let’s start focusing on things that truly matter

1. Balanced Pool and Single Pool for GM Market

we will represent the trading pair corresponding to GM Market with base token/quote token, i.e., the base token for ETH/USD is ETH, and the quote token is USD.

using base token and quote token, there can be three combinations to construct the GM Pool. the first is base token-base token; the second one is base token-quote token; the third is quote token-quote token. taking the GM ETH/USD Market as an example, these three combinations are respectively WETH-WETH Pool, WETH-USDC Pool, USDC-USDC Pool.

we can further categorize the WETH-WETH Pool, WETH-USDC Pool and USDC-USDC Pool. among them, WETH-WETH Pool and USDC-USDC Pool can be referred to Single Pool, while the WETH-USDC Pool can be referred to Balanced Pool. all the GM Pools currently in GMX V2 are Balanced Pool.

1. Three types of users

the first issue we want to discuss is what types of users’ needs that Single Pool and Balanced Pool can each meet. in crypto, there are three types of users:

i. calculate and track their portfolio in terms of USD, always favor delta-neutral strategies to minimize their risk exposure and duration in crypto as much as possible.

ii. calculate and track their portfolio in terms of the quantity of BTC, ETH, etc., they are indifferent to changes in USD and they tend to not hold any USD(s).

iii. conservative investors, aiming to allocate a certain position regardless of bull or bear markets to achieve smoother performance.

1. The limitation of Balanced Pool

for the third type of user, the current Balanced Pools can perfectly meet their need. however, let’s consider what the situation of having only Balanced Pools means for the first and second types of users which constitute the vast majority.

- for users who prefer holding USD, being an LP in GM Pool means forcibly taking on half of the initial value as risk exposure, which is quite uncomfortable for them. some might suggest hedging, but because Balanced Pools are not perfectly balanced due to traders’ profits and losses and LP’s deposits and withdrawals, the asset ratio in the pool dynamically changes, leading to the issue of dynamic hedging.once it involves dynamic hedging algorithms and strategies, the barrier becomes significantly high for the normal user, potentially making it unfeasible and excluding them.

- for users who prefer holding BTC, ETH, etc., being an LP in GM Pool means forcibly reducing half of the initial value as risk exposure, which is equally uncomfortable for them. some might argue that an additional long position could compensate for the missing exposure, but the issue here is that first, the cost of holding a long position can be very high, potentially far exceeding your staking rewards, along with the need for additional margin and the same risk of potential liquidation.therefore, even if we could employ advanced dynamic portfolio management strategies and algorithms, the principle would significantly reduce capital efficiency and earnings, effectively excluding a large amount of capital.

- The complementation of Single Pool

from the analysis above, it’s clear that having only Balanced Pool is quite limiting and fails to meet the needs of most users, capturing only a small portion of user demands. therefore, we will analyze why Single Pool are so important and how they can meet the needs of most users.

- firstly, with the USDC-USDC Pool, we can directly infer that it meets the need of users who prefer holding USD. they can simply deposit their USDC into GM Pool to become an LP without exposing any risk they do not wish to expose, enjoying very high APRs. no additional actions are required, no hedging strategies or algorithms needed, and there’s no additional liquidation risk too.

of course, this includes an underlying assumption that traders’ average expectations are negative, meaning their total profit and loss over the long term is loss, which in turn implies that LPs are profitable in this segment over the long term. history has validated this point, and currently, the mechanism of funding rate in GMX V2, leading to better long-short balance, further reinforces this.

discounting this additional profit, the presence of USDC in the GM Pool, due to high proportion of trading fee allocation, is long-term stable growth. we can even equate it to the USDC Vault in Aave.

in Aave, USDC is used for users’ borrowings,

in GM, USDC is used for users’ leverage trading.

and as we know, the turnover rate of funds in leverage trading is much higher than in lending, so the latter can bring much higher APR to the same USDC.

- then there's the WETH-WETH Pool, which can be analyzed in the same way as the USDC-USDC pool. we can also directly infer that it meets the need of users who prefer holding ETH.however, compared to the USDC-USDC Pool, in the WETH-WETH Pool, we can also construct a risk-free arbitrage strategy with USDC as the benchmark. Since a short position tends to collect funding fees over the long term, one can use USDC as the initial capital and open a 1x short position with WETH as collateral for full hedging, thereby earning a very high APR. therefore, it's evident that the WETH-WETH Pool can meet satisfy the stable growth needs of both USD and ETH users.

- in summary, Single Pool is well-suited to meet the needs of two types of users that Balanced Pool fundamentally cannot. once Single Pool are deployed, given the current revenue levels of GMX, there is a strong potential to attract a significant amount of capital at normal market standard costs.

- Base Token Single Pool > Quote Token Single Pool

specifically, the WETH-WETH Pool has more advantages compared to the USDC- USDC Pool, and we should even consider deploying the WETH-WETH Pool exclusively, without deploying the USDC-USDC Pool. here are the reasons:

- the GM Market is a tripartite structure. to ensure the smooth operation of a GM Market, three factors need to be considered: the LPs of the GM Pool, the holders of long positions, and the holders of short position.

- in the WETH-WETH Pool, users who are inclined to hold ETH are the natural LPs of GM Pool. while one could stake their ETH in Lido for a 3.8% APR, depositing it in the GM Pool not only potentially yields an APR far higher than 3.8% but also offers additional profits from traders, complete risk exposure, and no liquidation risk.

- historical data and the inherent characteristics of the market indicate that the traders are generally biased towards long positions over the long term, regardless of whether it's a bull or bear market. this is not unique to GMX but applies across the entire market. therefore, we will not face a long-term shortage of long positions at any time.

- in the WETH-WETH Pool, as analyzed above, users with a USD basis employing simple hedging strategy to collect funding fees will naturally become holders of short positions in the WETH-WETH Pool, and their earnings will also be quite considerable.

the analysis above fully explores the tripartite structure of the WETH-WETH Pool, also known as the Base Token Single Pool, theoretically demonstrating its potential for smooth operation. in contrast, a significant flaw of the USDC-USDC Pool, or the Quote Token Single Pool, is the absence of a simple and direct hedging strategy for the short position creation. this means it could still lack short positions even with a funding fee adjustment mechanism, leading to imbalance and exposing LPs to substantial risk in a unilateral market.

1. Basic Prediction of GM APR

first and foremost, it's essential to acknowledge that GM's actual revenue level is quite impressive, yet the current APRs are unreasonably high. While higher APR are typically more attractive, this relationship isn't absolute.

the introduction of Single Pool will eliminate the risk biases caused by the forced addition and reduction of exposure. consequently, our APR will naturally not need to compensate for these risks. after balancing out the arbitrage opportunities, the APR for each GM Market's Single Pool should settle to normal levels comparable to those of Aave and CEXs financial products, meaning ETH at less than 4%, BTC at less than 1%, etc.

based on the analysis above, high APR do not necessarily indicate significant success; instead, they could be seen as a sign that we haven't fully leveraged our strong revenue levels.

a decrease in APR does not require our intervention. with constant income, balancing arbitrage opportunities implies a significant increase in TVL, more capital inflow, and naturally, a decrease and normalization of APR. there's nothing particularly special about LP's ETH and BTC; staking ETH in Lido can yield 3.8%, and in the GM ETH/USD Market, it can exceed 4%. with GMX's solid safety record, business model, and genuine earnings, it can support a substantial influx of capital.

at the current scale of GM ETHUSD Market at 130M USD and a base APR of 20%, if the base APR returns to 4% with the same revenue level, the size of ETH would inflate to 650M USD. during the Pool's scale increase, revenue levels are unlikely to remain constant but will rise to some extent, so the actual outcome should be higher than this conservative estimate.

this leveraging effect will be more pronounced in markets with a lower base APR, like BTC, and applies not just to BTC and ETH but any token with a GM Market and corresponding Base Token Single Pool. this means that in the future, staking any token in GMX could likely yield an APR higher than the market average, potentially turning

GMX into a TVL "black hole" for every token!