

TEKO

Risk - Launch Parameters

Teko Finance Risk - Launch Parameters

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1 Overview

As Teko prepares to launch its lending protocol on MegaETH, establishing a robust risk framework is paramount. This document outlines the proposed initial parameters and strategies to ensure Teko's stability, security, and competitive growth.

2 Summary of Strategy

Launching on a new chain presents unique challenges, including low on-chain liquidity, the unverified security of bridges, and untested market dynamics. Our strategy emphasizes conservative initial parameter settings to mitigate risks associated with these challenges. By starting cautiously, we allow the protocol to adapt and scale safely as the MegaETH ecosystem matures and as we gather more data on user behavior and market conditions.

3 Parameter Recommendations

Below is a detailed analysis of each key parameter, including its description, risks, and Anthias Labs considerations for initial settings.

3.1 Collateral Factors (Loan-to-Value Ratio)

Description: Collateral Factors determine the percentage of a collateral asset's value that users can borrow against.

Considerations:

- **Low On-Chain Liquidity:** Limited liquidity on MegaETH can lead to increased price volatility and slippage during liquidations.
- **Leveraged Lending Risks:** High collateral factors may encourage excessive leverage, amplifying systemic risk.
- **Bridge Security:** Assets bridged from other chains may carry additional risks due to potential validator vulnerabilities in bridge protocols.

Recommendation: Set Collateral Factors at 50-65% for high volatility assets, 70% for WBTC/WETH, and 80-82% for stables. Remaining long-tail assets (e.g., memecoins) should be 25-35%. Any asset not meriting of 25% LTV should not be listed at launch. Assets have ranges here that should be determined based on the 30-day volatility for each asset at the time of listing.

3.2 Liquidation Loan-to-Value (LLTV)

Description: LLTV is the threshold at which a borrower's collateral is eligible for liquidation. It provides a buffer above the Collateral Factor to account for market volatility and ensure timely liquidations.

Considerations:

- Collateral Factor: CF is the most important metric for calculation of LLTV as it's directly related to the asset's risk profile.
- Micro-Liquidations: High throughput allows for frequent, small-scale liquidations; hence, LLTVs can give more room to the borrower without increasing the risk to the protocol.
- Market Volatility: Highly volatile assets are given less buffer to minimize the risk.

Recommendation: $LLTV = CF + 5\%$ for high volatility assets, $CF + 3\%$ for WBTC/WETH, and $CF + 2\%$ for stables.

3.3 Collateral Caps

Description: Collateral Caps are the maximum amounts of specific assets that can be deposited as collateral. They prevent excessive concentration and potential manipulation of the protocol. They also prevent bad debt as they reduce the concentration of a low liquidity asset in collateral which might not be liquidated due to low liquidity.

Considerations:

- Chain Liquidity: Initially, due to low liquidity, the collateral caps are set more conservatively; upon maturing of the ecosystem, they can be increased.
- Leveraged Lending: Since Teko supports leveraged lending, we take that into account while setting the caps.

Recommendation: Set initial collateral caps between \$75,000 and \$150,000 in asset-denominated value (can alter this once we get to know the liquidity in GTE at the time of Teko's launch). This can scale quickly depending on asset secondary liquidity. Specific collateral caps should be determined based on the amount of slippage that can be achieved with a 2% buffer on the LLTV of that specific collateral asset to ensure that liquidations are profitable.

3.4 Liquidation Incentives

Description: Liquidation Incentives are rewards given to liquidators for executing liquidations. They ensure that liquidations occur promptly.

Considerations:

- Liquidation Mechanism: The choice between auction-based and instant liquidations affects incentive structures.
- Asset Type: Less liquid or more volatile assets may require higher incentives.
- Market Liquidity: Adequate incentives are crucial to offset slippage and transaction costs.

Recommendation:

- Long-Tail Assets: These are the assets that have experienced high volatility in the near past (greater than 6% volatility in past 30 days or if the asset is launched within past 6 months). For such assets, we implement an auction mechanism with incentives ranging from 0% to 15%, resetting every 20 minutes to adjust to market conditions.
- Blue-Chip Assets: Use instant liquidations with incentives of 9% for WBTC/WETH and 7% for stablecoins.

3.5 Liquidity Targets

Description: Liquidity Targets determine the ideal liquidity depth required in the DEX or order book for efficient liquidations without accruing bad debt.

Considerations:

- Collateral Cap of Super Pools: Super pools consist of many base pools, and each individual pool has its own CF/LTV set by the pool creator. Hence, the super pools have exposure to various volatile assets.

Recommendation: GTE should be able to liquidate 75%+ of an asset's collateral cap at anytime. Considering that we set each collateral cap to \$75k - \$150k, as mentioned in Section 3.3, GTE should be able to handle \$100,000 - \$200,000 of sell pressure for each asset on launch at all times. To be clear, this 75% benchmark is relatively high, but will come down post-launch.

3.6 Interest Rate Models

Description: Interest Rate Models determine how borrowing and lending rates adjust based on market conditions, particularly the utilization rate of the lending pool.

Considerations:

- Protocol Adoption Stage: Simpler models are preferred during initial stages (first 1 - 3 months post-launch) to avoid over-optimization and over-engineering.

Recommendation:

- Implement a kinked interest rate model.
- Base Rate at 0.5%, and then the rates go up till 12% at the kink point (set at 70% utilization).
- Post-Kink Rates: Increase rates sharply from 12% to 25% to discourage over-utilization.

4 Conclusion

The proposed parameters aim to balance risk management with competitive offerings to users, while allowing room to scale. By adopting conservative initial settings and planning for gradual adjustments, Teko can navigate the uncertainties of launching on a new chain while positioning itself for sustainable growth.

Regular reviews and data-driven adjustments to these parameters will be essential as the MegaETH ecosystem evolves and more information becomes available about market behaviors and user interactions with the protocol.

5 Additional Areas of Exploration

5.1 Risk Management Framework

- Real-Time Risk Assessment: Develop tools for continuous monitoring of key risk indicators such as collateral utilization rates, market volatility, and liquidity levels.
- Stress Testing: Implement regular stress tests to simulate extreme market conditions and assess the protocol's resilience.
- Dynamic Parameter Adjustments: Explore mechanisms for adjusting parameters in response to changing market conditions, possibly through automated systems or governance votes.

5.2 Governance Framework Development

- Decentralized Governance Model: Outline a governance structure that empowers token holders to participate in decision-making processes for protocol parametrization.
- Voting Mechanisms: Design and implement voting systems for protocol upgrades, parameter changes, and other critical decisions.

5.3 Emergency Response and Contingency Planning

- Incident Response Protocols: Establish clear procedures for responding to security breaches, market crashes, or other emergencies.

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Anthias Labs is a boutique on-chain advisory firm focused on DeFi risk management and system design. We tackle mission-critical problems and needs for a select few partner protocols.

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