title: [TEMP CHECK] Polygon v2 to v3 Liquidity Migration

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Simple Summary

TokenLogic presents an opportunity to help kick start the migration from v2 to v3 by capitalising on the favourable conditions presented by the imminent multi-token liquidity mining program on the Polygon v3 market.

Abstract

On Polygon, there are two Aave deployments in production and the majority of the liquidity is deposited into the obsolete v2 deployment. With Chainlink expected to monetise oracles, v2 partially frozen and several communities about to distribute rewards on v3, this publication seeks to further encourage the migration of users from v2 to v3.

With SD, LDO, stMATIC and MaticX rewards to be flowing across the v3 deployment imminently, Aave is presented with an incredibly unique set of conditions that offer an ideal opportunity for further encouraging the onboarding of users onto the v3 deployment. The lion share of TVL on Polygon v2 could be migrated with simple changes presented within.

This publication provides initial parameter changes supportive of encouraging the migration of funds without putting any users' positions at risk of liquidation. Users with debt positions are encouraged to migrate to reduce borrowing costs and users with deposits are encouraged to migrate to receive a higher deposit rate.

This initiative is open for discussion and will be changed to reflect the evolving discussion in the comments section below. The key consideration here is the oversized upside realized by acting early during the liquidity mining campaign.

Motivation

In recent months, Llama's has coordinated across several teams to bring Liquid Staking Tokens (LSTs) and rewards to the Polygon v3 deployment. Stader Labs is currently distributing SD rewards, with Lido DAO and Polygon Foundation expected to commence distributing LDO, MaticX and stMATIC rewards in the very near future. Next week, cough.

Normally, with rewards being distributed across the Aave v3 deployment, usage and therefore deposit rates are expected to increase. However, on this occasion, incentives are not expected to be applied to stable coin deposits and the higher deposit rate on stable coins will need to be demand driven.

Currently, Aave v2 offers higher deposit rates and higher borrowing rates on 2 of 3 major stable coins. Table 1 below compares the three main stable coins.

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For stable coin deposit rates to increase on v3, the liquidity mining will be reliant on wMATIC, stMATIC and MaticX deposits being used as collateral to borrow stable coins. With this approach to liquidity mining, some demand for borrowing stable coins is expected on v3, but it is not certain and it creates the need for further action from the Aave community to encourage migration.

This proposed upgrade, coinciding with the lucrative incentive campaign on v3, is intended to further encourage users to migrate from v2 to v3 by reducing the v2 deployments capital efficiency. V2 will remain very much functional and supportive of communities to migrate to v3 on their timeline.

For reserves where the utilization is less than the Uoptimal value, this proposal seeks to update the Uoptimal parameter to be the midpoint between current utilization and Uoptimal value. This will lead to higher borrowing costs, estimated to be around 35% higher (borrow interest 2.37% to 2.96%) on average for the main stable coins, and if the RF is not adjusted, will lead to higher deposit rates. By increasing the RF, from 10% to around 30%, the additional interest that would have been received by depositors will be redirected to Aave's Collector Contract. As a result, deposit rates will not meaningfully change on v2 and borrow rates increase.

If/when the liquidity mining on v3 leads to higher borrowing cost, if no action is taken on v2, v2 will offer the lowest borrowing

rates. For assets like wETH, BTC and AAVE being used as collateral to borrow stable coins there will be no incentive to migrate to v3. By increasing borrowing rates on v2, the v3 deployment will remain more competitive when utilization on comparable reserves are similar, see Table 2. In fact, the v3 deployment can have higher utilization and still offer a lower cost of capital which gives v3 a competitive advantage over v2, see Table 3.

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If just the RF was increased on v2, then deposit rates on v2 would reduce and borrowing which is already slightly more expensive relative to v3 would remain unchanged, thus providing no additional incentive for borrowers to migrate. This is especially true for those that have deposited wMATIC, wETH or wBTC and borrowed stable coins. Thus the need to increase borrowing costs on v2 relative to v3.

By decreasing the Uoptimal value, the capital efficiency of the reserves is reduced and with each redemption/deposit (removal of liquidity) the borrowing rate will be more sensitive as the gradient of the first portion of the interest rate curve is slightly steeper. Each larger redemption, withdrawal of liquidity, will cause borrow rates to increase that bit more than otherwise which continues to encourage migration over time.

To continually adjust the Uoptimal lower would be a rather aggressive approach towards migrating users. Until the timeline around when Chainlink intends to begin charging for oracles, future changes may focus on reducing the deposit rate by adjusting the RF over time. For frozen assets, adjusting the RF appears to be the most effective way forward as it was shown to be successful when applied to FEI.

As rewards being distributed on Aave v3 are finite (bear market) and for a limited amount of time (3 months), the time to initiate the migration from v2 to v3 is now. With any luck, the rewards will lead to a lot of funds migrating and this proposal then ensures v2 offers higher borrow costs relative to v3 which further encourages migration. There is a risk here that the borrow cost increase proposed in this proposal is too subtle. However, this is not intended to be a mass migration push proposal but instead a smaller change that compliments the v3 liquidity mining program to Aave benefit.

Follow up proposals can further adjust Upotimal values once utilization on reserves like USDT have reverted back to more normal conditions.

Uoptimal Parameter

This publication splits the difference between current utilization and Uoptimal values. Ie: If utilization is 20% and the Uoptimal is 60%, then the proposed Uoptimal is 40%, the midpoint between the existing utilization and Uoptimal value.

Slope 2 Parameter

By reducing the Uoptimal parameter, the gradient of the borrow rate between utilisations Uoptimal and 100% is lowered. In order to maintain the current gradient, the Slope2 parameter is revised higher. In the image below, Slope 2 changes from 75% to 150% in response to the Uoptimal parameter being reduced from 80% to 60%. Notice how the red and blue lines are parallel during the second leg of the curve, this is because they have the same gradient.

Reserve Factor

As a portion of the interest paid by borrowers is directed to users who provide liquidity, by increasing the borrow rate, the deposit rate also increases assuming the reserves utilization remains unchanged. To counter the higher deposit rate, which encourages more deposits, the RF is increased. This redirects interest paid by borrowers to Aave instead of depositors. The table in the Specification section outlines how each RF is adjusted to keep the deposit rate mostly unchanged despite the higher borrow rates.

Due to abnormally high USDT usage, 84.51% at the time of writing, this proposal suggests increasing the RF to be the average of proposed DAI and USDC RFs. The justification for this is to reduce the deposit rate of USDT, such that it encourages migration whilst avoiding reducing the Uoptimal such that borrowing cost increases substantially by shifting utilizing onto the more stepper portion of the yield curve. When utilization drops by a material amount, it would be prudent to reduce the Uoptiomal value in line with other stable coins.

Specification

Table 4 below presents the current asset configuration on Polygon v2.

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Based upon the methodology presented above, Table 5 details the parameter changes.

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Do note, the parameters to be changed have been rounded to nearest whole number and no Uoptimal was increased.

Pior to any AIP submission the numbers should be updated in line with the strategy to avoid any un-favourable parameter configurations.

Next Steps

Community discussion, whereby any service provider or contributor can elect to work with the author on the implementation. The main intent here is for Aave to make the most of the rewards distribution programs that are about to add to Stader Lab's existing reward program.

It would be greatly appreciated if a risk service provider could confirm the above will not adversely affect users, which hopefully will resonate with delegates within the community.

The key with this proposal is time, as rewards on v3 will last only a finite amount of time. The author believes the changes presented here within, thought of as a one-off, or opportunistic, will lead to the migration of the majority of most liquidity. The liquidity mining campaign coordinated by Llama should be capitalized upon.

Disclosoure

TokenLogic is publishing this proposal as the scope falls outside of Llama's core role within the Aave ecosystem, that said, at TokenLogic we are more than happy for any contributor to progress this proposal. There are no payments to TokenLogic, direct or indirect, relating to this forum post.

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