June 8, 2023

Submitted Electronically

Vanessa Countryman
Secretary, Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

RE: File No. S7-02-22; Amendments to Exchange Act Rule 3b-16 Regarding the Definition of "Exchange"

Dear Ms. Countryman:

We appreciate the opportunity to comment on the Commission's proposed redefinition of the term "exchange" in the Securities Exchange Act of 1934 to encompass the decentralized "exchanges"—or "DEXs"—used to facilitate transactions of cryptoassets in decentralized finance ("DeFi"). Paradigm is an investment firm that backs entrepreneurs building innovative crypto and Web3 companies and protocols. As such, we have a deep understanding of the emerging DeFi ecosystem, as well of the serious adverse effects that would come from the Commission's proposal to regulate DEXs as though they were traditional securities exchanges.

In short, although the acronym "DEX" includes the word "exchange," DEXs differ from the "exchanges" governed by the 1934 Act in several fundamental respects. These differences make treating them as "exchanges" under the Act invalid and incoherent. It thus appears that after suing Coinbase for failing to do the impossible—registering as a securities exchange when it was incapable of doing so—the Commission now intends to force DEXs into the same Hobson's choice.

The exchanges that the Act gives the Commission authority to regulate share two critical features: 1) they *serve as intermediaries* in securities transactions, by "bringing together purchasers and sellers," 15 U.S.C. § 78c(a)(1); and 2) they are run by some *specific entity capable of collective action*—an "organization, association, or group of persons" that "constitutes, maintains, or provides" the exchange, *id.* These features are plainly set forth in the Securities Exchange Act's own definition of "exchange." And they are also crucial components of the Act's history and purpose—for an exchange's role as a third-party intermediary was the reason Congress found it necessary to regulate them, and the existence of an entity capable of running the exchange was the basic premise of the regulatory approach Congress adopted. But DEXs lack *both* of these critical features. A DEX, particularly those using automated market maker mechanisms,[1] involves no person or entity playing an intermediating role between buyers and sellers—instead, it uses an algorithm to balance pools of cryptoassets that potential buyers or sellers can freely access. Nor is a DEX run by any organization, association, or group capable of collective action, but rather relies on self-executing code that in many instances cannot be changed or upgraded. It is inert code, not an active marketplace managed in all aspects by a single company. DEXs are thus not

[1] See Section B.1 for a description of AMMs.

"exchanges," as contemplated by the Act, and the Commission's proposal to treat them as such is beyond its statutory jurisdiction.

The Commission's procrustean effort to regulate DEXs like traditional exchanges also, predictably, has led it to draw arbitrary and capricious distinctions amongst quickly developing technologies. The changes it has made to the regulatory definition of "exchange" involve replacing traditional and understood terms with novel, vague, and ambiguous ones—with the result that the newfound definition of "exchange" is so far-reaching that it would facially encompass entities that are *plainly nothing like exchanges*, such as Bloomberg's messaging service. The Commission proposed to solve this problem by simply carving those messaging services out of the definition by blunt force, but that move is itself arbitrary and capricious.

Finally, the haphazard way in which the Commission has proposed its new definition of "exchange" also violates the rulemaking procedures of the Administrative Procedure Act ("APA"). The Commission first surfaced its revolutionary new definition in a March 18, 2022 notice, but that notice left it entirely unclear whether the proposed definition was meant to apply in the DeFi context—and it also suffered from a far-too-short, 30-day comment period and a total absence of any cost-benefit analysis of regulating DEX's in this way. The Commission effectively acknowledged these shortfalls by reopening the comment period, first in May of 2022 and again in April of 2023. But none of these make-up comment periods solve the procedural flaws inherent in the original notice. To the contrary, by the time the Commission actually disclosed its intent to regulate DEXs as exchanges under the Act, in the April 2023 notice, the notice makes clear that its mind had been closed on the matter—a clear violation of the APA's requirement of a fair opportunity for public comment. Three palpably flawed attempts at public notice do not add up to a single procedurally valid one. Neither can these prior errors cannot be fixed by any additional stop-gaps.

Accordingly, we write to request that the Commission withdraw its proposed redefinition of "exchange" and begin its consideration of how to adapt its regulations in the DeFi context anew—after rigorous economic analysis, genuine, broad engagement with the industry, and a close look at the limits of its statutory jurisdiction.

I. The Proposed Amendments Redefine the Term "Exchange" in a Way that Exceeds the Commission's Statutory Authority.

A. The Commission's Authority under the Act Extends Only to "Exchanges" where Intermediaries Match the Orders of Purchasers and Sellers.

We start with the fundamentals. Because "an agency literally has no power to act . . . unless and until Congress confers power upon it," *Louisiana Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 374 (1986), "an administrative agency's power to regulate . . . must always be grounded in a valid grant of authority from Congress," *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 161 (2000). Accordingly, while an agency like the Commission has authority to exercise the power delegated upon it by Congress, if it "exercises power beyond the bounds of its authority, it acts unlawfully." *DHS v. Regents of the Univ. of California*, 207 L. Ed. 2d 353 (June 18, 2020). Here, that means that the scope of Commission's authority to regulate securities and those who exchange them is limited by the statutory metes and bounds set by Congress in the Securities Exchange Act.

In particular, because the proposed amendments to Exchange Act Rule 3b-16 purport to offer a new definition of a securities "exchange," the Commission's authority to promulgate that new definition

is bounded by the definition of "exchange" that Congress itself included in the Act. Because of the importance of this statutory definition, we quote it in full:

> The term "exchange" means any organization, association, or group of persons, whether incorporated or unincorporated, which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood, and includes the market place and the market facilities maintained by such exchange.

15 U.S.C. § 78c(a)(1).

For purposes of determining the Commission's authority to regulate DeFi,[2] two aspects of this statutory definition are critical: (1) it applies only to those exchanges that serve as an intermediary in each individual transaction, by "bringing together [the] purchasers and sellers" who are exchanging the securities at issue; and (2) it also applies only to those exchanges that are set up or operated by some entity capable of collective action—an "organization, association, or group of persons" that actively "constitutes, maintains, or provides" the marketplace. We discuss both definitional requirements immediately below; and in the section that follows, we show that decentralized finance does not satisfy either one of them.[3]

1. By its text, history, and purpose, the Exchange Act's definition of an "exchange" applies only to those entities that perform the intermediating function of bringing together purchasers and sellers of securities. Begin with the text: an "exchange," the Act says, is a place or facility "for *bringing together purchasers and sellers* of securities." 15 U.S.C. § 78c(a)(1). Importantly, that means that there must exist a specific organization, association, or group that is *capable of collective action*—the collective action of consciously intermediating between buyers and sellers. The Act's language is clear: no entity capable of performing this intermediating function, no exchange.

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[2] Although not a focus of this comment letter, we note that the Commission's authority to regulate DeFi also rests on the fundamental premise that the cryptoassets traded on these systems are securities. Paradigm believes the vast majority of cryptoassets do not meet the definition of a security, even if they have been sold pursuant to an investment contract transaction.

[3] The Act also defines an "exchange" to include an "organization, association, or group of persons" that "constitutes, maintains, or provides a market place or facilities…for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood." 15 U.S.C. § 78c(a)(1). By the Act's plain text, this "otherwise performing" language still only applies if there is an "organization, association, or group of persons" that "constitutes, maintains, or provides" the marketplace or facilities at issue—that is, it still requires the existence of a third party that runs the exchange. Moreover, because the "fundamental characteristic" of the stock exchanges that existed in 1934 was its function of "providing purchasers and sellers . . . buy and sell quotations on a regular or continuous basis so that those purchasers and sellers have a reasonable expectation that they can regularly execute their orders at those price quotations," *Delta Government Options Corp.*, 55 FR 1,890, 1,894 (Jan. 12, 1990), this "otherwise performing" clause also shares the second feature of the Act's primary definition of "exchange": it applies only where the exchange serves the intermediating function, in each transaction, of bringing together the purchaser and seller.

The Act's history and purpose confirm the plain import of its language, for the ability of securities exchanges to serve as intermediaries to a securities transaction was fundamental to Congress's understanding of the problem that the 1934 Act was designed to solve. The Act "emerged as part of the aftermath of the market crash in 1929," *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 194 (1976), which "many people came to blame" during the Great Depression "for their suffering and the country's ruin," Steve Thel, *The Original Conception of Section 10(b) of the Securities Exchange Act*, 42 STAN. L. REV. 385, 408 (1990). As the prominent 1934 report of the Senate "Pecora Commission" reflected, the public blamed the 1929 "down-swing in securities values" on the exchanges for much of the economic upheaval and suffering in the following years, including "[t]he wholesale closing of banks and other financial institutions; the loss of deposits and savings; the drastic curtailment of credit; the inability of debtors to meet their obligations; the growth of unemployment; the diminution of the purchasing power of the people to the point where industry and commerce were prostrated; and the increase in bankruptcy, poverty, and distress." *Stock Exchange Practices: Report of the Committee on Banking and Currency* 7 (June 16, 1934) ("Pecora Report"). The 1934 Act was enacted in response, "to protect investors against manipulation of stock prices through regulation of transactions upon securities exchanges and in over-the-counter markets, and to impose regular reporting requirements on companies whose stock is listed on national securities exchanges." *Ernst & Ernst*, 425 U.S. at 195.

"The true function of an exchange," the Pecora Report explained, "is to maintain an open market for securities, where supply and demand may freely meet at prices uninfluenced by manipulation and control," which "necessarily implies that the buyer and seller are acting in the exercise of an enlightened judgment as to what constitutes a fair price." Pecora Report 30, 68. But "manipulative practices" were interfering with this "true function of an exchange," Congress believed, forcing the federal government to intervene. *Id.* at 30. And these "manipulative practices" were occurring *precisely because of the exchanges' role as intermediaries* to the transactions between purchasers and sellers.

As the Pecora Committee explained, for example, "members of organized exchanges" had engaged in extensive "trading . . . for their own account"—in some cases acting in the "dual position as agent and principal in a single transaction"—and thereby creating a situation where an exchange member's "personal interest necessarily clashes with that of his customer." Pecora Report 19–20. "Stock exchange representatives" had also failed to curb a host of "manipulative activities" that hindered the exchanges' ability to serve as "an open market for securities, where supply and demand may freely meet at prices uninfluenced by manipulation and control." *Id.* at 30. And they had likewise failed to enforce rules ensuring that the public was provided with "honest, complete, and correct information regarding the securities listed." *Id.* at 68. In short, the central evil that the 1934 Act sought to remedy was that "the interests of exchanges and their members frequently conflicted with the public interest," with the result that "[d]uring the speculative orgy of 1928 and 1929, stock-exchange authorities made no adequate effort to curb activities on their exchanges." *Id.* at 81. Because only a group or association capable of the coordinated action of serving as an identifiable third party in each securities transaction can have and pursue an "interest . . . [that] conflict[s] with the public interest," *id.*, the abuses targeted by the Act were thus necessarily premised on the exchange's ability to serve as an intermediary.

Until now, the Commission has recognized this fundamental feature of the "exchanges" governed by the Act. The Commission's current regulatory definition of "exchange," for example, applies only to an organization, association, or group that "[b]rings together the orders for securities" from "buyers and sellers," and governs the way in which these "orders interact with each other, and the buyers and sellers entering such orders agree to the terms of a trade." 17 C.F.R. § 240.3b-16(a). The current regulatory definition, in other words, applies only to exchanges that serve an intermediating function in the transactions between purchasers and sellers. The current definition thus does not reach the mere

provision of the information - the pure data - that buyers and sellers use, *before* the transaction, to determine the terms of their orders. It does not reach that activity because that activity is outside the scope of the Commission's authority under the Act, due to the fundamental nature of the Act's conception of an "exchange."

2. The Securities Exchange Act's text, history, and purpose demonstrate a second feature of the Act's definition of "exchange": it applies only to those "market place[s] or facilities" that are *run by some identifiable, third-party entity*. Once again, the text alone simply leaves no room for doubt about this. An "exchange," according to the Act's definition, can only exist if there is an "organization, association, or group of persons" that "constitutes, maintains, or provides" it. 15 U.S.C. § 78c(a)(1). And again, that means that there must exist some specific group that is *capable of collective action*—here, the collective action of constituting, maintaining, or providing the exchange.

As with the first feature of the Act's definition, the Securities Exchange Act's history and purpose confirm the import of its plain text. Congress designed the Act "to purge the securities exchanges of those practices which have prevented them from fulfilling their primary function of furnishing open markets for securities where supply and demand may freely meet at prices uninfluenced by manipulation or control," and "to eradicate fundamental and far-reaching abuses which contain within themselves the virus for destroying the securities exchanges." Pecora Report 81. The "securities exchange" was thus the central regulatory element, under the Act, focused on and bound to securities transactions; and it is clear beyond dispute that Congress understood these "exchanges" as entities capable of the collective action of setting up and running a marketplace for securities.

Consider the Pecora Report's description of the New York Stock Exchange—the Nation's preeminent securities exchange, *id.* at 8, which had been recognized since the turn of the century as "probably the most important financial institution in the world," *Report of Governor Hughes' Committee on Speculation in Securities and Commodities* 4 (June 7, 1909). The New York Stock Exchange, the Pecora Report explained, "is an unincorporated association" governed by a "governing committee consisting of 40 members and the president and treasurer of the exchange." Pecora Report 77–78. This governing committee had fulsome power to coordinate and control the collective actions of the exchange.[4] Through the governing committee, then, the Exchange was unquestionably capable of engaging in coordinated, collective action—capable, in the terms of the 1934 Act, of "constitute[ing], maintain[ing], or provid[ing] a market place or facilities" for bringing purchasers and sellers together. 15 U.S.C. § 78c(a)(1).

Indeed, just as an exchange's ability to intermediate between buyers and sellers was fundamental to Congress's conception of the problem it was seeking to solve, the fact that an "exchange" was organized and run by some identifiable entity was a necessary premise of the solution Congress adopted with the passage of the 1934 Act. The fundamental regulatory mechanism adopted by the 1934 Act is registration. Rather than eliminating or replacing the exchanges, Congress required them to obtain the Commission's preapproval before conducting business. And as part of this registration process, importantly, Congress required an exchange to demonstrate that it "is so organized and has the capacity to be able to carry out the purposes of this chapter and . . . to enforce compliance by its members and

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[4] "The governing committee has all powers necessary for the government of the exchange, the regulation of the business conduct of its members, and the promotion of its welfare, objects, and purposes. It also has power to appoint and dissolve all standing and other committees except the nominating committee; to define, alter, and regulate their jurisdiction; to discipline the members of the exchange; and to control its property and finances." *Id.* at 78.

persons associated with its members, with the provisions of this chapter, the rules and regulations thereunder, and the rules of the exchange." 15 U.S.C. § 78f(b)(1). The 1934 Act regulates the securities market, in other words, by *conscripting the exchanges* into enforcing the regulations prescribed by Congress and the Commission. And again, only a person, group, or association able to engage in *the collective action of organizing and running the exchange* has the capability of playing this enforcement role.

B. DeFi "Exchanges" Lack the Fundamental Features that Constitute the Exchanges Subject to the Act.

While DeFi involves the use of what are called "decentralized exchanges," or "DEXs" these entities *are not* the "exchanges" contemplated by the Securities Exchange Act. Indeed, these DEXs lack both of the fundamental features that constitute an "exchange" subject to the Act. They are thus beyond the Commission's statutory jurisdiction, and the proposed amendment's attempt to sweep them within the Commission's regulatory reach is contrary to both plain logic and law.

1. Precisely because of their "decentralized" nature, DEXs do not, and cannot, serve the intermediary function that is fundamental to the exchanges governed by the Act. In the exchanges contemplated by the Act, as discussed above, each transaction involves three parties: a purchaser, a seller, and an intermediary that brings the two together and enforces the rules or protocols that govern the transaction. A DEX, by contrast, *eliminates* the intermediary from the transaction. That is the basic feature, and benefit, of DeFi: it eliminates the need for a trusted third-party that oversees the purchase transaction, by allowing prospective purchasers and sellers to interact with each other through code. It is as different from a securities exchange as a switchboard phone operator is from the modern internet.

One widely used mechanism for DEXs, for example, is the "automated market-maker," or "AMM." An AMM is simply a protocol, or piece of code, that anyone can access to create "liquidity pools" of two or more cryptoassets. These liquidity pools unite multiple "liquidity providers"—traders who have made their cryptoassets available in a liquidity pool—with "liquidity takers"—other traders who wish to acquire one of the cryptoassets placed in the pool by exchanging the other, at an exchange rate that is algorithmically determined by the AMM based on the quantities of the two types of cryptoassets in the pool.[5] Both sides of the transaction are then automatically recorded on the blockchain. All of this can take place without the need for a third-party intermediary to (i) bring the traders together, (ii) provide the information and enforce the rules that allow them to determine the price, or (iii) take custody of the assets that are the subject of the exchange.

Because DEXs lack any group capable of serving an intermediating function, they also do not pose the risks of abuse that motivated the enactment of the Securities Exchange Act. As explained above, a key purpose of the 1934 Act was to curb the "fundamental and far-reaching abuses" that had arisen because "the interests of exchanges and their members frequently conflicted with the public interest." *Id.* at 81. In stock exchanges, for example, the members are also purchasers and sellers of securities on their own account and can manipulate the rules to disadvantage their customers and other market participants. It was precisely the traditional stock exchange's role as an intermediary between purchaser and seller that enabled it to abuse their trust in pursuit of the exchange's own self-interest. DEXs, by contrast, *have no 'self-interest,'* because they do not involve the actions of any group or association that

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[5] *See* Sirio Aramonte, Wenqian Huang and Andreas Schrimpf, *Trading in the DeFi era: automated market-maker*, BIS Quarterly Review (Dec. 6, 2021), https://www.bis.org/publ/qtrpdf/r_qt2112v.htm.

is *capable* of independent 'self-interest." They also do not limit access to members, but are open-access to all the world. That, once again, is the fundamental benefit of DeFi (and of the entire Web 3.0 ecosystem): it removes the need for reliance on trusted third parties who, by virtue of their role, are capable of abusing the trust that has been given to them and empowers everyone to participate.

The far-reaching ways in which the proposed amendment departs from that longstanding definition of "exchange" serve to underscore the fundamental reasons that DEXs do not fall within the statute's conception of an "exchange." As noted above, the Commission's current regulatory interpretation defines "exchange" as "[a]n organization, association, or group of persons" that "[b]rings together the orders for securities of multiple buyers and sellers" and "[u]ses established, non-discretionary methods (whether by providing a trading facility or by setting rules) under which such orders interact with each other, and the buyers and sellers entering such orders agree to the terms of a trade." 17 C.F.R. § 240.3b-16(a). And as also discussed above, because DEXs do not intermediate between purchasers and sellers in these ways, they do not fall within this definition of an "exchange." Accordingly, to sweep DeFi within the Commission's regulatory jurisdiction, the proposed amendment must depart from this longstanding definition in three radical ways.

First, DEXs do not necessarily involve "orders" at all. Unlike a traditional securities transaction, where a purchaser and seller come together over a specific order that dictates the price and other terms of the transaction, the liquidity-providers and liquidity-takers who transact through an AMM, for example, have no orders and do not negotiate over terms or price. Instead, the AMM algorithmically determines the price of the transaction based on the relative amounts of the assets in the pools. Accordingly, the Commission's amendment cashiers the longstanding and fundamental concept of "orders" *altogether*, replacing it with the novel and amorphous term "trading interest."

Second, because DEXs are incapable of serving as intermediaries to a securities transaction, they do not "provid[e] a trading facility" or "set[ ] rules" that govern the interaction between purchasers and sellers. 17 C.F.R. § 240.3b-16(a)(2). They fundamentally cannot perform the task that is a necessary feature of all securities exchanges. Accordingly, the amendment proposed to add yet another vague and heretofore unknown term to the regulatory definition: "communication protocols." After two attempts, the Commission has yet to hazard a definition for this new term.

Third, even these radical changes do not yet encompass DEXs, precisely because they lack any entity capable of serving as an intermediary to securities transactions. Thus, there is no entity capable of the collective action of "us[ing]" the "communication protocols" to govern the interaction between buyers' and sellers' "trading interests." The proposed amendment thus includes perhaps the most radical change of all: eliminating the requirement that the group purportedly comprising the exchange actually "use" non-discretionary methods to govern the interaction between buyers and sellers, and extending the definition, instead, to all those entities that merely "make[ ] available" such methods (including "communication protocols").

The effects of these three proposed changes are far-reaching—so far-reaching that, as discussed in Part II below, the Commission was forced to craft arbitrary exceptions in an attempt to mitigate them. But the important point for present purposes is that these proposed changes contort the understanding of an "exchange" so dramatically *precisely because* DEXs do not play the intermediating role that is fundamental to the concept of an "exchange" as the 1934 Act understands it.

2. DEXs also do not meet the second feature of the Act's definition of an "exchange." When parties transact using DEXs, there is no group of intermediaries that consciously and collectively

"constitutes, maintains, or provides" the facilities used in the transaction, 15 U.S.C. § 78c(a)(1). Indeed, there is no "organization, association, or group of persons" in any meaningful sense, *id.*, that mediates the DeFi transaction *at all*. To be sure, the infrastructure used in the transaction only exists because of the disparate actions of multiple people over time. But none of these actors can ever be said to have been part of an "organization, association, or group of persons" who collectively acted to "constitute[ ], maintain[ ], or provide[ ]" an exchange.

The code that enables a DEX, for example, was obviously created by one or more developers who wrote the code. But these developers no more "constitute[ ], maintain[ ], or provide[ ]" a marketplace for securities, *id.*, than do the developers who wrote the software on the computers used by traditional brokers. The same is true for the people or entities who act as the validators that process transactions on the blockchains on which DEXs operate. Yes, all of these separate actors play an individually necessary (and jointly, but not individually, sufficient) role in enabling the exchange of cryptoassets to take place. But *none of them* comprises a legally responsible "organization, association, or group of persons," because no two of these people are collectively engaged in a shared endeavor—except for the two parties to the transaction themselves. To the contrary, each of these individual actors are pursuing their own separate, and in some cases conflicting, goals. They are an ecosystem, but none of them are the intermediary in the classic securities exchange sense. It is only the automated infrastructure underlying DeFi that unites their disparate actions into a single transaction, and it also fails to qualify as a securities exchange.

The individuals who hold so-called "governance tokens" likewise do not constitute an "organization, association, or group" that "constitutes, maintains or provides" a marketplace for securities. Governance tokens are a type of cryptoasset that give the token holders a vote on how to distribute funds from a community treasury in order to direct the development of the project and allow them to participate in other decisions relating to the protocol. The extent to which governance token holders can change aspects of a protocol (as opposed to immutable aspects of a protocol that cannot be changed by anyone) varies protocol by protocol. However, the token holders play no role in the facilitation of transactions or the operation of an exchange, which are enabled by publicly accessible and self-executing code. Contrast the limited authority of governance token-holders with the Pecora Commission's description of the governance structure of the New York Stock Exchange:

> The governing committee has all powers necessary for the government of the exchange, the regulation of the business conduct of its members, and the promotion of its welfare, objects, and purposes. It also has power to appoint and dissolve all standing and other committees except the nominating committee; to define, alter, and regulate their jurisdiction; to discipline the members of the exchange; and to control its property and finances. There are various standing committees . . . . The committee on business conduct is the principal disciplinary agency of the exchange and investigates all cases of alleged improper transactions except those which fall within the jurisdiction of some other standing committee . . . . The arbitration committee . . . has jurisdiction of any claim or matter of difference between members and customers. . . . The committee on . . . is charged with the duty, under the direction of the president, "to keep the public correctly informed concerning matters of public interest having to do with the exchange."

Pecora Report 77–80. Any suggestion that governance tokenholders "constitute[ ], maintain[ ], or provide[ ]" DeFi facilities in the manner contemplated by Congress in the 1934 Act is unsupported.

The absence of any intermediating third party to a DeFi transaction also renders the Act's signature enforcement mechanism inapplicable and incoherent. Again, the Act's key regulatory mechanism is to impose the obligation of enforcing the Commission's rules and protections on the exchanges themselves, through the registration process. That approach makes no sense in the absence of any association or group of persons capable of policing compliance with the Commission's rules. The rules governing an exchange of cryptoassets through a DEX are set autonomously, by the code that comprises the AMM protocol, not by any conscious third party acting on behalf of the exchange. There is simply no third party, in a DeFi transaction, that is capable of supervising and controlling the behavior of the traders on an ongoing basis. The entire regulatory structure established by the Act thus makes no sense in this context—precisely because DEXs do not fall within the definition of "exchange" actually provided by the Act.

The Commission's notice reopening comments on the proposed redefinition effectively recognizes that DEXs are not "exchanges" for this reason. In discussing the costs of complying with the Commission's Exchange Act regulations, the Commission essentially acknowledges that no existing entity controls a DEX's operations in a way that would allow them to ensure regulatory compliance. But it posits that governance tokenholders "could choose to *form* an organization or association, or to designate a member of a group of persons, which would be responsible for undertaking the activities necessary to bring the [DEX] into compliance." 88 Fed. Reg. at 29,483. In other words, while a DEX *does not currently* meet the statutory definition of an "exchange," it could *transform itself into* an exchange in order to comply with the Commission's decision to regulate it as one. It is harder to conceive of a clearer indictment of the validity of the Commission's misguided approach. Plainly, the 1934 Act vests the Commission with authority to *regulate exchanges*, not the authority to regulate non-exchange entities by *forcing them to become exchanges*. To argue otherwise is to fundamentally misread the statute's text as well as the intentions of its drafters. And has long been said, Congress does not "hide elephants in mouseholes." Whitman v. American Trucking Assns., Inc., 531 U.S. 457, 468 (2001).

II. The Lines Drawn by the Proposed Amendments Are Arbitrary and Capricious.

The proposed redefinition of "exchange" is also contrary to the APA because it makes distinctions that are "arbitrary, capricious, [and] an abuse of discretion." *Id.* § 706(2)(A).

As discussed above, the proposed regulation departs from the Commission's longstanding definition of "exchange" in three transformative ways. It eliminates "orders" from the definition, replacing it with the new concept of "trading interests"; it extends the definition to cover another altogether new concept, the use of "communication protocols" under which buyers and sellers interact, in addition to trading facilities and rules; and it encompasses entities that merely publish or "make[ ] available" these "communication protocols," rather than just those entities that actively "use" them.

The collective effect of these changes, the proposed amendment explains, is to reach "systems [that] take a more passive role in providing to their participants the means and protocols to interact, negotiate, and come to an agreement." 87 Fed. Reg. at 15,506. This fundamental re-conception of the nature of an "exchange"—to include entities that merely *provide the information and means that traders use to communicate*, rather than entities that *actively serve to intermediate that communication*—is necessary if the Commission's jurisdiction is to encompass the decentralized infrastructure used in DeFi transactions, such as DEXs. But on its face, this radical extension of the Commission's jurisdiction also would impose the rules governing "exchanges" on a wide array of other entities and tools that are used for, or ancillary to, the trading of securities—including entities and tools that everyone agrees cannot be considered "exchanges" this side of Wonderland.

Consider, for example, the messaging tools that are widely used to exchange information, communicate, and otherwise facilitate trades. Bloomberg Terminal, for instance, is a popular tool that provides its users with real-time financial data, price feeds, and the ability to message with other traders. Bloomberg Terminal's main competitor—Eikon, developed by Thomson Reuters—provides similar functionality. Other entities, such as Symphony, also provide messaging services widely used to traders to exchange information and facilitate transactions. Because these entities all "make available" "communication protocols," they would appear to fall within the Commission's new definition of "exchange."

Recognizing the absurdity of sweeping entities like these into the definition of "exchange," the proposed amendment includes a gerrymandered carve-out. "[A] system that displays trading interest and provides only connectivity among participants," the amendment opines, "would not fall within the communication protocols prong of the proposed rule because such providers are not specifically designed to bring together buyers and sellers of securities or provide procedures or parameters for buyers and sellers for securities to interact." 87 Fed. Reg. at 15,507–15,508. That distinction is arbitrary and makes no sense. Surely the definition of an "exchange" should turn on objective features and functions, not an inquiry into the purpose for with a tool or protocol was "designed." And it certainly seems from Bloomberg's own description of Bloomberg Terminal, for example—as enabling "[u]sers from all over the financial world . . . to exchange ideas, research, trade inquiries, pricing, indications of interest, client insights, news, data and more," Instant Bloomberg, Bloomberg.com, https://bloom.bg/3Ml8kZs—that it was no less designed to "bring together buyers and sellers," and "provide procedures . . . for [them] to interact" than any AMM. 87 Fed. Reg. at 15,507–15,508.

When a regulation provides for disparate treatment of similarly-situated entities in this way, it is arbitrary and capricious. "A long line of precedent has established that an agency action is arbitrary when the agency offers insufficient reasons for treating similar situations differently." *Los Angeles v. Shalala*, 192 F.3d 1005, 1022 (D.C. Cir. 1999) (cleaned up). In *USPS v. Postal Regulatory Commission*, for example, the U.S. court of Appeals for the D.C. Circuit held that the Postal Regulatory Commission had acted arbitrarily and capriciously in determining that new USPS rules governing the *preparation* of mail for mailing amounted to an increase in rates for purposes of calculating a statutory price-increase cap governing the Post Office. 785 F.3d 740 (D.C. Cir. 2015). The D.C. Circuit's decision in *Airmark Corp. v. FAA*, 758 F.2d 685 (D.C. Cir. 1985), is to the same effect. In *Airmark*, the D.C. Circuit vacated the FAA's decision to exempt some airlines, but not others, from a statutory deadline for meeting tightened limits on aircraft engine noise. Because "[t]he FAA has offered no coherent explanation for this disparate treatment," the court concluded that it had "exercised [its exemption] authority in an arbitrary and capricious fashion." *Id.* at 691, 695.

The proposed amendment's gerrymandered definition of "exchanges" would be unlawful under the basic administrative law principles reflected in these cases. The same characteristics that purportedly render DEXs "exchanges," according to the proposed definition, should also render messaging platforms like Bloomberg Terminal exchanges. And the proposed amendment's explanation for the difference—that DEXs purportedly are "specifically designed to bring together buyers and sellers of securities or provide procedures . . . for [them] to interact," 87 Fed. Reg. at 15,507–15,508—is "hard to fathom," *USPS*, 785 F.3d at 754, since the same thing appears to be true of the messaging applications the proposed regulation would carve out. "Affording different treatment to similar situations is the essence of arbitrary action." *Copper Valley Mach. Works, Inc. v. Andrus*, 653 F.2d 595, 607 (D.C. Cir. 1981). And here, in addition to rendering the proposed redefinition of "exchange" unlawful under the APA, the arbitrary nature of the lines the Commission has attempted to draw also serve to highlight the more

fundamental problem with the proposed regulation: it is built on a reconceptualization of an "exchange" that is utterly divorced from the fundamental nature, and historical understanding, of a true exchange.

III. The Commission's Rulemaking Process Has Not Satisfied the APA.

The Administrative Procedure Act requires an agency to give the public and interested parties advance notice disclosing "the terms or substance of the proposed rule or a description of the subjects and issues involved," and a meaningful "opportunity to participate in the rule making through submission of written data, views, or arguments." 5 U.S.C. § 553(b)(3), (c). After three attempts, the Commission has still failed to satisfy the substance of these requirements. Just as a baseball player is always out after three strikes, so this rulemaking process must be scratched after so many failures.

The APA's "[n]otice requirements are designed (1) to ensure that agency regulations are tested via exposure to diverse public comment, (2) to ensure fairness to affected parties, and (3) to give affected parties an opportunity to develop evidence in the record to support their objections to the rule and thereby enhance the quality of judicial review." *International Union, United Mine Workers of America v. Mine Safety & Health Admin.*, 407 F.3d 1250, 1259 (D.C. Cir. 2005). Because these requirements are designed to foster "an exchange of views, information, and criticism between interested persons and the agency," "the notice required by the APA, or information subsequently supplied to the public, must disclose in detail the thinking that has animated the form of a proposed rule and the data upon which that rule is based." *HBO, Inc. v. F.C.C.*, 567 F.2d 9, 35 (D.C. Cir. 1977). What is more, "[t]he opportunity for comment must be a meaningful opportunity, and . . . in order to satisfy this requirement, an agency must also remain sufficiently open-minded." *Rural Cellular Ass'n v. F.C.C.*, 588 F.3d 1095, 1101 (D.C. Cir. 2009) (citation omitted).

None of the scattershot notices published by the Commission to date meets these procedural demands. The original proposal[6] to amend the Commission's regulatory definition of "exchange," published on March 18, 2022, fell woefully short in numerous respects. First and most fundamentally, the March 2022 notice failed to adequately articulate the Commission's intent to include DEXs within the new definition of "exchange." As discussed above, the vague and open-ended changes that the Commission has proposed to make to its regulatory definition appear broad enough to encompass DeFi. Yet *nowhere* in the 200 pages of Federal Register fine print that accompanied the proposed rule did the Commission so much as mention decentralized finance, DEXs, AMMs, the blockchain, or any other related terms or concepts. The March 2022 notice thus completely failed to "disclose in detail," *HBO, Inc.*, 567 F.2d at 35, the Commission's now-announced intent to extend the Securities Exchange Act's regulatory regime to DeFi. This alone is a fatal flaw for this entire rulemaking process, but it is far from the only major error.

Second, even if the March 2022 notice *had* adequately explained the Commission's intent to regulate DeFi exchanges, the 30-day comment period it provided was plainly too short to allow for meaningful engagement by interested parties. Executive Orders 12,866 and 13,563 both direct that "in most cases" a "meaningful opportunity to comment on any proposed regulation" requires "a comment

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[6] We exclude from our analysis the proposal made in 2020 that was much more narrowly scoped and did not even include the concept of a communications protocol. But it would not be unfair to actually say the SEC has attempted four times to tweak this proposal to fix its prior administrative and procedural errors. See "SEC Proposes Rules to Extend Regulations ATS and SCI to Treasuries and Other Government Securities Markets," Sept. 28, 2020, at https://www.sec.gov/news/press-release/2020-227.

period of not less than 60 days." 58 Fed. Reg. 51,735; *see also* 76 Fed. Reg 3,821. And courts have recognized that the "usual" comment period is "90 days." *Prometheus Radio Project v. F.C.C.*, 652 F.3d 431, 453 (3d Cir. 2011). Given the significance of the Commission's revolutionary proposed re-definition of "exchange," a 30-day comment period scarcely amounts to even a token attempt to comply with the APA's notice-and-comment strictures.

Third, because the Commission did not give any notice of its intent to subject DEXs to regulation as "exchanges" under the Act, it also did not offer any assessment of the costs and benefits of that groundbreaking regulatory development. The Securities Exchange Act requires the Commission to consider whether proposed agency action "will promote efficiency, competition, and capital formation," 15 U.S.C. § 78c(f), as well as "the impact any [proposed] rule or regulation would have on competition," and whether the "burden on competition" is "necessary or appropriate," *id.* § 78w(a)(2). Executive Orders 12,866 and 13,563 likewise require agencies to "assess all costs and benefits of available regulatory alternatives," 58 Fed. Reg. 51,735 (Sept. 30, 1993), and "use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible," 76 Fed. Reg. 3,821 (Jan 18, 2011). Further, since the proposed redefinition of "exchange" requires the submission and collection of information, the Paperwork Reduction Act also requires an assessment of the burdens of those new paperwork requirements and whether they are in fact necessary. *See* 44 U.S.C. § 3506. And basic principles of administrative rationality "ordinarily require[ ] paying attention to the advantages *and* the disadvantages of agency decisions," *Michigan v. E.P.A.*, 576 U.S. 743, 753 (2015), to ensure that new regulations do not "impose enormous costs that might produce little, if any, discernible benefit," *Industrial Union Dept, AFL-CIO v. American Petroleum Inst.*, 448 U.S. 607, 645 (1980). Because the March 2022 notice did not discuss the proposed amendments' application to DeFi exchanges, it did not include any analysis whatsoever of the costs or benefits of sweeping them within the definition of "exchange." To propose to enact such sweeping change to a major, nascent industry without even glancing at the costs and benefits of the change is not just an accidental error, but a willful disregarding of the core procedural requirements demanded by the APA.

The Commission's actions after March 2022 effectively recognize each of these procedural shortfalls, but they do not cure them. First, on May 12, 2022, the Commission reopened the comment period through June 13, 2022—essentially providing an additional 30-day comment period. SEC Release No. 34-94868. This June 2022 notice basically amounts to an admission that the original comment period was inadequate, stating that "providing the public additional time to consider and comment on the matters addressed" in the March 2022 notice "would benefit the Commission in its consideration of final rules." But the May 2022 notice did not provide any articulation of what the comments submitted during this additional period should discuss, nor did it give any further hint of the Commission's intentions with respect to DeFi exchanges.

On April 14, 2023, the Commission reopened the comment period yet again—this time through June 13, or an additional 60 days. And for the first time, the April 2023 notice finally addressed the proposed amendments' application to DeFi, indicating that the Commission did in fact intend to sweep DEXs within its new definition of "exchange," and providing a supplemental assessment of some of the burdens this redefinition would impose. This latest notice, then, effectively acknowledges the two other procedural shortcomings of the initial notice: its complete failure to articulate the Commission's intent to regulate DeFi exchanges, and its further failure to offer any assessment of the costs and benefits of doing so. But the April 2023 notice does not adequately resolve either defect. The Commission therefore admits the procedural process has been flawed; yet despite that admission, it erroneously seeks to press on even though the process cannot be saved at this point.

The April 2023 notice does, at last, disclose the Commission's intent to treat DEXs as exchanges, and it solicits comments on various marginal aspects of that change. But the notice does not meaningfully grapple with the fundamental problems—discussed above and in several comments submitted after the original March 2022 notice—of attempting to include DEXs within the definition of "exchange." Instead, it takes the Commission's basic approach to regulating DeFi as something that is not subject to debate. "[A] dialogue is a two-way street: the opportunity to comment is meaningless unless the agency responds to significant points raised by the public." *HBO, Inc.*, 567 F.2d at 35–36. The "opportunity to comment" that the Commission has provided—in staccato fashion, over the course of fifteen months—has thus never amounted to "a meaningful opportunity," since the agency has not "remain[ed] sufficiently open-minded." *Rural Cellular*, 588 F.3d at 1101. "Consideration of comments as a matter of grace is not enough." *McLouth Steel Prod. Corp. v. Thomas*, 838 F.2d 1317, 1323 (D.C. Cir. 1988). This current changed proposal and third comment period is the definition of such ineffectual and inadequate grace.

Accordingly, even though the Commission has now provided a pieced-together comment period of around 120 days, it has *still* failed to satisfy the substance of the APA's demand that interested parties be given "an opportunity to participate in the rule making." 5 U.S.C. § 553(c). During roughly the first 60 days—the periods after the initial March 2022 notice and then the April 2022 reopening—the public was not on notice that the Commission intended its redefinition of "exchange" to sweep in DEXs. And by the time the Commission *did* announce that intent, its notice "sugges[ed] too closed a mind." *McLouth Steel*, 838 F.3d at 1323. The D.C. Circuit's decision striking down the EPA's agency action in *McLouth* is closely on point. That case concerned the EPA's use of a scientific model known as the VHS model to decide petitions by regulated facilities (including McLouth's) to exclude particular wastes from its list of hazardous wastes. The agency had first announced its use of the VHS model in a 1985 Federal Register notice that purportedly "called for comment on the model," but the court concluded that this notice was too ambiguous to "have alerted the reader" that EPA intended to adopt the rule of applying the model going forward. *Id.* at 1322–23. And while the agency continued to publish notices relying on the model—and even gave McLouth "actual notice of the VHS model and its chance to comment on it in its own . . . case," its responses to those later comments demonstrated "too closed a mind." *Id.* at 373. Accordingly, these later notices did not cure the defect in the initial notice, and the court concluded that the EPA had failed to satisfy the APA's rulemaking strictures. The Commission's three notices here fail to meet the APA's requirements under the very same reasoning.

Nor does the April 2023 notice satisfy the Commission's obligation to realistically consider the costs and benefits of treating DEXs as "exchanges." To be sure, the latest notice includes some additional discussion of the burden of its proposal and its economic effect and effect on competition. But the Commission has yet to provide anything close to the extensive analysis that would be necessary before extending its jurisdiction under the Securities and Exchange Act to DEXs. An agency cannot accomplish its duty to consider costs and benefits by simply noting that costs and benefits may exist; the command from the APA is a fulsome, thoughtful, and even painstaking costs and benefits analysis. Such an analysis is wholly absent.

Indeed, the most notable thing about the economic analysis in the April 2023 notice is how candidly incomplete it is. Time and again, the Commission is forced to admit that it "has limited information regarding crypto asset securities," is "unable to reliably determine the amount of trading in crypto assets that takes place through platforms," and has significant "uncertainty" about both "the costs that the Proposed Rules would impose" and "the benefits that the Proposed Rule would provide to on market participants for crypto asset securities." 88 Fed. Reg. at 29,470, 29,471, 29,474, 29,475. Given the technical complexity of this emerging area of finance, surely the Commission would need to conduct

a rigorous and detailed analysis of Defi's risks and benefits, and a thorough exploration of all available alternative regulatory approaches, before treating them as "exchanges" under the Act. Such an analysis could well require a pilot program running for 12 months or more; and it certainly requires more than the 25-page, utterly inconclusive analysis that the Commission scrambled to add to the record in the April 2023 notice. A better costs and benefits analysis is not merely wise for the Commission to undertake, but required.

"An agency may not introduce a proposed rule in this crabwise fashion." *McLouth Steel*, 838 F.2d at 1323. "Of course it is true that defects in an original notice may be cured by an adequate later notice, but that curative effect depends on the agency's mind remaining open enough at the later stage." *Id.* (citations omitted). Here the Commission's capricious series of notices demonstrate precisely the opposite: by the time it was willing to genuinely disclose the approach it proposed taking to DeFi, it had already decided on the basic contours of that approach—and it had done so without any meaningful consideration of the relative costs and benefits of that approach and without any effort to engage with interested parties on its wisdom or feasibility. Three patently *inadequate* attempts to satisfy the APA's notice-and-comment rulemaking requirements do not add together to make up one procedurally *adequate* rulemaking.

At this stage, the only way for the Commission to arrive at a valid regulatory approach to DeFi is to withdraw its proposed amendments and start again at square one: with a notice of proposed rulemaking that clearly describes its proposed regulatory approach, after genuine engagement with the DeFi industry, a clear-headed assessment of the statutory limits on its authority in this area, and a fulsome analysis of the costs and benefits of the alternative approaches that Congress has actually authorized it to pursue. To do anything less is to allow a mortally wounded rulemaking process to stagger forward to the detriment of the Commission, the crypto industry, and the investors the Commission is tasked with protecting.

Sincerely,

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