Summary

Gauntlet’s analysis has identified opportunities to adjust interest rate parameters for WETH on Ethereum v3 and v2, Optimism v3, Arbitrum v3, Polygon v3, as well as WMATIC on Polygon v3 and v2. This will help to facilitate more Emode borrowing against LST collateral,

which may

- drive additional revenue to Aave (estimated ~$1m, based on assumptions in the below Impact section)
- adjust current risk profile for LST to depend less on onchain liquidity, which has been steadily declining over the past few months. This may be adding risk to the current borrow composition against LST collateral.

Recommendations

Asset	Chain	Parameter	Current	Recommendation
WMATIC	Polygon v3	Variable Slope 1	0.061	0.043
WMATIC	Polygon v2	Variable Slope 1	0.06	0.043
WETH (*)	All v3	Variable Slope 1	0.038	0.033
WETH	All v3	Variable Base	0.01	0
WETH	Ethereum v2	Variable Slope 1	0.038	

0.033

WETH

Ethereum v2

Variable BASE

0.01

0

(*) @MarcZeller made a recommendation to adjust WETH IR for v3 deploymentshere. Current parameters indicate that Variable Slope 1 is already 0.038, but the Variable Base is 0.01. We recommend lowering slope 1 even further

, but not move Uopt.

Impact

Protocol

Symbol

Reserve Factor

Current Util

Current Borrow Rate

Current Supply Rate

New Borrow Rate

New Supply Rate

Current Borrow

New Borrow

Delta Borrow

Revenue Increase

Ethereum v2

WETH

0.2

0.530

0.035

0.015

0.023

0.010

3.88E+08

0

0

0

Arbitrum v3

WETH

0.15

0.517

0.035

0.015

0.023

0.010

3.56E+07

5.38E+07

1.82E+07

9.53E+04

Ethereum v3

WETH

0.15

0.492

0.033

0.014

0.022

0.009

2.84E+08

4.49E+08

1.66E+08

8.70E+05

Optimism v3

WETH

0.15

0.519

0.035

0.015

0.023

0.010

1.65E+07

2.48E+07

8.30E+06

4.36E+04

Polygon v3

WETH

0.15

0.250

0.022

0.005

0.011

0.002

1.08E+07

3.37E+07

2.29E+07

1.20E+05

Polygon v2

WMATIC

0.46

0.179

0.022

0.002

0.017

0.002

1.40E+06

0

0

0

Polygon v3

WMATIC

0.2

0.513

0.042

0.017

0.031

0.013

2.09E+07

2.97E+07

8.84E+06

7.96E+04

The above IR changes could drive new borrow rates at utilization levels just underneath the kink (rather than 20-30% away from the kink) to match current borrow rates, allowing for marginal increases in recursive WETH/WMATIC borrowing to remain profitable. Should that happen, the IR changes could generate ~$1m in additional annual revenue.

We assume 0 revenue impact to v2 markets due to lack of Emode.

Analysis

LST collateralized BASE borrowing in Emode has been proportionally decreasing over the past few months, which could be lowering overall WETH and WMATIC borrows across Aave. This indicates that there is an opportunity to both increase revenue for Aave via encouraging more Emode borrows and also, from a risk perspective, to reduce current dependency on LST liquidity.

We welcome the community to follow our analysis and refer to ourdashboard and appendix for more liquidity and interest rate visualizations.

- WETH and WMATIC have consistently had utilization below the kink.
- Both assets have utilizations that live consistently around 50-60%, which is below the kink.
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- Most of the LST collateral on these chains are supporting borrowing outside of Emode

, a trend that has been increasing, as we detail in our appendix. This may be due to * Lower staking yields for LSTs. Current APRs for staking ETH on Lido (3.8%), RocketPool (3.27%), and Coinbase (3.27%) are below the current WETH borrow rate across v3.

- The historical APR for staking ETH on Lido has been decreasing since May. Likewise, APY for staking ETH on Coinbase has been on the decline since July.
- Likewise, the current APR for staking stMATIC is 4.3% on Lido and 4.82% for MaticX on Stader, compared ot the 4.2% borrow rate for WMATIC.
- Lower staking yields for LSTs. Current APRs for staking ETH on Lido (3.8%), RocketPool (3.27%), and Coinbase (3.27%) are below the current WETH borrow rate across v3.
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- Likewise, the current APR for staking stMATIC is 4.3% on Lido and 4.82% for MaticX on Stader, compared ot the 4.2% borrow rate for WMATIC.
- LST collateral is supporting proportionally more borrow outside of Emode, and those borrows are primarily stablecoin based. As a result, recent improvements such as CSPA do not affect liquidation probability, which implies that LST onchain liquidity remains critical to ensuring healthy liquidations.

*

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- LST liquidity has been declining over the past few months,

which may be driven by declining LDO incentives. Lido used to incentivize LPing in Curve by distributing LDO as rewards, but this is no longer the case as of June. * Since the start of June, it seems like no rewards are being provided for LPs on any DEX, including Balancer. In fact, Dune shows that Balancer incentives ended July 2022.

- The majority of the reduction in wstETH liquidity is due to decreases on Curve and Balancer, which seem to coincide with the removal of LDO incentives.
- Since the start of June, it seems like no rewards are being provided for LPs on any DEX, including Balancer. In fact, Dune shows that Balancer incentives ended July 2022.
- The majority of the reduction in wstETH liquidity is due to decreases on Curve and Balancer, which seem to coincide with the removal of LDO incentives.

Next steps

Welcome community feedback and aim to put up snapshot on 2023-09-05.

Appendix

LST liquidity over time

wstETH on Arbitrum

LST APR Timeseries

Lido

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Coinbase

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WETH, WMATIC utilization rates

[WMATIC historical utilization on Polygon v3]

[WETH historical utilization on Ethereum v3]

Timeseries of Emode vs non-emode borrows against LST collateral

Decreasing LST yields is coupled with decreasing emode borrows against those LSTs.

Ethereum

Emode 1 is ETH-based emode.

cbETH

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rETH

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wstETH

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Optimism

Emode 2 is ETH-based emode.

rETH

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wstETH

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Polygon

Emode 2 is MATIC-based emode.

stMATIC

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MaticX

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image

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User behavior changes

Borrower behavior change after Slope 1 was reduced, Uopt was shifted on 2023.03.31, for Arbitrum v3 WETH.