



October 19, 2023

VIA EMAIL (deficonsultation@iosco.org)

General Secretariat
The International Organization of Securities Commissions
C/ Oquendo 12
28006 Madrid
Spain

Re: Public Comment on IOSCO's Consultation Report on Policy Recommendations for Decentralized Finance (DeFi)

Dear General Secretariat:

Blockchain Association (the "Association") and DeFi Education Fund (DEF) submit this Public Comment on the International Organization of Securities Commissions' (the "Organization") Consultation Report (the "Report") on Policy Recommendations for Decentralized Finance (DeFi).

The Association is the leading nonprofit membership organization dedicated to promoting a pro-innovation policy environment for the digital asset economy. The Association endeavors to achieve regulatory clarity and to educate policymakers, regulators, courts, and the public about how blockchain technology can pave the way for a more secure, competitive, and consumer-friendly digital marketplace. The Association represents over 100 member companies reflecting the wide range of the dynamic blockchain industry, including software developers, infrastructure providers, exchanges, custodians, investors, and others supporting the public blockchain ecosystem.

DEF is a non-partisan research and advocacy group. DEF's mission is to educate lawmakers about the technical workings and benefits of DeFi, achieve regulatory clarity for the future of the global digital economy, and advocate for individual users and developers in the DeFi space. DeFi has immense potential to advance innovation in the world economy, and we believe that potential can best be realized in conjunction with smart policy. DEF is not a trade association and does not represent the interests of any specific parties.

This Letter seeks to respond to the Report's characterizations of DeFi and the policy recommendations that address relevant authorities seeking to construct regulatory frameworks for the DeFi ecosystem.

The Association and DEF commend the Organization for taking steps to address a digital asset policy through two separate workstreams for digital asset activities and markets and DeFi. Although the two areas of the broader digital asset ecosystem are related, inherent differences relating to centralization make it so that these two spaces require tailored regulatory approaches. The Association and DEF believe that the positions in this public comment will promote the public interest by encouraging the responsible and economically fair evolution of decentralized finance innovations while creating a landscape for greater regulatory compliance. The Association and DEF appreciate the Organization’s commitment to engaging with stakeholders as part of its consultation process and welcome continued conversation on these issues.

I. Introduction

As an initial matter, the Association and DEF wish to recognize the inherent qualities of DeFi products and services that differentiate them from those in traditional finance. The use of blockchain technology to decentralize financial tools and remove reliance on intermediaries provides utility to everyday investors as well as to global financial markets.¹ More broadly, decentralization successfully addresses the risks associated with intermediated financial activities and enhances the role of retail participants in what is currently a highly intermediated and exclusionary global monetary system.² The existing regulatory frameworks that address intermediary risks³ are unnecessary and redundant in the context of DeFi, due in part to the transparent nature of the underlying blockchain technology, and compliance with such frameworks is unworkable for autonomous DeFi protocols that lack the required regulatory touchpoints. Any attempts to impose regulatory frameworks from traditional finance on DeFi would fall short due to the core differences in technology, functioning, and risk profiles.

Rather than considering the different risk profiles of DeFi and crafting a more compatible regulatory framework for this unique technology, the Report dismisses the notion of decentralization and supports applying regulatory standards tailored to intermediated counterparts. We urge the Organization to consider how decentralization inherently obviates many of the risks that are, in the context of traditional finance, addressed by the existing regulatory frameworks that the Report recommends imposing on the DeFi ecosystem. Compliance with these ill-suited frameworks could encourage relevant authorities to force

¹ See David Gogel et al., *DeFi Beyond the Hype: The Emerging World of Decentralized Finance*, UNIV. OF PA. (May 2021) <https://wifpr.wharton.upenn.edu/wp-content/uploads/2021/05/DeFi-Beyond-the-Hype.pdf> (“DeFi . . . offers the potential for innovation and creation of new services for improving efficiency of financial markets—building upon work being done in financial technology (fintech) and blockchain technology more broadly.”).

² See Jennifer J. Schulp and Jack Solowey, *DeFi Must Be Defended*, CATO INST. (Oct. 26, 2022), <https://www.cato.org/commentary/defi-must-be-defended> (“DeFi takes . . . innovation a step further, disintermediating not only token transfers but also a variety of other financial transactions— from making and taking out loans to trading different types of crypto tokens to creating novel insurance arrangements.”).

³ See *id.* (explaining intermediary risks are “the potential for financial middlemen to mishandle assets and information in their possession”).

intermediation and centralization on DeFi and, consequently, would risk introducing vulnerabilities that the technology was designed to mitigate.

In searching for regulatory touchpoints between existing regulatory frameworks tailored for intermediary risks and DeFi, the Report encourages regulators to identify persons exercising control or sufficient influence over a DeFi entity. Compliance with traditional financial regulations would be impossible, considering decentralized entities are designed to operate without a central point of control. The Report's overly broad description of a "Responsible Person" would not only capture developers and investors but also subject governance token holders to all of the recommended regulations and requirements. Widespread application of these recommendations to a jurisdiction's regulatory framework for DeFi would eliminate the development of decentralized technology and threaten the survival of autonomous DeFi protocols that would be unable to integrate such changes.

We seek to highlight areas in the Report where key features of DeFi—namely maximal extractable value (MEV), oracles, and bridges—and their perceived risks are mischaracterized. Through such mischaracterizations, the Report states that DeFi activities "mimic those of traditional financial markets" and, thus, warrant the same regulatory approach.⁴ We urge the Organization to consider how the approach used by the Report to assess risk in DeFi could expose relevant authorities to a misleading representation of the DeFi ecosystem. We encourage the Organization to refrain from viewing non-compliance through the lens of conformity to traditional financial regulatory frameworks or market practices and, instead, consider how the regulatory objectives of market integrity and investor protection could be achieved through more innovative approaches.

In the Organization's final recommendations, we hope to see greater consideration for decentralization in a more fit-for-purpose set of policy recommendations that encourages regulators to seek more effective policy approaches to DeFi. It would be detrimental to hastily apply orthodox and incompatible regulatory frameworks to a rapidly evolving technology and stifle the development of solutions that would better serve regulatory outcomes. The Association and DEF suggest stronger collaboration between regulators and industry participants to shape technological solutions in a manner that enshrines market integrity and investor protection goals in protocol development.

II. Overview of DeFi Technology

We commend the Organization for acknowledging the importance of DeFi as a rapidly evolving arena of technical innovation.⁵ The Report is correct to note that "DeFi aims to

⁴ Int'l Org. of Sec. Comm'ns [IOSCO], *Policy Recommendations for Decentralized Finance Consultation Report*, at 6, (September 7, 2023) <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD744.pdf> [hereinafter "Report"].

⁵ See *id.* at 1 ("DeFi is an important, evolving, and expanding technological innovation.").

disintermediate and decentralize legacy ecosystems by eliminating the need for some traditional financial intermediaries and centralized institutions and by enabling certain direct investment activities.”⁶ By providing permissionless, transparent access to various types of financial services on a disintermediated basis, DeFi has the potential to benefit consumers, inventors, and businesses across the globe by creating inclusive financial infrastructure accessible to any individual with an internet connection. As the Internet exponentially increases access to information and knowledge for billions of individuals across the globe, DeFi protocols will do the same for financial services.

Public blockchains underlie the operations of DeFi protocols and services. These public blockchains are permissionless, decentralized, and immutable ledgers that enable a globally distributed pool of network participants to share data and reach consensus on the validity of that data on a disintermediated basis. A core innovation of DeFi is the use of smart contract software, which operates on public blockchains, to design protocols that perform financial services automatically and without the involvement of third parties when certain conditions are met. As a result, DeFi protocols offer individuals and institutions an alternative to the traditional financial system where they can engage in financial activities by interacting with autonomous smart contract code rather than relinquish control of their assets to and rely on centralized intermediaries (i.e., a custodian, broker, clearing agency, etc.).

Additionally, rather than depending on a single central service, administrator, or a self-regulating body that exercises discretion and dominion over the market, DeFi systems are governed by open-source software that the protocol developers initially create. Any later decisions to alter or upgrade the functionality of the protocol often is determined by a widespread community of users possessing tokens. These tokens, known as governance tokens, give holders the power to vote on improvement proposals to the protocol. While the methods of DeFi governance are varied and continually changing, on-chain governance allows those with governance tokens to actively propose, vote on, and embed changes directly into the blockchain. A single holder of a voting token, whether in small or large amounts, cannot effectuate change on a DeFi protocol individually. Instead, the larger decentralized governance structure, otherwise known as a decentralized autonomous organization (DAO), may hold such influence through the aggregation of its community voting power.

In comparing DeFi to centralized intermediaries, both in the broader digital asset ecosystem and traditional finance, there are different technological means used to achieve similar outcomes. Autonomous, self-executing smart contracts and the connection of users to such autonomous software or other users in a peer-to-peer fashion differentiate decentralized activity from centralized activity, even if they appear similar on the surface. The utilization of decentralized technologies and the implementation of decentralized organizational structures alter the risk profile of financial tools that are commonly intermediated in traditional finance. A

⁶ *Id.*

comprehensive regulatory package for DeFi should include tailored frameworks that consider the differences in operation and risks of activities in formulating such regulatory outcomes. Regulatory objectives of consumer protection should be enshrined in the construction of this package through the development of technological solutions that preserve the value of DeFi while protecting markets and consumers alike.

Regulation of the evolving DeFi ecosystem should be analogous to that of other technological innovations that obviate limitations and inherently address the risks of preceding technology. The advent of the Internet allowed for the enhancement of written communication processes. Where letters were once handwritten and delivered through postal services, digital emails replaced the role of postal intermediaries tasked with handling and delivering written communications safely. Although handwriting a letter and composing an email may appear to be the same communication function, the underlying technology of the Internet differentiates the activities. The use of the Internet, web browsers, and mobile devices to compose, send, view, and secure emails removes any intermediary risks associated with postal services. This technological upgrade did bring upon a new set of risks, but these risks were not expected to be addressed by regulatory frameworks that once successfully regulated postal services. Instead, novel regulatory practices addressed cybersecurity and information security risks. The application of traditional regulatory frameworks for post offices onto email services would be unworkable at many points of inapplicability. This logic extends to the application of traditional financial regulatory frameworks to DeFi that fail to consider novel technological upgrades and the obviation of intermediary risks by such upgrades.

III. DeFi Technology Should Not Be Regulated to Address Risks That Are Only Inherent to Intermediated Financial Counterparts.

We commend the Organization's intention to avoid a one-size-fits-all prescriptive taxonomy in its recommendations.⁷ We agree that efforts to regulate DeFi should avoid umbrella frameworks that dismiss the ecosystem's diversity. However, in its overarching recommendation to all regulators, the Report states that "regulatory frameworks for DeFi should seek to achieve regulatory outcomes for investor protection and market integrity that are the same as, or consistent with, those required in traditional financial markets."⁸ This approach would fail to consider the incompatibility between DeFi and existing regulatory frameworks for intermediated financial entities. Further, we are concerned with the Report's adoption of the "same activity, same risk, same regulatory outcome" principle that fails to consider inherent differences between DeFi products and services and centralized financial entities. This philosophy carries several

⁷ See *id.* at 4 ("Acknowledging the definitional and interpretive jurisdictional differences that currently exist, IOSCO has developed the proposed recommendations and guidance in this report by developing a functional, economic approach to the analysis, assessment, and mitigation of DeFi risks, rather than seeking to develop a one-size-fits-all prescriptive taxonomy.").

⁸ *Id.* at 3.

assumptions that disregard the effectiveness of decentralization in obviating risks inherent to traditional intermediated services.

The Report misconstrues how DeFi products and services are materially different from those found in traditional financial markets and how they operate in a fully automated manner using smart contracts without human involvement. Intermediary risks, such as operational risks, liquidity risks, conflicts of interest, and mismanagement of client funds, are all consequences of the role that centralized entities play in financial markets. In contrast, DeFi protocols include a number of components that, only when working together, eliminate these vulnerabilities.

DeFi and traditional financial activities, although somewhat comparable on the surface, cannot be equated for the purpose of regulation. DeFi operates on a disintermediated and fully automated basis using smart contracts, such that humans are no longer the arbiters of trust and control between transactors. This creates a dynamic where many of the ultimate functions of traditional financial regulation, as well as the elimination of intermediary risks, can be accomplished by the operation of the autonomous protocol itself.

The Report's guidance on how regulators can best understand and assess the risk of DeFi activities neither encourages adequate analysis of DeFi nor recommends a novel regulatory approach. Regulators are recommended to analyze DeFi products and activities for applicability to traditional financial regulatory frameworks and identify regulatory touchpoints for compliance. Besides the fact that existing frameworks cannot be applied to a technology that has no human touchpoints for compliance, any such risk assessment should consider how decentralization fundamentally changes the risk exposure of DeFi markets, investors, and other users of the ecosystem. Even if regulators were to consider that DeFi activities resemble traditional finance activities in terms of ultimate outcome, it should be recognized that decentralization and the autonomous nature of DeFi protocols bring about significantly different risks through different, non-analogous activities and, therefore, hold significantly different risk profiles.

The Report undermines the decentralization of DeFi functions, claiming that "smart contracts operating on a blockchain typically are only one component of the product or service being offered"⁹ and that DeFi protocols "[use] traditional components and infrastructures as well as smart contracts and blockchains."¹⁰ This attempt to minimize the role played by smart contracts in disintermediating financial tools in DeFi¹¹ is a harmful misrepresentation of the DeFi ecosystem's defining technology. The front-end platforms and organizational structures behind a DeFi protocol do not contribute to the activity itself. The actual functioning of a DeFi protocol is solely through the smart contracts and open-source code that users interact with.

⁹ *Id.* at 6.

¹⁰ *Id.*

¹¹ See *id.* at 18 (analogizing decentralized finance to centralized finance and claiming the former should be treated in line with the guiding principle of "same activity, same risk, same regulatory outcome").

A comparison of centralized digital asset exchanges (CEXs) to decentralized digital asset exchanges (DEXs) can illustrate the unique function and risk profile of a DeFi activity. Digital asset exchanges appear to provide similar financial services to users wishing to trade digital assets with each other through a front-end platform. CEXs are centralized financial entities acting as intermediaries or third parties to match buyers and sellers. DEXs, however, allow individuals to independently exchange assets with the protocol or another individual as the counterparty to the transaction. These protocols enable individuals to self-execute trades and transact directly and instantaneously on the blockchain. Rather than financing exchanges of digital assets through a centralized reserve of assets, DEXs connect users to exchange in peer-to-peer trades or interact with an autonomous liquidity pool.

If regulators were to apply laws and requirements currently tailored towards centralized intermediaries to inherently decentralized protocols, DEXs and users would not be able to comply with the existing regulations, and the reporting information would not reach the necessary parties. DEXs cannot be thought of as offshoots of centralized exchanges. In fact, DEXs are not exchanges in the traditional sense at all: they are a protocol for the exchange of assets. There are no central intermediaries to comply with regulations or commit the types of bad acts those regulations were designed to prevent, and the laws would impose reporting requirements on the lines of code that make up the smart contracts. These smart contracts are designed to execute an end user-directed trade based on the satisfaction of a number of predetermined factors rather than at the direction of a central authority. This replaces the need for risk management systems used in centralized financial products and services.¹²

We wish to see greater consideration for the autonomy of self-executing software that successfully disintermediates DeFi products and services. We hope that the Organization embraces the democratizing and efficiency-enhancing potential of DeFi by adopting a “different activity, different risk, different regulatory outcome” approach in the final recommendations.

IV. The Report’s Dismissal of Decentralization Would Create Intermediaries in DeFi Where Intermediaries Do Not and Cannot Exist.

As an overarching recommendation, the Report encourages regulators to make extensive efforts to gain a “holistic understanding”¹³ of any particular protocol as an initial step of regulation. We are pleased to see the Organization’s commitment to building a practice of informed decision-making around any efforts to regulate DeFi. Unfortunately, the Report fails to extend this commitment to its representation of control and influence in the DeFi ecosystem.

¹² See generally John Kambhu et al., *Hedge Funds, Financial Intermediation, and Systemic Risk*, FRBNY ECON. POL’Y REV. (Dec. 2007),

<https://www.newyorkfed.org/medialibrary/media/research/epr/07v13n3/0712kamb.pdf>.

¹³ Report at 20.

Regulators are encouraged to “identify the natural persons and entities of a [DeFi entity] that could be subject to its applicable regulatory framework (Responsible Person(s)).”¹⁴ Responsible Persons are purported to include those “exercising control or sufficient influence”¹⁵ over the DeFi protocol. This steep mischaracterization of the provision of DeFi products and services is used to capture developers, investors, governance token holders, DAOs, validators, third-party service providers, and other individuals and entities under a burdensome and misrepresentative regulatory status. We are alarmed by the statement that DeFi protocols are “decentralized in name only”¹⁶ and how misrepresentations are used to justify the application of unworkable regulatory frameworks on individuals and entities that do not exercise control or sufficient influence over DeFi protocols.

The Report extensively discusses the concept of decentralization but fails to provide a definition of the term. The Report attempts to rebuke the claim that DeFi protocols are “decentralized to the point that no persons or entities are responsible”¹⁷ by minimizing the role of smart contracts in disintermediation (as mentioned above) and mischaracterizing the role of decentralized governance structures. The Report argues that “human involvement typically is necessary to make changes to a project’s protocol, smart contracts, or other code into usable code”¹⁸ and that developers, governance participants, and investors, amongst others, contribute to this process.

First, DeFi protocols are not intermediaries that are responsible for the actions they effectuate. Rather, they are only lines of code that perform some function when either an individual interacts with the code, causing it to meet conditions to effectuate some event, or because the predetermined conditions are achieved through another source of information. DeFi innovators, who develop autonomous software and step back after deployment, cannot be assessed as having the ability to exercise control or sufficient influence over the protocol or smart contracts. This reasoning is sound in several real-world situations. An automotive manufacturing company that produces and sells a vehicle does not have control or influence over how a driver uses the vehicle. The Internet, an autonomous system of computer networks, does not have control or influence over the web pages and applications that web developers deploy. We urge the Organization to recognize the lack of human involvement behind the functioning of DeFi protocols and smart contracts.

Second, the Report also attempts to separate the decentralized governance structures of some DeFi protocols from contributing to the overall decentralization of the protocol itself.¹⁹ The Report argues that “control and decision-making authority in DeFi projects as a practical matter

¹⁴ Report at 22.

¹⁵ *Id.*

¹⁶ *Id.* at 67

¹⁷ *Id.* at 22.

¹⁸ *Id.* at 23.

¹⁹ *Id.* at 68.

remain concentrated [and that] a relatively small number of participants may, in reality, exercise dominion over a DeFi project or protocol.”²⁰ However, the Report ignores how the process in which a DAO and governance token holders impact the functioning of the protocol and the extent to which these participants contribute to the ongoing operation of the protocol. As stand-alone individuals, single governance token holders cannot effect change in DeFi protocols through their voting power. Although improvement proposals can be approved through DAOs or the aggregation of voting power through a community vote, such communal processes cannot be interpreted as an ability to exercise control or influence over a DeFi protocol. There are no coordinated efforts between groups of participants. Decentralized governance is inherently designed to obviate such abilities. Further, voting tokens are not necessarily held for the purpose of participation in governance. It would be unfair to subject control or influence responsibility to governance token holders who do not exercise their voting rights. We hope that further consideration is made to individuals or entities that are non-controlling participants.

Third, the Report designates DeFi investors as Responsible Persons who exercise sufficient influence over a DeFi protocol at the enterprise level by illustrating their investments as an “expectation to earn a profit through participation.”²¹ Investors who finance the development of a DeFi protocol mainly stand to affect the design of a protocol before its deployment. As argued above for developers and governance token holders, an investor’s pre-deployment contributions to a protocol or holding of governance tokens should not be interpreted as an ability to exercise control or influence over a protocol. An expectation to earn profit through participation is another basis that works to capture investors, as well as third-party service providers and validators, as Responsible Persons. Rather than simply equating this expectation as evidence of control, regulators should be encouraged to understand further the extent to which participation impacts a protocol’s functioning.

The above mischaracterizations of control and influence over DeFi protocols are combined to construct a regulatory status that obliges DeFi participants to comply with the Report’s recommended regulatory framework. This approach is entirely based on the assumption that DeFi protocols have persons or entities who can be identified as controlling persons. Despite consistently claiming that the determination of whether a DeFi protocol is sufficiently decentralized is a facts and circumstance determination, there is no recommendation that outlines a regulatory pathway for protocols that are deemed sufficiently decentralized. These limited sets of recommendations deconstruct decentralization only to bring DeFi under compliance with unworkable regulatory frameworks.

Any true assessment of decentralization should consider the reality of the relationship of developers, investors, third-party service providers, and users to a DeFi protocol as well as the relationships between these individuals and entities. We hope to see a reconsideration of

²⁰ Report at 75.

²¹ *Id.* at 9.

whether any individual or entity can, in any case, be deemed to exercise control or sufficient influence over a decentralized activity.

V. The Report’s Characterizations of Maximal Extractable Value, Oracles, and Bridges and Their Perceived Risks Are Incorrect and, Therefore, Substantiate Inapplicable, Unworkable, and Detrimental Recommendations.

In several instances, the Report bases its characterization of DeFi protocols and infrastructure risks on fundamental misunderstandings relating to DeFi infrastructure and market characteristics. The Report then incorrectly applies the “same activity, same risk, same regulatory outcome” principle to recommend that regulators pursue interventions that are unworkable without the addition of centralization and intermediation into decentralized ecosystems. In this section, we discuss the nature of maximal extractable value and oracles and bridges.

1. Maximal Extractable Value

While we appreciate the Organization’s attention to maximal extractable value (MEV) extraction in DeFi markets, the Report mischaracterizes several facts about MEV. It bases its delineation of the risks associated with MEV on these mischaracterizations. As a result, the Report proposes a regulatory intervention that would ultimately do more harm than good.

The Report’s statement that “the ability to reorder, insert, and otherwise control transactions enables conduct that in traditional markets would be considered manipulative and unlawful”²² creates a false and misleading analogy that fails to account for the differences in the market structure of traditional finance and the decentralized finance (DeFi) ecosystem.²³ In doing so, the Report incorrectly applies the “same activity, same risk, same regulatory outcome” principle to propose identical regulatory approaches to two inherently different systems that embody different risk profiles: first-in-time transaction ordering in traditional finance and the grouping of pending transactions into blocks on public blockchains.

As observed by the Report, MEV refers to profit-seeking practices relating to the ordering and inclusion of transactions within a block on a blockchain.²⁴ However, unlike traditional finance transactions, which are processed serially on the basis of send-time, pending transactions on public blockchains like Ethereum²⁵ do not follow any predetermined “first-in-time” ordering. Rather, transactions are typically ordered based on the attached transaction fee. This allows Ethereum to operate globally, 24/7, in a decentralized manner. Additionally, through MEV strategies, users of DeFi protocols are provided with optionality in the possible transaction fees

²² *Id.* at 32.

²³ *Id.*

²⁴ *Id.* at 60.

²⁵ While MEV extraction is observed in many public blockchains (i.e. Solana, BNB, etc.), this Response will focus on MEV extraction on the Ethereum blockchain to reflect the focus of the Report.

and durations for transactions. This allows users with different spending powers and urgencies to use DeFi products and services to best serve their needs. The decentralized nature of this competitive landscape should be protected given that, unlike traditional finance market structure where *send-time* determines who reaps the profits from risk-free arbitrage opportunities, public blockchains do not favor highly sophisticated market participants with access to expensive low-latency communication technologies and colocation facilities.²⁶

The Report conflates the inherently different mechanisms of transaction ordering in traditional finance with that of public blockchains. While the reordering of transactions on the basis of a parameter other than *send-time* would be considered manipulative in the traditional finance context, the same cannot be said about Ethereum, where pending transactions do not lay claim to any particular “place in line” that is subsequently “cut” or “reordered” through the actions of an MEV extractor. Due to the unique nature of transaction processing on Ethereum, MEV presents a risk profile distinct from that of transaction ordering in traditional finance and for which it does not have a perfect analogy.

The Report appears to categorize MEV as an exploitative practice. This characterization is not only inaccurate but also serves to hurt decentralized market structure health and innovation. For example, the Report tries to draw connections between certain MEV practices and “front running” in traditional finance. It is important to distinguish between some forms of MEV extraction and “front running” as an illegal practice in traditional finance. MEV may allow reordering of transactions based on *public* pending transactions, which are visible to any actor viewing the Ethereum memory pool (“mempool”).²⁷ Meanwhile, front running refers to the practice of a broker or other trader with access to *non-public* pending transaction information trading ahead of those orders. Front running is illegal because it involves *non-public* information and generally entails the breach of specific duty or relationship of trust between a broker and their client.²⁸ Classifying MEV as manipulation is unjustified, given that the relationship between an MEV extractor and the trader does not generate the conflicts of interest that underlie prohibitions on front running in traditional finance.

²⁶ See generally, Eric Budish, Peter Cramton, John Shim, *The High-Frequency Trading Arms Race: Frequent Batch Auctions as a Market Design Response*, 130 QUARTERLY JOURNAL OF ECONOMICS 1547 (Nov. 2015).

²⁷ Mempool refers to the pending transactions awaiting to be added to the block. Pending transactions in the Ethereum mempool can be easily viewed and accessed online through a variety of “mempool explorers.” See, e.g., BLOCKNATIVE, Mempool Explorer, <https://explorer.blocknative.com/?v=1.36.15&0=ethereum&1=main>. Additionally, market participants can access pending transaction information by querying a particular node’s mempool. See QUICKNODE, *How to access Ethereum Mempool*, <https://www.quicknode.com/guides/ethereum-development/transactions/how-to-access-ethereum-mempool>.

²⁸ Barcentewicz, *supra* note 25 at sections III.D, IV.A.2.v.

Finally, the Report recommends that providers of DeFi products and services be held responsible for identifying, managing, and mitigating the impact of MEV strategies that take place on the blockchain underlying their product or service offerings. We view this measure as premature and detrimental to the future growth of the DeFi ecosystem, particularly in light of the efforts already underway to mitigate the risk present in MEV extraction.²⁹

The imposition of regulatory burdens on DeFi product and service providers to identify, manage, and mitigate MEV-related risks would increase barriers to entry and amplify economies of scale in the context of DeFi applications and protocols, resulting in reduced competition which ultimately harms end-users. Moreover, the Report fails to provide guidance regarding how regulation directed at service providers would actually mitigate the harms resulting from MEV, as MEV is a phenomenon of the settlement rather than the application layer. Without a solidified understanding of the individual and systemic effects of MEV extraction, regulatory intervention at this stage will be impossible to effectively implement and enforce, and would generate unanticipated consequences.

Rather than stifling innovation by hastily regulating MEV, we urge the Organization to encourage public-to-private sector engagement to shape technological solutions that enshrine the policy goals of market integrity and efficiency and to promote industry research efforts to better understand the effects of MEV on individual market participants and the market as a whole.

2. Oracles and Bridges:

While we agree that manipulations and exploits affecting DeFi communication technologies like oracles and cross-chain bridges are harmful, we disagree with the Report's approach to addressing these harms. Rather than requiring providers of DeFi products to identify, manage, and mitigate the risks posed by oracles and cross-chain bridges, regulators should focus their attention on the actual manipulative behaviors that cause these harms and engage

²⁹ For instance, MEV-Boost, which enables the separation of block building and block proposing, has mitigated the problem of validator centralization for Proof of Stake Ethereum because block proposers can participate in network validation without the overhead of sophisticated sequencing resources necessary for successful block building. The number of validators run on Ethereum has nearly doubled since the merge last year. See BEACONSCAN, *Validators*, <https://beaconscan.com/stat/validator>, last accessed Oct. 11, 2023. Additionally, block proposers, who are blind to the contents of individual blocks, earn most (56 to 72%) of the profits from MEV extraction. On the other hand, the *sequencer* of transactions within a block (that is, the *block builder*) actually captures very little of the ultimate MEV profits – only about 6% to 11%. See, e.g. Leland Lee, GALAXY, *Distribution of MEV Surplus* (June 2023), [https://www.galaxy.com/insights/perspectives/distribution-of-mev-surplus/#:~:text=Searchers%20must%20bid%20most%20of,%2C%20and%20Relays%20\(0%25\)](https://www.galaxy.com/insights/perspectives/distribution-of-mev-surplus/#:~:text=Searchers%20must%20bid%20most%20of,%2C%20and%20Relays%20(0%25))); EIGENPHI, *\$30M, 72% of Searchers' MEV Revenue Went to Validators in 2 Months* (May 2023), <https://eigenphi.substack.com/p/30m-72-of-searchers-mev-revenue-went>. This democratizes access to the value accrued through MEV extraction by making it possible for a greater amount of MEV extraction to be distributed across the Ethereum transaction supply chain to various actors.

with the DeFi industry in the development of technological solutions that mitigate their effects on market participants.

The Report is correct to define oracles and cross-chain bridges as technologies that provide blockchains with connectivity to external data (which may come from other blockchain ecosystems or off-chain sources) and other blockchains. Oracles and bridges, by their nature, carry important, often valuable, messages and tend to be targets of manipulative tactics like code vulnerability exploits or flash loan attacks. Similar phenomena are common in traditional finance. For instance, “marking the close”³⁰ is a common form of benchmark manipulation in commodities markets that involves the manipulation of a derivative’s price at the time it is used to determine another derivative’s price. The response to benchmark manipulation in traditional financial markets is rarely to eliminate the benchmark and financial activity relating to that benchmark altogether, as the Report’s proposal of imposing unworkable disclosure requirements and risk management obligations on oracles and bridges—particularly those that are decentralized—threatens to do. Rather, benchmark manipulation is generally regulated through ex-post anti-manipulation enforcement, an acknowledgment that the problem is not the benchmark itself but the illicit actions of manipulators who prey on it for personal gain.

The Report focuses its characterization of the risks surrounding oracles and bridges on their susceptibility to exploitation and manipulative activity. This unfortunate reality is common to all sorts of communication technologies that convey value-relevant information. Yet, the Report recommends requiring heightened due diligence, monitoring, and risk management requirements on oracles and bridges themselves. This proposal makes compliance impossible for decentralized entities without introducing centralization and intermediaries, thereby eliminating the value inherent in decentralized technologies. It also fails to address the root of the problem: the existence of and harms caused by code exploits and the use of flash loan attacks to capitalize on these exploits. The DeFi industry is already working towards mitigating the feasibility and detrimental effects of such exploits through the development of market integrity parameters built natively into the operation of protocols, such as circuit breakers, time delays, liquidity limits, and more secure token standards.³¹ We urge the Organization to encourage regulators to work with industry to help shape and support research into technical solutions that enshrine security best practices into decentralized protocol operations.

Lastly, it is critical that the Organization recognizes that extra-protocol technologies like oracles and bridges are components intended to address the current reality of DeFi in its nascent

³⁰ CFTC GLOSSARY, *Marking the Close*, <https://www.cftc.gov/LearnAndProtect/AdvisoriesAndArticles/CFTCGlossary/index.htm#markingtheclose> (defining ‘marking the close’ as “A manipulative or disruptive trading practice whereby a trader buys or sells a large number of futures contracts during the closing period of a futures contract (that is, the period during which the futures settlement price is determined) in order to benefit an even larger position in an option, swap, or other derivative that is cash settled based on the futures settlement price on that day.”).

³¹ Novel token standards, such as that proposed in Ethereum Improvement Proposal 7281, are emerging to improve the security and liquidity issues that challenge bridged tokens.

stages. Reliance on such technologies will decrease over time as public blockchain ecosystems become more robust and reduce their dependence on off-chain information sources, such as through the use of zero-knowledge (ZK) proofs in interoperability solutions.³² Accordingly, requiring DeFi service providers and regulators to invest scarce resources to implement and enforce risk assessment and mitigation systems for oracles and bridges – which may no longer be relevant or a source of concern in coming years – entails a wasteful instance of regulatory short-termism.

VI. Rather than Frame Regulation for a Nascent Technological Space That Would Act as a De Facto Ban on Defi, the Organization Should Seek to Guide the Development of Technical Solutions and Determination of Best Practices.

Currently, the Report fails to adequately characterize decentralized technologies or explain how these technologies obviate intermediary risks, thereby providing regulators with an ineffective approach to regulating DeFi. This includes the Report’s dismissal of decentralization and the notion that persons and entities involved in DeFi can be found to exercise control or sufficient influence over a protocol. A regulator’s adherence to these perspectives sets a dangerous precedent for unworkable and burdensome regulatory frameworks to emerge globally.

Applying the Report’s recommendations to regulatory frameworks for DeFi, specifically to the persons and entities that the Report considers Responsible Persons, would have a detrimental effect on the current ecosystem and signal the end of DeFi development and innovation. A public blockchain depends on a dispersed, unaffiliated group of participants working together to maintain a decentralized network. In that decentralized environment, it is technologically impossible for network participants to comply with the obligations of existing frameworks tailored for centralized financial entities, which would force DeFi protocols to obtain sensitive personally identifiable information. By imposing such requirements onto individuals and other entities that are incapable of compliance, the application of the Report’s recommendations would effectively criminalize participation in activities such as mining, staking, and protocol governance.

If adopted, the Report’s recommendations would impose compliance obligations on persons and entities that they are unable to comply with and would exact insurmountable barriers to entry on all parts of the ecosystem. Users would be discouraged from utilizing DeFi

³² A ZK proof is a cryptographic method by which one party (the “prover”) can prove to another party (the “verifier”) that a given statement is true without the prover conveying any additional information apart from the fact that the statement is indeed true. The use of ZK proofs in interoperability protocols allows for more secure and fluid movement of real-time and historical contract data across blockchains and enables developers to build decentralized apps that rely on the state of multiple blockchains simultaneously. This would allow a future where DeFi innovators can build products and services that span multiple chains securely.

protocols over centralized financial tools. Investors would be disincentivized to finance DeFi innovation over the costs of complying with unnecessary regulatory obligations. Third-party service providers, and even the Internet, would be captured as those who may profit from their involvement in the provision of a DeFi product or service. We urge the Organization to consider the long-term implications of endorsing a regulatory approach that would result in a de facto ban on the DeFi industry or unfairly characterize or draw connection to traditional intermediated services.³³

Finally, the Report frames its recommendations as a means to combat the noncompliance of bad actors in the DeFi space. However, non-compliance, given the current state of regulations designed to address traditional financial markets, is not necessarily bad acting, so much as it is a reaction to the lack of regulatory clarity and fit-for-purpose regulation.³⁴ Tailored and informed regulation, guidance, and public-private collaboration will eliminate this element of non-compliance.

The Association and DEF stress that any regulatory framework for DeFi must consider that the ecosystem will change materially in the coming years, and overly restrictive regulatory approaches will only prevent DeFi from developing into a space that promotes market integrity and provides technical safeguards for investors. Industry solutions are emerging of varying feasibility and effectiveness that are likely to go a long way in enshrining the ultimate goals of regulation in protocol development and operation.³⁵ We hope that the Organization will welcome, support, and collaborate with industry to help shape the development of these technological mitigants to the many risks outlined in the Report.

³³ We also caution against the Report’s recommendation that regulators should apply further regulations on activities that qualify as both DeFi products and services and crypto-asset service providers (CASPs) as defined in previous recommendations. We hope that finalized guidance on the interoperability between the Report and the CDA Report recognizes the unique features of decentralized protocols we lay out in this public comment in order to avoid inconsistencies between the two sets of recommendations and is reworked to prevent the potential application of unworkable regulatory burdens onto decentralized protocols. See Int’l Org. of Sec. Comm’ns, *Policy Recommendations for Crypto and Digital Asset Markets Consultation Report*, (May 2023), at 1 and n. 4, <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD734.pdf> [hereinafter the “CDA Report”] (defining CASPs as “service providers that conduct a wide range of activities relating to crypto assets, including but not limited to, admission to trading, trading (as agent or principal), operating a market, custody, and other ancillary activities such as services such as lending/staking of crypto-assets and the promotion and distribution of crypto-assets on behalf of others”).

³⁴ See *Risely v. Universal Navigation Inc.*, No. 1:22-cv-02780-KPF, 2023 WL 5609200, at *6 (S.D.N.Y. Aug 29, 2023) (“Issuers who create ERC-20 tokens are known as “developers”; each of them theoretically could register their tokens with the Securities and Exchange Commission (the “SEC”), but such registrations are few, as Congress and the courts have yet to make a definitive determination as to whether such tokens constitute securities, commodities, or something else.”).

³⁵ See COALITION FOR DECENTRALIZED AUTONOMOUS LEGAL APPLICATIONS, *Model Law for Decentralized Autonomous Organizations* (2021), <https://coala.global/wp-content/uploads/2022/03/DAO-Model-Law.pdf> at 8 (discussing the Regulatory Equivalence concept).

VII. Conclusion

We greatly appreciate the Organization's request for consultation on this matter. It is clear that the Organization recognizes the importance of the evolving DeFi ecosystem and the need to provide regulatory clarity for emerging decentralized technologies around the world. Should the Organization wish to discuss any of the issues raised in this letter ahead of the finalization of its recommendations or any other issue related to decentralized technology or regulatory approaches to DeFi, the Association and DEF remain willing and eager to participate. Thank you for your consideration.

Respectfully submitted,



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