

July 9, 2026

- via Regulations.gov (<https://www.regulations.gov>)

Mr. Christopher Kirkpatrick, Secretary

Commodity Futures Trading Commission (CFTC)

Three Lafayette Centre, 1155 21st Street NW, Washington, DC 20581

Re: Identifying Regulations to Facilitate Innovation and Competition to Financial Products and Services for Fintech Firms (Docket: CFTC-2026-1321; FR 2026-12337; Release No. 9254-26; RIN 3038-ZA24)¹

Dear Mr. Kirkpatrick,

On behalf of Data Boiler Technologies, I am pleased to provide the Commission with our comments on the captioned release on identifying CFTC regulatory items, aimed at facilitating innovation and fostering competition in financial products and services for Fintech firms, issued pursuant to Executive Order 14405. Data Boiler is a Pioneer in FinTech with patented inventions in signal processing, trade analytics, machine learning, time-lock cryptography, etc. We frequently comment on regulatory policy both domestically and abroad with over 12 years in business. Please see the BOX below for an Executive Summary of our comments:

Executive Summary: *Securing True FinTech Competition and Integrity*

Unlike others who advocate for pure deregulation or temporary compliance delays to shield incumbents, we focus on market structure integrity. The existing regulatory framework focus on *what* is traded rather than *how* it is executed. It sparks a “*Gresham’s Law of Microstructure*” and fuels a race to the bottom. Overly prescriptive, retrospective data-hoarding rules (Part 45) and subjective, content-based product reviews (Rule 40.11) impose massive compliance friction on honest FinTech innovators while failing to detect or prevent real-time systemic risks, flash crashes, or code exploits.

To fulfill the mandates of Executive Order 14405, the Commission should reject piecemeal deregulation or discretionary “*no-action*” waivers that shield incumbents and instead execute a systematic market structure overhaul anchored to a **five-layer behavioral risk taxonomy** – [Hunters](#) (create risk), [Risk Packagers](#) (transform risk), [Intermediaries](#) (route risk), [Risk-Warehouses](#) (absorb market exposure), and [Flow-Harvesters](#) (absorb client exposure). To establish a resilient, positive-sum [Symbiotic Flat-Line equilibrium](#) where open APIs and neutral infrastructure allow any participant to seamlessly route risk, the CFTC should implement the following targeted, taxonomy-aligned reforms:

- **Dismantle Entry Barriers via Tiered Intermediary (Layer 3) Pathways:** Carve out a distinct **Authorized Technology Router (ATR) registration under NFA supervision**. This framework unburdens asset-light software aggregators, bilateral message boards, and smart order routers from heavy exchange-level SRO rules, preserving rigid surveillance solely for Tier 1 matching venues (DCMs/CLOB SEFs) and compressing transactional wastage (Objective 1a – the lowest possible total costs to transact in US markets and drive non-zero-sum growth for the economy).
- **Delineate Private Rights and Restore Market Integrity:** Mandate a “Powers-of-Two” litmus test on event contracts to strip away over-engineered payoff scales. Modernize the “fair and impartial access” mandates under Subpart C of Parts 37 and 38 to allow venues to deploy automated cryptographic whitelisting and real-time smart-contract risk audits at the API gate. Concurrently, the Commission should explicitly permit intent-based pricing through an automated Copyright Licensing mechanism to reward liquidity-providing Makers with royalty dividends, eliminate favorite-longshot biases, and filter out predatory speculators (Objective 1b and 2b – Private rights and social costs +

¹ <https://www.govinfo.gov/content/pkg/FR-2026-06-18/pdf/2026-12337.pdf> (17 CFR Parts 1, 3, 4, 23, 30, 36, 37, 38, 39, 40, 41, 43, 45, 48, 50; Vol. 91, No. 117)

utilizing enduring, principle-based rules where possible to minimize the need for frequent calibration, which inevitably introduces bias favoring select participant groups).

- **Establish a Programmatic “Fully Collateralized Tech-Clearing” Safe Harbor:** Formally update Part 39 rules to exempt 100% pre-funded, non-intermediated clearing utilities from traditional mutualized banking default funds, replacing manual paperwork with rigorous mathematical code audits of underlying smart contracts, liquidation scripts, and oracle price feeds to defend against flash-loan vulnerabilities (Objective 1c – Implement the simplest, most objective, and least burdensome rules possible for those who do things fairly and squarely, while proportionally intensifying scrutiny on entities/ individuals posing systemic risks).
- **Deracinate Partnership Impediments:** Smart contracts are an oversimplified mechanism for delineating complex real-world rights and obligations. hybrid solutions are being created, resulting in DeFi convergence to TradFi with no necessary efficiency gain. To strike a balance, modernize the vendor management framework by establishing an algorithmic safe harbor under §1.2 to shield registrants from strict principal liability for pre-vetted code, and permit programmatic smart-contract self-certifications under Part 40 to eliminate bureaucratic product stagnation (Objective 2c - halting behaviors that divert scarce resources away from innovation and stifle competition).
- **Beware of the Uncountable:** Tokenization serves as a lower-cost alternative to securities issuance and asset gathering processes. Much like traditional securitization, it aims to make assets tradable and liquid. Yet, current commercial reward programs lack consistent accounting standards, creating an unsustainable model where tokenization can be misused or disguise as financial instruments when left “**uncountable**”. They should instead be regulated under consumer laws because their value cannot be properly determined or quantified by the amount of outstanding inventory and an uncapped supply creates inflationary pressure (Objective 2a – avoiding “bare minimum compliance” norms). In additions, **Dollarize the countable** digital asset space to turn the tables against foreign threats (Objective 3c – creating strategic asymmetries and structural advantages for the US).
- **Transition from Trade Reporting to Agentic AI:** Replace the expensive Part 45 reporting tax and centralized cybersecurity honeypots with a decentralized ledger access framework. Mandate that transaction logs remain securely at rest at their native network source, enabling the CFTC and NFA to deploy localized **AI Compliance Agents** to audit transaction integrity and track systemic leverage in real time (Objective 3a – Against authoritarian regimes and internal bureaucracy that erodes trust and institutional declines).

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Framework for Market Reform and Regulation

To fulfill the mandates of Executive Order 14405 effectively, the Commission must adopt a universal, principles-based framework. Without assuming any specific order of priority, all market reforms and financial regulatory policies must be designed to fulfill the following objectives:

- (1) Foster efficiency and effectiveness in organizing [industry value-chains](#) to:
 - (a) Achieve the lowest possible total costs to transact in US markets and drive non-zero-sum growth for the economy;
 - (b) Delineate private rights and obligations clearly, while minimizing and compensating for any social costs imposed on non-participants;² and
 - (c) Implement the simplest, most objective, and least burdensome rules possible for those who do things fairly and squarely, while proportionally intensifying scrutiny on entities/ individuals posing systemic risks.
- (2) Incentivize competitive behaviors that drive advancement in risk control and market integrity, maintaining orderly function of markets through market forces without requiring frequent regulatory interventions/ mediations, by:
 - (a) Avoiding “bare minimum compliance” norms, focusing instead on cultivating robust risk controls rather than formal endorsements of costly law or consulting firms that only large institutions can afford;
 - (b) Utilizing enduring, principle-based rules, where possible, to minimize the need for frequent calibration, which inevitably introduces bias favoring select participant groups; and
 - (c) Preventing the stagnation or staleness of markets and the reinforcement of power among dominant players who exploit their economies of scale or scope to limit the benefit of technological progress for the greater societal good, specifically halting behaviors that:
 - Divert scarce resources – such as skilled labor, capital, and time – away from innovation and production toward lobbying, litigation, and regulatory capture; and
 - Stifle competition by creating switching frictions (accommodation), market entry barriers (avoidance), or forcing involuntary market collaborations that exacerbate gaps between the Haves and Have-Nots.
- (3) Preserve US’s prominent market position
 - (a) Against authoritarian regimes and internal bureaucracy that erodes trust and institutional decline;
 - (b) With no suppression nor reluctance to take in constructive criticisms that improves the US financial system; and
 - (c) By making strategic asymmetries and structural advantages available, if needed to curb and deter bad actors and foreign adversaries.

Where these three objectives inherently compete, policymakers must balance them dynamically to optimize systemic stability without compromising market dynamism.

FinTech and the Modern Derivatives Value Chain

Established Exchange Groups now market themselves as FinTech. Online gambling platforms broaden their offerings and adopt the FinTech label. Yet more than half a century has passed since the Electronic Communication Networks (ECNs) – the original FinTech – disrupted the traditional floor-based model and reshaped how stock exchanges operate. [What, exactly, is new under the sun?](#)

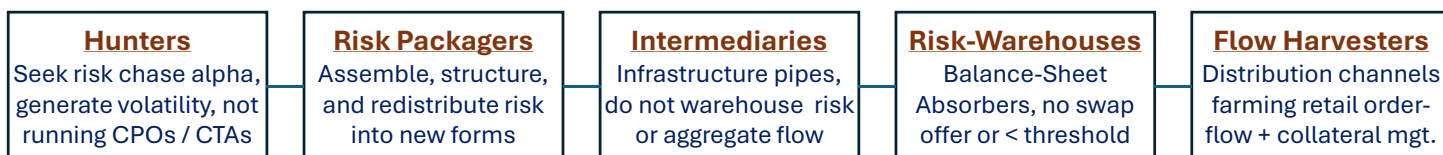
² <https://iea.org.uk/wp-content/uploads/2016/07/THE%20MYTH%20OF%20SOCIAL%20COST.pdf>

Robert Greifeld, then CEO of NASDAQ and now Chairman of Virtu, a top High Frequency Trading (HFT) firm, pushed for the establishment of Regulation National Market System (NMS), to foster both *“competition among individual markets and competition among individual orders.”*³ The reforms he and many others advanced drove profound improvements in market efficiency and dramatically reduced transaction costs over the last decade and a half.

With complexity and bureaucracy growth over time, the financial markets inadvertently evolved to *“Animal Farm,”*⁴ rather than promote efficient and fair price formation across trading venues given the controversial access fee rebates,⁵ payment for order flow (PFOF),⁶ and BestEx compliance issues.⁷ However, we encourage those risk-adverse or FinTech critics to face the realities – that indexing / passive investing, is like the *“Bed of Procrustes”*⁸ – a false comfort. Avoidance of twenty-first century problems nourish more bad behaviors that deter investor rights. Financial reform requires open dialogue about renegotiating payment and incentive structures to find a new equilibrium⁹ that realign the **industry value-chains**.¹⁰

Nascent is NO EXCUSE. The lesson is clear: the issue is NOT who chooses to call themselves FinTech, but rather understanding which FinTech actors play which roles across the **industry value-chains** – and ensuring that rulemaking does not lag too far behind the evolution of market structure and technology.

The **TradFi** and **DeFi derivatives ecosystem** is best understood by examining how different firms **interact with risk**. Traditional regulatory categories (broker, dealer, exchange, fund) obscure the underlying economic behavior that actually determines **how risk is created, transformed, routed, and ultimately absorbed**. When we classify firms by what they do with risk, the industry resolves into five distinct layers: **Hunters, Risk Packagers, Intermediaries, Risk-Warehouse, and Flow-Harvesters**. This **behavioral taxonomy** captures the economic incentives and microstructure functions of each participant. It accurately reflects observable phenomena or market dynamics that explains why certain firms must be categorized differently than regulatory labels or legacy market conventions suggest.



In below discussion, CFTC / National Futures Association (NFA)-regulated entities are marked with ★

i. Hunters: Risk Seekers

At the left edge of the value chain sit the **Hunters** – firms whose business model depends on *seeking risk, chasing alpha, and attacking volatility*. These include proprietary trading firms, HFT shops, hedge funds, proprietary desks of Commodity Trading Advisors (CTAs) ★, volatility arbitrage funds that are NOT Commodity Pool Operators (CPOs) or CTA, and retail traders who actively pursue leveraged exposures. Hunters generate the raw market pressure that drives liquidity, volatility, and price discovery. They initiate trades, take directional views, and create the exposures that downstream layers must either transform or absorb. Their behavior is defined by short-term Profit-and-Loss sensitivity and a

³ <https://www.amazon.com/Market-Mover-Lessons-Decade-Change/dp/1538745135>

⁴ <https://www.linkedin.com/pulse/animal-farm-market-data-negotiate-more-equal-kelvin-to/>

⁵ <https://www.linkedin.com/pulse/pilot-may-lose-direction-when-new-exchanges-appear-kelvin-to/> ; <https://www.linkedin.com/pulse/rebate-tiering-competitive-pricing-different-market-centers-kelvin-to-u6l2e>

⁶ <https://crsreports.congress.gov/product/pdf/IF/IF11800>

⁷ <https://www.finra.org/sites/default/files/2021-06/Regulatory-Notice-21-23.pdf> ; <https://www.linkedin.com/pulse/fiduciary-suitability-best-interest-what-kelvin-to/>

⁸ <https://www.amazon.com/Bed-Procrustes-Philosophical-Practical-Aphorisms/dp/0812982401>

⁹ <https://www.linkedin.com/pulse/warring-states-period-finding-new-equilibrium-kelvin-to/>

¹⁰ <https://www.linkedin.com/pulse/smile-curve-changes-securities-value-chain-evolves-kelvin-to/>

willingness to embrace uncertainty. In a *perfect market*, if a market cannot be gamed (arbitraged), it means the prices are stuck. In another word, the market is “*inefficient*”. Per the Economist – ***Don’t shoot the Messenger***.¹¹

ii. Risk Packagers / Transformers: Manufacturers of Synthetic Exposure

To the right of Hunters sit the **Risk Packagers**, the “**Alchemists**”, of the derivatives world. These firms do not seek risk for alpha; instead, they **manufacture, reshape, and re-syndicate** risk into new forms. They take raw exposure generated by Hunters and convert them into structured, synthetic, or retail-friendly products. This category includes Exchange Traded Funds / Notes (ETF/ETN) issuers, structured product desks, index providers, CPO ★, volatility Exchange Traded Product (ETP) manufacturers, Contract for Difference (CFD) brokers [**banned in the US**], and synthetic perpetual swap platforms ★, such as Binance, Bybit, OKX, BitMEX, and Deribit. These firms create leveraged tokens, perpetual swaps, inverse swaps, structured vaults, tokenized derivatives, and other synthetic exposures. Their role is **transformative**: they package risk, embed convexity, and distribute exposure to downstream users. They behave like manufacturers, NOT risk absorbers.

iii. Intermediaries: Neutral Infrastructure for Execution, Routing, and Clearing

The third layer consists of **Intermediaries**, the neutral infrastructure that enables risk to move through the system. These firms do not seek risk and do not manufacture it; instead, they provide **execution, routing, liquidity access, analytics, clearing, and settlement**. This category includes regulated trading venues (e.g. Stock / Option Exchanges, Designated Contract Markets [DCMs] ★, Swap Execution Facilities [SEFs] ★, Foreign Boards of Trade [FBOTs] ★), ATSs, Single Dealer Platforms (SDPs), ECNs, Request for Quote (RFQ) networks (★ if using CFTC regulated derivatives), smart order routers, liquidity aggregators, Transaction Cost Analyzers (TCA) vendors, market-impact analytics providers, clearinghouses (e.g. Derivative Clearing Organizations [DCOs] ★), swap data repositories (SDRs) ★, and Trade Reporting Facilities (TRFs). In crypto, this includes CME Clearing ★, Coinbase Derivatives Clearing ★, and non-U.S. clearing engines such as Deribit, BitMEX, and Hyperliquid. Intermediaries are the “**pipes**” of the ecosystem — they match orders, move collateral, manage margin, and ensure the mechanical functioning of markets. They are essential but economically neutral.

iv. Risk Warehouses: Absorb Market Exposure

Directly downstream of Intermediaries sit the Risk-Warehouses, the balance-sheet institutions that absorb market risk itself. These actors include swap dealers ★ (FalconX also offers prime brokerage service), bank dealer entities (★ if using CFTC regulated derivatives), insurance companies, pension funds, commodity merchants (Glencore, Trafigura), corporate treasuries, and energy producers. They hedge long-term exposures, manage inventory risk, and provide the balance-sheet capacity that **stabilizes** markets. They interact directly with intermediaries because they absorb directional market exposure rather than client flow. Their behavior is defensive and long-horizon: they monetize stability, not volatility.

v. Flow Harvesters: Absorb Client Exposure

At the far right of the value chain are the **Flow-Harvesters**, firms that warehouse **client flow** rather than market risk. These include Retail Foreign Exchange Dealers (RFEDs) ★, retail futures brokers (Futures Commission Merchants [FCMs] with retail books ★), Introducing Brokers ★, and other retail broker-dealers, custodians, prime brokers (registered as FCMs but do not make markets in swaps, have no balance-sheet risk books, and do not take principal risk nor hedge market risk ★, such as Hidden Road, Copper PB), and crypto settlement networks such as Fireblocks, BitGo, and ClearLoop. These are regulated primarily as technology infrastructure providers or banking/trust utilities under state and federal banking laws. These actors provide financing, margin, custody, collateral mobility, and counterparty credit warehousing. They scale with

¹¹ <https://www.economist.com/leaders/2007/01/18/dont-shoot-the-messenger>

client relationships rather than market volatility. Their role is to **absorb client exposure**, **NOT market exposure**, which is why they sit downstream of risk-warehousing institutions.

Why This Taxonomy Matters

This five-layer behavioral taxonomy aligns **economic incentives**, **microstructure behavior**, and **regulatory architecture** into a single coherent model in explaining how risk truly moves through the derivatives and crypto-derivatives ecosystem:

- **Hunters create risk**,
- **Packagers transform it**,
- **Intermediaries route it**,
- **Risk-Warehouses absorb market exposure**, and
- **Flow-Harvesters absorb client exposure**.

It clarifies regulatory boundaries: CFTC/NFA oversight applies only to entities operating within the U.S. derivatives jurisdiction – DCMs, SEFs, DCOs, SDRs, swap dealers, RFEDs, FCMs, IBs, CTAs, and CPOs. Offshore crypto venues, CFD brokers, synthetic perpetual swap manufacturers, and commodity merchants do NOT receive ★ stars because they are not CFTC registrants, even though they may be subject to certain CFTC rules.

Enhancement vs. Degradation

When FinTech, particularly decentralized finance (DeFi) protocols, crypto-native prime brokers, and tokenized settlement networks, enter the derivatives value chain, they do not just replace human middlemen with code – they alter how risk is created, processed, and held. Depending on how these decentralized systems handle **collateral velocity**, **informational asymmetry**, and **credit leverage**, they either enhance or degrade the core microstructural function of each of the five layers. The following is a **layer-by-layer assessment of DeFi's implications to the existing derivatives ecosystem**:

Hunters (Create Risk)

Automated algorithmic execution, decentralized leverage protocols, and 24/7 continuous global access.¹²

- **ENHANCEMENT – Capital Efficiency and Discovery**: DeFi significantly enhances the velocity of risk creation. By allowing programmatic traders to plug directly into open liquidity pools via smart contracts, it eliminates onboarding frictions and allows for hyper-fast cross-market arbitrage. This improves short-term price discovery and fills the market with continuous, automated order pressure.
- **DEGRADATION – The Microstructure “Initial Bias” Trap**:¹³ DeFi severely degrades the stability of risk creation by introducing **Maximal Extractable Value (MEV)** and sub-millisecond block-space front-running.¹⁴ Because transactions

¹² <https://medium.com/cryptodition/defi-vs-tradifi-key-differences-real-world-examples-the-future-of-finance-99dc072f7b49>

¹³ Without **TLE** to make market data available securely in synchronized time, it causes “**initial bias**” that exacerbates the gap between subscribers of proprietary feeds and the public consolidated tape. NYSE’s rooftop antenna service is a **controversy**, it is used by high frequency trading (HFT) firms such as Virtu, as well as McKay Brothers and its sister company Quincy Data that advocate for “*level the playing field*.” NASDAQ’s **equalization project** in removing its GPS antenna may ease conflicts among subscribers of collocation service. Yet, a directive like China banning HFTs from using client-dedicated servers co-located within exchange data center, it merely pushes the latency arms race to the nearest neighborhood. We criticize the SEC for not going far enough with the **latency requirement** (same manner and using the same methods) in Market Data Infrastructure Rules. Not until a mandate of **market data available securely in synchronized time** and the questions of **who owns the data** being addressed, inequitable situations would remain. HFTs purchase the bulk of the exchanges’ production and processing capacity. They use this latency advantage to extract alpha from everyday orders, and then sell the excess bandwidth to cover their infrastructure costs. The dynamic turns matching execution into a **closed extraction loop**.

¹⁴ <https://chain.link/article/mev-protection-mechanisms> ; <https://a16zcrypto.com/posts/article/mev-explained/> ; <https://owasp.org/www-project-smart-contract-top-10/2023/en/src/SC05-front-running-attacks.html> ; <https://blocksec.com/blog/harvesting-mev-bots-by-exploiting-vulnerabilities-in-flashbots-relay>

wait in public memory pools (unconfirmed transaction queues) before being written to a ledger, institutional high-frequency Hunters can buy up block capacity. They use this structural advantage to front-run retail order flows and extract an artificial “informational tax.” This shifts the Hunter layer away from genuine price discovery and turns it into a latency-driven extraction loop.

Risk Packagers / Transformers (Transform Risk)

Programmable smart contracts, tokenized yield vaults, and synthetic non-U.S. perpetual swap platforms.¹⁵

- **ENHANCEMENT – Mass Customization and Democratic Structuring:** DeFi enhances this layer by enabling **mass customization** at near-zero marginal cost. Instead of relying on a major bank's structured product desk to engineer a custom hedge, software developers can write a smart contract to manufacture unique, synthetic exposures, leveraged tokens, or fractionalized risk pools. This allows anyone to design bespoke risk management tools.
- **DEGRADATION – The Volatility Multiplier:** DeFi degrades the safety of risk transformation by decoupling synthetic manufacturing from real-world cash market assets. Platforms that list highly speculative perpetual contracts using un-audited third-party data feeds (basic web-scraping logs or loose oracle feeds) function as deterministic casinos. They embed extreme convexity and hidden leverage into token wrappers without proper structural risk controls. This amplifies artificial volatility and passes highly unstable, toxic exposure downstream. This systemic degradation is driven by four core microstructural mechanics:

① Cross-Product Contagion and the "Orphaned" Price Loop

In traditional markets, a Risk Packager (like an ETF issuer) must ensure that the synthetic wrapper is backed by a liquid, audited cash-market asset.¹⁶ In DeFi, Risk Packagers frequently manufacture highly leveraged perpetual swaps or synthetic tokens based on **un-audited third-party data feeds, isolated oracle price logs, or other synthetic tokens** rather than real-world cash assets.

Multiplier Mechanic: When a sudden price drop hits an underlying token, it triggers a chain reaction across every synthetic derivative built on top of it. Given these synthetic products are linked through automated smart contract logic, a pricing glitch or a sudden drop in one isolated token immediately infects the entire web of derivatives.

The Result: This turns the manufacturing layer into an automated conveyor belt that spreads localized pricing shocks across multiple asset classes, mutating a minor market adjustment into a wide-ranging liquidity crisis.

② High Convexity and Hardcoded Leverage Accelerators

DeFi Packagers excel at embedding high **convexity**—where a small change in the underlying asset's price causes an exponentially larger, non-linear jump in the derivative's value—into simple, retail-friendly token wrappers (such as “3x Leveraged Bull Tokens” or automated option vaults).

Multiplier Mechanic: These products require continuous, automated programmatic rebalancing to maintain their leverage targets. If the market drops sharply, the smart contracts are forced to automatically sell massive blocks of the underlying asset into a declining market just to keep their risk parameters intact.

The Result: This programmatic behavior strips away human discretion, transforming Risk Packagers from passive product manufacturers into active, automated forced sellers. Their automated rebalancing loops accelerate downward price spirals, making market panics significantly deeper and faster than they would be normally.¹⁷

¹⁵ https://www.jopaf1.com/uploads/issue30/THE_POTENTIAL_OF_WEB3_REGARDING_DECENTRALIZED_FINANCE.pdf

¹⁶ <https://finance.yahoo.com/news/behind-currency-hedged-emerging-market-184500841.html>

¹⁷ <https://www.tandfonline.com/doi/full/10.1080/0015198X.2021.1913040>

③ Oracle Inflexibility and the Flash-Loan Arbitrage Trap

To value their synthetic products in real time, DeFi Packagers depend entirely on automated price data feeds called **oracles** (which pull pricing data from various external exchanges).

Multiplier Mechanic: Sophisticated Hunters can exploit this dependency by executing a **flash loan** (borrowing millions in capital, executing a massive trade to artificially distort an exchange's price feed within a single block, and returning the loan instantly). When the Risk Packager's automated oracle reads this distorted, artificial price, the smart contract automatically revalues its synthetic wrappers based on the corrupted data.

The Result: This infrastructure vulnerability allows predatory actors to trigger massive, artificial liquidations or misprice multi-million-dollar options vaults. The platform is forced to absorb severe, sudden financial losses, transforming a software-pricing dependency into a real-world volatility driver that destabilizes downstream users.

④ "Casino-House" Spread-Widening Conflict

As highlighted by empirical market data from the **Whelan paper** ("*The Microstructure of Prediction Markets*"),¹⁸ when Risk Packagers operate low-bar platforms without strict structural market design audits, **they function as deterministic casinos rather than true price-discovery engines.**

Multiplier Mechanic: Traditional market manufacturers are bound by clear exchange rules to maintain tight, orderly quotes. In contrast, low-bar DeFi packaging platforms allow preferred market makers to abandon their posting obligations when volatility spikes.

The Result: To protect their own capital during market stress, these market makers use their technical advantages to widen bid-ask spreads or to pull their liquidity completely out of the order book. This leaves ordinary retail participants trapped into facing extreme execution penalties, forcing them then to execute trades at highly unfavorable prices. Volume naturally pools where exploitation is easiest, rendering high-integrity operators non-competitive and driving a broader decline in public trust.¹⁹

Intermediaries (Route Risk)

Decentralized Automated Market Makers (AMMs), decentralized clearing engines, and on-chain matching logs.²⁰

ENHANCEMENT – Eliminating Intermediary Rent-Seeking: DeFi enhances the routing layer by turning traditional transaction matching into a neutral, low-cost digital highway. Programmatic smart contracts match buyers and sellers peer-to-peer, completely stripping out the heavy transaction fees and administrative friction traditionally collected by centralized exchanges (DCMs/SEFs) and clearinghouses (DCOs).²¹

DEGRADATION – Fragility of Code and Oracle Dependency: DeFi degrades the reliability of routing because decentralized intermediaries are completely dependent on the integrity of their underlying code and price oracles. If a software protocol suffers a smart contract exploit (e.g. attackers can execute a transaction that drains the underlying liquidity pool or locks up the routing ledger if they discover a vulnerability – logical flaw in the code of a smart contract, such as a reentrancy bug, a math overflow error, or an access-control vulnerability),²² or if an oracle feed is manipulated by an external flash

¹⁸ <https://www.karlwhelan.com/Papers/Kalshi.pdf>

¹⁹ <https://www.stocktitan.net/articles/volatility-clustering-explained> ; <https://bookmap.com/blog/volatility-days-and-liquidity-behavior-how-to-read-market-chaos-through-order-flow>

²⁰ <https://www.okx.com/en-eu/learn/dex-amm-defi-prediction-markets>

²¹ <https://www.cambridge.org/core/books/web3/defi-and-next-generation-of-fintech/E47F57F736B400E2CD32F8BE8BD5041F>

²² <https://balancer.fi/risks>

loan,²³ the entire routing pipeline freezes instantly.²⁴ Unlike traditional infrastructure that utilizes human discretion to maintain orderly function during extreme market anomalies, DeFi routing lacks an adaptive fallback mechanism, risking sudden, catastrophic execution halts.

This structural rigidity invalidates the CFTC's current approach to regulating technology. The Commission continues to draft rules assuming that an intermediary is a standalone, human-operated utility that can be regulated via retrospective reporting (Part 45) and periodic audits. This vulnerability proves exactly why the current framework is unfit for purpose:

A. The Illusion of a Standalone Solution

It demonstrates why standalone, platform-specific patches – such as a single exchange introducing a localized “Periodic Auction” or a basic circuit breaker – cannot fix a broken market structure. If that exchange runs parallel to an un-audited, low-bar Central Limit Order Book (CLOB) that remains vulnerable to oracle manipulation or code exploits, volume and predatory liquidity will naturally pool where exploitation is easiest. The high-integrity venue is starved of flow, while the broader routing highway remains structurally fragile.

B. The Administrative Waste (Violates [Objective 1c & 2a](#))

Forcing firms to wrap and transmit petabytes of retrospective “data-in-motion” logs to centralized Swap Data Repositories (SDRs) does absolutely nothing to prevent a flash-loan manipulation or a code exploit from freezing the pipeline in real time. It simply creates an expensive data-processing tax that forces fintech innovators to spend millions on law and consulting firms just to achieve “bare-minimum compliance,” while leaving the actual financial plumbing exposed to catastrophic freezes.

This demonstrates that when a regulator focuses purely on a contract's language rather than auditing its actual data architecture, it allows “False-Beard” platforms²⁵ to manufacture hidden, toxic leverage wrappers under the guise of financial innovation.

Risk-Warehouses (Absorb Market Exposure)

Crypto-native swap dealers, algorithmic market-making vaults, and decentralized yield-aggregating treasuries.

ENHANCEMENT – Real-Time Risk Transparency: DeFi enhances market risk absorption by exposing balance-sheet health directly on an immutable, public ledger. Market participants can monitor a Risk-Warehouse's collateralization ratios and outstanding risk positions in real time. This eliminates the opaque, “black-box” credit risks that historically triggered major TradFi banking panics, enabling market forces to dynamically price counterparty risk.

DEGRADATION – Balance Sheet Shallowness and Run Risk: DeFi degrades the stabilizing capacity of Risk-Warehouses because crypto-native balance sheets are structurally shallow and highly procyclical. Traditional bank dealers hold deep, long-horizon capital cushions designed to absorb systemic shocks and stabilize markets. DeFi warehouses monetize short-term yield spreads and volatility. When extreme multi-market volatility strikes, these digital warehouses cannot absorb massive directional market exposure; instead, their automated algorithms pull liquidity, widen bid-ask spreads, and abandon the market to protect their own capital, thus accelerating market collapses.²⁶

²³ <https://www.fraud.net/glossary/flash-loan-attacks>

²⁴ <https://www.tradingview.com/news/invezz:57c0e46c0094b:0-bitcoin-crashes-to-0-on-paradex-in-sudden-flash-event-here-s-what-happened/>

²⁵ https://digitalcommons.chapman.edu/cgi/viewcontent.cgi?article=1031&context=philosophy_articles ; https://www.econ.uzh.ch/dam/jcr:ffffffffff-9758-127f-ffff-ffffcd18b65/Fehr_Fiba_in_Analyse_Kritik_73-84.pdf

²⁶ <https://www.binance.com/en-IN/square/post/288750111817841> ; <https://www.quillaudits.com/blog/web3-security/defi-attack-vectors-security-risks> ; <https://bluechipalgos.com/blog/decentralized-finance-defi-and-algorithmic-trading/>

Flow-Harvesters (Absorb Client Exposure)

Secure cryptographic settlement networks and non-market-making credit prime brokers.

ENHANCEMENT – Programmatic Protection and Collateral Mobility: DeFi heavily enhances the client-facing distribution layer by fundamentally transforming custody and settlement architecture. Networks like Fireblocks and ClearLoop allow institutional clients to trade across multiple venues while keeping their underlying collateral locked safely inside off-exchange settlement vaults. This programmatically eliminates counterparty default risk: if an execution venue faces sudden insolvency, the client's assets remain segregated at rest. It achieves the lowest possible friction for moving margin while maximizing asset safety.

DEGRADATION – Capital Inflexibility and Credit Squeeze: DeFi degrades Flow-Harvesting by forcing a rigid pivot toward 100% pre-funded, fully collateralized models. Traditional Flow-Harvesters provide a critical economic buffer: they extend intraday credit, manage flexible margin terms, and absorb client credit exposures to smooth out transaction velocity. By hardcoding automated margin calculators that execute instant, un-hedged liquidations the exact millisecond a threshold is breached, DeFi removes this credit smoothing function. This introduces a structural credit squeeze that starves smaller, agile market participants of capital agility while reinforcing the power of elite cash-rich institutions.

Cross-Margining

In general, the CFTC–SEC latest Request for Comment on *Further Implementation of Portfolio Margining and Cross-Margining of Securities and Derivatives*²⁷ is a structural enhancement for Layers 1-5 only if margin offsets are restricted to high-integrity, real-asset-anchored exposures. Otherwise, it becomes a degradation if the adopted version allows synthetic products to transmit volatility and liquidity shocks across the entire derivatives value chain. Stay tuned for more.

Regulatory Misalignments and Barriers to FinTech Entry

Q1. Which registration, designation, or authorization processes for CFTC Registrants and Registered Entities are not “fit for purpose” for Fintech Firms, and how should they be adjusted?

To achieve a true [Symbiotic Flat-Line equilibrium](#) and satisfy the earlier discussed [framework objectives](#), the CFTC must completely rewrite its registration definitions. The legal boundaries must be re-anchored to map directly to how an entity creates, transforms, routes, or absorbs risk across the [Five-Layer Behavioral Taxonomy](#).

Layer 1: Hunters (The Risk Seekers)

The Obsolete Definition: Regulates **Commodity Trading Advisors (CTAs)** based on whether a human asset manager uses human discretion to issue trading advice or execute trades via legacy paper forms. Under this legacy paradigm, the CFTC forces autonomous software developers to submit to an administrative gate where they must file an NFA Form 7-R, undergo manual fingerprint background checks, and pass a human-centric Series 3 proficiency exam that is irrelevant to algorithmic logic.

The Taxonomy-Aligned Update: Rewrite the definition to focus strictly on **Alpha-Seeking Risk Input**. A “Hunter” is any entity – whether an autonomous AI-agentic algorithm, a high-frequency trading firm, an institutional prop desk, or a self-directed retail trader – that aggressively injects directional momentum into the market to capture volatility and drive short-term price discovery. While every algorithmic script must designate a registered human supervisor to maintain strict legal accountability, the CFTC should update the law to replace the legacy Series 3 exam with a specialized “Quantitative and Algorithmic Controls” proficiency track. This ensures that human supervisors are tested on code-governed risk

²⁷ <https://www.sec.gov/files/rules/other/2026/34-105781.pdf>

management, oracle dependencies, and API circuit-breakers, rather than outdated floor-trading rules that have no relevance to modern software engineering ([Objective 1c](#)).

Layer 2: Risk Packagers (The Manufacturers of Synthetic Exposure)

The Obsolete Definition: Regulates **Commodity Pool Operators (CPOs)** and **Commodity Pools** based on traditional corporate legal structures, assuming a centralized general partner is pooling physical client funds into a siloed bank account.²⁸ Under this legacy silo, the CFTC forces modern digital fund platforms to navigate an administrative maze where they must file an NFA Form 7-R to register the firm, complete Form 8-R for all associated natural persons, and track complex CFTC Part 4 disclosure exemptions that fail to account for decentralized capital configurations.

The Taxonomy-Aligned Update: Redefine this layer as **Manufacturers of Synthetic Exposure**. A “Risk Package” is any protocol or entity – including ETF issuers, structured derivatives desks, tokenized yield vaults, and smart-contract-governed programmatic perpetual pools – that shapes raw market exposures into structured, leveraged, or retail-friendly wrappers. Because many cross-market Risk Packagers are currently registered with and regulated by the SEC (such as ETF issuers and digital asset fund managers), the CFTC must directly collaborate with the SEC to harmonize joint registration standards. This inter-agency framework allows a designated human supervisor to passport their existing SEC credentials into a unified, code-audited NFA framework, replacing duplicate compliance forms with a single, synchronized review of automated rebalancing loops and leverage accelerators to prevent downstream volatility cascades ([Objective 2a](#)).

Layer 3: Intermediaries (The Neutral Infrastructure Pipes)

The Obsolete Definition: Forces an un-tiered statutory split between **Designated Contract Markets (DCMs)** and **Swap Execution Facilities (SEFs)**, assuming every execution platform must operate an identical, heavy SRO surveillance apparatus regardless of its actual matching mechanics.

Also, Under Core Principle 2 (under Subpart C of Part 38 for DCMs – CEA §5(d)(2) enforced via 17 CFR § 38.151; and Subpart C of Part 37 for SEFs – CEA §5h(f)(2) enforced via 17 CFR § 37.202), this framework imposes a rigid, paper-based “fair and impartial access” mandate that bars platforms from blocking or throttling disruptive algorithmic scripts if they belong to an entity that passes a standard administrative onboarding checklist.

Regarding **Derivatives Clearing Organizations (DCOs)** under CEA §5b and 17 CFR Part 39, they are being regulated on the assumption that a clearinghouse must manage counterparty credit risk through centralized institutional default funds, mutualized clearing-member cushions, and manual risk-interventions. The designation process under this legacy paradigm forces modern, 100% pre-funded FinTech clearing utilities to absorb the massive capital and compliance overhead of traditional credit-loss mutualization, while blinding the regulator to code-governed technical fragilities such as smart-contract bugs, flash-loan oracle manipulations, and malicious mempool front-running (MEV).¹⁴

Furthermore, this siloed application gate permits the vertical integration of DCMs, DCOs, and FCMs under a single corporate umbrella, enabling platforms to use their brokerage arms as loss-leaders to orchestrate unhedged retail momentum upstream while deploying bundled pricing structures that act as an unreasonable restraint of trade under SEF Core Principle 12 (17 CFR § 37.1200) and DCM Core Principle 19 (17 CFR § 38.1000).

In addition, the framework relies on Swap Data Repositories (SDRs) to collect information via rigid “data-in-motion” compliance pipelines, legally obligating venues under CFTC Part 45 to actively wrap and transmit petabytes of transactional logs to these centralized data silos

The Taxonomy-Aligned Update: Redefine this layer strictly as **Scale-Dependent Execution and Routing Utilities**.

²⁸ <https://www.globalfinregblog.com/2025/07/the-clarity-act-treasury-companies-and-the-digital-commodity-pool/>

- **Tier 1 Venues (DCMs / SEFs):** Defined strictly as multi-to-multi matching environments (like Central Limit Order Books) and central clearing clearinghouses. Because they actively sequence risk, they retain full SRO duties and must prove their code architecture programmatically blocks oracle manipulation.

Recap to our April 2026 comment letter on Prediction Markets and ODTE Options²⁹ and the empirical **Whelan Paper**,¹⁸ to restore proper **market integrity**, the definition of fair access under Subpart C of Part 38 (17 CFR § 38.151) and Subpart C of Part 37 (17 CFR § 37.202) should explicitly permit **intent-based pricing (IBP)**³⁰ through a robust **Copyright Licensing mechanism**.³¹ This framework grants FinTech platforms a clear regulatory safe harbor to reward liquidity-providing Makers with royalty dividends for their intellectual property, charge data-extracting Speculators for the real signals they consume, and offer a 0% license fee for verified Natural Hedgers executing at the midpoint. This structural change ensures that market access criteria can programmatically filter for verified intent and deploy automated cryptographic whitelisting at the API gate, transforming the ecosystem into a positive-sum **Sovereign Information Hedging Utility (SIHU)**.

- **Tier 2 Routers (The NFA-ATR Pathway):** Software platforms that only handle a subset of SEF parameters – such as bilateral message boards, liquidity aggregators, and smart order routers. They are legally stripped of the “SEF” label and registered as **Authorized Technology Routers (ATRs) under NFA supervision**, unburdening them from exchange-level SRO rules while mandating open API access ([Objective 2c](#)).
- Update the **DCO registration process** to establish a Tiered, Function-Based Authorization Framework that differentiates between traditional credit-risk clearinghouses and code-governed settlement engines. To foster value-chain efficiency and lower transaction costs ([Objective 1a](#)), the CFTC may codify a Tier 2 “Fully Collateralized Tech-Clearing” safe harbor that exempts 100% pre-funded, non-intermediated programmatic utilities from mutualized default funds, while replacing legacy paperwork checks with a mathematical code audit of underlying smart contracts, liquidation scripts, and oracle price feeds to ensure technical resiliency against flash loans and network exploits.
- To halt the rise of **anti-competitive vertical monopolies** and prevent dominant players from using structural scale to stifle independent competition ([Objective 2c](#)), authorization criteria must mandate a strict, arm’s-length separation between clearing and brokerage lines, requiring independent risk committees and mathematical audits of standardized liquidity rebates under SEF Core Principle 12 and DCM Core Principle 19 to ensure they do not violate antitrust considerations.
- **SDRs (analysis of data at original sources):** Redefined from an active, centralized data collection silo into a **Neutral Decentralized Ledger Access Point**. Instead of forcing registrants to wrap and transmit petabytes of data to an SDR (the Part 45 compliance tax), the SDR becomes a standardized protocol interface that allows the CFTC to deploy localized **AI Compliance Agents** to audit transaction logs straight from the native source network ([Objective 1a & 3a](#)).

Layer 4: Risk-Warehouses (The Market Risk Absorbers)

²⁹ https://www.databoiler.com/index_html_files/DataBoiler%20CFTC%20SEC%2020260430.pdf

³⁰ Under the withdrawn CFTC proposal §38.503, the only permissible IBP in “off-exchange” private negotiated trades (NO interacting with the public order book) are Block Trades and Exchange for Related Positions (EFRPs, e.g. Exchange for Physical [EFPs] and Exchange for Risk [EFRs]). The substance of non-codified §38.503 is currently active, given the CFTC’s “no-action” positions, assuming the DCM’s rulebook is approved and incorporated [CME Group](#) and [ICE’s “de facto” fair and reasonable pricing and reporting standards](#). It infers that the “signal” (the price) produced on a DCM as a **public good**. CFTC should clarify whether a DCM charges “Speculators” a higher fee (a royalty) to access that signal/ liquidity while letting “Hedgers” in for FREE within a time-bound, would this be in violation of any barrier to entry requirements?

³¹ https://www.databoiler.com/index_html_files/DataBoiler%20Copyright%20Licensing.pdf

The Obsolete Definition: Defines **Swap Dealers (SDs)** and **Retail Foreign Exchange Dealers (RFEDs)** by their gross transactional volume or asset-class buckets, forcing asset-light digital market-making platforms to absorb multi-million-dollar banking compliance taxes.

The Taxonomy-Aligned Update: Redefine this layer as **Principal Market Risk Absorbers**. A “Risk-Warehouse” is any entity that utilizes its own balance-sheet capital to provide two-sided liquidity, manage long-term macro inventory risk, and stabilize the financial system. The regulatory framework strips away asset-class silos and instead focuses on real-time, on-chain capital auditing, verifying that the dealer's automated risk management code does not pro-cyclically pull liquidity or artificially widen spreads during sudden market shocks ([Objective 2b](#)).

Layer 5: Flow-Harvesters (The Client Risk Absorbers)

The Obsolete Definition: Regulates **Futures Commission Merchants (FCMs)** and **Introducing Brokers (IBs)** on the assumption that they are credit brokers holding customer funds in traditional margin accounts or human sales desks soliciting client orders.³²

The Taxonomy-Aligned Update: Redefine this layer as **Relationship and Settlement Custodians**.

- **FCM Trusts:** Platforms that utilize 100% pre-funded, code-governed off-exchange vaults are granted a statutory safe harbor separating them from credit-vulnerable FCMs. Because their code programmatically eliminates counterparty default risk without extending credit, they are exempt from traditional Wall Street capital cushions ([Objective 1b](#)).
- **Introducing Front-Ends:** Digital mobile app interfaces, open-source API portals, and software aggregators are legally stripped of the human “Introducing Broker” label. They are regulated strictly under technology consumer-protection rules, halting the “[False-Beard](#)” regulatory arbitrage loop where dominant FinTech players gamify derivatives to orchestrate upstream volatility under the legal shield of independent retail orders ([Objective 2c](#)).

Q2. Which, if any, CFTC regulations unduly impede partnerships between Fintech Firms and CFTC Registrants/Registered Entities, and how should they be changed?

The combination of CFTC § 1.2 (Principal-Agent Liability), Part 40 (Registered Entity Rules), Part 42 (AML/CTF), and Parts 43/45 (Data Reporting) aggregates into an un-tiered, de facto vendor management regime that mirrors the SEC’s Reg SCI. However, by forcing legacy compliance boxes onto code-driven software configurations, this framework unduly impedes partnerships between FinTech firms and CFTC registrants. It forces technology partnerships into obsolete legal configurations, creates operational traps, and drives up transaction costs.³³

Operational Impediments

- **The Strict Liability Trap – CFTC §1.2:** This rule dictates that any act or failure of an agent acting for a registrant is legally deemed the act of the principal registrant. By treating automated APIs or algorithmic scripts as human “agents” under a strict liability standard, registrants face direct liability for unexpected machine loops or code exploits. This extreme legal risk forces registrants to draft heavy indemnity agreements or reject partnerships with agile startups entirely, violating [Objective 2a](#).
- **The Product Bottleneck – CFTC Part 40:** Part 40 regulates how exchanges and clearinghouses must submit self-certifications and approval requests for rule and product adjustments. When a FinTech firm partners with an **Intermediary** ([Layer 3](#)) venue to deploy automated, dynamic contract parameters, the platform must submit a formal

³² <https://www.cadwalader.com/uploads/cfmemos/9b21190edbe7802cb95e70a89c27cdad.pdf>

³³ <https://www.steptoe.com/en/news-publications/cftcs-dmo-issues-no-action-letter-providing-relief-from-swap-data-error-correction-notification-requirements.html>

Part 40 certification for every technical iteration. This rigid, paper-based application process moves at the speed of internal bureaucracy, causing product stagnation and violating [Objective 2c](#).³⁴

- **The Onboarding Friction Point – CFTC Part 42:** Rule 42.2 obligates firms to adopt traditional, paper-centric Customer Identification Programs. Forcing a programmatic partner to replace real-time digital authentication with legacy paper-collection checklists creates switching frictions, driving up transaction costs ([Objective 1c](#)) while doing absolutely nothing to protect the ecosystem from modern cyber-sabotage.
- **The Data Reporting Burden – CFTC Parts 43 & 45:** These frameworks force partnerships to rely on heavy, expensive “data-in-motion” compliance pipelines. Both entities must devote massive data-processing resources to constantly wrap, transform, and stream high-velocity data packets into centralized silos. This creates a massive compliance tax that blocks small FinTech innovators ([Objective 1a](#)) while generating an un-encrypted, centralized cybersecurity honeypot that exposes the US financial plumbing to foreign intelligence harvesting ([Objective 3a](#)).

Taxonomy-Aligned Reforms

To achieve a true [Symbiotic Flat-Line equilibrium](#) and ensure these partnerships foster value-chain efficiency, the CFTC should modernize rules to focus on architectural validation and real-time ledger observability rather than bureaucratic procedural paper checks:

- **Codify a Quantitative Risk Shield under §1.2:** The CFTC should issue a principle-based rule clarifying that independent, code-governed software protocols do not function as legal “agents” under §1.2. If a **Flow-Harvester** ([Layer 5](#)) or **Intermediary** ([Layer 3](#)) partner deploys an algorithmic tool that has been certified through an independent, mathematical audit verifying robust code-level risk controls (such as automated API circuit-breakers and throttling loops), the principal registrant must be granted a safe harbor from absolute strict liability ([Objective 1c](#)).
- **Implement Programmatic Smart-Contract Self-Certifications under Part 40:** Update Part 40 rules to permit automated, code-based self-certifications for algorithmic modifications and dynamic contract parameters. If the rules are hardcoded into transparent, pre-audited smart contracts, the system should self-certify via code deployment, minimizing the need for frequent manual calibration that introduces selection bias ([Objective 2b](#)). [1]
- **Transition to Cryptographic and Decentralized Identity Verification under Part 42:** Update CFTC Rule 42.2 to formally authorize the use of decentralized identity registries, zero-knowledge proofs (ZKPs), and cryptographic multi-signature validation to satisfy AML/CTF obligations. By permitting decentralized identity networks, a **Flow-Harvester** ([Layer 5](#)) frontend can instantaneously verify a counterparty’s compliance status without hoarding sensitive personal data at a single destination, wiping out entry barriers and preventing foreign adversaries from entering the system under a paper-based veneer ([Objective 3c](#)).
- **Transition to an AI Compliance Agent Protocol under Parts 43 & 45:** Replace the mandatory “data-in-motion” pipeline with an immutable **analysis of data at the original sources protocol** for technology-driven partnerships. To eliminate the data-processing tax, transaction metadata must remain secure at its native ledger source. Partnerships should maintain secure, machine-readable data access points, allowing the CFTC and NFA to deploy localized **AI Compliance Agents** to query and audit transaction logs directly from the source network, verifying market integrity and tracking systemic leverage in real time without creating a vulnerable, centralized cybersecurity honeypot ([Objective 3a](#)).

³⁴ <https://www.federalregister.gov/documents/2024/11/07/2024-24388/provisions-common-to-registered-entities>

Q3. Which regulations do Fintech Firms consider not “fit for purpose” due to the technological means used to serve derivatives market participants, and how should these be streamlined?

Reference to our April 2026 comment letter on Prediction Markets and ODTE Options²⁹ and the empirical **Whelan Paper**.¹⁸ When evaluated against the [Five-Layer Behavioral Taxonomy / derivatives ecosystem value chains](#), **CFTC Rule 40.11 (Review of Event Contracts)** and the generic public-interest determination processes under CEA §5c(c)(5)(C) are NOT “fit for purpose” for modern prediction markets.

The current framework relies on subjective, qualitative, and highly politicized administrative reviews to determine if a contract involves gaming, terrorism, or activities contrary to the public interest. This backward-looking, paper-heavy approach completely ignores the mathematical and automated realities of modern FinTech platforms.

To achieve a true [Symbiotic Flat-Line equilibrium](#) and satisfy the earlier discussed [framework objectives](#), the CFTC should abandon its blunt, subjective content bans. It should streamline the authorization gate by implementing a mathematical “Powers-of-Two” structural litmus test administered at the **Intermediary (Layer 3)** and **Risk Packager (Layer 2)** levels.

The current application of Rule 40.11 creates severe economic distortions because it relies on bureaucratic and subjective opinion rather than objective, technical market design:

- **The Content Ban Trap (Violates Objectives 2b & 2c):** Rule 40.11 forces the Commission to engage in philosophical debates over the “social utility” of binary event contracts (such as political election or macro-economic outcomes). This subjective approach introduces massive regulatory bias, favoring select incumbent participant groups while causing long-term market stagnation. It drives scarce resource – such as skilled labor and capital – away from product innovation toward endless lobbying, litigation, and regulatory capture.
- **The Ignored Volume vs. Integrity Paradox (Violates Objective 1b):** The current review process is completely blind to data architecture and contract mechanics. It allows vertically integrated retail platforms to secure an exchange designation (DCM) or clearing license (DCO) to list event contracts while running a closed corporate loop. These platforms exploit their economies of scale to gamify execution, using a “False-Beard” veneer of retail democratization to drive unhedged momentum upstream. This triggers severe **favorite-longshot bias** (where retail systematically overvalues low-probability outcomes) and oracle distortions, passing massive, uncompensated social costs onto non-participants.

To restore proper **market integrity**, the CFTC must shift from subjective content policing to objective, programmatic structural auditing. The streamlined process must replace the qualitative definitions of Rule 40.11 with an automated, mathematical litmus test:

Step A: Enforce the Binary Logic Rule

- **The Streamlining:** To receive an automated listing clearance, the contract design must programmatically satisfy a strict, binary mathematical constraint: the payoff function must resolve strictly to a base-2 system (0 or 1, absolute “Yes” or “No”).
- **The Structural Result:** If a platform attempts to build hidden variable scales, dynamic leverage multipliers, or synthetic adjustments into the contract’s settlement code, it fails the first prong of the test. By enforcing this strict mathematical constraint, the CFTC implements the simplest, most objective rule possible for fair actors, stripping away the administrative burden of qualitative review ([Objective 1c](#)).

Step B: Mandate the Microstructural Simulation Audit

- **The Streamlining:** Before an event contract can be certified, the platform must submit its underlying **Intermediary (Layer 3)** matching engine and **Risk Packager (Layer 2)** settlement loops to automated stress-testing.
- **The Structural Result:** The venue must programmatically demonstrate through algorithmic simulation that its data and routing architecture naturally prevents house-style spread widening, oracle manipulation, and mempool exploitation (MEV)¹⁴ by preferred market makers during high-volatility spikes. If the simulation reveals that the platform's vertical loop allows it to run its brokerage arm as a loss-leader to front-run retail order flow, certification is denied. This replaces formal endorsements from costly law firms with actual, code-governed risk controls (**Objective 2a & 2c**).

Other Misalignments:

- **Part 45 Swap Data Recordkeeping and Reporting (The “CFTC Rewrite”):** The current Part 45 reporting framework forces wholesale execution platforms (SEFs) to systemically clean, wrap, and transmit endless streams of reporting data to central Swap Data Repositories (SDRs). Capturing every unexecuted inquiry, electronic Request for Quote (RFQ),³⁵ and non-immediately actionable response generates immense pipeline traffic and operational blockages. This retrospective data hoarding fails to prevent real-time flash crashes. Instead, it places a data-wrapping burden on FinTech innovators, creates compliance defects, and exposes strategic corporate order books to cyber exfiltration and reverse-engineering data attacks.
- **Fragmented No-Action Exemptions (Part 39 / Part 45):** The Commission extensively uses temporary, ad-hoc No-Action letters to exempt specific fully collateralized platforms from swap reporting rules. Shifting regulatory yardsticks via discretionary waivers, rather than executing clear, standardized definitions, introduces institutional favoritism. It protects legacy clearing moats and prevents automated, real-time risk controls from developing naturally across clearing nodes.

The Fix: Transition to an AI Monitoring Protocol

Once a binary contract passes the Powers-of-Two litmus test, policy makers may consider granting an exemption for manual, paper-based compliance tracking and the trade reporting requirements of Part 45 reporting, under the condition of requiring the platform to maintain machine-readable, immutable ledger access points at its native network source, where the CFTC and NFA can then deploy localized **AI Compliance Agents** to audit transaction logs directly from the secure source network, monitoring real-time intent-based pricing, volume distributions, and oracle health without slowing down transaction speeds. This minimizes total transaction costs (**Objective 1a**), while defending US financial infrastructure against internal bureaucratic decline and external cyber-sabotage (**Objective 3a**).

Q4. Are current registration categories inadequate for capturing Fintech Firm activities (e.g., in decentralized finance), and what statutory authority supports closing these gaps?

What is new under the sun? Prediction Markets³⁶ are **NOT NOVEL**. The intellectual groundwork was laid by the Economists who viewed markets as information processors since the 1940s-1970s.³⁷ One cannot jump to the “How” when the “What” has NOT been properly defined. The SEC defines a *binary option* as a type of options contract with an *all-or-nothing* payout structure. The CFTC classifies *event contracts* (also called prediction or information contracts) as a category of *derivatives*. Yet, there lacks a single, catch-all Federal definition of “*Prediction Market*.” Without a Federal unified definition to

³⁵ Casually asking if anyone has an interest (an RFQ for example) rather than submitting a “*firmed quote*” should NOT be subjected to regulatory scrutiny, hence should NOT be within the scope of “*Origination/ Receipt*” or “*Modification & Cancellation*”. Forcing firms to log every electronic inquiry including “*Non-Immediately Actionable Responses*” is an [intrusion upon privacy](#).

³⁶ <https://www.regulations.gov/document/CFTC-2026-1189-0001>

³⁷ <https://home.uchicago.edu/~vlima/courses/econ200/spring01/hayek.pdf> ; <https://mises.org/mises-wire/mistaken-identity-prediction-markets> ; <https://www.britannica.com/money/prediction-markets>

preempt State Laws,³⁸ whether event contracts involve “*gaming*” or are “*contrary to the public interest*” remains a controversial debate. As social norms evolve over time, this issue will eventually be decided by the Supreme Court.

NASDAQ’s Outcome-Related Options (OROs, now renamed as NASDAQ Event Options) and CBOE’s newly approved event-contract payout model represent a departure from the SEC’s historical posture toward non-traditional option structures. Nasdaq’s OBOs formalize exchange-listed binary payouts on the Nasdaq-100 and its micro counterpart, while CBOE’s three-dimensional event-contract design introduces a “*payout zone*” that grants partial value for being directionally correct even when the strike is missed – a *vertical spread* options product structure that even some professional traders would avoid due to its risk.³⁹ Both products are now SEC approved (thus totally avoiding the CFTC jurisdiction), it signals a regulatory shift: *not toward embracing complexity, but toward tolerating payout geometries*.

Exchanges are becoming [Risk Packagers](#) instead of [Intermediaries](#). Be mindful of the “*false-beard*” exploitation loop at the [Flow-Harvester](#) layer. Instead of acting as a stable buffer that absorbs client credit exposure to smooth out market shocks, these tech-driven Flow-Harvesters can function as volatility magnifiers. These new securities products offered by Exchanges **amplifying retail risk**, encouraging payoff profiles that reward directional betting rather than disciplined hedging. The [degradation](#) happening in the SEC-regulated securities markets can also affect CFTC-regulated derivatives activities. Unchecked deregulation sparks a “*Gresham’s Law of Microstructure*” and fuels a **race to the bottom**.⁴⁰

Prediction Markets

The CFTC’s proposed rules on Prediction Markets⁴¹ has a narrowed focus on “*determining whether event contracts are contrary to the public interest*.” We appreciate the many examples provided in the proposal that brings clarity. Yet, it is still a long way to go in properly regulating Prediction Markets. Because the proposal relies on a relaxed, content-based framework, it creates a classic tragedy of the commons among exchanges. The high-integrity DCM will be economically non-competitive in the short term, heavily penalized by “*Gresham’s Law*” where a lower regulatory bar actively drives out superior market structures, see below illustration:

① Liquidity Flight to low-bar venues

The High-Bar Venue: Enforces strict execution rules, controls data latency, and stops market makers from widening spreads to act like a casino house. High-frequency arbitrageurs and [predatory market makers](#) will abandon this platform because they can no longer exploit retail flow.

The Low-Bar Venue: Allows synthetic clones, loose third-party data feeds, and [predatory market-making](#) strategies. Volume shifts here because market makers can maximize their profits by exploiting information asymmetries. Volume and liquidity pool where exploitation is easiest.

② The Listing Speed Disadvantage

The High-Bar Venue: Spends time and capital auditing the data architecture, testing the market design, and ensuring strict compliance with DCM Core Principle 9.

The Low-Bar Venue: Exploits the CFTC’s subjective, 90-day multi-factor check. It lists highly speculative, low-quality synthetic contracts rapidly, capturing market share and first-mover advantage while the rigorous exchange is still verifying its infrastructure.

³⁸ <https://www.jdsupra.com/legalnews/prediction-markets-v-state-gaming-laws-3592242/>

³⁹ <https://tradezero.com/en-us/blog/vertical-spread-learn-how-options-traders-can-approach-risk-cost-and-directional-exposure-with>

⁴⁰ https://en.wikipedia.org/wiki/Gresham%27s_law ; https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3236030

⁴¹ <https://downloads.regulations.gov/CFTC-2026-1189-0001/content.pdf>

③ Compliance Cost Asymmetry

The High-Bar Venue: Bears the heavy technical and operational overhead of real-time monitoring, infrastructure auditing, and enforcing anti-manipulation rules on market makers.

The Low-Bar Venue: Outsources its “integrity” to basic third-party declarations (e.g., an official league score feed) and leaves the computational exploitation untouched. Its compliance cost per contract is a fraction of the high-integrity exchange's cost.

Independent micro-microstructure fixes by a single DCM are mathematically and commercially impossible in the current regulatory and clearing environment. A responsible DCM cannot survive alone because the independent DCO will dilute its standards, and the **vertically integrated** DCMs will out-compete by generating volume driven by inherent conflicts of interest. Periodic Auctions would not avert this **race to the bottom** when CLOB is running in parallel. The proposal creates a regulatory trap for honest operators:

- A low-bar DCM can freely pirate a high-integrity platform's price discovery. If the high-integrity DCM attempts to protect its data infrastructure technologically, it risks violating Core Principle 2 (Fair Access) or Part 180 (Anti-Manipulation).
- A restrictive End-User License Agreement clause is highly likely to face accusations of anti-competitive behavior. Under CFTC regulations, a DCM cannot condition trading facility access on a market participant consenting to how their proprietary data is packaged.
- The massive financial and operational resources required to defend a Rule of Reason antitrust investigation can deplete a responsible DCM's reserved funds just as fast as standard civil litigation.

Rather than relying on a slow regulatory response to strengthen market integrity, let consider establishing a [cross-market surveillance](#) network between the high-integrity DCM forming strategic partnership with major SEC-regulated options exchanges. Given traditional options market makers despise unhedged cross-market risk, if the alliance network can use automated cross-market data sharing to foster positive change in the market, it would need to:

- Provide real-time risk signal to alert institutional market makers about underlying stock options being distorted that they should pull their liquidity away from low-bar venue.
- Program an automated, public-facing dashboard that calculates and displays a real-time “*Market Manipulation and Latency Arbitrage Score*” for every prediction market platform, using for example the “*powers of two*” litmus test as the baseline calculation. When Eligible Contract Participants (ECPs) and corporate hedgers see a competitor constantly flashing red for systemic manipulation risk on a public index, their legal and compliance departments will prohibit them from trading there to avoid fiduciary liability.
- File joint Cross-Market Contagion Alerts with both the SEC and CFTC. By feeding data to the SEC proving that low-bar DCM contracts are acting as “*surrogate securities options*,” the responsible DCM helps the SEC build a legal case that these prediction contracts are actually Security-Based Swaps.

However, options exchanges lack meaningful incentives to resist **Gresham's Law of Microstructure**. The [Volume-versus-Integrity Paradox](#) persists so long as the SEC continues to tolerate exotic payout geometries that reward flow capture over market integrity. Pulling this tactic off is extremely difficult and costly, if not impossible, for a high-bar FinTech DCM. This showcases how a regulatory failure to uphold market integrity – or simply delayed regulatory action – can cause suffering and harm to FinTech and market participants, especially retail investors who require protection.

Perpetual Futures

CFTC-regulated perpetual futures⁴² share a structural resemblance to the aggregation of wagers in a baccarat casino. Both systems pool opposing directional views into a single, continuously balanced risk reservoir. In baccarat, bets on “Player” and “Banker” are aggregated and netted, with the casino remaining strictly neutral. Perpetual futures operate on the same mathematical principle: longs and shorts are aggregated into open interest. Funding payments in perpetuals function much like the commission on the Banker bet – a continuous cash-flow transfer between participants designed to keep the system in equilibrium. Neither the casino nor the clearinghouse takes directional exposure; instead, both rely on a crowd-sourced pool of opposing bets to neutralize risk.

The difference is that perpetual futures introduce leverage, continuous mark-to-market, and margining – features that transform a simple zero-sum bet pool into a dynamic, stress-transmitting financial instrument. The exchanges (DCMs ★) are no longer a [neutral router](#) but [risk packagers](#), manufacturing a product whose design can amplify crowd-driven volatility. A surge of leveraged longs or shorts forces the clearinghouses (DCOs ★), which are supposed to remain [neutral intermediaries](#), to issue intraday margin calls and accelerate collateral flows. This stress does not sit on the DCO itself, it is transmitted to the [risk warehouses](#): clearing members, settlement banks, and liquidity providers.

Because perpetuals never expire, imbalances can persist and compound, requiring continuous variation-margin flows that strain clearing members and their settlement banks. The perpetual design amplifies crowd behavior into systemic liquidity pressure. Perpetual futures can push volatility and imbalance directly into the central clearing ecosystem. When markets move sharply, the DCO must process real-time P&L transfers, relying on clearing members, guaranty funds, and settlement banks to remain solvent. A synthetic side-bet loop transmits crowd-driven stress into the very infrastructure meant to absorb it – creating a feedback loop where participant behavior amplifies systemic risk. It destabilizes the value chain, exposing the broader plumbing to sudden technical collapses.

Taken together, these dynamics show why current registration categories are inadequate for capturing modern FinTech activities, especially in decentralized finance. Their mechanics transmit stress into intermediaries and risk-warehouses in ways the CEA never contemplated. Fortunately, the CEA provides broad statutory authority – including §2(c)(2)(D), §4(c), §5, §5h, and §8a(5) – that allows the CFTC to close these gaps by modernizing registration categories, capturing FinTech platforms that functionally operate as exchanges or clearing systems, and applying supervisory tools accordingly. These CFTC authorities, together with for example COMEX Rule 7, help curb and mitigate situations such as the *Monex case*,⁴³ *retail metal fraud cases*,⁴⁴ and *Silver Thursday event*.⁴⁵

Amid the rise of ODTE Options, Prediction Markets, and perpetual futures – all of which are structurally zero-sum – there is a path toward transforming these instruments into a healthier, positive-sum ecosystem. Cross-sector learning can accelerate this transformation: *provable fairness* protocols from gaming,⁴⁶ *volatility interruption mechanisms* from equities,⁴⁷ *copyright licensing system* from the music industry,⁴⁸ *operational-resiliency* from cloud infrastructure.⁴⁹ Each

⁴² <https://www.regulations.gov/document/CFTC-2026-1388-0001>

⁴³ <https://www.secdactions.com/two-significant-losses-for-the-cftc/>

⁴⁴ https://www.fincen.gov/system/files/case_example/040.pdf

⁴⁵ <https://www.scottsdalemint.com/articles/2024/the-hunt-brothers-how-two-billionaires-broke-the-silver-market/>

⁴⁶ <https://www.linkedin.com/pulse/noumenon-equity-market-structure-kelvin-to/>

⁴⁷ https://www.fia.org/sites/default/files/2023-09/FIA_WP_Exchange%20Controls_Final.pdf ; https://wfe-live.lon1.cdn.digitaloceanspaces.com/org_focus/storage/media/Circuit%20breakers%20taxonomy%20paper%20March%202021.pdf

⁴⁸ https://www.databoiler.com/index_html_files/DataBoiler%20BIG%20OPP.pdf ; <https://www.copyright.gov/ai/Copyright-and-Artificial-Intelligence-Part-2-Copyrightability-Report.pdf>

⁴⁹ <https://www.whitecase.com/insight-our-thinking/financial-regulatory-observer-2022-operational-resilience-uk-eu-and-us>

represent a mature best practice that can be adapted to the risk packager and intermediary layers of the [value chain](#). In [later section](#), we outline how financial regulators can leverage modern FinTech capabilities to supervise FinTech activities more effectively, strengthening *market integrity* while preserving innovation.

Furthermore, regarding pending legislative matters, the CFTC should urge Congress to pass an airtight statutory definition of **ancillary assets** that builds on the precedent of the CHARITY Act and RFIA,⁵⁰ while refrain from regulating any “uncountable” digital asset that is more akin to “non-cashable gambling chips” (see [later section](#)). This framework must firmly establish that while the SEC retains oversight of primary fundraising contracts, the underlying token itself must be legally classified as an ancillary commodity for secondary trading purposes under the sole jurisdiction of the CFTC. The Commission must make it clear to legislators that forcing secondary markets for non-equity tokens to absorb traditional securities safeguarding rules⁵¹ represents a severe regulatory overkill. Instead, these assets should be governed under clear, code-audited casino and consumer rights frameworks where participants are free to choose their exposures based on transparently disclosed “house rules” and platform betting odds. This prevents un-tiered regulatory drift, protects agile Layer 2 Risk Packagers, and encourages FinTech developers to safely build within the US regulatory perimeter.

Q5. Which registration categories are too broad, capturing activities that should not require registration due to technological advancements?

FinTech vendors providing software infrastructure are caught in a punitive regulatory grey area under §5(h)(g) of the CEA. If a vendor develops an innovative software interface that aggregates liquidity, hosts bilateral RFQ boards, or routes smart orders, the overbroad definition of an SEF forces them to register under full exchange-level SRO rules. This forces software developers to either exit the US market or surrender their intellectual property to dominant Wall Street incumbents.

Carving out an **Authorized Technology Router (ATR) registration under NFA supervision** replaces this overbroad venue regime with an intentional, Tier 2 communications utility. Legally stripping pure software routers of the heavy SEF label eliminates a multi-million-dollar compliance tax, compressing transaction costs to the lowest possible level ([Objective 1a](#)). This regulatory relief opens the [value chain](#) to independent FinTech innovators, ensuring that software platforms can legally operate without the structural overhead of a full trading venue.

Rather than degrading market safety, the ATR framework enhances the derivatives value chain by replacing paper checklist compliance with substantive, code-governed risk controls ([Objective 2a](#)). To secure an NFA-ATR passport, a vendor's software code should undergo automated mathematical stress testing to prove its underlying API can programmatically isolate technical glitches and throttle toxic order flow before it hits the central book. This replaces formal, backward-looking legal sign-offs with real-time, automated market integrity.

Ultimately, the NFA-ATR designation serves as a vital structural guardrail that dismantles anti-competitive corporate moats ([Objective 2c](#)). It prevents dominant, vertically integrated players from using heavy compliance costs to monopolize the technology pipeline and lock-up order flow. By preserving rigid SRO surveillance exclusively for Tier 1 matching venues (DCMs and CLOB SEFs) while liberating Tier 2 communication utilities, this reform permanently secures the technological dominance and dynamism of US derivatives markets.

Detecting Illicit Activity in Cyberpunk Era

We support financial reforms that allocate the most rewards and provide a reasonable return for true innovators. However, these innovations should only progress as fair as their underlying ability to “brake.” For example, Prediction is a

⁵⁰ https://www.databoiler.com/index.htm_files/DataBoiler%20CFTC%2020250818.pdf ;
<https://www.banking.senate.gov/imo/media/doc/ehf26374.pdf>

⁵¹ <https://www.sec.gov/rules-regulations/2025/06/safeguarding-advisory-client-assets>

backbone of AI and Quantum amid blurring line between trading and gambling. One should let go of prejudice. The ability to predict the future drives productivity and economic growth. However, *favorite-longshot bias* is the core problem of [Prediction Markets](#) that harms retail per the empirical Whelan Paper.¹⁸ The “Volume versus Integrity Paradox” has too much friction. It starves out “healthy” speculators. The lack of arbitrageurs to engage in price improvement to reduce the “stupid tax” or “overpriced lottery ticket effect” due to market operator’s high fee-to-contract-value ratio. See our April 2026 comment letter to the CFTC regarding Advance Notice of Proposed Rulemaking (ANPRM) to regulate Prediction Markets.⁵² Stay tuned for our upcoming response to various CFTC proposals.⁵³ Meanwhile, be cautious of unchecked deregulation which leads to a “**Gresham's Law of Microstructure**” and a **race to the bottom**.⁴⁰

The Institutional Reality of Core Principle 9: Market-Maker Privileges vs. Bound Obligations:

Market-making privileges on any CFTC-registered DCM are not free passes to exploit retail order flow; they are explicitly earned privileges that carry strict, legally binding structural obligations. To satisfy DCM **Core Principle 9**, an exchange must maintain a competitive, open, and efficient market that protects the price discovery process. For Prediction Markets operating as DCMs, this mandate can only be fulfilled if Market Makers sign binding agreements to provide continuous, two-sided liquidity.

Regulators must strictly enforce rigorous quoting requirements under these agreements, including mandatory maximum bid-ask spreads, minimum quote sizes, and ironclad uptime metrics that *must be maintained even during periods of extreme market volatility*. True market makers are supposed to fulfill their structural obligations by using their balance sheet strength to absorb risk and maintain orderly markets **in both good times and bad times**. When a platform tolerates a relaxed, content-based framework, it permits an architecture where predatory actors can selectively time the market. Allowing a participant to *flick between acting as an agent for a client versus acting as a proprietary counterparty* – or routing orders for proprietary gain over a **client’s best interest** – presents a severe, structural **conflict of interest**.

This structural exploitation is directly analogous to the Nasdaq BX Options disciplinary action against Susquehanna Securities LLC for violations of Options Rule Sections 4(j) and 5(d)(1).⁵⁴ In that market microstructure failure, the firm failed to maintain continuous, two-sided quotes within the required maximum differential parameters during volatile trading intervals. *Instead of defending the orderly function of the market with its balance sheet, the liquidity provider pulled back, widening spreads and leaving the public order book exposed*. When a DCM fails to enforce strict, continuous uptime and spread parameters, it stops acting as an open exchange and instead functions as a fragmented venue. This behavior mirrors the exact types of proprietary trading conflicts prohibited under the Volcker Rule, which strictly separates permissible market-making from speculative proprietary trading. If a Prediction Market DCM and its preferred Market Makers / automated market maker (AMM) are permitted to operate in a closed, vertically integrated corporate loop, they effectively act in joint force as the “**house**” **setting the betting odds**. This structural setup directly compromises market integrity and demands immediate Commission intervention.

You cannot regulate what you cannot count or define

In a sharing economy,⁵⁵ crypto / Digital Ledger Technology (DLT) are like other shared services (e.g. Uber, Air B&B) that unleash tremendous “*societal values by promoting access over ownership, which challenges traditional notions of property*”

⁵² <https://www.databoiler.com/index.htm/files/DataBoiler%20CFTC%20SEC%2020260430.pdf>

⁵³ <https://www.regulations.gov/document/CFTC-2026-1189-0001> ; <https://www.regulations.gov/document/CFTC-2026-1388-0001> ; <https://www.regulations.gov/document/CFTC-2026-1355-0001>

⁵⁴ <https://www.nasdaq.com/docs/2026/06/26/Disciplinary-Actions-NTX-Susquehanna-Securities-06-23-2026.pdf>

⁵⁵ <https://schoolofeconomy.com/stories/2024/10/03/rise-of-the-sharing-economy-redefining-ownership-and-consumption/>

rights." We think the Bank for International Settlements (BIS)⁵⁶ has an overly complicated definition or concept about "tokenization". Tokenization to some extent may equate to Securitization, when it serves as an alternative or a poor person way for securities issuance and asset gathering processes. Putting it in layman terms, both "tokenization" and "securitization" aim to make assets tradable and liquid.

We have no objection with the IOSCO's statement, "Tokenization arrangements typically seek to achieve one or more of the following features: Fictionalization, Programmability, Composability, and Atomicity."⁵⁷ A nuance⁵⁸ – fractional participation in a tokenized product that is otherwise framed as a risk management or treasury tool with no general solicitation or advertising, no emphasis on profit potential, offered as part of a broader banking relationship and is a *direct bank obligation*⁵⁹ under "incidental banking service",⁶⁰ may be considered as investment activities under the current law.

If the tokenized product meets the criteria of an "investment contract" under the Howey test or falls within the statutory definition of a security under the Securities Act of 1933, then one may use private placement (Reg D)⁶¹ and restrict access only to accredited investors. If it is structured as a commodity option, it may be offered only to Eligible Contract Participants (ECPs) via registered Futures Commission Merchant (FCM ★) / Retail Foreign Exchange Dealer (RFED ★). The current narrowly defined banking exemptions that community banks and credit unions are forced to handover business to a third-party or their larger counterparts with a brokerage / securities service arm. Clients suffer from bureaucracy and higher fees.

We recognize that, for example, credit card reward points, frequent flyer programs and the like, if tokenized to allow easier transfer of these "reward tokens" to freely trade and exchange with other third-parties beyond family members may serve good community values. NOTE: "tokenized reward points" may have unlimited supply and program organizers may have "small-print" discretionary clauses to change or alter reward programs at any time (analogy to "hard fork" – a backward-incompatible upgrade to the blockchain).

There is no single authoritative FASB standard under the US Generally Accepted Accounting Principles for how a recipient of reward points or tokens should be accounted for. Commercial practices vary – some treat them as a "freebie" and not keep any record of it in an accounting book, others consider it as a "rebate / discount" deducting them directly from expenses, also certain firms may consider it materiality and treat them as a "prepayment asset" on their balance sheet.

Firms operating "reward programs" must choose between ASC 450-30 Gain Contingency Model and ASC 606 Vendor Rebate Model to develop a defensible and consistent policy. There are different valuation-of-rewards approaches – (i) direct cash-out value, (ii) estimated redemption value, or (iii) conservative average based on historical redemptions – timing of recognition varies depending on the policy – (a) at redemption, (b) when statement is issued, or (c) when qualify purchases are made. Additional nuances include but are not limited to: no purchase requirement, consolidation of reward programs, tax treatment,⁶² interest or yield bearing on these "reward tokens", etc.

Smart contracts are an oversimplified mechanism for delineating complex real-world rights and obligations.² Challenges include: limited access to off-chain data; interoperability issues, where different chains operate in silos; immutability (which provides security but leads to inflexibility or difficulty capturing legal nuances when dealing with evolving

⁵⁶ <https://www.bis.org/publ/arpdf/ar2025e3.pdf>

⁵⁷ <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD809.pdf>

⁵⁸ <https://supreme.justia.com/cases/federal/us/455/551/>

⁵⁹ <https://www.law.cornell.edu/cfr/text/12/225.28>

⁶⁰ <https://www.ecfr.gov/current/title-12/chapter-II/subchapter-A/part-225/subpart-I/section-225.86>

⁶¹ <https://www.ecfr.gov/current/title-17/chapter-II/part-230#subpart-D>

⁶² <https://assets.kpmg.com/content/dam/kpmg/pdf/2016/06/tnf-wnit3-june-6-2016.pdf>

circumstances, renegotiations, or unforeseen events). In turn, hybrid solutions are being created, resulting in DeFi *convergence* to TradFi with no necessary efficiency gain.

Are many existing commercial reward programs being unsustainable and they seek tokenization as an exit or chance of revitalization? Would “*rewards*” be used as alternate means to raise funds cheaper than bank loans, Private Equity or Venture Capital funding? There are more questions than answers. The US Congress should refrain from laying an invisible hand of Government to regulate these private “*reward program*” activities. Regulatory agencies, the CFTC / SEC and NFA / FINRA in particular, do NOT have the necessary capacity to practically review hundreds of thousands, if not millions, of applications to register these “*reward tokens*” as “*commodity derivatives*” / “*securities*”.

Tokenized assets can be uncountable, i.e. unlimited supply. Uncapped supply creates inflationary pressure; hence value of such digital assets cannot be properly determined or quantified by the amount of outstanding inventory. The original Dodd-Frank Volcker rule’s securities Inventory RENTD provision has its merits. Uncountable “*Funny money*” is more akin to “*non-cashable gambling chips*”. NOTE: there is no formal “*certification body*” for token classification in the US, but to rely on issuer’s initial representation in simple agreement for future tokens (SAFT) to “*self-certified*”, p.s. \$BTC has no centralized issuer, no initial sale or fund raising.

The CFTC and SEC should refrain from regulating any “*uncountable*” digital asset that is more akin to “*non-cashable gambling chips*.” It should not be subjected to investor protection over securities trading activities. Wrapping money-market fund protections around this “*funny money*” does NOT make it any safer (lipstick on a pig is still a pig).

The US cannot call for an outright ban of crypto like China.⁶³ Foreign nations promoting their own Central Bank Digital Currency (CBDC)⁶⁴ while pushing other digital assets out their doors or allegedly “*exporting*” DeFi to the US is a de-dollarization attempt. Among the \$4 trillion aggregated market capitalization of all cryptocurrencies, stablecoins are about 7.5% (~ \$300 billion). NOTE: the 1:1 reserve requirement under the GENIUS Act is NOT a daily mark-to-market, but rather requires permitted issuers to provide monthly public reporting on their reserve assets. The dilemma is – the more we add new compliance requirements, the more accumulated bureaucracy in dragging the US productivity. Foreign adversaries want the Western civilizations to fall in their trap. The approach to “*suck*” new money from Digital Asset activities may be unconventional (like Mafia making other gangs abide by their rules), but becoming the biggest force behind DeFi is better.

We recommend: **Dollarize the countable** digital asset space to turn the table against de-dollarization threats,⁶⁵ even if it means spreading the risk abroad. The EU should NOT perceive the US as a hazard.⁶⁶ Western Civilization should stand by the US against countries with human rights violations that hide under the guise of “*safety monitoring and assessments*”. DCM’s betting odds may be used as a reference if the operator of such platform may also apply for Securities Exchange or Alternative Trading System license(s) under the SEC oversight. In vice versa, the SEC should review the long-term betting odds of Stock Exchanges to consider license renewals or enforcement actions. This helps keep both the *DeFi* and *TradFi* intact, where healthy competition will be promoted, bureaucracy and barriers would be minimized and removed.

The ideal way to weed out Illicit activity involving Digital Assets is by reducing bureaucracy and removing barriers that widened the gap between the “*haves*” and “*have nots*.” When the World prospers more under the US leadership, there will be fewer bad actors and adversaries.

⁶³ <https://english.ckgsb.edu.cn/knowledge/article/china-and-crypto-a-ban-on-the-mainland-but-experimentation-in-hong-kong/>

⁶⁴ <https://www.imf.org/-/media/files/publications/ftn063/2025/english/ftnea2025005.pdf>

⁶⁵ <https://www.esm.europa.eu/blog/euros-moment>

⁶⁶ <https://www.ecb.europa.eu/press/blog/date/2025/html/ecb.blog20250728~e6cb3cf8b5.en.html>

False-Beard does not possess the altruistic behavior

21st century's challenges, *chaos*, or *Clone Wars*⁶⁷ in Cyberpunk era include: content moderation versus censorship, rogues hop around, "*Street Kids*" uprising with MEME stock phenomenon, digital "*Nomads*" could care less about ethics (conflict and the use of predictive data analytics), "*Corpo*" rent seeks in the Cyberpunk era, and/or allegedly in cahoots activities.

Be mindful of the "false-beard" exploitation loop at the [Flow-Harvester layer](#). Instead of acting as a stable buffer that absorbs client credit exposure to smooth out market shocks, these tech-driven Flow-Harvesters can function as volatility magnifiers. They can engineer, rally through social media channels, and route unhedged retail order flow in ways that trigger extreme tail-risk events – such as a gamma squeeze MEME event or coordinated order-book imbalances – that would face immediate regulatory blocking if orchestrated openly by traditional institutional desks.

① The Anatomy of the Tail-Risk Multiplier

In a traditional market structure, Flow-Harvesters (like clearing FCMs or institutional prime brokers) handle client exposure with extreme defensiveness. If a client attempts to execute a massive, directional, highly leveraged option or derivatives strategy that threatens to distort market orderly function or overwhelm clearinghouse capital cushions, the broker's risk desk manually intervenes. They adjust margin requirements, implement position limits, or reject the trade to preserve systemic stability. Fintech platforms can disrupt this stabilizing mechanism by utilizing a "false-beard" behavioral structure:

The platform presents itself as an unconflicted, low-cost utility that empowers individual, non-professional traders to challenge Wall Street (i.e. **the Democratic Veneer**). Behind the interface, the platform strips away traditional risk-smoothing cushions. It automates option onboarding, lowers collateral thresholds, and operates as a **Volatility Transmission Mechanism** for high-convexity derivatives (like short-dated, out-of-the-money options or event contracts). When hundreds of thousands of retail accounts are programmatically nudged via push notifications, social feeds, or coordinated discussion forums to buy the exact same high-convexity contract simultaneously, the platform **orchestrates and** converts what appears to be fragmented retail behavior into a weaponized, highly concentrated institutional-scale flow.

② The Mechanics of the Orchestrated Gamma Squeeze

A prime example of this degradation is the programmatic generation of a **gamma squeeze** or a structural order-book imbalance, executed under the guise of decentralized, independent retail action.⁶⁸ When a fintech Flow-Harvester channels an immense wave of short-dated, out-of-the-money retail call option buys into the market, it drives Market Makers into a structural short.

For Risk-Warehouses to maintain their hedge, their trading systems and AMM must buy exponentially more of the underlying asset into a rapidly rising market, compounding the volatility loop. If an institutional hedge fund or broker-dealer attempted to manually choreograph this type of price-ramping behavior using internal proprietary accounts, "*whistle blowers*" or legacy surveillance tools may prompt regulators to flag that as a prohibited, painting-the-tape market manipulation, when it is NOT true (i.e. false-positive).

FinTech Flow-Harvesters may claim they are merely a neutral software venue executing independent, self-directed retail customer orders. However, their platforms can achieve the exact same manipulative market-ramping result while maintaining a regulatory shield by routing this flow through thousands of non-professional accounts.

⁶⁷ <https://www.databoiler.com/index.htm/files/DataBoiler%20Clone%20Wars.pdf>

⁶⁸ <https://macrowise.substack.com/p/last-weeks-gamma-squeeze-when-feedback>

③ DCM affiliated FCMs and the Conflict-of-Interest Loop

When an exchange/ DCM operates its own captive broker-dealer / FCM ★, it controls the entire vertical stack. This vertical integration allows the platform to internalize and cross-subsidize order routing. Under normal Dodd-Frank and CFTC rules, an intermediary must maintain an arm's-length separation to ensure fair execution. In a vertically integrated loop, the affiliated FCM ★ is highly incentivized to push customer order flow directly to its own exchange matching engine or its preferred market-making partners.

During a high-volatility event (like a massive retail-driven squeeze), these preferred market makers can pull their public quotes or dramatically widen their bid-ask spreads to protect their own balance sheets. Because the retail client's routing is captured inside the platform's proprietary loop, the retail user faces a severe execution penalty—getting filled at highly unfavorable prices. Meanwhile, the platform extracts immense value from the massive, artificial volume spike via backend processing fees, data access, or internalized order flow rebates.

④ The Hollow Equilibrium

When Flow-Harvesters weaponize retail order flow to generate artificial volatility multipliers, it triggers an economic distortion along the derivatives value chain. Independent Hunters and CTAs★ get squeezed in MEME events. Standalone, non-affiliated FCMs ★ and independent Introducing Brokers ★ who refuse to join the flash mob are starved of client flow. They cannot compete with the “*loss-leader*,” zero-commission marketing models of the integrated fintech platforms, leading to a steady decline in independent, high-integrity market access points.

Strategic partnerships between DCM ★, FCM ★, and Market Maker exclusivity, or vertical integration / market consolidation are not inherently malicious. They may be doing what standard economic theory encourages: lowering transaction costs, removing administrative layers, and achieving massive infrastructure economies of scale to pass savings (like zero commissions) down to the end consumer. However, this transition to a new equilibrium is not happening through a fair, unmitigated market process. Instead, it is being distorted because these integrated platforms are leveraging regulatory safe harbors and structural loopholes to protect their moats, while independent competitors are held back by rigid, outdated rules.

Consolidation vs. Regulatory Arbitrage and Unhealthy Transition

In a healthy market transition, a new equilibrium is achieved when an integrated platform wins because its technology or business model is fundamentally superior. In a distorted derivatives ecosystem, the “*false-beard*” platforms are winning by exploiting a structural imbalance in how regulations are applied across the five-layers (i.e. the current regulatory framework is stuck in an obsolete, siloed view of the market).

A genuine, efficient equilibrium should resemble a **Symbiotic Flat Line**,⁶⁹ where open APIs and neutral infrastructure allow any Hunter to connect directly to any Risk-Warehouse through clear Intermediary pipes. When consolidation is driven by

⁶⁹ A **Symbiotic Flat-Line Equilibrium** describes a market-structure state in which all layers of the industry value chain operate in mutual balance, with:

- No single layer captures outsized economic rents due to regulatory gaps or structural privilege;
- No single category becomes vertically integrated to the point of distortion;
- No structural bottlenecks (e.g., clearing, custody, prime brokerage) becomes a choke point;
- No technology layer outruns rulemaking, no regulatory lag-induced arbitrage that distorts incentives; and
- Clearing and settlement are neutral, NOT profit centers (see [later discussion](#))

Every category in the value chain plays a distinct role. Products are priced correctly, without hidden convexity or asymmetric information. Each layer performs its function without overreaching into others, and where incentives are aligned rather than

regulatory arbitrage, the market bends into a predatory loop. Instead of open ecosystems, dominant platforms build walled gardens that starve independent innovators, market makers, and standalone brokers of critical order flow.

Unlike natural market consolidation / evolution, when retail momentum is weaponized to pump highly volatile, unhedged flows upstream, they are NOT absorbing client credit exposure – they are magnifying it. In turn, “*financial democratization*” becomes a volatility extraction engine. It passes the ultimate systemic tail-risk backward into the core market infrastructure, leaving the deep balance-sheet institutions (Risk-Warehouses) and intermediate clearinghouses (DCOs) exposed to sudden, automated margin shocks.

COMPLIANCE – Collective Efforts and Agentic AI

Nobody likes to be taken for granted and everybody is jockeying around for self-gain. Authenticating who is who, who is doing what, where and when via a Decentralized Public Key Infrastructure Metaverse is good, but insufficient.⁷⁰

Transparency is NOT wrong, but be mindful of a “*No fish can swim when the water is too clear*” situation. In general, we have reservations with “*trade reporting*” burdens⁷¹ on industry participants. Data-in-motion⁷² should be minimized.

Consolidated Audit Trail (CAT) has set a BAD precedent with significant **privacy** and **security** issues,⁷³ as well as civic concerns about **Massive Government Surveillance**.⁷⁴ It is incompatible with Vice President JD Vance’s remarks about “*American AI will not be co-opted into a tool for authoritarian censorship*.”⁷⁵ CAT is a money pit, broken, and opaque.⁷⁶

Ever since the CAT was introduced over a decade ago, market participants have stressed the need to analyze the **interplay between securities and CFTC-regulated Designated Contract Markets (DCMs) and Swap Execution Facilities (SEFs)**. The recent memorandum of understanding between the SEC and the NFA is a step in the right direction.⁷⁷ The SEC-CFTC harmonization initiative maintains existing statutory boundaries while collaborating to unify cross-market analysis.⁷⁸

Multi-asset convergence between TradFi and DeFi is inevitable and new risks have emerged. For example, the SEC approved \$DOJE is a crypto Exchange Traded Fund (ETF) with underlying “**assets**” being MEME Coin, despite a statement by the SEC Division of Corporate Finance on Feb 27, 2025⁷⁹ which stated that “**MEME Coins for entertainment and social cultural purposes are NOT securities**.” Also, any “**Digital Collectables**” that do not involve CEA regulated commodity options, futures, or leveraged OTC transactions would be outside scope of CFTC’s oversight.⁵⁰ Please also see our October 2025 comment letter to the US Treasury regarding innovative methods to detect illicit activity involving digital assets.⁸⁰

Reliance on the regulated structure of the product and the transparent disclosures for the valuations and the regulatory controls may be an insurmountable reality. That guardrails may merely displace fraud and manipulation risk from SEC-

adversarial. E.g. Hunters need packagers; Packagers need intermediaries; Intermediaries need farmers; and Farmers need hunters. Risk flows smoothly across the value chain and this mutual dependency is what makes the system “*symbiotic*.”

⁷⁰ <https://www.linkedin.com/pulse/improving-trust-amid-race-technologies-kelvin-to-8vxrc/>

⁷¹ https://downloads.regulations.gov/CFTC_FRDOC_0001-0027/content.pdf ; <https://downloads.regulations.gov/CFTC-2026-1354-0001/content.pdf>

⁷² https://www.databoiler.com/index_html_files/DataBoilerInMotion.pdf

⁷³ <https://www.linkedin.com/pulse/cat-through-z-security-privacy-requirements-kelvin-to/>

⁷⁴ <https://cs.stanford.edu/people/eroberts/cs181/projects/ethics-of-surveillance/ethics.html>

⁷⁵ <https://www.presidency.ucsb.edu/documents/remarks-the-vice-president-the-artificial-intelligence-action-summit-paris-france>

⁷⁶ <https://www.linkedin.com/pulse/beyond-broken-opaque-cat-kelvin-to-jhklc/>

⁷⁷ <https://www.sec.gov/files/sec-nfa-2026.pdf>

⁷⁸ <https://www.isda.org/2025/10/02/a-path-to-greater-cftc-sec-alignment/> ; <https://www.sec.gov/files/isda-sifma-letter-cftc-sec-harmonization-letter-051926.pdf> ; <https://www.sec.gov/newsroom/speeches-statements/selway-remarks-global-exchange-fintech-conference-060426>

⁷⁹ <https://www.sec.gov/newsroom/speeches-statements/staff-statement-meme-coins>

⁸⁰ https://www.databoiler.com/index_html_files/DataBoiler%20USDT%2020251017.pdf

regulated markets, rather than preventing that risk from proliferating elsewhere. Bad actors / foreign adversaries play across markets and payment systems simultaneously.

Clearing and settlement should NOT be Profit Centers, they must operate like utilities and be neutral (ensuring conservative risk management, standardized collateral rules, predictable margin models, no race-to-the-bottom in credit standards, and no competitive pressure to loosen risk controls) to maintain systemic stability.

NOTE: Clearinghouses implicitly leverage or orchestrate the entire US financial system to provide capital to members while banks provide liquidity, the FED serves as backstop and provide settlement infrastructure. Clearing houses (CME Clearing ★, ICE Clear ★, Options Clearing Corp ★, FICC, NSCC) do not rely solely on their own balance sheets but uses a default **waterfall model** to add layers of protection from multiple sources:

- Defaulter's margin
- Defaulter's guaranty fund contribution
- Clearinghouse capital ("skin in the game")
- Surviving members' guaranty fund contributions
- Assessment powers (extra calls on members)
- Liquidity facilities from banks
- Federal Reserve access (indirect)

Clearing members (major banks and FCMs ★) post guaranty fund capital, provide liquidity lines, absorb losses through assessments, provide intraday credit, backstop settlement failures. Thus, the clearinghouse is effectively leveraging the balance sheets of the largest U.S. financial institutions to guarantee trades, enforce margin calls, settle billions daily, and withstand member defaults. Clearinghouses do not have access to the FED, but through intraday credit from clearing banks, this creates an implicit guarantee chain (Federal Reserve → Clearing Banks → Clearing Members → Clearinghouse → Market Participants) with the Fedwire being the ultimate backstop settlement layer. Margining is systemically guaranteed, and this is why U.S. futures markets ★ rarely experience settlement failures, and survived multiple crises (e.g. nickel event that traumatized LME). The [degradations mentioned in earlier sections](#) can collectively challenge the **waterfall model**. Therefore, all five Dodd-Frank regulatory agencies (SEC, CFTC, OCC, FRB, FDIC) must break down silos and work in unison to safeguard US financial stability.

The CFTC has set the following enforcement priorities, which other financial regulators should also adopt: ⁸¹

- (1) Insider Trading – Section 4c(a)(4) of the CEA "[Eddie Murphy Rule](#)" on those government employees who hold material non-public information (MNPI), and those who trade on or tip others with misappropriated information;
- (2) Market Manipulation – geopolitical events "[tempting to would-be manipulators](#)" impact on commodity prices that can have broad inflationary effects, such as energy costs rippling through the economy;
- (3) [Disruptive Trading](#) – spoofing, wash trading, and disruptive trading, especially during a closing period that reduces efficiency, distorts price signals, and can raise prices;
- (4) Retail Fraud – Ponzi schemes, "[pig butchering](#)" schemes, impersonation fraud, and phishing attacks targeting at-risk populations; and
- (5) [Willful AML/KYC Violations](#) – combatting terrorism, narcotrafficking (growing, producing, transporting, smuggling, and selling controlled substances), fraud, and other serious illegal activity.

⁸¹ <https://www.lw.com/en/insights/new-cftc-enforcement-director-speaks-on-priorities-insider-trading-in-prediction-markets-and-coop>

To curb illicit activities in both traditional securities and futures markets as well as prediction markets, legacy surveillance systems must be upgraded or replaced with more powerful AI **machine learning** and **simulation** techniques. It would need to assess profiles (check for consistency if anyone may act out of character), gauge RENTD, and reveal **trade intents** through onset signals detection that consists of, but not limited to, multi-dimensional analysis, simulation back-testing in reconstructing not only the trade sequence but also the dynamics, back-stop assurance for synthetic created trades, etc. For example, beyond life of a hedge is a “**trigger**” of concern. Any single “**trigger**” may not be a violation; however, the legitimacy of trade activities may be challenged if they occur in an order resembling *a set of triggers (pattern)* in the lessons database. Data Boiler pioneered in accurate detection of onset signals / trade irregularities at accelerated speed and more tolerable to unsynchronized clocks/ timestamp issues with related patents that claim priority since 2014.⁸²

To enrich surveillance functionalities against **bot-driven fake accounts**, **misinformation**, and **catch alleged misuse of MNPI**, it is essential to build partnerships with online platforms and communication infrastructures to track suspects’ digital trails of **where**, **when**, and **with whom**. Public-Private partnership (e.g. CISA’s IEP) should be encouraged.⁸³ Connecting the **intelligence community**, including FinCEN, TFI, and other law enforcement and intelligence agencies, such as the Egmont Group of 100+ FIUs⁸⁴ domestically and internationally is key. Deterring fraudsters and adversaries requires diverse, collective efforts rather than bureaucracy.

Regulatory market monitoring ought to be modernized alongside market and technology evolutions (Agentic Overlay). The goal is to assess changes in market dynamics, understand where **frictions** and **liquidity concentration** may **shift at rapid pace** or **irregularities** and **dysfunctional** market behaviors occur. Analyze the **stress points** and **weak links** where the next **flash crash** or systemic risks may emerge, and develop **mitigation protocols** with more effective and timely **volatility interruption mechanisms**.⁸⁵

See [Annex 2 of our recently submitted comment letter to the SEC](#) for an elaborated discussion of our innovative design to make CAT replacement nimble and effective with **agentic AI**, **Model Context Protocol (MCP)** to connect and orchestrate workflows across systems, **Retrieval-Augmented Generation (RAG)** for knowledge retrieval to avoid wasting tokens on hallucinations, and surround both with **Zero-Trust cyber defense** to safely manage what the AI can see and do. Collectively these components form the “**layers of intelligence**” needed to address challenges of today and the future.

Feel free to contact us with any questions and please keep us posted where our expertise might be helpful.

Sincerely,

Kelvin To

Founder and President

Data Boiler Technologies, LLC

This letter is also available at: https://www.DataBoiler.com/index_html_files/DataBoiler%20CFRC%20FinTech%2020260709.pdf

⁸² <https://www.databoiler.com/products.htm>

⁸³ <https://www.cisa.gov/news-events/news/cisa-launches-new-platform-strengthen-industry-engagement-and-collaboration>

⁸⁴ <https://egmontgroup.org/faqs/>

⁸⁵ **NOTE: Volatility interruption mechanisms** (e.g., replacing Single-Stock Circuit Breakers with the LULD Mechanism; overhauling Market-Wide Circuit Breakers; banning Stub Quotes and regulating Market Maker obligations; standardizing “*Clearly Erroneous*” trade executions) were piloted or implemented before the Congress’ CAT mandate in 2012. The subsequent transitioning from “*pilots*” to **permanent laws** was a **natural progression**. Credits should be given to **Reg. SCI** that mandates all major proprietary trading firms and broker-dealers to participate in at least one coordinated cross-market Level 1 and Level 2 circuit breaker test per year.

CC: **Commodity Futures Trading Commission (CFTC)**
The Honorable Michael S. Selig, Chairman
Mr. Rahul Varma, Director of Market Oversight
Mr. Jorge Herrada, Director of the Office of Technology Innovation
Securities and Exchange Commission (SEC)
The Honorable Paul S. Atkins, Chairman
The Honorable Hester M. Peirce, Commissioner
The Honorable Mark T. Uyeda, Commissioner
Mr. Jamie Selway, Director of the Division of Trading and Markets
Mr. Tyler Raimo, Assistant Director, Division of Trading and Markets