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May 14, 2025

Mr. Christopher Kirkpatrick
Secretary
US Commodity Futures Trading Commission
1155 21st Street, NW
Washington, DC 20581

Submitted via CFTC Comments Portal

Re: Request for Comment on the Trading and Clearing of "Perpetual" Style Derivatives

Dear Mr. Kirkpatrick,

On behalf of Talos and its executive leadership, we appreciate the opportunity to respond to the Commodity Futures Trading Commission's Request for Comment on "Perpetual" style derivatives and recognize Acting Chair Caroline D. Pham for her initiative in launching this important dialogue on market innovation and risk. Perpetual derivatives (often referred to as "perps") are a novel class of instruments that have grown to play a major role in global markets for digital assets. Our goal in this letter is to provide the Commission with technical and operational insights into these instruments, based on our experience supporting institutional clients trading perpetual derivatives in jurisdictions outside the US.

Talos is the world's premier provider of institutional-grade trading infrastructure for digital assets, enabling clients to seamlessly connect to the most comprehensive global network of liquidity venues. We serve a broad range of institutional market participants in more than 30 countries, offering services such as order and execution management, connectivity to exchanges and liquidity providers, and integrated portfolio and risk management tools. Based on Talos platform data, our non-US institutional clients have increasingly relied on perpetual derivatives - representing approximately 53% of their total trading volume in 2024 - to manage risk, enhance liquidity, and optimize trading strategies. This global reach and

direct experience supporting perpetual derivatives trading across jurisdictions as a technology provider - not as a market-maker or principal trader - uniquely positions Talos to offer informed, practical insights into how these instruments function in institutional markets.

First popularized in cryptocurrency markets, perpetual derivatives represent a departure from traditional expiring futures and swaps. They have proven highly popular outside the US (with daily volumes in Bitcoin perpetuals often three times larger than spot market volumes),[1] yet they currently remain unavailable to US customers under existing regulations. Significant offshore use by global institutions and individuals, contrasted with a lack of domestic availability presents both an opportunity and a challenge for US regulators. On one hand, well-regulated perpetual derivatives could facilitate institutional market participation in digital assets by providing effective hedging and price discovery tools in US markets. On the other hand, the novel features of these instruments raise important regulatory considerations around risk management, market oversight, and legal classification.

In the sections that follow, we address the majority of the questions posed in the RFC (excluding insolvency/bankruptcy issues), grouped into thematic discussions:

- **Definition and Taxonomy of Perpetual Derivatives:** We define perpetual derivatives and describe the mechanisms that distinguish them from traditional futures or swaps, including funding rate dynamics and structural variants.

  Addresses RFC Questions 1 and 14.

- **Benefits and Use Cases for Institutions:** We outline the practical advantages of perpetual derivatives, including hedging utility, continuous exposure, liquidity benefits, and adoption by different participant types.

  Addresses RFC Questions 2, 9, 10, 11, and 12.

[1] David Han, A Primer on Perpetual Futures, Coinbase Institutional Research, June 9, 2024, https://www.coinbase.com/institutional/research-insights/research/market-intelligence/a-primer-on-perpetual-futures (last accessed May 8, 2025).

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- **Potential Risks and Mitigations:** We explore key risks - such as leverage, manipulation, clearing challenges, and governance issues - and pair each with real-world mitigation strategies.

  Addresses RFC Questions 3, 4, 5, 6, 7, and 8.

- **Data Analytics and Market Monitoring:** We discuss how real-time analytics and automated surveillance tools can support participant risk management and regulatory oversight.

  Addresses RFC Questions 3 and 7.

- **Regulatory Considerations and Recommendations:** We offer neutral considerations for how perpetuals might be classified, disclosed, monitored, and safely introduced into U.S. markets under existing regulatory principles.

  Addresses RFC Questions 4, 13, and 14.

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Definition and Taxonomy of Perpetual Derivatives

Perpetual derivatives are derivative contracts that have no fixed maturity or expiration date, instead remaining open-ended until the position is closed by one of the counterparties. The most common form is the *perpetual futures contract* (also referred to as a *perpetual swap* in some markets). A perpetual future is an agreement to buy or sell an underlying asset at an unspecified future time, which differs from a traditional future by lacking a preset delivery or settlement date. In practice, perpetual futures are cash-settled contracts that can be held indefinitely without rolling over, because they do not terminate on a schedule.

This indefinite term is made possible by a funding rate mechanism - a periodic cash flow that passes between long and short positions - which is designed to tether the contract price to the price of the underlying asset over time. In essence, longs and shorts make payments to each other (usually at regular intervals such as every 8 hours) based on the price difference between the perpetual and the underlying spot market price; this incentivizes the perpetual's price to stay near the spot price. When the perpetual trades above the spot (a premium), longs pay shorts the funding rate, and when it trades below (a discount), shorts pay longs, thereby aligning incentives for price convergence. This mechanism obviates the need for an explicit expiry and final settlement - unlike a traditional future where convergence is enforced at the expiration date, a perpetual contract continuously converges toward the underlying price via these funding adjustments.

In this section, we dive in deeper and address RFC Question 2 (advantages of perps over traditional futures or spot, and new risk management features), Question 9 (likely user base), Question 10 (participation of traditional players), and Question 11 (how perps further risk mitigation and price discovery, with use cases).

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Key Characteristics

Several unique features characterize perpetual derivatives and distinguish them from other derivatives:

- **No Expiration:** Perpetual contracts do not expire or require rollover. A trader can maintain a position indefinitely (subject to margin requirements) without the operational overhead and transaction costs of moving into a new contract month. By contrast, a standard futures contract has a fixed expiry at which it must be settled or rolled into the next contract Where studies have noted that rolling short-term futures can introduce significant basis risk and hedging inefficiencies,[2] perpetuals largely avoid this by design, since the contract persists and is continually aligned with the underlying price. That said, a perpetual position still carries a small basis relative to the underlying asset, but the duration of this basis is extremely short (only until the next funding interval), making any residual basis risk minimal compared to traditional expiring futures.[3]

- **Periodic Funding Payments:** As noted, perpetual futures employ frequent small cash flows between participants (funding rates) to keep prices anchored to the underlying spot index price. This is analogous to how a swap contract might involve periodic interest payments.[4] The funding rate is typically set by formula (often proportional to the difference between the perpetual's market price and the index price for the underlying asset). This design keeps the perpetual price in line with the underlying (preventing persistent divergence such as large contango or backwardation). In effect, the funding mechanism forces convergence in a rolling manner, rather than at a single settlement date.

- **Leverage and Margin:** Perpetual futures are usually traded on margin with the ability to use leverage, similar to other derivatives. In crypto-asset markets, it has been

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[2] Broll, U., Welzel, P. & Wong, K.P. Futures hedging with basis risk and expectation dependence. *Int Rev Econ* 62, 213–221 (2015). https://doi.org/10.1007/s12232-015-0240-1

[3] Ackerer, D., Hugonnier, J., & Jermann, U., Perpetual Futures Pricing, EPFL, October 2023, https://www.epfl.ch/labs/sfi-jh/wp-content/uploads/2023/10/AHJ-main-04.pdf (last accessed May 8, 2025).

[4] *Id.*

common for platforms to offer high leverage (e.g., 10x, 50x, even 100x the margin posted)[5] to traders. This amplifies both the return potential and the risk, necessitating robust risk management by the trading venue. Initial margin and maintenance margin requirements are set to ensure traders can cover potential losses. If the market moves against a highly leveraged position, automatic liquidation mechanisms may reduce or close the position to protect the market (more on this in the Risk Mitigation section). Notably, some regulated venues have chosen to impose more conservative leverage limits (e.g., 5x–10x leverage limit) to mitigate risk to participants and the clearinghouse.

- **Continuous Funding vs. Expiry Settlement:** In a traditional future, any disparity between futures price and spot price is resolved at expiry (via delivery or cash settlement). In a perpetual, by contrast, there is no final settlement date for price convergence. Instead, any price disparity is continually corrected through the funding rate payments. This means that traders in a perpetual contract need to consider ongoing carrying costs or income from funding - similar to how holding a leveraged position has financing costs. The pricing of a perpetual derivative will reflect expectations of these funding flows. In equilibrium, the expected funding cost often drives the perpetual's price to closely track the expected future spot price, making a perp somewhat akin to a futures contract that is perpetually one funding interval away from settlement.

- **Mark Price and Liquidation Mechanisms:** To manage risk in the absence of expiry, trading venues typically employ a fair price marking for perpetuals - using an index-based mark price to trigger margin calls and liquidations, rather than the last traded price which could be volatile. This helps prevent market manipulation of the last price to force liquidations. Positions are liquidated if they fall below maintenance margin, using the mark price as reference. Any shortfall is covered by mechanisms like insurance funds or auto-deleveraging (discussed later). These features are operational rather than definitional, but they are integral to how perpetual markets function safely.

[5] Financial Times, Crypto exchanges turn to derivatives to lure cautious investors, October 28, 2024, https://www.ft.com/content/2c53eed9-c931-4429-b079-c1d1e52a26fa (last accessed May 8, 2025).

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Product Taxonomy

Within the category of perpetual derivatives, one can identify a few sub-types and related instruments:

- **Perpetual Futures vs. Perpetual Swaps:** The terms are often used interchangeably. *Perpetual swap* was popularized by early crypto platforms (e.g. BitMEX) to describe a perpetual contract on Bitcoin that swaps a fixed notional of funding payments. Functionally, there is no difference - both are perpetual, margin-traded contracts that pay funding. In this letter we treat them synonymously, as does the RFC ("perpetual futures or other perpetual derivatives" under the umbrella of Perpetual Derivatives).

- **Inverse vs. Linear Perpetuals:** Perpetual futures can be structured in different ways regarding contract denomination. An inverse perpetual is one where the contract is denominated in the underlying asset itself (e.g. a Bitcoin perpetual that is margined and settled in Bitcoin). Inverse contracts were an early innovation to allow crypto trading platforms to offer USD-priced exposure without handling fiat currency. The price is quoted in USD, but margin and P&L are in the crypto asset. This adds some complexity (e.g. non-linear payoff) but offers legal and operational benefits for platforms that sought to avoid fiat custody requirements and operate entirely within a crypto-native environment.

  A linear perpetual, on the other hand, is denominated in a conventional currency or stablecoin (e.g. margin in USD or USDC stablecoin for a BTC contract). This is more intuitive (e.g. linear payoff) and has become more common as regulated exchanges enter the market. Both types share the perpetual, funding-based structure - the difference lies in how the contract is settled and margined (asset vs currency). The Commission may encounter both types when considering perpetuals on different underlying assets.

- **Perpetual Options and Other Derivatives:** While far less common, the concept of a perpetual derivative could extend beyond futures to options and other instruments. In practice, perpetual options or perpetual swaps on interest rates, etc., are not

widely traded at scale. Another analogous instrument is the contract for difference (CFD) that allows indefinite holding of a leveraged position on an underlying, with continuous financing costs in jurisdictions like Europe. Perpetual futures serve a similar function to CFDs - allowing indefinite, leveraged tracking of an underlying asset on an exchange - but with the key distinction that perpetual futures are typically traded on centralized exchanges with an order book, rather than bilaterally with a broker as is common for CFDs. This means perpetuals benefit from transparent price discovery in a unified market.

Summary

In sum, a perpetual derivative can be defined by (a) the lack of expiration, (b) a mechanism (funding or similar) to periodically settle price differences, and (c) the goal of continuously mirroring the underlying asset's price. Within this category, the industry's focus has been on perpetual futures for asset prices (especially cryptocurrencies), which are essentially an exchange-traded, perpetual CFD with margin and high liquidity. These instruments have carved out their own niche in global trading, necessitating a fresh look at how the US regulatory framework can accommodate them.

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Benefits and Use Cases for Institutions

Perpetual derivatives have become popular for good reason: they offer several practical benefits and use cases for different types of market participants. We highlight why institutions find perpetual futures useful, particularly for hedging and speculation in continuously traded markets, and how these instruments can enhance market efficiency and participation.

In this section, we address RFC Question 2 (advantages of perps over traditional futures or spot, and new risk management features), Question 9 (likely user base), Question 10 (participation of traditional players), and Question 11 (how perps further risk mitigation and price discovery, with use cases).

Key Advantages of Perpetual Futures

The following highlights several practical benefits of perpetual futures that distinguish them from traditional futures or spot trading, particularly from the perspective of institutional market participants.

- **No Rollover Hassle - Continuous Exposure:** For traders or hedgers who want to maintain a position for an extended period, perpetual futures remove the need to periodically roll from one expiry to the next. This is a significant operational convenience and cost saving. Traditional futures require coordinating the rollover (closing the expiring contract and opening the next) which incurs transaction costs and can expose the trader to slippage or timing risk.

  Perpetuals eliminate this by providing a single ongoing contract. For instance, a hedge that might need to be maintained for 12 months can be done via one perpetual position (with funding costs), instead of entering into four quarterly futures sequentially. This not only reduces operational overhead but also eliminates basis risk

associated with misalignment between futures and spot during roll periods. As Coinbase researchers noted, the absence of rollover costs is a key factor that makes perps easier for position management compared to fixed-term futures.[6]

- **Efficient Price Discovery and Liquidity:** In crypto assets, perpetual futures markets have, in many cases, become the most liquid market for their underlying assets. The continuous nature and leverage attract a wide range of participants, resulting in deep liquidity pools. A more liquid market tends to have tighter bid-ask spreads and better capacity to absorb large orders, which benefits all traders through improved execution quality.

  Moreover, prices discovered in perpetual markets feed into the broader ecosystem - informing spot prices and other derivatives. A recent academic study found that for Bitcoin, the perpetual futures on major offshore exchanges (e.g., Binance) serve as a primary source of price discovery, even relative to regulated spot markets.[7] This indicates that perpetuals are not only reflecting prices but actively contributing to price formation for the underlying asset. For institutional traders, participating in this price discovery process can be advantageous: they can gauge market sentiment via funding rates (which signal if longs or shorts are more aggressive) and open interest data, and they can execute large trades in a liquid environment without waiting for a specific expiry date to draw in volume.

- **Hedging Utility and Risk Management:** Perpetual derivatives allow institutions to hedge exposures effectively. They provide similar directional exposure as traditional futures for hedging purposes. For example, a crypto mining firm that continuously produces Bitcoin can short Bitcoin perpetual futures to lock in a selling price for its output, thereby hedging against price drops. This hedge can remain in place as long as needed - the miner doesn't have to worry about the contract expiring and rolling it. The continuous hedging capability is particularly valuable for underlying markets that themselves trade continuously (24/7 in crypto). Additionally, because perps closely

[6] Han, *A Primer on Perpetual Futures*, supra note [1].
[7] Riccardo Cosenza and Simon Stalder, *Where is the Price of Bitcoin Determined? Price Discovery in a Fragmented Market*, SSRN, April 9, 2025, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4983566 (last accessed May 8, 2025).

track spot, the hedge is tight; the miner in our example would pay or receive funding, but the effective hedge ratio remains stable over time, similar to holding a short position in the underlying (with some adjustments for funding). Another example use case would be an asset manager holding a long portfolio of digital assets who could use perpetual futures to quickly reduce market exposure (shorting the index perpetual contracts) as a macro hedge, without needing to sell the underlying holdings. This can be done instantaneously and reversed when needed, offering flexibility akin to total return swaps or CFDs that some institutions use in other markets.

- **Access to Short Exposure:** In many emerging asset classes, it can be challenging to establish short positions or obtain negative exposure (especially in spot markets where one must borrow the asset). Perpetual futures simplify this by allowing a trader to short the contract easily. This is crucial for price discovery as well, since the ability to short facilitates two-sided markets and prevents overpricing. Institutions like hedge funds or proprietary trading firms often seek to exploit overvaluations by taking short positions - perps give them a tool to do so without the frictions of borrowing assets. This benefit is akin to what futures brought to commodities decades ago - enabling shorting and thus more efficient pricing - now applied in a continuous framework.

- **Cost of Carry Reflected in Funding (Transparency):** In a traditional futures market, the difference between futures price and spot (basis) reflects cost of carry (financing rates, storage, convenience yield, etc. depending on the asset). In a perpetual market, these costs are continuously reflected in the funding rate. For example, if there is a high demand to be long the perpetual (relative to short), the perpetual's price might rise above spot and result in a positive funding rate (longs pay shorts). That funding rate is effectively the market's transparent pricing of the cost (or benefit) of holding that exposure. This can be beneficial for price discovery, as it separates the asset price view from the financing cost view. An institution can observe that, say, the funding rate for a certain crypto perp has been consistently positive and high - indicating a strong long bias and possibly difficulty for participants to find cash (or the asset) to go short. This might inform their strategy as they might take the other side if

they believe the bias will revert. In essence, the funding rate provides a signal and an explicit cost that would otherwise be embedded implicitly in futures spreads or interest rates. The transparency of funding rates, published in real time, is a feature that many sophisticated traders monitor closely as part of their decision making.

- **24/7 Market Access and Flexibility:** Unlike many traditional futures that trade only during exchange hours, most perpetual futures (particularly on crypto underlyings) trade 24 hours a day, 7 days a week. This around-the-clock market means that participants can react to news or adjust positions at any time, which is especially critical for a globally traded asset class where news (or social media posts, as the case may be) can break on a Sunday or overnight. For institutions, this might mean needing to staff risk management 24/7, but it also means no gap risk from closed markets. For instance, if a major geopolitical event happens on a Saturday, prices in the crypto perpetual markets will quickly reflect the impact, whereas traditional markets would have to wait until Monday, potentially causing a gap. Some hedge funds have cited this continuous trading as an advantage for managing crypto exposure - they can reduce positions over the weekend via perps if needed to limit risk.

Likely User Base and Participation

In response to RFC Questions 9 and 10, we expect the user base for U.S.-listed perpetual derivatives to be diverse, but initially concentrated among institutional participants with active trading strategies and risk management needs.

- **Proprietary Trading Firms and Market Makers:** These players thrive on high-volume, short-term trading opportunities. They are already significant participants in offshore perp markets and would bring liquidity to a US venue. They will arbitrage between perpetuals and other markets, provide two-sided quotes, and generally enhance liquidity and price efficiency. Their presence is one reason perpetual markets maintain tight spreads.

- **Hedge Funds and Asset Managers:** Those with mandates to trade digital assets or other asset classes where perpetuals might emerge (for example, FX or commodities if similar products were offered) will use perps for hedging and speculative strategies. Some may be cautious due to lack of familiarity or mandate restrictions, but over time, as the product proves liquid and useful, more funds would incorporate it. Not all traditional asset managers participate in current crypto futures (some are restricted), but if we consider a broader context, any sophisticated fund that trades futures or swaps could be a candidate user for perps if the underlying exposure is relevant.

- **Commercial Participants (Physical Hedgers):** For physical commodities, it's an open question how much commercial end-users (producers, consumers) would utilize perpetual futures. They typically prefer the certainty of an expiry that matches their exposure timing (e.g., a farmer hedging a harvest at a known future date). A perpetual could be used by a commercial as a *proxy hedge*, but the lack of expiry might introduce uncertainty in basis since there's no guarantee the perp price will equal the spot price at the exact time the hedge is needed (though funding helps keep it tight).

  Commercials might be less inclined to adopt perps unless it is clear the benefits outweigh the operational cost of implementation. That said, if perpetuals become very liquid and standard, they could attract commercials who roll their hedges anyway - they might just hold a perp until they decide to unwind, instead of rolling. We suspect some traditional participants might initially sit out due to unfamiliarity or internal risk policies, but as understanding grows, the participant mix could resemble that of futures markets: a combination of hedgers, speculators, and arbitrageurs.

- **Retail Traders:** Although our focus is institutional, it's worth noting that in jurisdictions where allowed, active retail traders are big users of perpetual futures (drawn by leverage and 24/7 markets). In the US, retail access would depend on regulatory permissions (likely through FCMs/brokers if at all). The presence of retail can add liquidity but also raises customer protection issues. Even if retail participation in the US is limited or via intermediaries, the indirect effect of retail interest globally will influence the market.

Will perpetual markets attract the same array of participants as traditional futures? Over time, likely yes with some differences in weighting. We might see relatively more hedge funds and prop traders (who are agile and seek new opportunities) and relatively fewer traditional commercial hedgers at first. However, the overall ecosystem - from speculators to hedgers - can develop. Importantly, perps do not inherently exclude any category of participant; they are a general tool. If anything, they lower barriers for some participants (e.g., enabling short hedges without the need for physical delivery or contract expiration management).

Use Cases Illustrating Utility

The following examples illustrate how different types of market participants may use perpetual futures in practice for purposes such as hedging, liquidity provision, or strategy execution.

1. **Hedging a Continuous Exposure:** An example is a Bitcoin mining company as mentioned earlier. The miner earns BTC daily and faces price risk on those holdings. They can enter a short position in BTC perpetual futures equivalent to their expected production. This hedge can remain open and adjust in size as needed. Every funding interval, the miner might pay a small funding fee (if shorts pay longs in that interval) - effectively the cost of hedging - but they avoid having to roll forward a futures contract every month. This simplifies their operations and ensures they are always hedged in real-time. The result is more efficient risk management for their business.

2. **Liquidity Provision and Market Making:** A proprietary trading firm might run a market-neutral strategy where they make markets on a perpetual futures exchange and simultaneously hedge on spot markets. Because the perp requires less capital to make markets (due to leverage and no expiry to juggle), they can provide deep liquidity. They might also arbitrage between the perp and the CME's regulated futures - if the CME quarterly future is mispriced relative to the expected carry implied by perp funding rates, they can long one and short the other. In doing so, they help connect the markets and ensure pricing consistency. This kind of cross-market arbitrage is a use case that tightens spreads and aligns the perp with traditional instruments. Traders will ensure that perpetual price = spot + expected funding is

consistent with futures price = spot + cost of carry - any deviations offer an arbitrage until corrected.

3. **Directional Trading and Portfolio Adjustments:** A hedge fund with a view that Ether (ETH) price will rise might prefer to go long an ETH perpetual future rather than buying spot ETH, particularly if they only want short-term exposure or cannot hold the asset directly. The perp gives them leveraged exposure without needing to custody the actual coins (which might involve regulatory or operational hurdles for some institutions). Conversely, if they hold a basket of tokens and fear a market downturn, they can short a broad index perpetual (if available) to hedge the overall portfolio quickly. These are analogous to using equity index futures to manage portfolio beta - a common practice in traditional finance - now enabled in the crypto asset class via perps.

4. **Price Discovery and Benchmarking:** Even participants who do not trade perps might use the information from perp markets for benchmarking and valuation. For example, an ETF provider tracking Bitcoin might look at the perpetual market to gauge intraday sentiment and pricing, since the perp runs 24/7 and with high volume. During times when the CME futures market is closed, the ETF provider might rely on perp market indicators to understand where the price would likely open later.[8] In essence, the perp becomes a reference for the fair value of the underlying, complementing existing price sources. As noted, the interplay of spot, perpetuals, and traditional futures is complex, but each informs the other. Perpetuals have the advantage of constant trading and, often, higher volume, making them a rich source of price information.

5. **Innovative Expansion of Broader Market Opportunities:** It is worth highlighting that perpetual futures are effectively contracts for difference, settled to an index price rather than through delivery of an asset. This means the reference index for a perp need not be a directly traded commodity or instrument – greatly expanding the scope of what markets can be covered. Notably, the perpetual contract concept was first proposed by economist Robert Shiller in 1993 as a "perpetual claim" on the cash flows

[8] Russell Investments, *Futures, ETFs, or physicals: How to choose the right implementation*, January 2025, https://russellinvestments.com/content/ri/us/en/individual-investor/insights/russell-research/2025/01/futures_-etfs_-or-physicals-how-to-choose-the-right-implementati.html (last accessed May 8, 2025).

of illiquid assets like real estate.[9] In other words, from inception the idea was to enable derivatives on reference indices (such as housing price benchmarks) that investors otherwise could not hedge or access. Today's crypto-market innovations are demonstrating this versatility through on-chain perpetuals tracking foreign exchange rates, commodities, and equity indices in addition to cryptocurrencies.[10] So long as a reliable index price exists, one can structure a perpetual derivative to provide exposure to it. This flexibility is a major innovation of the perp format and underpins a strong argument for incorporating these instruments into the regulatory framework. By allowing perpetuals on a wide array of indexes under proper oversight, the market can gain safer access to diverse exposures (including otherwise unattainable ones) while the Commission maintains visibility and risk controls over these activities.

Summary

In summation, perpetual derivatives matter to institutional market participants because they enhance flexibility, liquidity, and efficiency. They take the core functionalities of futures (leverage, hedging, price discovery) and package them in a format that is aligned with modern, around-the-clock markets. By doing away with expiries, they reduce operational burden and allow strategies to be more continuous. By concentrating liquidity into one contract (instead of spreading across multiple expiries), they create deeper markets.

For institutions that require precision in hedging or agility in trading, these features are very attractive. From a market structure standpoint, if the US fosters a well-regulated perpetual derivatives market, it could encourage more institutional players to participate in digital asset markets here, rather than exclusively on overseas platforms. This could lead to greater market integrity and oversight, as those activities move into regulated venues, a point we discuss more in the regulatory considerations section.

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[9] Robert J. Shiller, *Measuring Asset Values for Cash Settlement in Derivative Markets: Hedonic Repeated Measures Indices and Perpetual Futures*, The Journal of Finance, Vol. 48, No. 3 (1993), pp. 911–931, https://www.jstor.org/stable/2329020 (last accessed May 8, 2025).
[10] Ostium Labs, *Ostium Protocol Documentation*, https://docs.ostium.finance/ (last accessed May 8, 2025).

It's worth noting that some traditional participants may initially be cautious. Certainly, risk managers at traditional firms will need to get comfortable with how perps work and there may be internal mandates that only allow trading of listed futures with expiries, etc. Over time, as industry understanding grows and if the Commission provides clear guidance, these barriers can be overcome. Analogous to when cash-settled futures were first introduced, or when swap contracts became mainstream, some traditional players were hesitant until best practices and regulatory clarity emerged. We expect a similar learning curve for perpetual derivatives. Our view is that perps are a natural evolution in markets and the fundamental aims of derivatives markets - price discovery and risk transfer - are well-served by perpetual futures, and perhaps even enhanced in certain respects (e.g., more continuous price discovery).

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Potential Risks and Mitigations

While perps offer clear benefits, they also introduce unique features that require careful consideration from a regulatory and market design perspective. In this section, we consolidate and examine a subset of key risks - including leverage, market manipulation, conflicts of interest, surveillance gaps, operational vulnerabilities, and potential systemic impacts - and explore representative examples of how technology, infrastructure, and market design can help mitigate them. This discussion is not intended to be exhaustive, and we recognize that further collaboration with industry participants will be essential to fully assess the evolving risk landscape and inform the development of effective regulatory frameworks.

This analysis addresses RFC Question 3 (unique risks and necessary protections), Question 4 (disclosures adequacy), Question 5 (implications for clearing and operational risk), Question 6 (manipulation and governance), Question 7 (surveillance), and Question 8 (impact on traditional markets).

Leverage and Volatility

Perpetual futures often allow very high leverage (e.g. 50x–100x),[11] meaning even routine market moves can wipe out highly leveraged positions and trigger rapid liquidations. Because there is no expiration, a losing position won't "time out" – losses can accumulate indefinitely if not closed, potentially leading to liquidation cascades that amplify volatility.[12] In fast markets, a healthy position can become insolvent within minutes, and a cascade of margin calls might even spill into related markets (for instance, a crash in a major crypto perp could

[11] Financial Times, *supra* note 4

[12] Dataconomy, *What is liquidation in crypto trading? A beginner's guide to risk management and leverage*, February 18, 2025, https://dataconomy.com/2025/02/18/what-is-liquidation-in-crypto-trading-a-beginners-guide-to-risk-management-and-leverage/ (last accessed May 8, 2025).

temporarily drag down spot prices and correlated assets via broad risk-off sentiment). We will also revisit this topic in part later in this letter in a discussion on leverage caps and margin system design.

Mitigations

A robust margin framework is the first line of defense in managing leverage risk in perpetual markets. Platforms typically set both initial margin requirements (to enter positions) and maintenance margin thresholds (to keep them open), with real-time updates to unrealized P&L and margin usage - often every few seconds. If a position's equity falls below the maintenance margin, automated systems trigger liquidations, often beginning with partial position reductions to restore margin before resorting to full liquidation. These safeguards are powered by trading engine software and rely on mark prices (index-based fair values) to prevent false liquidations due to momentary price spikes.

To further contain risk, many exchanges impose leverage caps and use tiered margining, where margin requirements increase with position size or asset volatility. This naturally reduces leverage for large positions and prevents any single participant from building dangerously oversized exposure. In addition, circuit breakers - similar to those in equities and traditional futures - can pause trading temporarily during sharp price moves, allowing the order book to stabilize. Some platforms also implement position or concentration limits at the clearing level to prevent excessive risk accumulation within a single account or directional bias in the market.

Effective collateral management is vital for participants, especially institutional ones, to manage the risk of margin shortfalls and potential liquidations. In the 24/7 perpetual market, there are no traditional margin call grace periods - if margin requirements are breached, the position can be liquidated at any time without warning. Institutions mitigate this challenge by maintaining ample excess margin and by moving collateral quickly to the accounts where it's needed to support their positions before a shortfall triggers a liquidation.

In this context, infrastructure providers like Talos play a crucial role in facilitating collateral mobility. Our platform allows a trading firm to monitor its positions across multiple venues in real time and to transfer collateral efficiently to where it's needed (within the constraints of

each customer's custodian or custody solutions). "Collateral mobility" refers to the ability to reallocate assets on short notice - for instance, moving additional USDC into a perpetual trading account at a moment's notice to shore up margin. Some advanced custodial networks now enable near-instant transfers of digital assets between accounts, which can be critical in highly volatile markets by allowing traders to react immediately to price swings.

Real-time margin monitoring tools - an integral part of the Talos platform - alert traders promptly when their margin usage approaches critical levels. This allows participants to add collateral or reduce positions proactively before a breach occurs. Talos portfolio management tools also include a margin dashboard that provides consolidated, real-time risk visibility and will soon integrate instant notification alerts for users. By enabling such rapid protective actions, and even facilitating immediate fund transfers when needed, this type of technology significantly mitigates the risk of customer default through early intervention.

Market Manipulation and Abuse

The perpetual structure presents some unique avenues for market manipulation. One concern is manipulation of the underlying index. Since the perp's price is derived from an index of spot markets, a bad actor could place spoofed or wash trades on one of the constituent spot exchanges to nudge the index (for example, right before a funding rate calculation or a large liquidation event). Another vector is manipulating the funding rate itself. If a trader can artificially move the perp's price away from the index at the moment funding is determined, they could force an outsized payment from one side of the market to the other, then profit by having positioned themselves to receive that payment. Additionally, perpetual markets often broadcast data on liquidation levels or stop orders; a malicious trader might attempt a "short squeeze" or "long squeeze" by pushing the price through a cluster of known stop-loss levels, triggering a cascade of forced liquidations that they can exploit. These forms of abuse could harm market integrity and participants if not checked by proper safeguards.

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Mitigations

Robust surveillance and analytics are the primary tools to deter and detect manipulation. Exchanges must continuously monitor trading activity across the perp market and its underlying markets to spot anomalies. If a perp's price starts to deviate significantly from the composite index (beyond normal arbitrage bounds) or vice versa, alarms should trigger and investigators can examine whether it's due to legitimate market pressure or manipulative tactics. Modern crypto exchanges address index manipulation risk by using fair pricing mechanisms: for example, the funding rate is typically calculated from an average index price over a window (not a single moment) to smooth out any one-off blips, and liquidation triggers use an index-based mark price rather than the last trade price. These design choices make it harder for a manipulator to profit from a momentary price distortion. Exchanges also implement circuit-breaker logic if the perp price diverges too far from the index (e.g. pausing trading or clamping the allowable price for liquidations if a >X% divergence occurs).

Transparency requirements can further help the market self-police – for instance, publishing aggregate long/short open interest and funding rate levels in real time allows professional arbitrageurs to identify imbalances and step in (high funding rates or extreme long/short skews attract arbitrage that brings the market back in line, which is itself a natural mitigation). Position limits and robust margin buffers also reduce the risk of an engineered squeeze, because no trader can build an overwhelming position without posting substantial collateral that makes a manipulation attempt extremely costly.

In addition, active enforcement is crucial and any confirmed manipulation should be met with regulatory action. The existence of active surveillance and regulatory oversight may help deter manipulative behavior. The Commission could underscore this by clarifying that attempts to manipulate a perp or its index will be viewed and prosecuted as manipulation of the derivatives market itself – sending a strong signal that such behavior falls squarely under CFTC enforcement.

From the technology side, infrastructure providers contribute as well. For example, Talos offers cross-market smart order routing and consolidated market data feeds. This not only helps clients achieve the best execution, but also acts as a risk control – if one exchange's perp price dislocates from the broader market, the smart router can halt routing orders there

and alert the user to the anomaly. Similarly, Talos's analytics aggregate data like prices, volumes, and funding rates from multiple venues to help identify unusual patterns (e.g. a sudden divergence between a perp's price and its expected fair value, or an abrupt jump in volume or open interest), enabling traders and risk managers to react quickly. Because crypto markets trade 24/7 globally, surveillance systems often incorporate automated anomaly detection (including machine-learning algorithms) to flag odd trading behavior at any hour. In short, a combination of exchange-level surveillance, data-driven analytics, and prompt enforcement helps mitigate manipulation and protect market integrity.

Operational and Clearing Challenges

Introducing perpetual futures to new asset classes - particularly physical commodities or traditionally cleared products - creates operational challenges, primarily due to their indefinite exposure and continuous market structure. Without a final expiry, positions can remain open indefinitely, demanding ongoing risk management and margin oversight. This could strain traditional clearing infrastructures not currently built for continuous monitoring. Additionally, default risks emerge if liquidations cannot keep pace during rapid market moves, potentially leaving shortfalls.

Mitigations

Clearing organizations can enhance existing risk controls with near-continuous margin updates, real-time position monitoring, and automated systems designed to operate 24/7. To address default risk specifically, exchanges often maintain insurance funds - liquid reserves funded from liquidation proceeds or trading fees - to absorb potential losses, minimizing systemic impacts. Position limits and tiered margin requirements also prevent excessive risk accumulation. While Talos does not directly provide clearing services, our platform demonstrates the value of robust, continuous monitoring and margin management solutions essential for managing these operational complexities.

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Regulatory Clarity and Cross-Border Coordination

Perpetual derivatives, especially in crypto-asset form, often straddle regulatory boundaries and jurisdictions. There is a risk of regulatory arbitrage or uncertainty if these products are not clearly defined within the existing framework. For example, a platform might attempt to offer a perp in a way that bypasses certain rules (perhaps calling it a swap or a non-US offering) which could introduce more risk if it falls into a regulatory gray area. Likewise, if the underlying asset of a perp could be deemed a security (in some cases crypto tokens might be), that raises questions about CFTC vs. SEC oversight. Internationally, differing treatments of perpetuals mean a product prohibited or heavily regulated in one country might flourish in another, potentially undermining consistent investor protections or creating enforcement gaps across borders.

Mitigations

The obvious step is clear regulatory guidance – which we commend the Commission aim in developing with this RFC. Clarity on how perpetual futures are classified and what specific rules apply to them will reduce opportunities for evasion and ensure all venues meet baseline standards.

Coordination with other regulators is also important. For instance, close consultation with the SEC can ensure that if a particular crypto perpetual might involve a security-like underlying, both agencies are aligned on how it can be offered to avoid exploitation of any jurisdictional loophole. International cooperation can further bolster oversight, given the global nature of these markets. U.S. regulators might liaise with overseas counterparts (in Europe, Asia, etc.) to share information and even craft complementary rules, so that a bad actor can't simply shift manipulative trading to a foreign exchange outside the CFTC's direct reach. Requiring foreign boards of trade offering access to U.S. persons to adhere to comparable standards, and having information-sharing agreements in place, will help catch cross-border misconduct. A harmonized regulatory approach closes gaps and ensures that perpetual trading doesn't migrate to the shadows but instead occurs under proper supervision worldwide.

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Summary

In our view, while perpetual futures carry heightened risks (high leverage, no expiry, potential for manipulation, new stress scenarios), none of these risks are insurmountable. A comprehensive toolbox of measures – spanning technology (e.g. real-time risk monitoring, automated surveillance algorithms), market design (funding rate mechanisms, prudent leverage limits, circuit breakers), and regulatory safeguards (capital and margin requirements, disclosure rules, transparency and reporting mandates) – can be employed to effectively mitigate the risks.

Drawing on the experience of existing perp markets, we believe that introducing perpetual derivatives on regulated U.S. venues is feasible so long as it is accompanied by stringent risk controls – many of which are extensions of the best practices already used in traditional futures and clearing, adapted to the nuances of perpetuals. Importantly, a U.S. implementation would benefit from the established clearinghouse infrastructure and oversight: a registered DCO overseeing perps could bring in daily stress testing, member default guarantees, segregation of customer funds, robust default waterfalls, and regulatory reporting, complementing the perp-specific tools described above. The Commission may wish to consider requiring that a listing venue demonstrate the robustness of its margin model, default fund/insurance fund, and surveillance program with respect to the unique demands of perpetuals. Ensuring these risk-focused safeguards are in place will protect market integrity and customer funds, allowing perpetual derivatives to be traded as safely and confidently as traditional derivatives.

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Data Analytics and Market Monitoring

Modern data analytics play a crucial role in the effective oversight and management of perpetual derivative markets. Given the high-frequency, 24/7 nature of these markets, the ability to ingest, analyze, and act on data in real-time is essential for both market participants and regulators. In this section, we discuss how data analytics tools are used to monitor perpetual markets, manage risk, and even inform regulatory supervision.

This analysis addresses RFC Question 3 (risk detection and management) and Question 7 (surveillance).

Real-Time Market Data Monitoring

Perpetual futures generate a constant stream of market data - prices tick multiple times per second, funding rates update frequently (typically every 8 hours, but indicative funding data may update more often), open interest and trading volumes shift continuously. Participants use data analytics platforms to watch key metrics such as price spreads between perp and spot, funding rate trends, open interest changes, liquidation data, and order book depth/imbalance. For example, a sudden increase in open interest combined with a sharp move in funding rate can indicate a build-up of one-sided positions - a signal that volatility might be ahead if those positions unwind. If the BTC perpetual funding rate stays extremely high (say +0.1% every 8 hours) for an extended period, it may be seen as a sign the market is very long-biased and infer that if price starts to drop, many long positions could be forced to exit, causing a rapid decline. Indeed, Coinbase's analysis found that prolonged periods of high funding rates have often been followed by periods of higher volatility.[13] This kind of insight is gleaned by correlating funding data with subsequent price data - a straightforward analytic that can be automated.

[13] Han, *A Primer on Perpetual Futures*, supra note [1].

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Anomaly Detection and Surveillance Analytics

Exchanges and regulators can leverage data to detect anomalies that might indicate manipulation or technical problems. Techniques such as statistical outlier detection or machine learning models can flag when the perpetual's price moves abnormally relative to a basket of related indicators (spot index, other exchanges' prices, etc.). For instance, if Exchange A's perpetual deviates from the volume-weighted average price across all exchanges by more than some threshold, an automated alert can be generated. Similarly, if the size of the top buy orders suddenly thins out drastically, it might signal a pulling of liquidity (possibly a precursor to a big move or stress).

Surveillance systems (often provided by specialized firms or in-house analytics teams) will scan for patterns like wash trading (detectable if the same accounts trade back and forth) or spoofing (order placements and cancellations patterns). These systems output alert reports that compliance teams investigate. The key is that data analytics can handle the scale of data - millions of trades and orders - which manual oversight cannot. Regulators might consider requiring that any venue listing perpetuals have automated surveillance and that they share suspicious activity reports with the CFTC in real time or near-real time, given the speed of these markets.

Transparency and Public Data Tools

One positive aspect of crypto-originated perpetual markets is the culture of transparency with data. Many exchanges publish rich datasets through APIs - one can retrieve not just trades and quotes, but also aggregated liquidation data, open interest, etc. Third-party analytics platforms compile this and present it to users in dashboards. For example, a dashboard might show that across all exchanges the total open interest in ETH perpetuals is near an all-time high while the average funding rate is positive and rising. Such information is valuable for market monitoring by regulators too. The Commission could utilize similar dashboards or require reporting of key metrics to keep a finger on the pulse of the market. If, say, open interest becomes very concentrated (perhaps a single trader amasses a huge position visible through an FCM's reports), data analysis can highlight that risk.

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Use by Institutional Traders

On the participant side, many institutional traders employ data analytics not just for risk, but also for alpha generation. They may analyze historical relationships looking for signals around funding rates vs. price moves, seasonal patterns to perpetual funding, etc. Or they might track metrics like how quickly arbitrage closes price gaps between exchanges (which speaks to market efficiency).

Talos, specifically, has invested in providing clients with data feeds and analytics that cover multiple venues and instruments. By normalizing data across exchanges, we allow users to see the "bigger picture" of the market, rather than being siloed. This helps in identifying if a move is broad-based or isolated. For example, if one exchange's perpetual shows a big trade and price move, our system shows whether the same happened on other exchanges; if not, that could be an anomaly that either presents an arbitrage or signals something irregular on that one venue.

Summary

In conclusion, data analytics is the nervous system of perpetual markets - it enables rapid sensing and response to developments. Both industry participants and regulators can leverage these tools to ensure well-functioning markets. We encourage the Commission to consider how it can integrate market data analytics into its oversight of any perpetual derivatives that come under its jurisdiction. This might involve requiring regular data reports from exchanges, building internal systems to monitor live data, or partnering with data providers.

The goal would be to have an evidence-based, real-time understanding of market conditions, which in turn allows for more proactive and informed regulatory action if needed. The end result is a market that is transparent and intelligently supervised, benefiting from the wealth of information that these continuously trading instruments produce. We also note that data reporting and surveillance appear again in our policy perspectives, particularly around exchange transparency and oversight.

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Regulatory Considerations

Finally, we turn to considerations for how the Commission might approach the regulation of perpetual derivatives within the US regulatory framework. We emphasize that our stance is not to advocate for any specific policy outcome, but rather to highlight points the Commission may wish to consider to effectively oversee these instruments while fostering market integrity and innovation. In that spirit, we offer the following considerations as potential starting points for a collaborative dialogue with industry stakeholders. Many of these themes have been introduced earlier in this letter and are revisited here through the lens of potential regulatory frameworks.

This section provides our perspective on RFC Question 4 (disclosure), 13 (classification as swaps or futures), and Question 14 (consistency with traditional futures model).

- **Clarify the classification of perpetual derivatives within the existing regulatory framework:** For example, the Commission might consider treating these instruments as a type of futures contract (given their exchange-traded nature, margining, and price discovery functions) while acknowledging their swap-like features (such as periodic funding payments). Providing this clarity – whether through rulemaking or guidance – would help ensure broad market access (e.g. allowing DCM/DCO trading and clearing via FCMs) and support wider participation. Any classification approach should be applied consistently across asset classes to prevent regulatory arbitrage or confusion, and coordinated with other regulators (such as the SEC where appropriate) to support a uniform approach for these global markets.
- **Adapt the traditional futures framework to accommodate perpetual contracts' unique features:** Existing futures rules that assume a fixed expiration may need adjustment. The Commission could work with exchanges and clearinghouses to clarify how concepts like "last trading day" or settlement should apply in a perpetual context – for instance, treating periodic funding events as analogous settlement

points. Similarly, risk controls may require tweaking. Because positions in a perpetual contract don't expire, exchanges might implement ongoing position limits or accountability measures (rather than position resets at expiration) to prevent uncontrolled risk accumulation over time. These adaptations may help align perpetuals with established futures frameworks while maintaining appropriate safeguards.

- **Encourage transparency and robust design of the funding rate mechanism:** The periodic funding payment is central to perpetual derivatives, and its design should be clear and fair. The Commission might, for example, ask that any exchange listing a perpetual clearly disclose its funding rate formula and methodology, and be prepared to justify that the chosen funding frequency (hourly, 8-hour, daily, etc.) will not destabilize the market. Industry input could help determine best practices here – extremely frequent funding could create unnecessary churn, while too infrequent funding might lead to sudden large adjustments. By promoting openness and consistency in how funding rates are set and adjusted, regulators can reduce the likelihood of manipulation or unexpected market impacts.

- **Evaluate whether margin and clearing requirements need refinement for perpetuals:** Perpetual futures may introduce different risk dynamics that warrant a fresh look at margin models. The Commission, in collaboration with clearing organizations, could consider if existing margining systems (such as SPAN) are sufficient or if additional safeguards are needed given the perpetual duration of positions. Clearinghouses might decide to collect incremental margin for positions held over long periods or adjust margin levels to account for the continuous funding payments (though these payments are typically small relative to price moves). It would also be prudent to ensure futures commission merchants (FCMs) are prepared for the operational demands of perpetuals – for example, handling more frequent variation margin calls due to continuous 24/7 trading and funding flows. Overall, confirming that margin and clearing practices appropriately capture the risks of perpetual contracts will help maintain the financial integrity of the market.

- **Enhance market transparency and oversight through improved reporting:** Requiring more granular and frequent public reporting for any listed perpetual contracts could benefit both market participants and regulators. For instance,

exchanges could publish daily metrics such as total open interest, the long-vs-short positioning (if available), and the prevailing funding rates. In addition, the Commission might receive periodic reports or conduct reviews of how each perpetual contract is functioning in practice – checking that prices remain aligned with spot markets, monitoring any episodes of significant divergence or liquidity stress, and tracking the frequency of large liquidations. These transparency measures would provide an evidence-based view of the health of perpetual markets, enabling regulators to detect emerging issues early and consider adjustments to rules or risk parameters if needed.

- **Strengthen surveillance and cross-market coordination:** Given that perpetual derivatives often reference prices from underlying spot markets (which in the case of digital assets may be largely unregulated), it is important to monitor the interplay between the perp and its underlying market. The Commission could encourage or require any Designated Contract Market (DCM) listing a perpetual contract to establish information-sharing arrangements with major platforms trading the underlying asset (similar to how CME's Bitcoin futures leverage data from multiple crypto exchanges). This would help detect and deter manipulation – for example, unusual activity in the underlying market intended to skew the perpetual's index price.

  Furthermore, regulatory cooperation will be key. The CFTC may want to coordinate oversight with other relevant authorities (such as the SEC if a product's index includes securities, or international regulators where overseas markets are involved) so that supervision of these instruments is comprehensive and globally harmonized.

- **Improve customer safeguards through education and disclosures:** To ensure market participants understand the nuances of perpetual derivatives, the Commission could work with industry to develop standardized risk disclosure statements. These disclosures (provided to customers by FCMs or exchanges offering perps) would plainly explain the unique aspects of trading perpetual futures – for example, the lack of an expiry date and the role of funding payments (which can accumulate costs over time), the higher potential for short-term price swings due to leverage, and how these products differ from traditional futures. By mandating a consistent baseline disclosure, regulators can help traders make informed decisions and mitigate misunderstandings.

Additionally, industry training (for instance, ensuring risk management teams at FCMs are well-versed in monitoring perpetual positions) could be encouraged as part of a broader customer protection effort.

- **Consider a phased and cautious introduction of perpetuals in the U.S. market:** Given the novelty of these instruments, a phased approach could help ensure that appropriate safeguards are in place if the Commission decides to move forward. One approach would be to start with a limited pilot program – for example, initially allowing a small number of perpetual contracts on well-established digital assets (such as Bitcoin and Ether) – and closely observe their performance. During this pilot stage, access could be limited to sophisticated or institutional participants (similar to how some jurisdictions first introduced new derivatives to professional investors only) so that the most experienced market users set the precedent.

  Over time, as the Commission and industry gain confidence in the risk controls and behavior of these products, the program could be expanded to include a broader range of assets and a wider audience of market participants. This stepwise approach would enable regulators to gather data, evaluate the effectiveness of protections, and make any needed adjustments before scaling up. It also allows for assessing whether certain asset classes are more suitable for perpetual futures (for instance, commodities that trade continuously and don't involve physical delivery might be good early candidates, whereas other asset classes could require further study).

Summary

By exploring the above suggestions in collaboration with industry participants, the Commission can work toward integrating perpetual derivatives into the regulatory landscape in a manner that upholds the core principles of U.S. derivatives markets – fostering innovation and market accessibility while maintaining fair competition, financial integrity, customer protection, and prevention of market manipulation.

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Conclusion

In closing, Talos appreciates the Commission's proactive examination of perpetual derivatives and the opportunity to contribute our perspective. Perpetual futures and related instruments represent a significant innovation in derivatives markets - one that aligns with the always-on nature of today's global trading environment. Our comment has aimed to educate and inform by drawing on both data and practical experience supporting institutional trading in these products.

Talos stands ready to support the Commission's deliberations by sharing our technical expertise and data-driven insights, without advocating for any specific regulatory outcome. Our first-hand experience integrating with international exchanges demonstrates that perpetual derivatives markets, when operated under robust controls, can function smoothly and become integral to global trading activity - a trend further evidenced by compliant U.S. firms offering these products abroad under stringent frameworks. We believe that a constructive dialogue between regulators and industry experts is essential for developing perpetual markets that are fair, orderly, liquid, and resilient, and we look forward to contributing to that effort.

Thank you for considering our comments. We are available to answer any questions or provide clarification on the points raised.

Respectfully submitted,

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cc: Honorable Acting Chair Caroline D. Pham
Honorable Commissioner Kristin N. Johnson
Honorable Commissioner Christy Goldsmith Romero
Honorable Commissioner Summer K. Mersinger