Summary

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Optimizing wMATIC interest rate model to meet the borrowing demand of wMATIC generated from the inclusion of stMATIC and MATICx as collaterals and increasing their respective supply caps on Aave v3 (Polygon mainnet).

Motivation:

Similar to how the demand for ETH borrowing increased ~ 4-6 times previous levels after the inclusion of stETH on Aave v2 (Ethereum mainnet), the borrowing demand of wMATIC will potentially increase with the inclusion of stMATIC and MATICx on Aave v3 (Polygon mainnet) and more so with accompanying E-Modes. Currently, stMATIC and MATICx earn ~5.7% APR and ~5.3% APR respectively from staking rewards, while still being used as collaterals on Aave v3, allowing users to go up to 20x leverage theoretically on both stMATIC and MATICx while borrowing wMATIC under new E-Modes (max LTV: 92.50%, liquidation threshold: 95%). So, it is now critical to optimize the current interest model of wMATIC as it will allow Aave v3 to get potentially more revenue, more new users, wMATIC lenders will receive much better returns and possibly Aave v3 can become the primary liquidity sink for MATIC on Polygon PoS. Further integrations such as leverage farming via instadapp will serve as an additional catalyst towards attracting more liquidity and adoption.

Rationale:

Problems with current wMATIC rates on Aave v3:

The current staking rewards of stMATIC and MATICx are ~5.7% APR and ~5.3% APR respectively while the borrowing rate of wMATIC is 6.23% APR currently because of the low OPTIMAL_UTILIZATION_RATE of 45% and the utilization rate is already close to the ”kink”. There is incentive for recursive borrowing only if the staking rewards % of stMATIC and MATICx are greater than the borrowing rate of wMATIC. So, it is suggested that the borrowing rate should be around 4.80% APR for borrowers to have good benefits. This would require the IR model to be optimized in a way where borrowers have enough incentives to borrow and lenders have better incentives for lending.

So, the following updates are proposed to the wMATIC IR model as the current model is not efficient enough as suggested by the impact analysis of the revised model and risk assessment of wMATIC.

- OPTIMAL_UTILIZATION_RATE = 70 (previously: 45)
- baseVariableBorrowRate = 0 (previously: 0)
- variableRateSlope1 = 4.80 (previously: 7)
- variableRateSlope2 = 100 (previously: 300)
- stableRateSlope1 = 7 (previously: 9)
- stableRateSlope2 = 100 (previously: 100)
- reserveFactor = 10 (previously: 20)

Impact of revised IR model:

Projected rates with the current IR model at 4.80 % borrowing rate:

- Utilization: 30.85% [low utilization leading to less revenue generation]
- Borrowing rate: 4.80%
- Supplying rate: 1.18% [low incentives for new lenders to come in]

Projected rates with the proposed IR model at 4.80 % borrowing rate:

- Utilization: 70% [more revenue for Aave]
- Borrowing rate: 4.80%
- Supplying rate: 3.02% [much better rates for new lenders to come in or to get a discount on stable coins borrowing against MATIC]
- Variable borrowing rates (% APR) of stable coins on Aave v3 (Polygon mainnet) as of 24/09/2022.

USDC

1.64%

USDT

3.10%

DAI

2.05%

MAI

2.76%

agEUR

2.02%

jEUR

3.73%

Updated wMATIC IR Curve

Risk Assessment:

MATIC token has now been listed over 60 major exchanges globally, and is trading against more than 50 base pairs. In terms of market cap MATIC is valued at $5.50B and FDV of $7.40B. 24H trading volumes of >$315M make it one of top 20 traded coins across DEXs and CEXs (source). The total on chain liquidity of wMATIC on Polygon PoS is $122M currently with 1M daily average volume of $1.34B which is on par with the numbers of wETH on Polygon (source).

The matrix below shows the figures used to quantify MATIC's risks per factor.

(source1, source2)

The matrix below shows the risk ratings per factor based on Aave'srisk assessment methodology.

(source1, source2)

We can clearly see that MATIC's market risk parameters have significantly improved over the last one year which strongly supports the proposal to adopt the new interest rate model.

Also, a recent example of improvement in the risk parameters of wMATIC can be seen withQIP084 of QiDao Protocol which is Polygon's native stablecoin issuance market where they decided to increase the minimum CDR to 120% from 150% i.e.~83% LTV as they believed that the previous maximum LTV of 66% did not reflect the improved risk profile of wMATIC.

Supply Cap of stMATIC and MATICx:

The total MATIC staked on Lido (stMATIC) and Stader (MATICx) currently is ~47.90M and ~40.20M respectively and to support the expected increase in their deposits on Aave v3 as a result of improved yields for the users due to recursive borrowing under E-Mode with improved IR curve, the following updates are proposed to increase the supply cap of the two liquid staked MATIC tokens.

stMATIC = 15M (previously 7.5M)

MATICx = 15M (previously 6.0M)

Conclusion:

Refactor the wMATIC interest rate model as the borrowing demand will potentially increase and market risk parameters of MATIC have improved. The updated IR curve will make it better for the borrowers, lenders and increase the protocol revenue from wMATIC by ~2.5x (assuming increase in wMATIC supply to fully utilize the stMATIC and MATICx collaterals under E-Modes and borrowing rate at 4.80% APR)

Specifications

Author is a member of the Polygon team.

I appreciate you taking the time to review. Please let me know if you have any questions or concerns.

- Improve wMATIC paramters
- Further discussion required

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voters