

June 13, 2023

Ms. Vanessa A. Countryman
Secretary
U.S. Securities and Exchange Commission
100 F Street NE
Washington, DC 20549-1090

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 Securities and Exchange Commission’s proposed amendment to Exchange Act Rule 3b-16, which defines certain terms used in the statutory definition of “exchange.”¹ The Cato Institute is a public policy research organization dedicated to the principles of individual liberty, limited government, free markets, and peace, and the Center for Monetary and Financial Alternatives focuses on identifying, studying, and promoting alternatives to centralized, bureaucratic, and discretionary financial regulatory systems. The opinions we express here are our own.

The Commission should withdraw the proposed amendments to Rule 3b-16, recognize that decentralized finance (DeFi) protocols do not constitute covered exchanges requiring registration under a proper functional test, and permit trading systems—including DeFi systems under a voluntary registration framework—to demonstrate the ability to satisfy standards through automated configurations and controls.

I. A Functional Test for Covered Exchange Activity Should Exclude DeFi

The Commission seeks to apply what it considers a “Technology Neutral and Functional Test of the ‘Exchange’ Definition” to DeFi systems, pointing to an assessment that is based on functions performed and not “how an entity may characterize” itself or its technology.² From this, the

¹ Securities and Exchange Commission, Supplemental Information and Reopening of Comment Period for Amendments Regarding the Definition of “Exchange” (“Reopening Release”), “Exchange Definition,” SEC Release No. 34-97309; File No. S7-02-22 at 1, <https://www.sec.gov/rules/proposed/2023/34-97309.pdf>.

² Reopening Release at 17-19.

Commission concludes that activities performed using “so-called ‘DeFi’ trading systems,” depending on the facts and circumstances, already could meet the criteria of existing Rule 3b-16 and therefore “constitute exchange activity.”³ In addition, the Commission preliminarily finds that certain DeFi systems would fall under the proposed amended Rule 3b-16.⁴ Notably, the Commission in both the Proposing Release and the Reopening Release recognizes that the changes to Rule 3b-16 will result in the rule covering more activity than it otherwise would have, including the activity of some DeFi systems.⁵

Notwithstanding the Commission’s invocation of a functional approach, the application of a bona fide functional test for exchange characteristics to DeFi systems demonstrates that DeFi protocols are not properly considered exchanges subject to the registration required of traditional exchange intermediaries.

A) Defining The Functional Test

In academic literature, functional regulation is defined in contrast to institutional regulation.⁶ Whereas institutional regulation “is determined according to institution type,” functional regulation determines the scope of regulation “according to activity.”⁷ Moreover, federal courts have expounded on the nature of functional tests across a variety of recurring issues in securities litigation. Functional tests figure prominently in determining (i) when self-regulatory organizations (SROs) have immunity from certain private claims; (ii) an individual’s role in an organization; (iii) a party’s status as the purchaser of securities; (iv) the existence of tender offers; and (v) when an arrangement constitutes a security. While these questions run the gamut of securities issues beyond the definition of an exchange, the reasoning courts adopt is broadly applicable to functional tests.

Such tests have looked not merely at the “function performed” but rather the “nature” thereof, including several nuanced elements concerning not only the external results of the relevant

³ Reopening Release at 19. We note at the outset that the Commission’s framing, focusing as it does on the activity performed *using* a DeFi system as opposed to *by* a DeFi system, is indicative of the challenge of applying traditional notions of exchanges as discrete and singular entities to decentralized finance protocols.

⁴ Reopening Release at 11 and 19.

⁵ Securities and Exchange Commission, “Amendments Regarding the Definition of ‘Exchange’ and Alternative Trading Systems (ATs) That Trade U.S. Treasury and Agency Securities, National Market System (NMS) Stocks, and Other Securities” (“Proposing Release”), SEC Release No. 34-94062, File No. S7-02-23 at 8-9, <https://www.sec.gov/rules/proposed/2022/34-94062.pdf>; and Reopening Release at 11 and 62-64. This broadened coverage belies any arguments that the proposed rulemaking is merely the application of existing concepts to new circumstances, as opposed to the redefinition of concepts and expansion of authority.

⁶ Heidi Mandanis Schooner, “Regulating Risk Not Function,” *University of Cincinnati Law Review* 66 (1998): 459, <https://scholarship.law.edu/cgi/viewcontent.cgi?article=1261&context=scholar>.

⁷ *Id.*

activity but also its internal mechanisms.⁸ Moreover, in making similar functional evaluations, the Supreme Court has looked at the effect that meeting the test has on the ability to properly carry out the relevant activity, with an eye toward averting “perverse incentives.”⁹

Other tests have turned on the existence of “discretionary authority” to conduct relevant activity.¹⁰ Moreover, functional tests have scrutinized “salient characteristics,” including, again, the manner in which the activity is conducted.¹¹ Multiple iterations of functional tests have looked to the economic realities of relevant activity, as well as the purposes of applicable securities laws.¹² In terms of the attention to detail to apply when performing a functional test, courts have looked to “all of the circumstances attendant” to the activity at issue and have found that such tests are supposed to involve a “fact-intensive analysis.”¹³

Together, these variations on the theme of functional approaches reveal the types of criteria that constitute a proper functional test in the eyes of federal courts. Specifically, proper functional tests involve the fact-intensive consideration of all circumstances relevant to (1) the manner and internal mechanisms of the activity; (2) the consequences of meeting the test, such as the creation of perverse incentives; (3) the existence of applicable discretionary capacity; (4) the economic realities of the activity; and (5) the purposes of relevant securities law and regulation. As explained below, the Commission’s functional test does not devote sufficient

⁸ *Standard Inv. Chartered, Inc. v. Nat'l Ass'n of Sec. Dealers, Inc.*, 637 F.3d 112, 115-116 (2d Cir. 2011) (applying a functional test to determine whether an SRO is entitled to immunity). See also *Puddu v. 6D Glob. Techs., Inc.*, No. 15-CV-8061 (AJN), 2021 WL 1198566, at *9 (S.D.N.Y. Mar. 30, 2021) (describing a functional test to determine the role of an individual in an organization by looking at what “the individual *does* within an organization and not just what his title is”) (emphasis in original).

⁹ *Forrester v. White*, 484 U.S. 219, 223-224 (1988) (“Under that approach, we examine the nature of the functions with which a particular official or class of officials has been lawfully entrusted, and we seek to evaluate the effect that exposure to particular forms of liability would likely have on the appropriate exercise of those functions”).

¹⁰ *In re Sonus Networks, Inc. Sec. Litig.*, 247 F.R.D. 244, 251 (D. Mass. 2007) (assessing purchaser status with a functional test).

¹¹ *Field v. Trump*, 850 F.2d 938, 944 (2d Cir. 1988) (applying a functional test to the question of identifying a tender offer) citing *S.E.C. v. Carter Hawley Hale Stores, Inc.*, 760 F.2d 945, 950 (9th Cir. 1985).

¹² *Rathborne v. Rathborne*, 683 F.2d 914, 920 (5th Cir. 1982) (determining whether a party is a purchaser or a seller based on a functional analysis that focuses on “economic reality”). The Congressional Research Service also finds that assessing the nature of activity for purposes of functional regulation means taking an “economic perspective” on it. Congressional Research Service, “Who Regulates Whom? An Overview of the U.S. Financial Regulatory Framework,” CRS Report, March 10, 2020 at 2, <https://crsreports.congress.gov/product/pdf/R/R44918>. *S.E.C. v. Koscot Interplanetary, Inc.*, 497 F.2d 473, 480 (5th Cir. 1974) (assessing the existence of a securities arrangement and applying a functional test that considers the assessed purposes of the Securities Act). *Bradford v. Moench*, 670 F. Supp. 920, 931 (D. Utah 1987) (positing that where it is not facially obvious that an instrument is a security, “economic realities” will be examined, and where “the function of the transactions is not related to the need for securities regulation[,] the transaction will be excluded”).

¹³ *In re Luxottica Grp. S.p.A., Sec. Litig.*, 293 F. Supp. 2d 224, 232 (E.D.N.Y. 2003) (assessing the existence of a tender offer with a functional test); and *S.E.C. v. Prince*, 942 F. Supp. 2d 108, 134 (D.D.C. 2013) (assessing an individual’s role in an organization with a functional test).

attention to these elements, which when applied lead to the conclusion that DeFi activity is not equivalent to covered exchange activity.

B) Distinguishing DeFi Under a Proper Functional Test

These functional considerations provide grounds for excluding DeFi activity from the definition of covered exchange activity requiring registration with the Commission.

1. The internal mechanisms and manner of the activity.

The Commission rejects several arguments provided in comments on the Proposing Release that distinguished the mechanisms at the heart of DeFi from those of traditional exchanges. Commenters' arguments included that various DeFi trading systems do not custody assets;¹⁴ do not involve intermediaries;¹⁵ arise from distributed developers contributing computer code;¹⁶ lack a central operator;¹⁷ involve decentralized participation from developers, users, Automated Market Makers (AMMs), and miners;¹⁸ and are composed of constituent smart contracts that typically cannot be substantially altered or controlled after they're deployed.¹⁹

Dismissing such arguments, the Commission states, for example, that custody "generally is not a relevant factor to the exchange analysis";²⁰ that relevant code "does not materialize in the absence of human activity or a machine (or code) controlled or deployed by humans";²¹ that an exchange includes a "group of persons" acting in concert, exercising control, or sharing control, who could share collective responsibility;²² and that a smart contract on a blockchain typically is accompanied by other functionality to bring together buyers and sellers of securities, such as a user interface, which may be provided by one or more parties.²³

The Commission's rejection of salient considerations fails to persuasively analyze the mechanisms and manner of DeFi activity under a proper functional test. A close examination of the mechanisms and manner of activity points to the functional inequivalence of DeFi systems and covered exchanges.²⁴

¹⁴ Reopening Release at 19 nn. 50-51.

¹⁵ *Id.* at 20 n. 56.

¹⁶ *Id.* at 21 n. 60.

¹⁷ *Id.* at 21 n. 58.

¹⁸ *Id.* at 21 n. 61.

¹⁹ *Id.* at 29 n. 80.

²⁰ *Id.* at 20.

²¹ *Id.* at 22.

²² *Id.* at 22-23 and 25-26.

²³ *Id.* at 29-30.

²⁴ We note that another functional distinction between decentralized exchanges and traditional exchanges is that bona fide DEXs do not generate the same degree of proprietary data, as exchange activity settles on public digital ledgers according to open and auditable smart contracts.

With respect to custody, the Commission’s contention that neither existing Rule 3b-16, nor the Rule as proposed to be amended, contains custody as an element in the definition of exchange ignores the nature of regulated securities intermediaries, where a party with custodial obligations, in the form of a broker-dealer, is required to be involved in the operation of both national securities exchanges and alternative trading systems.²⁵ Custody is an essential mechanism in the regulated exchange framework, and the Commission affords it insufficient consideration.²⁶

The Commission’s contention that smart contracts on blockchains do not come about in the absence of humans deploying either code or computers ultimately is not responsive to the argument that DeFi protocols do not involve traditional intermediaries. The claim that DeFi is disintermediated is not a claim that DeFi protocols never involve any human activity from inception to maturation, but rather that they do not involve the specific activity of intermediation. Countless market activities involve humans but most do not involve humans serving as middlemen between transacting counterparties. For example, banks are another form of traditional financial intermediary, but the individual COBOL programmers who help to maintain bank software are not themselves subject to requirements regarding capital, liquidity coverage, leverage ratios, and loss absorption capacity. To insist otherwise, either descriptively or normatively, would be absurd on its face.

The Commission’s noting that the definition of exchange includes a “group of persons” constituting, maintaining, or providing the relevant marketplace or facilities does not in itself resolve the question of which subset of persons—e.g., users, developers, AMMs, and miners—serves an intermediary function. Nonetheless, the Commission’s own enumeration of factors for answering that question—i.e., whether such persons act in concert, exercise control, share control, or have an agreement (formal or informal) between them—implicitly recognizes how the greater the degree of decentralization, the less applicable the exchange registration framework.²⁷ The Commission should heed its own caveats regarding the need to consider facts and circumstances and take the absence of concerted or agreed upon action and control to indicate the absence of a covered exchange.

Similarly, the Commission should embrace its own reasoning regarding the poor fit of the exchange registration framework to the activity of independent software developers:

A software developer who, acting independently and separate from an organization, publishes or republishes code without any agreement (formal or informal) with any

²⁵ See 15 U.S.C. §§ 78c(a)(1), 78e, and 78f(c)(1); 17 CFR 240.15c3-3.

²⁶ The role of custody is further elaborated in the discussion of discretionary capacity below.

²⁷ Reopening Release at 28-29.

person for that code to be used for a function of a market place or facilities for bringing together buyers and sellers of securities may be less likely to be acting in concert to provide a market place or facilities for bringing together buyers and sellers. This could be the case even if the software developer’s code is subsequently adopted and implemented into a market place or facilities for securities by an unrelated person.²⁸

Again, we urge the Commission to follow the logic of its own arguments and find bona fide DeFi activity to be functionally inequivalent to covered exchange activity. Ignoring its own logic, though, the Commission suggests that a DeFi protocol involving smart contracts that cannot be substantially altered or controlled may nonetheless constitute a covered exchange where combined with a basic website or user interface for communicating with that protocol.²⁹ The Commission should reconsider this position, as the website or interface it describes could derive from the code of the very independent developers it found less likely to be engaged in covered exchange activity.

2. *The consequences of meeting the test, such as the creation of perverse incentives.*

The conclusion that DeFi trading systems are covered exchanges under a functional test is even less persuasive when considering that finding DeFi to meet such a test would create perverse incentives.

The Commission finds that leveraging DeFi or distributed ledger technology would *increase* compliance costs and that complying with applicable regulations may well “reduce the extent to which the system is ‘decentralized.’”³⁰

Disincentivizing decentralization introduces additional risk, a perverse outcome for a regulatory regime. Disintermediated technology mitigates by design several key intermediary risks, including those related to custody, transparency, broken promises, and the ability to conduct market oversight.³¹ That applying a regime designed for financial intermediaries to disintermediated financial technology projects would raise compliance costs on those projects and encourage the introduction of greater, not less, intermediation—along with its attendant risks—is a textbook case of unintended consequences. Accordingly, those distortions indicate that DeFi activity should not be considered covered exchange activity under a functional test.

²⁸ Reopening Release at 28-29.

²⁹ *Id.* at 29-30.

³⁰ *Id.* at 122. *See also id.* at 137.

³¹ *See* Jack Solowey and Jennifer J. Schulp, “Regulatory Clarity for Crypto Marketplaces Part I: Decentralized Exchanges,” Cato Institute Briefing Paper no. 154, May 10, 2023 at 3, <https://www.cato.org/sites/cato.org/files/2023-05/BP154.pdf>.

3. *The existence of applicable discretionary capacity, or lack thereof.*

The Commission recognizes “control” as a relevant factor for identifying covered exchange activity.³² Such discretionary capacity is critical to the nature of a covered exchange. The supplementary information to the original Final Rule 3b-16 and Regulation ATS explains that the reason for including “non-discretionary” methods as a criterion for identifying a covered exchange is the reality that exchange intermediaries have discretionary capacity that must be explicitly cabined:

[P]articipants have an expectation regarding the manner of execution—that is, if an order is entered, it will be executed in accordance with those procedures and not at the discretion of a counterparty or intermediary.³³

In contrast to exchange intermediaries, DeFi systems typically lack such discretionary capacity. The lack of asset custody means that a DeFi protocol does not maintain the unilateral ability to dispose of customer assets. In addition, where developers lack the ability to make substantial changes to DeFi protocols, either because relevant smart contracts are not upgradeable or the protocol is otherwise subject to a non-discretionary decentralized governance process, the DeFi protocol is defined by the very lack of discretionary capacity. Accordingly, a proper functional test for covered exchange activity should consider the absence of discretion within such DeFi systems to mean they do not constitute covered exchanges.

4. *The economic realities of the activity.*

There are myriad ways in which the economic realities of DeFi systems can diverge from those of covered exchanges. These include, for example, liquidity sources, revenue streams, and operating costs.

With respect to liquidity, whereas decentralized exchanges (DEXs) often rely on AMM pools composed of assets from distributed token holders, traditional exchanges generally rely on a combination of organized firms including broker-dealers, market makers, proprietary traders, and institutional investors, each with separate business models and economic interests to provide liquidity.

With respect to revenue sources, some decentralized exchange protocol projects may incorporate trading fees, as well as potentially token economics related to governance or

³² See Reopening Release at 23.

³³ Securities and Exchange Commission, “Regulation of Exchanges and Alternative Trading Systems” (“Final Exchange Rule and Reg. ATS”), SEC Release No. 34-40760, File No. S7-12-98, 63 Fed. Reg. 70844, 70900 (December 22, 1998), <https://www.govinfo.gov/content/pkg/FR-1998-12-22/pdf/98-33299.pdf>.

exchange tokens. While traditional covered exchanges also often collect trading fees, they also may have other important revenue streams, such as membership fees. Major permissionless DeFi protocols are distinct in not requiring broker intermediation and therefore not involving traditional membership fees.

Last, DEXs and traditional stock exchanges face different operating costs. DEXs lack the costs of physical infrastructure of traditional exchanges, typically eschewing not only legacy brick and mortar locations but also proprietary server and network infrastructure, as DEXs operate over public blockchains leveraging distributed open clients and nodes.

Under a proper functional test, these discrepant economic realities provide further reasons to find DEXs and traditional covered exchanges functionally inequivalent.

5. The purposes of relevant securities law and regulation.

The functional differences between traditional covered exchanges and DeFi systems are material because they directly relate to key purposes of exchange regulation: addressing risks of intermediary discretion and opaque trading systems.

As discussed above, the supplementary information to original Final Rule 3b-16 and Regulation ATS recognizes that intermediation is at the core of covered exchange activity, noting the salience of intermediary discretion. In addition, the adopting release found that one reason for the Rule 3b-16 and Regulation ATS framework was to rectify the lack of transparency of certain trading systems, as “activity on alternative trading systems is not fully disclosed to, or accessible by, public investors and may not be adequately surveilled for market manipulation and fraud.”³⁴

DeFi protocols mitigate through technology the risks related to intermediary discretion and opacity. As described above, protocols composed of self-executing smart contracts that are not upgradeable, or are governed by non-discretionary processes, limit the risks of fraud or manipulation that could stem from discretionary intermediary control. In addition, these open and auditable smart contracts that settle transactions on public blockchains address opacity concerns by making data publicly available to both users and those investigating market manipulation and fraud.

DeFi systems that mitigate the risks of intermediary discretion and opacity through technology are not appropriately considered covered exchanges under a functional test that accounts for the purposes of relevant securities law.

³⁴ Final Exchange Rule and Reg. ATS, 63 Fed. Reg. at 70911.

II. Any Assessment of DeFi Trading Systems' Capabilities Ought to Give Equal Weight to Automated Configurations and Controls as to Traditional Measures

DeFi protocols should not be subject to mandatory securities exchange registration, as their activities do not constitute covered exchange activities under a proper functional test for the reasons explained above. Nonetheless, where a DeFi protocol's ability to maintain standards is being assessed—for example, under a voluntary registration framework—automated configurations and controls that achieve relevant standards in practice should be considered sufficient substitutes for traditional methods (such as written policies and procedures).

A) Automated Controls and Configurations

Among the requirements that a trading system faces under the traditional ATS regime are those related to recordkeeping, record preservation, the dissemination of price and order size information, and, where applicable, the maintenance of capacity, integrity, and security (CIS) standards.³⁵ The Commission should take an outcome-oriented approach to assessing any system's ability to produce these outputs and achieve these capabilities. Accordingly, it should be permissible for any system—including any voluntarily registered DeFi trading system—to demonstrate the ability to achieve outcomes through automated processes.

For example, it should be permissible to assess a DeFi trading system's ability to comply with relevant recordkeeping and record preservation obligations (e.g., records identifying traded assets, time sequences, and transaction volumes) under a voluntary registration framework with reference to the public blockchains on which their transactions settle. Similarly, DeFi trading systems' ability to voluntarily satisfy price and order size reporting obligations should be provable through public data sources, including public blockchain ledgers and block explorers for searching and parsing that data.³⁶ Further, because bona fide DeFi trading systems are composed of open and auditable smart contracts, voluntarily satisfying system capacity, integrity, and security standards should be achievable through public audits of those protocols' constituent smart contracts.

B) Applying Traditional Registration Requirements to DEXs Would Be Counterproductive

As discussed above, the Commission has assessed that where trading systems employ decentralized technology, they are more likely to face heightened compliance costs under a traditional mandatory registration framework that treats them as covered exchanges. Therefore, the Commission indicated, disintermediated trading systems would be incentivized to increase their degree of intermediation. This inefficient outcome is evidence of the

³⁵ Requirements for alternative trading systems, 17 C.F.R. § 242.301.

³⁶ Publicly accessible tools, such as Etherscan (<https://etherscan.io/>), permit users to view transaction actions, including the amount of tokens swapped, and therefore their relative prices.

counterproductive nature of mandating that DEXs comply with traditional obligations of registered exchanges.

Where DEXs are incentivized to increase the involvement of intermediaries and keep constituent smart contracts upgradeable, it heightens the risks from active managers who could abuse their positions and the ability to make discretionary changes to protocols.³⁷ Automated configurations and controls that achieved the same outcomes (e.g., with respect to recordkeeping, transaction reporting, and CIS standards) could avert the perverse result of adding active managers and intermediaries to disintermediated systems for the sake of maintaining a formalistic approach to compliance processes.

* * *

Thank you for the opportunity to comment on the Commission's proposed rule amendments. We are happy to answer any questions or further engage on this topic.

Sincerely,



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³⁷ See Jennifer Schulp and Jack Solowey, "DeFi Must Be Defended," *CoinDesk*, October 26, 2022, <https://www.coindesk.com/layer2/2022/10/26/defi-must-be-defended/>.