

Title: [ARFC] Repay Excess CRV Debt on Ethereum v2

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Simple Summary

This publication proposes sourcing CRV for the purpose of repaying the excess debt in the CRV Reserve on the Ethereum v2 liquidity pool.

Abstract

There are approximately 2,656,335 units of CRV of excessive debt in the Ethereum v2 CRV Reserve. At 66.35 cents per unit, a total of 1,762,478.27 USD, in the form of CRV tokens, is required to recapitalise the protocol.

To recapitalise the protocol, Llama proposes acquiring the full amount of CRV required to repay the excess debt from the existing USDC and aUSDC holdings.

Aave currently holds 6M units of aUSDC and 358.7k units of USDC in the Ethereum Collector Contract.

Motivation

Decide on a path forward to repay the excess debt in the CRV market (currently ~\$1.76M USD, dependent on CRV's token price). Llama proposes using funds held in the Aave v2 Collector Contract to repay the excess debt. As the excess debt must be paid in CRV tokens, Aave is required to acquire 2,152,041 units of CRV.

There is currently an active proposal whereby Gauntlet's insolvency fund (valued at around \$280k) is to be transferred to the Economic Reserve. The insolvency fund only offsets a portion of the total cost incurred by Aave. There has been no indication of support from the community for using AAVE held within the Safety Module or from the Ecosystem Reserve to recapitalise the protocol. If Aave was to sell AAVE or stkAAVE to fund the CRV acquisition, there are two non exclusive ways of doing this:

1. Auction via the shortfall event
2. Swap contract where anyone can swap AAVE or stkAAVE for CRV

Option 2 eliminates the need for negotiating any terms with a counterparty, or any counterparty needing to review contracts prior to interacting with a whitelisted contract. It is worth noting the Collector Contract holds insufficient AAVE or stkAAVE to support using AAVE <> CRV swaps. Any swap contract of this nature requires using the Economic Reserve. General discussion to date has indicated little appetite to sell AAVE to fund excessive debt.

There has been some interest from the community to use the aCRV holding, currently 504,294 units, in the Ethereum Collector Contract to partially recapitalise the protocol. This is a partial solution that is equivalent to just 18.98% (\$334.6k) of the required CRV size needed. If the community was to use the aCRV position, a further 1,647,747 units of CRV are to be acquired.

With the launch of a new aToken, expected soon, Curve liquidity tokens can be deposited into Aave and still receive CRV rewards from the Curve gauges. Aave has the option to deploy the aCRV holding to veCRV and direct rewards towards Curve gauges that benefit the Aave ecosystem. This has the potential to become a meaningful income stream for Aave.

If Aave was to incur a delay in creating veCRV, historically this is one of the highest yielding reserves which is why CRV is the largest earning asset outside of the major stable coins. In more normal environments, over a 150 to 200 day period, the CRV reserve would generate sufficient yield to repay the excessive debt. This revenue source, CRV yield, would be lost if aCRV was used to fund repaying the excessive debt. Due to the potential upside, this publication supports retaining the aCRV holding.

As part of a broader consolidation of the Ethereum Collector Contract, approximately [\\$434.6k of assets](#) are to be swapped for USDC. This represents 24.7% of the funds required to recapitalise the protocol.

Holdings Summary

Holding

\$ Value

% of Excessive Debt

aUSDC

6,002,226.07

340.56

USDC

358,701.07

20.35

v2 Consolidation

434,570.98

24.70

aCRV

330,834.02

18.98

Excessive Debt

1,762,478.27

100

The table shows there is in total 385.61% more USDC relative to the excessive debt value. Do note this is only the USDC portion of the Collector Contract. There is also large DAI (\$4,684,700.46) and USDT (\$3,915,311.69) holdings.

Due to the relative size of the USDC and the upside potential to the new aToken developed by Aave Companies, Llama suggests the community utilise the USDC and aUSDC holdings to acquire the full amount of CRV needed to recapitalise the protocol.

Specification

Deploy a swap contract exchanging USDC and aUSDC for CRV.

The exchange rate is the Chainlink CRV/USD Oracle + 10 bps.

CRV/USD Oracle: 0xCd627aA160A6fA45Eb793D19Ef54f5062F20f33f

Estimated Premium: $1,762,478.27 * 0.0010 = \$1,762.48$

A \$15,000 swap via ParaSwap at 14 gwei + depositing into the swap contract is estimated to cost \$12 - \$15, 10 bps is \$15.

A cap of \$2M will be placed on swap contract. This is a defined ceiling which limits the amount of funds allocated for acquiring CRV on market. This essentially creates an upper price bound on the CRV price of 75.29 cents, which is a 13% above the current spot price, 66.35 cents.

The actor interacting with the swap contract will have the ability to select USDC and aUSDC by choosing true or false respectively.

To repay the excess debt, the repay function will be used. This function requires CRV as an input and the address the bad debt has accumulated within.

`pool.repay(crv, total bad debt, variableInterest, Address)`

CRV: ethereum:0xD533a949740bb3306d119CC777fa900bA034cd52

Total Excessive Debt: 2,656,335 units of CRV

Address: 0x57e04786e231af3343562c062e0d058f25dace9e

Next Steps

Discuss in the comment section the above proposal. A Snapshot will be presented for the two most popular options. At the

time of writing, these appear to be:

Option 1) Use USDC to acquire CRV

Option 2) Use aCRV + USDC to acquire CRV

Option 3) Do Not Recapitalise Protocol

Option 3 gives the community the ability to not recapitalise the protocol.

If the Community was to prefer to sell AAVE, the preferred mechanism is a swap contract at the AAVE/CRV composite oracle rate. ie: $AAVE/USD \times USD/CRV \gg AAVE/CRV$ There would be no premium offered such a swap. Let us know what you think in the comments.

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