Summary:

A proposal to increase stablecoin Interest Rate parameters across all Aave deployments.

Motivation

Following the implementation of this AIP

to increase stablecoin borrow rates across Aave V2 and V3 deployments, we continue to observe volatility in borrow rates across Aave deployments, given the upward market with various speculative investment strategies, leading to an incredible demand for leverage. We recommend a more aggressive increase of the Slope1 parameter to stabilize borrows under the UOptimal point.

Stablecoins Total Supply and Borrow:

The data from the charts reflects an overall increase in both the supply and borrowing of stablecoins on the Ethereum V3 platform. From December 9th to March 6th we observed the following increases in supply and borrowing across USDC, USDT and DAI:

Asset

Total Supply (M) - Dec 9th

Total Supply (M) - Mar 6th

Total Supply Increase (M)

Supply Increase (%)

Total Borrow (M) - Dec 9th

Total Borrow (M) - Mar 6th

Total Borrow Increase (M)

Borrow Increase (%)

USDC

614

833

219

35.6%

550

761

211

38.3%

USDT

557

712

155

27.8%

476

654

178

37.3%

DAI

147

161

14

9.5%

129

149

20

15.5%

Total

1,318

1,706

388

29.4%

1,155

1,564

409

35.4%

We've observed an overall $388M increase (29.4%) in supply across USDC, USDT and DAI on Ethereum V3, and a $409M increase (35.4%) in borrows. This signifies a substantial demand for leverage, while concurrently enticing suppliers with consistently high and stable supply rates.

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Interest Rate Analysis:

Over the last few months, stablecoin borrow rates have hovered above the slope1 by quite a large margin, which, given the lack of a base_rate, effectively implies the optimal borrow rate. Since the AIP which increased slope1 from 5% to 6%, given the upward market with various speculative investment strategies, has led to an incredible demand for leverage.

Below we depict borrow rates over a highly granular timeframe, with snapshots taken approximately every 3 hours, followed by a simple moving average (MA) converted to the daily equivalent (approximately 8 snapshots/day) and a 7-day MA. Observation reveals that the rates have seldom aligned with the parameterized slope1, except for the period immediately following the slope1 adjustment from 5% to 6%, instead consistently scaling considerably higher.

The extent of this upward deviation is illustrated in the histogram below, showing the differences between APR(t) and the slope1 value. The histogram peaks at around a 3-4% difference for USDC and DAI. However, USDT exhibits a broader range of variance, resulting in a fatter tail in upward deviations from the slope1 value.

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Computing both the geometric and arithmetic mean over varying timeframes for the stablecoins mentioned above, we observe a significant recent uptick, accompanied by sustained rates priced well above slope1 by a substantial margin.

Mean

Last 7 Days

Last 14 Days

Last 30 Days

Last 60 Days

Last 90 Days

USDC Interest Rate (Arithmetic)

12.29%

11.04%

9.89%

8.94%

8.91%

USDC Interest Rate (Geometric)

12.08%

10.83%

9.87%

8.58%

8.63%

USDT Interest Rate (Arithmetic)

14.46%

10.93%

10.34%

8.94%

9.04%

USDT Interest Rate (Geometric)

14.16%

10.05%

9.87%

8.26%

8.35%

DAI Interest Rate (Arithmetic)

9.64%

9.35%

9.28%

8.46%

8.73%

DAI Interest Rate (Geometric)

9.16%

9.07%

8.97%

7.89%

8.22%

Utilization Rate Analysis:

Our continuous monitoring of the utilization rates post-AIP, setting Slope1 at 6%, shows sustained demand, with the utilization rate consistently maintaining a value above the 90% Uoptimal threshold.

Mean

Last 7 Days

Last 14 Days

Last 30 Days

Last 60 Days

Last 90 Days

USDC Utilization

92.10%

91.68%

89.17%

91.04%

90.72%

USDT Utilization

92.82%

91.22%

88.76%

89.58%

88.77%

DAI Utilization

90.92%

90.97%

88.21%

88.33%

88.69%

Upon analyzing the percentage of time where utilization exceeded UOptimal, alongside the aggregate utilization rate across various timeframes, it’s apparent that the slope1 increase to 6% did not succeed in stabilizing utilization at or below UOptimal. This result can be attributed to evolving market dynamics, notably the recent surge in crypto asset prices.

Mean

Last 7 Days

Last 14 Days

Last 30 Days

Last 60 Days

Last 90 Days

USDC Time Above Uoptimal

100.00%

100.00%

88.79%

81.97%

87.23%

USDT Time Above Uoptimal

100.00%

76.24%

75.70%

62.06%

66.98%

DAI Time Above Uoptimal

88.24%

94.06%

83.64%

68.38%

75.86%

Plotting various theoretically higher slope1 values as scalar values to accommodate the historical “time above uOptimal” relative to the rolling interest rate allows us to evaluate how “time above uOptimal” decays alongside a scaling slope1, based on the market-priced interest rate. Notably, the considerable surge in current interest rates (last 7 days) is evident, suggesting logarithmic decay as slope1 increases with recent rates, contrasting with a more linear or exponential decay observed over longer timeframes.

Recommendations

The analysis indicates a necessity for further refinement of stablecoin interest rates. To align with the market conditions, we propose two potential slope1 alterations:

Conservative:

Adjust Slope1 of stablecoins to 8%

The proposal entails increasing Slope1 to 8% for stablecoins across all Aave deployments. This adjustment assumes that current rates will regress to a longer-term mean, as seen over the last 60-90 days. Factoring in the impact of interest rates above a certain Uoptimal with a higher Slope1 value, an interim Slope1 value of 8% is expected to strike a balance with historically determined priced-in borrow rates. Despite the recent trend of rates skyrocketing and stabilizing above this value over the last month, a more gradual approach will enable us to thoroughly assess the situation going forward.

Aggressive:

Adjust Slope1 of stablecoins to 10%

We are proposing a significant increase in Slope1 to 10% for stablecoins across all Aave deployments. This additional adjustment aims to establish a more predictable and stable borrowing rate, ensuring an equilibrium utilization under the UOptimal point. This decision is made considering the recent substantial spike, with the assumption that rates will either remain sustained or continue to grow in the current risk-on market environment.

Following either of these increases, we will continue monitoring the usage and equilibrium rate and make additional recommendations as necessary.

Market

Asset

Current Slope1

Rec Slope1 Conservative

Rec Slope1 Aggressive

Ethereum V2

USDC

6%

8%

10%

Ethereum V2

USDT

6%

8%

10%

Ethereum V2

FRAX

6%

8%

10%

Ethereum V2

sUSD

6%

8%

10%

Ethereum V2

GUSD

6%

8%

10%

Ethereum V2

LUSD

6%

8%

10%

Ethereum V2

USDP

6%

8%

10%

Ethereum V3

USDC

6%

8%

10%

Ethereum V3

USDT

6%

8%

10%

Ethereum V3

FRAX

6%

8%

10%

Ethereum V3

LUSD

6%

8%

10%

Avalanche V2

USDC

6%

8%

10%

Avalanche V2

USDT

6%

8%

10%

Avalanche V2

DAI

6%

8%

10%

Avalanche V3

USDC

6%

8%

10%

Avalanche V3

USDT

6%

8%

10%

Avalanche V3

DAI

6%

8%

10%

Avalanche V3

MAI

6%

8%

10%

Avalanche V3

FRAX

6%

8%

10%

Polygon V2

USDC

6%

8%

10%

Polygon V2

USDT

6%

8%

10%

Polygon V2

DAI

6%

8%

10%

Polygon V3

USDC

6%

8%

10%

Polygon V3

USDT

6%

8%

10%

Polygon V3

DAI

6%

8%

10%

Polygon V3

MAI

6%

8%

10%

Polygon V3

USDC.e

7%

9%

11%

Optimism V3

USDC

6%

8%

10%

Optimism V3

USDT

6%

8%

10%

Optimism V3

DAI

6%

8%

10%

Optimism V3

sUSD

6%

8%

10%

Optimism V3

LUSD

6%

8%

10%

Optimism V3

MAI

6%

8%

10%

Optimism V3

USDC.e

7%

9%

11%

Arbitrum V3

USDC

6%

8%

10%

Arbitrum V3

USDC.e

7%

9%

11%

Arbitrum V3

USDT

6%

8%

10%

Arbitrum V3

DAI

6%

8%

10%

Arbitrum V3

LUSD

6%

8%

10%

Arbitrum V3

FRAX

6%

8%

10%

Arbitrum V3

MAI

6%

8%

10%

Base V3

USDbC

7%

9%

11%

Base V3

USDC

6%

8%

10%

Metis V3

USDC

6%

No Change

No Change

Metis V3

USDT

6%

No Change

No Change

Ethereum V3

crvUSD

5%

8%

10%

Ethereum V3

pyUSD

6%

No Change

No Change

BNB Chain V3

USDT

6%

8%

10%

BNB Chain V3

USDC

6%

8%

10%

BNB Chain V3

FDUSD

6%

No Change

No Change

Scroll V3

USDC

6%

8%

10%

Next Steps

1. Following community feedback, submit the ARFC for a snapshot vote for final approval.
2. If consensus is reached, submit an Aave Improvement Proposal (AIP) to implement the proposed updates.
3. We believe this adjustment will align the protocol's rates more closely with current market conditions and borrower behavior. Based on the outcomes, potential future steps include:
4. Increasing UOptimal:

This move would signify a higher threshold before Slope 2 interest rates are triggered. With the increase in Slope1, the underlying interest rate volatility is expected to diminish, leading to decreased demand above the kink. Consequently, by raising UOptimal, we can anticipate a similar utilization rate outcome as today, while offering a relatively higher incentive for new deposits if UOptimal is reached.

We will conduct a comprehensive analysis of the historical concentration and distribution of supplied stablecoins used as collateral (generally quite minimal). Subsequently, we will determine an appropriate increase in Uoptimal, ensuring an adequate buffer to facilitate theoretical liquidations and supplier withdrawals. Opting for the more aggressive approach of 10% is likely to yield a greater increase in the Uoptimal value compared to 8%, as the higher Slope1 value is expected to foster a more stable utilization rate, thereby minimizing fluctuations driven by market-priced rate movements.

- Further increase of Slope 1:

Depending on the market's and community's response to the initial adjustment, a subsequent increase in Slope 1 could be considered to further optimize the IR curves.

As always, our priority remains to monitor these developments closely and provide timely, data-driven recommendations to maintain Aave's competitive edge and market responsiveness.

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