Objective

To outline a comprehensive strategy for integrating zero slippage from GMX V1 and unlimited OI capacity from order book into GMX V2, while maintaining optimal risk management. This proposal aims to:

1. Explain the benefits and necessity of this integration for GMX's competitiveness.
2. Demonstrate how to achieve these improvements primarily through risk parameter adjustments, with minimal technical changes.
3. Introduce innovative concepts like post-position price impact

and net OI

calculations to optimize trading costs and liquidity utilization.

1. Align GMX's trading mechanism more closely with traditional order book while leveraging its unique advantages.
2. Ultimately position GMX as the most cost-effective and liquidity-rich trading platform for traders, while enhancing profitability for liquidity providers.

Background

GMX face three main challenges in competing with CEXs:

1. Less Asset Diversity:

GMX is expanding its tradable assets through multi-oracle support and GLV development. Chainlink is accelerating data-stream deployment, with recent and upcoming listings including wstETH, USDe, ZRO, DOT, ORDI, STX, SUI, APE, MEME, FLOKI, BONK, ILV, MKR, TIA, SNX, APT, LDO, GRT, ONDO, TRX, and STRK.

1. Less OI Capacity:

GMX V2 currently limits OI directly by GM pool amount, significantly constraining its capacity compared to order book system offering unlimited OI.

1. Higher Trading Costs:

GMX V2 has higher trading costs than CEXs due to borrowing fees and higher price impact for medium and smaller trades. The current price impact mechanism in GMX results in significantly higher trading costs in all markets except BTC and ETH, compared to competitors.

To address these challenges, GMX needs to realign its trading mechanism parameters with traditional, well-tested order book system while maintaining its unique liquidity provision strategy. Key parameters include Order Fee, Borrowing Fee, Funding Fee, and Price Impact, which form the core of GMX V2's risk management framework.

Mechanism

Perp DEXs are typically categorized into order book system (e.g., Hyperliquid) and trader-LP system (e.g., GMX). However, this distinction may not be entirely accurate as both types use matching-based trading mechanism but differ in their liquidity provision strategies. For instance, Hyperliquid utilizes a closed-source market-making strategy, whereas GMX adopts an open-source trader-LP strategy for liquidity provision.

GMX's unique approach aims to offer the best of both systems. The key to GMX's success lies in optimizing its risk parameters to balance trader benefits with LP protections. These parameters need to be carefully adjusted to:

1. Minimize trading costs while preventing market manipulation.
2. Maximize available liquidity and OI capacity without increasing LP risk.
3. Ensure market stability through effective long-short OI balance mechanism.

By fine-tuning these parameters, GMX can potentially outperform both traditional order book system and other trader-LP system in terms of liquidity depth, trading costs, and risk management.

GMX V1

GMX V2

Order Book

Slippage

None

Price Impact

Slippage

Funding Fee

None

Adaptive Funding Fee

Funding Fee (8hr)

Borrowing Fee

Borrowing Fee

Borrowing Fee

None

Max OI Long

Pool Amount BTC, ETH, etc.

Pool Amount Long * OI Reserve Factor Long

+∞

Max OI Short

Pool Amount USD(s)

Pool Amount Short * OI Reserve Factor Short

+∞

Available Liquidity Long

Pool Amount Long - OI Amount Long

Pool Amount Long * OI Reserve Factor Long - OI Amount Long

Depends on MM Strategy

Available Liquidity Short

Pool Amount Short - OI Amount Short

Pool Amount Short * OI Reserve Factor Short - OI Amount Short

Depends on MM Strategy

ADL Conditions

Pending profits exceed the market’s configured threshold

Pending profits exceed the market’s configured threshold

Insufficient liquidity in order book to handle liquidated positions

Risk Parameters

GMX’s risk management framework is built upon four key parameters that work in concert to maintain market stability, prevent manipulation, and balance the interests of traders and LPs:

Price Impact

: Simulates slippage and prevents price manipulation attacks. In GMX, this parameter is crucial for maintaining accurate asset pricing and protecting LPs from sudden market movements.

Borrowing Fee

: Prevents liquidity occupation attacks through long-short hedging. This fee is unique to GMX's trader-LP model and helps ensure efficient capital utilization.

Funding Fee

: Promotes long-short OI balance by charging fees to the positive side and paying fees to the negative side, encouraging market equilibrium. GMX's adaptive funding fee mechanism is key to maintaining sustainable market conditions.

Order Fee

: Covers the basic costs of trade execution and contributes to LP returns. In GMX, this fee is carefully balanced to remain competitive while supporting the platform's unique liquidity provision model.

These parameters are interdependent and must be carefully calibrated to optimize GMX's performance across various market conditions.

Proposed Change

To address the challenges faced by GMX and optimize its performance, I propose the following changes:

1. Net OI Calculation:
2. Net OI Long = max(OI Long - OI Short, 0)
3. Net OI Short = max(OI Short - OI Long, 0)
4. New Parameters:
5. Introduce Net OI Reserve Factor Long & Short $\in (0,1)$
6. Ensure: Net OI Long < Pool Long Amount * Net OI Reserve Factor Long
7. Ensure: Net OI Short < Pool Short Amount * Net OI Reserve Factor Short
8. ADL Trigger Conditions:
9. Retain: "Partial or full liquidation may occur when unrealized profit exceeds the market-allocated threshold."
10. Add: "ADL will be triggered if liquidation would cause the Net OI to exceed the limit."
11. Price Impact Adjustment:
12. Set pre-position price impact of all markets to 0, restoring zero slippage.
13. Implement a post-position price impact mechanism that decays over time after opening a position.
14. Gradual Parameter Adjustments:
15. Incrementally increase OI Reserve Factor.
16. Gradually reduce borrowing fee.

These changes aim to integrate zero slippage from GMX V1 and unlimited OI capacity from order book into GMX V2, while maintaining robust risk management.

GMX V2

GMX V2.X

Order Book

Slippage

Price Impact

0

Slippage

Funding Fee

Adaptive Funding Fee

Adaptive Funding Fee

Funding Fee (8hr)

Borrowing Fee

Borrowing Fee

→ 0

0

Max OI Long

Pool Amount Long * OI Reserve Factor Long

→ +∞

+∞

Max OI Short

Pool Amount Short * OI Reserve Factor Short

→ +∞

+∞

Available Liquidity Long

Pool Amount Long * OI Reserve Factor Long - OI Amount Long

Pool Amount Long * Net OI Reserve Factor Long - Net OI Amount Long

Depends on MM Strategy

Available Liquidity Short

Pool Amount Short * OI Reserve Factor Short - OI Amount Short

Pool Amount Short * Net OI Reserve Factor Short - Net OI Amount Short

Depends on MM Strategy

LP Max Exposure

Pool Amount Long or Pool Amount Short

Pool Amount Long or Pool Amount Short

Depends on MM Strategy

ADL Conditions

Pending profits exceed the market’s configured threshold

Pending profits exceed the market’s configured threshold

Insufficient liquidity in order book to handle liquidated positions

Liquidation results in the Net OI exceeding the limit

Post-Position Price Impact

This mechanism introduces a price impact that gradually decreases from the time of opening a position to closing it. Key features include:

1. Parameters:
2. Initial price impact: Set by referencing the current pre-position price impact.
3. Decay time: Adjusted according to market manipulation difficulty (e.g., 10 minutes for BTC, 100 minutes for LTC).
4. Characteristics:
5. Negative only: Does not differentiate between positive and negative impacts.

6. Time-based decay: Impact reduces over time, eventually reaching zero.
7. Purpose:
8. Combat market manipulation risk without burdening regular traders.
9. Impose high fees on rapid open-and-close trades, typical of attack behavior.
10. Allow normal traders holding positions for a certain time to incur no cost or impact.
11. Advantages:
12. Maintains the original intention of preventing price manipulation attacks.
13. Allows regular traders to benefit from zero slippage.
14. Exponentially increases costs for potential manipulators, rendering attacks ineffective.

This approach effectively balances market protection with trader-friendly policies, aligning with GMX's goal of providing optimal trading conditions.

Virtual Order Book

To demonstrate the effectiveness of the proposed improvements, we introduce a Virtual Order Book for direct comparison with traditional order books:

1. Purpose:
2. Visually represent GMX V2's liquidity depth and pricing efficiency.
3. Enable direct comparison with traditional order book system.
4. Key Features:
5. Displays bid and ask prices with corresponding sizes.
6. Illustrates GMX's concentrated liquidity at the best bid and ask prices.
7. Shows narrower spreads compared to traditional order books.
8. Comparison:
9. GMX V2.X typically shows larger sizes at the best bid and ask.
10. Traditional order books display a more gradual distribution of liquidity.
11. Benefits:
12. Highlights GMX's superior liquidity provision at key price points.
13. Demonstrates potential for reduced slippage and improved execution for traders.
14. Interpretation:
15. Large sizes at best bid/ask in GMX indicate deep, immediately available liquidity.
16. Narrow spreads suggest competitive pricing and lower trading costs.

This virtual representation helps illustrate how GMX V2's optimized mechanism can potentially outperform traditional order book system in terms of liquidity depth and pricing efficiency.

GMX V2.X BTC/USD

Price

Size (USD)

Total

Ask 5

66,126

0

0

Ask 4

66,125

0

0

Ask 3

66,122

0

0

Ask 2

66,121

0

0

Ask 1

66,120

49,711,079

49,711,079

Spread

Spread

1

0.01%

Bid 1

66,119

54,077,348

54,077,348

Bid 2

66,117

0

0

Bid 3

66,114

0

0

Bid 4

66,110

0

0

Bid 5

66,109

0

0

Hyperliquid BTC/USD

Price

Size (USD)

Total

Ask 5

66,126

10,364

898,536

Ask 4

66,125

13,405

888,172

Ask 3

66,122

39,889

874,767

Ask 2

66,121

39,918

834,879

Ask 1

66,120

794,961

794,961

Spread

Spread

1

0.01%

Bid 1

66,119

1,710

1,710

Bid 2

66,117

487

2,197

Bid 3

66,114

59,125

61,322

Bid 4

66,110

25,049

86,371

Bid 5

66,109

36,332

122,703

GMX V2.X ETH/USD

Price

Size (USD)

Total

Ask 5

3,307.3

0

0

Ask 4

3,307.2

0

0

Ask 3

3,306.9

0

0

Ask 2

3,306.8

0

0

Ask 1

3,306.7

36,444,255

36,444,255

Spread

Spread

0.1

0.01%

Bid 1

3,306.6

36,436,741

36,436,741

Bid 2

3,306.5

0

0

Bid 3

3,306.4

0

0

Bid 4

3,305.9

0

0

Bid 5

3,305.8

0

0

Hyperliquid ETH/USD

Price

Size (USD)

Total

Ask 5

3,307.3

97,673

336,261

Ask 4

3,307.2

5,467

238,589

Ask 3

3,306.9

15,657

233,122

Ask 2

3,306.8

40,383

217,465

Ask 1

3,306.7

52,499

177,082

Spread

Spread

0.1

0.01%

Bid 1

3,306.6

70,496

124,583

Bid 2

3,306.5

54,087

54,087

Bid 3

3,306.4

69,314

69,314

Bid 4

3,305.9

1,933

71,248

Bid 5

3,305.8

77,022

148,270

GMX V2.X SOL/USD

Price

Size (USD)

Total

Ask 5

179.18

0

0

Ask 4

179.15

0

0

Ask 3

179.14

0

0

Ask 2

179.13

0

0

Ask 1

179.12

9,518,474

9,518,474

Spread

Spread

0.01

0.01%

Bid 1

179.11

9,266,321

9,266,321

Bid 2

179.10

0

0

Bid 3

179.06

0

0

Bid 4

179.04

0

0

Bid 5

179.02

0

0

Hyperliquid SOL/USD

Price

Size (USD)

Total

Ask 5

179.18

95,913

234,732

Ask 4

179.15

20,138

138,819

Ask 3

179.14

34,630

118,680

Ask 2

179.13

20,424

84,051

Ask 1

179.12

51,397

63,626

Spread

Spread

0.01

0.01%

Bid 1

179.11

12,230

12,230

Bid 2

179.10

226

226

Bid 3

179.06

965

1,191

Bid 4

179.04

27,386

28,577

Bid 5

179.02

492

29,069

Analysis

The proposed changes offer several advantages and potential challenges:

Pros:

1. Reduced Trading Cost:
2. Lower borrowing fee significantly decrease holding costs for traders.
3. Leverage GMX’s liquidity concentration to provide the lowest price impact/slippage in the market.
4. More precisely target potential attack behaviors with additional costs, rather than affecting all traders indiscriminately.
5. Increased Available Liquidity:
6. Optimize the mechanism to ensure full profit payout without increasing LP risk.
7. Maximize available liquidity by changing the calculation method from Pool Amount - OI to Pool Amount - Net OI.
8. Utilize the Adaptive Funding Fee to ensure OI Balance, minimizing Net OI.
9. Increased OI Limit:
10. Prevent liquidity reservation attacks through balanced long-short positions.
11. Enable GM Pool to handle OI far exceeding Pool Amount in balanced markets, enhancing capital efficiency.

Cons:

1. Potential Delayed Position Closure:
2. Introduce Net OI < Pool Amount restriction to protect LPs.
3. In extreme conditions, traders may need to wait for market rebalancing before closing positions.
4. Mirrors traditional order books, where market makers may withdraw liquidity during volatility.
5. Additional Risk of ADL:
6. Highly profitable positions may face ADL during large opposite liquidations to maintain Net OI limit.
7. Similar to order book system, where ADL is triggered when liquidity is insufficient to handle liquidated positions.

These changes aim to significantly improve GMX's competitiveness while maintaining robust risk management.

Q&A

Q1: As a market-making strategy, would these adjustments be disadvantageous to GMX's LPs?

A1: To assess the impact of the proposed adjustments on LPs, we must first understand GMX's LP model and compare it with traditional market-making strategies. GMX's LPs provide capital for the platform's market-making strategy, with their profitability directly tied to its performance. Using a mid-sized market maker on Binance as a benchmark, we can see that VIP5 fee rates require over $1 billion monthly trading volume and more than 1000 BNB holding, with maker/taker fees at 0.8bp and 2.7bp respectively. Assuming some taker trades, we estimate an average 1bp cost for opening and closing positions.

In traditional market making on Binance, there's an embedded expectation of -2bp on position execution due to fees. To break even, the strategy must provide at least +2bp, and for stable profitability, at least +6bp. GMX, however, offers an expected environment of +12bp*67% (+5bp for opening, +7bp for closing, and 67% to GM LP) compared to Binance's -2bp. This means GMX's strategy will break even as long as its expectation isn't lower than -8bp, with stable profitability achievable at an expectation not lower than -4bp.

GMX's strategy has an inherent positive bias as it inversely mirrors all traders' expectations, which historical data consistently shows to be negative overall. Even without price impact and borrowing fee, GMX's strategy holds a 10bp advantage over traditional market-making strategies. The proposed changes, aimed at reducing fees and attracting more trades, can increase the base for this expectation, providing more opportunities for the strategy to capitalize on its inherent advantage.

These adjustments are designed to be gradual, with smooth parameter adjustments to minimize impact on LPs. From a long-term perspective, attracting more volume through competitive fees can potentially increase overall profitability for LPs, even if per-trade profits might be slightly lower. By enhancing GMX's competitiveness, these changes aim to increase market share and total trading volume, with increased volume potentially compensating for lower per-trade fees and leading to higher overall returns for LPs.

In conclusion, while these adjustments might appear to reduce certain fee-based advantages, they are likely to benefit GMX's LPs in the long run by boosting trading volume, market share, and overall profitability. The inherent advantages of GMX's market-making strategy, combined with its significant edge over traditional strategies, suggest that LPs will maintain a strong position even with these changes. The key lies in striking the right balance – reducing fees enough to attract more volume without unnecessarily sacrificing profitability. The proposed gradual implementation allows for fine-tuning this balance to achieve optimal results.

Q2: Giving LPs more advantages, such as price impact and borrowing fee, doesn't that increase LPs' profits and promote liquidity, making it better overall?

A2: While increasing price impact and borrowing fee might initially seem advantageous for LPs, a deeper analysis reveals the complexity of this issue. LP profits primarily stem from trader activity, and an extreme scenario where fees are set prohibitively high would effectively eliminate all trading, resulting in zero LP profits. This suggests an optimal point exists rather than a simple "higher fees are better" approach. The relationship between fees and trading volume is non-linear, with a local optimum beyond which higher fees suppress trading activity and reduce overall profits.

In a competitive market where GMX faces other DEXs and CEXs, fees play a crucial role in traders' platform choices, especially given equal liquidity. While deeper liquidity can justify slightly higher fees due to better execution quality, excessively high fees negate this advantage. Different fee types, such as price impact and borrowing fee, directly affect trading costs and holding costs respectively, requiring precise calibration to find the optimal balance.

Trader behavior analysis shows that most compare overall trading costs across platforms, choosing the most cost-effective option. High fees may drive traders to other platforms, reducing GMX's trading volume. This highlights the need to balance short-term profits per trade with long-term considerations of attracting more traders and increasing overall volume.

There's a delicate trade-off between market share and profit margin. High fees may lead to high profit margins but could

result in decreased market share, while lower fees might bring larger market share with potentially higher total profits despite lower margins. Fees must be high enough to attract and retain LPs, but if they lead to decreased trading volume, it ultimately reduces total returns for LPs.

From a risk management perspective, some fees serve to prevent market manipulation, necessitating a balance between risk management and trader attraction. Additionally, lower fees can improve market efficiency by attracting more arbitrage trades, enhancing price discovery and overall market attractiveness.

In conclusion, while higher fees might seem beneficial for LPs at first glance, the optimal strategy involves finding a balance that maximizes overall trading volume and LP returns. This requires careful consideration of market dynamics, trader behavior, and long-term platform sustainability.

Q3: Does protecting LPs' profits while lowering traders' fee thresholds seem contradictory?

A3: Addressing the challenge of protecting LP profits while lowering trader fee thresholds requires a nuanced approach. The GMX governance forum has seen proposals suggesting direct or indirect fee reductions through incentives. However, as Kal's statistics on the STIP rebate demonstrate, minor fee adjustments may not significantly impact trading volume. This doesn't invalidate fee reduction as a strategy; rather, it suggests that more substantial changes may be necessary to remain competitive in the market.

GMX's fee structure is multifaceted, encompassing order fees, price impact, and borrowing fee, each serving specific purposes in the platform's unique market-making model. This proposal advocates for a re-examination of GMX's fee structure from first principles, focusing on three key elements: borrowing fee to prevent liquidity occupation attacks, funding fees to maintain long-short balance, and price impact to deter market manipulation.

The borrowing fee, while effective against liquidity occupation attacks, could be replaced by shifting from absolute to relative position limits. This change would maintain risk control while eliminating the need for borrowing fee, reducing holding costs for traders, and increasing OI capacity. It would also benefit arbitrage traders seeking predictable returns by removing the uncertainty introduced by fluctuating borrowing fee.

Funding fees, crucial for long-short balance, have evolved from their absence in GMX V1 to an adaptive mechanism in V2. This progression has addressed long-short imbalances and enabled more stable arbitrage strategies. The adaptive funding fee, mimicking the 8-hour funding fee in centralized exchanges, is essential for maintaining market equilibrium.

Price impact serves as a defense against manipulation, particularly in a zero-slippage environment. The existing order fees on both CEXs and GMX provide a buffer against certain types of attacks. By concentrating liquidity, GMX can offer zero slippage within a specific range while maintaining protection against manipulation.

This improved mechanism allows for a reduction in overall trader fees without compromising order fees or LP profitability. By refining these elements, GMX can create a more efficient, secure, and attractive trading environment for all participants.

Q4: How does the post-position price impact mechanism affect price manipulation attackers?

A4: The post-position price impact mechanism serves as a crucial safeguard against market manipulation while preserving the benefits of zero slippage for legitimate traders. To understand its effectiveness, let's first consider a scenario without this mechanism, assuming zero slippage, to evaluate potential attack strategies and their associated costs.

Chaoslabs has provided price impact parameters for GMX V2, which closely align with our own calculations based on Binance's liquidity. Using these parameters as a benchmark, we can explore the costs and feasibility of potential attacks.

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Example 1:

An attacker goes long on $10M of BTC/USD on GMX and then launches a $10M attack on Binance's BTC/USD, causing BTC/USD to move 15bp instantly. The opening price on GMX deviates from the initial price by 7.5bp, and the attacker's closing process is symmetric, with the closing price also deviating by 7.5bp from the initial price. The attacker's loss on Binance would be 10M * (3bp + 3bp + 15bp) = 10M * 21bp. The cost on GMX would be 10M * (1bp (spread) + 5bp + 7bp) = 10M * 13bp. Thus, the total attack cost is 10M * 34bp, while the profit is 10M * 15bp, resulting in a net loss of 10M * 19bp. The attack would not happen.

Example 2:

An attacker goes long on $10M of BTC/USD on GMX and then launches a $20M attack on Binance's BTC/USD, causing BTC/USD to move 30bp instantly. The opening price on GMX deviates from the initial price by 15bp, and the attacker's closing process is symmetric, with the closing price also deviating by 15bp from the initial price. The attacker's loss on Binance would be 20M * (3bp + 3bp + 30bp) = 20M * 36bp. The cost on GMX would be 10M * (1bp (spread) + 5bp + 7bp) = 10M * 13bp. Thus, the total attack cost is 10M * 85bp, while the profit is 10M * 30bp, resulting in a net loss of 10M * 55bp. The attack would not happen.

An attacker launches a $10M attack on Binance’s BTC/USD and would need to hold a $105M position on GMX to break even. If the attacker launches a $20M attack on Binance’s BTC/USD, they would need to hold a $42.35M position on GMX to break even. If an attacker were to target the BTC/USD market, they would need funds at this scale to significantly impact the market, assuming massive risk exposure, and complete the operation under ideal market conditions to avoid escalating risk levels. This straightforward analysis illustrates the difficulty of market manipulation purely based on order fees. In other words, order fees alone effectively deter most potential attacks on GMX’s BTC/USD market.

However, our goal is to introduce zero slippage across all markets, including smaller ones where manipulation might be easier. Relying solely on order fees for protection becomes problematic in these cases, as raising fees high enough to prevent manipulation would also burden legitimate traders with excessive costs.

The current pre-position price impact mechanism can address this issue but at the cost of affecting all traders indiscriminately. This is where the post-position price impact mechanism proves its value. By analyzing the attacker’s weaknesses, particularly their need for immediate position closure, we can design a more targeted defense.

The post-position price impact mechanism imposes a high initial cost that rapidly decays over time. This approach exploits the fundamental difference between attackers and normal traders – the holding time. Almost no legitimate trader holds a position for just a few seconds, while this is precisely what an attacker needs to do.

By setting the initial post-position price impact higher than the potential attack profit and implementing a linear decay rate, we create a situation where the attack cost quickly exceeds any potential profit. This effectively neutralizes the threat of price manipulation attacks while allowing normal traders to enjoy the significant advantage of zero slippage and the freedom to close positions at will.

However, this mechanism still has a potential loophole where attackers might use two addresses—one to open the attack position and another to immediately open an opposing position to avoid the impact of closing. This method would nearly double the attack cost but could still potentially make the attack profitable. This shifts the focus to handling hedged positions, which the previously suggested gradually reduced borrowing fee could completely resolve.

Therefore, to further enhance protection, maintaining a certain borrowing fee is advisable. The combination of post-position price impact and borrowing fee creates a robust defense against various attack vectors while preserving the zero-slippage feature that benefits legitimate traders.

In conclusion, the post-position price impact mechanism offers a sophisticated solution to the challenge of providing zero slippage across all markets without compromising security. It leverages the time factor to create an asymmetric advantage against potential attackers, significantly enhancing GMX’s ability to offer an attractive, low-cost trading environment while maintaining strong protections against market manipulation.

Q5: If we were to compare GMX’s market-making strategy with other market-making strategies in the market that do not have additional mechanism buffs, what would happen?

A5: I believe using the example of Hyperliquid will make it easier to understand. Let’s break it down into HLP, HLP Liquidator, HLP Strategy A, and HLP Strategy B. The effect of ordinary market-making strategies in the market corresponds

to HLP Strategy A + HLP Strategy B. We can see the overall performance, where the total loss is $1,281,256. However, HLP still performs well, with a total profit of $32,849,870.

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We can even further analyze the recent 30-day performance of Hyperliquid.

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During the recent 30 days, HLP Strategy had a total profit of $593,356, and HLP Liquidator had a total profit of $84,127. This means that the platform as a whole collected $3,217,003 in fees, with an average daily accrued fee of $107,233.

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The overall expectation of GMX's market-making strategy is positive. Combined with the superior mechanism enhancements, this is the reason GM has consistently outperformed the benchmark over the long term. This clearly illustrates the fundamental difference between a market-making strategy with mechanism enhancements and traditional market-making strategies.

Q6: Having ample liquidity even in extreme situations is a selling point of GMX. If the net OI calculation method is used, there is a small probability that some positions may not be closed in a timely manner in extreme situations. How should this issue be addressed?

A6: Addressing the small probability of delayed position closure in extreme situations while maintaining ample liquidity is a delicate balance that requires a nuanced approach. This issue touches on the core of GMX's value proposition and requires careful consideration.

Firstly, it's important to recognize that having ample liquidity even in extreme situations may be a key selling point for GMX. However, we need to define what constitutes an effective selling point. Features that benefit the majority of users most of the time are more valuable than those that only come into play in rare, extreme scenarios. Zero slippage, which benefits all users in every trade, is a prime example of an effective selling point.

The proposed net OI calculation method introduces a small possibility that some positions may not be closed immediately in extreme market conditions. While this might seem like a drawback, it's crucial to put it into perspective. In traditional order book system, there are often situations where the OI greatly exceeds the total liquidity of the order book, leading to scenarios where immediate position closure is not possible. Therefore, GMX's approach, even with this small risk, is not out of line with established market practices.

Moreover, the probability of such situations occurring is actually quite low. If we still maintain borrowing fee, for example, a 100M pool facilitating 200M of OI would generate significant APR even with a small borrowing rate per trader. This would incentivize more deposits, making the scenario where net OI exceeds the pool size even less likely.

To address this issue comprehensively, we can implement several strategies:

1. Utilize ADL (Auto-Deleveraging) mechanisms for extreme situations, similar to traditional trading system. This provides a clear protocol for managing liquidity in stress scenarios.

2. Allow for higher OI to incentivize more deposits, thereby reducing the likelihood of liquidity shortages.

3. Implement a dynamic liquidity management system that adjusts parameters based on current market conditions and liquidity levels.

4. Educate users about the trade-offs between higher capacity and the small risk of delayed closures in extreme conditions. Transparency about system mechanics can build trust and set appropriate expectations.

5. Continuously monitor and adjust parameters to optimize the balance between liquidity and risk. This could involve regular stress tests and scenario analyses.

6. Consider implementing a queueing system for position closures in extreme scenarios, ensuring fair treatment of all users.

It's also worth noting that the benefits of this approach – potentially lower fees, higher capacity, and better capital efficiency – likely outweigh the drawbacks for the vast majority of users. The ability to handle higher OI or offer lower borrowing fee could significantly boost GMX's competitiveness in the market.

In conclusion, while it's important to address the small probability of delayed position closure, we shouldn't let it overshadow the significant benefits this new approach brings. By implementing robust risk management strategies and maintaining clear communication with users, GMX can offer a superior trading experience that balances high liquidity, low costs, and manageable risks.

Conclusion

In crypto, the concept of perpetual contracts was first popularized by BitMEX in 2016. Prior to its introduction by BitMEX, the idea of perpetual contracts was initially proposed by economist Robert Shiller in 1992 for illiquid assets. Alexey Bragin also contributed to this development in 2011 by providing a prototype of perpetual contracts collateralized by cryptocurrency. This might be the most important revolutionary innovation in the derivatives sector of the crypto.

For GMX, as a pioneer in the Trader-LP model within crypto, numerous innovations and possibilities have been introduced throughout its development. The proposals above are based on first principles, suggesting a series of innovations specific to GMX's unique market-making mechanism to fully unlock its potential. These include:

1. Achieving zero slippage through post-position price impact to minimize trading costs.
2. Maximizing available liquidity and handling infinite OI through net OI calculations.
3. Aligning GMX with traditional order books through a virtual order book, which also intuitively showcases GMX's superior liquidity.

At its core GMX provides trading services to traders just like other DEXs and CEXs. Traders care most about fees; the exchange consistently providing the most cost-effective service long-term will win. GMX combines several advantages for an irreplaceable edge: delivering unparalleled liquidity surpassing Binance-level and even all orderbook-based depth, minimizing costs for all traders, ensuring optimal trading experiences, and implementing advanced market-making strategies for LPs.

The goal is to make GMX the unequivocal choice for all traders. Although this proposal has undergone dozens of iterations, there may still be areas that have not been thoroughly considered. I will further discuss and refine this proposal with GMX Core Contributors and Chaoslabs. Additionally, I look forward to questions and feedback from the community on this proposal.

Finally, I would like to extend special thanks to community members zh robot

and JJ Cycle

for their active feedback and suggestions. I have always believed that GMX has been blessed with a very responsible community.

Q