title: [ARFC] Aave v3 Polygon wMATIC Interest Rate Update

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Simple Summary

Llama presents a proposal to amend the wMATIC interest rate parameters on the Aave Polygon v3 Liquidity Pool.

Abstract

The current utilization of the wMATIC Reserve is 42.5% with borrowing costs of 6.61%, [1]. As the borrowing cost exceeds the yield obtained from staked MATIC receipt tokens, there is insufficient economic incentive for users to utilize the MATIC eMode.

This proposal is intended to increase the capital efficiency of the wMATIC Reserve by increasing the utilisation of the pool and reducing borrowing costs. This is achieved by amending the Uoptimal parameter and selecting the interest rate at the inflection point on the yield curve to be the lower of the two most prominent staked MATIC receipt tokens.

Utilisation of the liquidity in the Reserve is expected to increase from 45% → 72.5%. At the proposed interest rate inflection point, the recursive stMATIC/wMATIC loop will be slightly unprofitable, with borrowing costs of 6.1% exceeding the 5.9% Proof of Stake (PoS) yield by 20 bps. Borrowing costs are reduced by 12.1% across the inflection points and the DAO's revenue increases 35.8% at the new breakeven point to current market conditions.

Motivation

With wMATIC borrowing costs exceeding the yield of MaticX and stMATIC, users are unlikely to enter into the Matic eMode without financial incentive. Upon review of the wMATIC reserve, the Uoptimal parameter set at 45% means users can borrow up to 45% of the wMATIC in the Reserve before Slope2 notably increases the borrowing cost.

Increasing the Uoptimal parameter 20% from 45% to 65% would enable users to borrow 20% more of the wMATIC in the Reserve for the same borrowing rate at the inflection point. When utilization exceeds the Slope1, borrowers will be paying the Slope2 interest rate which is set at 300%. Reducing the Slope2 from 300% to 100% in line with other reserves will reduce interest rate volatility.

The breakeven rate on the recursive strategy should occur before the yield inflection point such that rates are less volatile with small fluctuations in utilization. With the Slope1 parameter set at 7%, the recursive yield strategy breaks even at 58.5% utilization. This is 6.5% prior to the inflection point, which is conservative.

The capital efficiency of the Reserve can be improved by reducing the Slope1 parameter to the PoS yield source of the recursive strategy. The PoS yield is currently fluctuating between 5.6% and 5.9%, so changing the Slope1 parameter to 6.1%(-0.9%) changes the breakeven utilization from 54.8% to 62.9% (+8.1%), [2,3].

Based upon the above, there is a 210bps buffer between breakeven on the recursive strategy utilization point relative to the inflection point in the interest rate curve set at 65%. It is therefore possible to increase the Uoptimal parameter and further improve the capital efficiency of the Reserve. With Slope1 set at 6.1% and Uopitmal at 75%, the new breakeven Utilisation is 72.5%(+15.3%) relative to Uoptimal set at 65%. The breakeven point is now 250bps less than the interest rate inflection point.

The graphic below shows the changes in the interest rate.

Specification

The below table shows the current and proposed changes to the wMATIC Reserve.

Parameter

Current

Proposed

Uoptimal

45%

75%

Base

0%

0%

Slope1

7%

6.1%

Slope2

300%

100%

Reserve Factor

20%

20%

Supply Cap

32.88M

47M

Borrow Cap

9.23M

39.95M

References

[1] Aave - Open Source Liquidity Protocol

[2] Stader | Polygon

[3] https://lido.fi/

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