title: [ARFC] CRV Interest Rate Curve Upgrade

Author: @Llamaxyz - DeFi_Consulting, @dydymoon and @scottincrypto

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Simple Summary

@Llamaxyz presents a proposal to update the CRV interest rate parameters on the Aave Ethereum v2, Ethereum v3 (when deployed), Polygon v3, and Polygon v2 Liquidity Pools.

Abstract

The CRV SupplyCap on the Polygon v3 deployment is currently at 100% with borrowing costs of 24.66% with a Utilization of 47.76% relative to a 45% Uoptimal value, [1]. This proposal intends to increase the CRV SupplyCap on Polygon v3 deployment, improve the capital efficiency of each liquidity pool, and increase the amount of revenue generated across the various CRV reserves.

Capital efficiency is improved by increasing the Uoptimal value. Revenue is increased by introducing a Base interest rate, increasing the Slope1 and aligning the Reserve Factor to 20% across all pools. This is expected to generate more revenue for the DAO and significantly reduce the amount of free CRV in aggregate across the reserves.

Motivation

With the CRV reserve on Polygon reaching its SupplyCap, this is an ideal time to implement an upgrade that addresses the SupplyCap and Interest Rate parameters. The current CRV Interest Rate reflects the original parameters implemented when the liquidity pools were deployed. The Interest Rate Parameters do not take into consideration the alternative use cases for CRV and consequently, Aave has missed out on revenue from the sustained borrowing demand.

Llama expects the sustained borrowing demand to continue due to the veTokenomics construct presenting several opportunities for CRV borrowers to earn yield. In this proposal, the Uoptimal parameter is to be increased from 45% to 70% improving the capital efficiency of the active reserves.

Specific to the Polygon v3 deployment, increasing the Uoptimal parameter from 45% to 70% will lead to an increase in the BorrowCap, which is a function of the SupplyCap and Uoptimal parameter.

BorrowCap = SupplyCap * (Uoptimal + 0.1)

The new SupplyCap parameter has been prepared by Chaos Labs, 1,125.24K. This generates a new Borrow Cap of 900.19K, [2].

With borrowing disabled on some Aave deployments, lending rates will drop and it will become rational for profit-driven actors to transition liquidity to the Reserve that offers the greatest yield. This has been playing out with demand on Polygon v3 increasing relative to other deployments.

The interest rate at the current Optimal point is 7%, which is low relative to current demand of 24.66% on Polygon v3.

This proposal recommends introducing a Base and increasing the Slope1 parameter to 3% and 14% respectively. This will lead to a substantial change to the current curve. However, the current borrow rate still exceeds the borrow rate at the Uoptimal utilization point. Over time, we will be able to monitor the reserve and amend the Slope1 parameter t to optimize for utilization and revenue generation for Aave.

The graphic below shows the changes in the interest rate.

The Reserve Factor on Polygon v3 is to be increased from 10% to 20%, bringing it in line with all other Aave deployments.

Specification

The below table shows the current and proposed changes to the CRV Reserve on Polygon v2, Polygon v3, Ethereum v2 and the soon to be deployed Ethereum v3 liquidity pool.

Polygon v3

Parameter

Current (%)

Proposed (%)

SupplyCap

937.70K

1,125.24K

BorrowCap

640.44K

900.19K

Uoptimal

45

70

Base

0

3

Slope1

7

14

Slope2

300

300

Reserve Factor

10

20

Polygon v2 - Frozen

Parameter

Current (%)

Proposed (%)

Uoptimal

45

70

Base

0

3

Slope1

7

14

Slope2

300

300

Reserve Factor

20

20

Ethereum v3 - Not yet deployed

Parameter

Current (%)

Proposed (%)

Uoptimal

NA

70

Base

NA

3

Slope1

NA

14

Slope2

NA

300

Reserve Factor

NA

20

Ethereum v2 - Frozen

Parameter

Current (%)

Proposed (%)

Uoptimal

45

70

Base

0

3

Slope1

7

14

Slope2

300

300

Reserve Factor

20

20

References

[1] Aave - Open Source Liquidity Protocol

[2] AAVE V3 Borrow Caps Methodology

[3] Creative Commons — CC0 1.0 Universal

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