Paradigm

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European Securities and Markets Authority
201-203 Rue de Bercy, 75012 Paris
France

Paradigm response to consultation on draft technical standards and guidelines specifying certain requirements of the Markets in Crypto Assets Regulation (MiCA) on detection and prevention of market abuse, investor protection and operational resilience.

Paradigm welcomes the opportunity to provide feedback on ESMA's third consultation package under MiCA.

Paradigm is a research-driven technology investment firm. We focus on crypto and related technologies at the frontier and invest in, build, and contribute to companies and protocols with as little as $1M and as much as $100M+. We often get involved at the earliest stages and continue to support our portfolio companies over time. We take a deeply hands-on approach to help projects reach their full potential, from the technical (mechanism design, security, engineering) to the operational (recruiting, go-to-market, legal and regulatory strategy).

Please find our feedback for consideration below.

General comments

As a crypto-focused investor, we care deeply about the robustness of the global crypto market, including in the EU where we have active investments in a number of cutting-edge companies. We appreciate the opportunity to comment on ESMA's third consultation package, but we have significant concerns that ESMA's proposed approach may inadvertently harm EU citizens, both as end users of blockchains and as neutral operators of blockchain infrastructure. Our comments here pertain to the general approach that ESMA has taken, rather than any specific questions in the consultative draft.

While we support ESMA's broad objective of ensuring that EU-based crypto markets are free of market abuse, we have concerns regarding ESMA's proposed approach of leveraging the Market Abuse Regulations (MAR) in its application of Article 92(1) of MiCA.

Crypto assets are underpinned by public blockchains that involve a collection of decentralized infrastructure operators, known as the "base layer" of crypto, that perform critical, neutral operational functions. The base layer's key function is publicly recording the ordering of blocks added to the blockchain.

The MAR was not designed to apply to a core communications protocol such as crypto's base layer, which is technology infrastructure providing a public good. For example, Paragraph 10 of

the consultation acknowledges the MAR's obligations for "market operators and investment firms operating a trading venue" and "PPAETs," while Paragraph 15 establishes that ESMA's interpretation of PPAETs, though not defined in MiCA, could apply broadly to "buy-side firms, proprietary traders, DEA providers and non-financial firms that trade on their own account as part of their business activities."

There are a number of firms in the crypto ecosystem that could be analogous to those described in Paragraphs 10 and 15. However, expanding this scope to include crypto's base layer, unintentionally or not, would be a significant divergence from the regulatory approach to traditional financial markets. If ESMA includes crypto's base layer in its implementation of Article 92(1), a consistent approach would require it to also include Internet Service Providers (ISPs), cloud data centers, developers of networking software, and more in its scope of coverage for the MAR's interaction with MiFID II and other frameworks applicable to financial services and markets. We do not believe such a step would be practicable nor consistent with ESMA's mandate, so ESMA should further clarify that crypto's base layer—including validators/miners, builders, searchers, relays, pool operators, and sequencers—is out of scope of Article 92(1).

Our concerns center around ESMA's potential application of the MAR to crypto's base layer as implied in Paragraphs 18 and 19 of the consultation, which together suggest ESMA's current understanding of blockchain technology could be outdated and lacking appropriate nuance.

Specifically, Paragraph 19 states that "MiCA is clear when indicating that orders, transactions, and other aspects of the distributed ledger technology may suggest the existence of market abuse e.g., the well-known Maximum Extractable Value (MEV) whereby a miner/validator can take advantage of its ability to arbitrarily reorder transactions to front-run a specific transaction(s) and therefore make a profit." The fact that ESMA is drawing a parallel between market abuse of the kind seen in traditional, centralized financial markets and activities of base layer actors shows a fundamental misunderstanding of the mechanics of blockchains.

Blockchains are distributed state machines that deterministically execute logic and come to consensus on a shared view of the world, often described or represented as a ledger. This process involves base layer participants packaging *transactions* into blocks. Crucially, when we use the term "transaction" in this context, we are referring to a database system concept that describes a technical operation resulting in a change—or transition—in the state of the database.

Prior to the process of consensus, where miners/validators agree on the next set of valid transactions to be added to the blockchain, there is no natural or correct order of transactions. Since blockchains are globally distributed, decentralized networks, different base layer participants will perceive order differently. As such, the mechanism for determining the natural order of *financial transactions* in traditional markets, based on time-priority relative to a centralized infrastructure operator, does not translate cleanly to a decentralized environment where multiple participants are responsible for the operation of the protocol. Notwithstanding the

fact that there is no *correct* order of transactions, order is important for the efficiency and security of the protocol.

MEV "refers to the maximum value that can possibly be realized from a given block as a result of the most optimal and efficient contents and order of messages within that block" (See *Fair Market Principles,* Proof-of-Stake Alliance). In general, base layer actors are incentivized to construct blocks that result in an efficient allocation of blockspace by maximizing MEV. Among other things, MEV plays an important role in supporting the efficiency of the decentralized finance (DeFi) ecosystem by helping participants (including non-base layer actors) arbitrage prices and automatically manage collateral liquidation.

ESMA's description of MEV as front-running in Paragraph 19 of the consultation is also inconsistent with ESMA's own definition of front-running as described in Article 7(1)(d) of the MAR, which requires a person responsible for executing orders to have "inside information" that they use to trade ahead of other orders. Since pending transactions on public blockchains are often public by design, front-running in the traditional sense should not be applicable here.

If ESMA is concerned about the potential downsides of some forms of MEV, it should first conduct research on the market and engage with the private sector to better understand (and quantify) how MEV affects consumers and how any proposed attempt to address what ESMA perceives as market abuse could harm EU citizens in the long run. At present, there is no universally-accepted way to identify which MEV-related activities are harmful or suspicious, so requiring the ecosystem to monitor and prevent inherently subjective subjective behavior is a recipe for inconsistent application and unintended consequences.

Regulation that forces blockchain market microstructure into a specific architecture could thwart innovation and harm consumers in the long run, since the market is constantly changing and improving for the benefit of users.

Take Ethereum, for example. Today, the act of building a block (by ordering and packaging transactions) is a highly specialized set of functions—and very few of these base layer participants have a direct or formal relationship with end users. These functions are generally separated from the act of proposing or validating a block so that it can be added to the blockchain. Several years ago, Ethereum's market microstructure looked vastly different.

If Article 92(1) is applied without nuance to crypto's base layer in a way that treats discretionary transaction ordering as market abuse, base layer participants will be forced to develop closed systems that harm users—or they will leave the EU entirely. For example, if such regulation constrained the design choices available to developers of the Ethereum protocol, it is unlikely that Ethereum would have been able to change its consensus algorithm from proof-of-work to proof-of-stake. In addition, we likely would not have seen the development of a number of out-of-protocol tools that redistribute the proceeds of MEV back to users—balancing protocol efficiency and security with user welfare maximization.

From a practical perspective, if the scope of PPAETs includes validators/miners and other base layer participants, they will likely cease operations on the continent, which will result in the loss of high-skilled tech jobs and the exporting of critical technology infrastructure to other jurisdictions.

To the extent that ESMA remains concerned with issues related to consumer welfare and the potential negative implications of MEV, ESMA should encourage industry to build products that enhance consumer welfare in aggregate without taking an opinionated view on how those products are designed. In particular, ESMA should be cognizant of the fact that crypto's base layer is organizationally and architecturally different from the systems and actors that participate in traditional financial markets, and there are limits to how far existing regulation can be applied. Applying existing regulations to a drastically different ecosystem will result in the recreation of the same unequal market structure rent-seeking behavior seen in traditional finance.

There are some places where market abuse regulation could be particularly helpful, and where the applicability of the MAR is less fraught—just not at the base layer.

Where ESMA's proposed approach could be more appropriate is in regards to situations where CASPs or other service providers have a direct and formal relationship with customers and where licensed CASPs operate a centralized service or platform. For instance, if a CASP is operating a centralized exchange with an orderbook or trade execution mechanism that they solely control, they should take steps to ensure that their platform observes the relevant fair market practices. Similarly, if a CASP or non-CASP entity is conducting trades on behalf of users, there should be an expectation that they are acting transparently and in the best interests of those users.