ counsel reminded the court that the case was the first of its kind and “that it’s only with ample judicial experience that the courts apply the Per Se rule.”<sup>66</sup> Recognizing the novelty of the technology and issues involved, the judge requested that counsel provide a blockchain “tutorial” for the court. The case was ultimately dismissed for failing to plead a viable antitrust claim, meaning that the judge did not need to rule on whether per se treatment of the conduct at issue was appropriate.

Another reason to distinguish blockchain antitrust cases from traditional per se cases is that most (if not all) blockchains qualify as multi-sided platforms due to their reliance on indirect network effects. As Section II explains, nodes receive fees and earn rewards for recording and validating on-chain transactions, and pool operators keep a percentage of what the nodes earn. Accordingly, staking pool operators are incentivized to attract developers and users to the network because greater network activity means more transactions for nodes to record and validate, which leads to higher transaction fees and greater profits. This requires plaintiffs to prove, and courts to analyze, harm to each side of the market.<sup>67</sup> For example, plaintiffs could not allege harms to one side of the market—stakers—while ignoring benefits to other sides of the market—developers and users. In this case, proponents of self-limiting argue that staking centralization will pose an

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<sup>63</sup> In re Sulfuric Acid Antitrust Litigation, 703 F.3d 1004, 1011–12 (7th Cir. 2012).

<sup>64</sup> Konstantinos Stylianou, *What can the first blockchain antitrust case teach us about the crypto-economy?*, JOLT Digest (Apr. 26, 2019), <https://jolt.law.harvard.edu/digest/what-can-the-first-blockchain-antitrust-case-teach-us-about-the-crypto-economy> [https://perma.cc/U8YU-9ECE].

<sup>65</sup> Defendants Payward Ventures, Inc.’s and Jesse Powell’s Motion to Dismiss the Complaint, *United American Corp. v. Bitmain, Inc. et al.*, No. 1:18-cv-25106 (S.D. Fla. Feb. 1, 2019).

<sup>66</sup> Transcript of Telephonic Motion Hearing at 57, *United American Corp. v. Bitmain, Inc. et al.*, No. 1:18-cv-25106 (S.D. Fla. Sept. 29, 2020).

<sup>67</sup> See *Ohio v. American Express Co.*, 138 S.Ct. 2274 (2018).

existential threat to the network by allowing nodes from one staking pool to control the entire network. This is seen as a security threat and could dissuade users from participating in network activity.

Blockchain's transparency may also distinguish between certain blockchain cases and precedent regarding invitations to collude. Invitations to collude are usually private, and courts have been hesitant to infer antitrust conspiracies from public statements containing information relevant to the public, the industry, or the company's shareholders.<sup>68</sup> In the LSD protocol context, public commitments to self-limit market shares could constitute the type of information that the public should know to make informed decisions about the security of blockchain networks.

## VI. CONCLUSION

The new blockchain era of antitrust will bring about new experiments involving decentralized market structures and innovative network incentives. Self-regulation will play a key role as a tool to replace the government enforcers and private plaintiffs of traditional antitrust. As this Article imagines, there is risk that some self-regulation efforts may run afoul of existing antitrust laws, and thus DAOs and protocols should be aware of such risks and try to avoid them. Regardless, the per se prohibition of certain types of antitrust self-regulation in the blockchain context is inappropriate, as it could impede the technology's procompetitive potential. Additionally, judges lack the experience with blockchain markets that would warrant per se treatment. Instead, a more searching inquiry under the rule of reason is favored. The best part about this new blockchain era of antitrust is that it will continue to take shape in a public forum and in real time. It is *Antitrust Live*.

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<sup>68</sup> See *In re Delta/Airtran Baggage Fee Antitrust Litigation*, 245 F. Supp.3d 1343, 1373 (N.D. Ga. 2017).