Summary

A proposal to renew Gauntlet's Dynamic Risk Parameters engagement for continuous market risk management to optimize yield, capital efficiency, and mitigate depositor losses.

Background

Since mid-August, Gauntlet has provided Dynamic Risk Parameters and delivered on all areas outlined in the original proposal. Gauntlet has published 7 ARCs, Snapshots, and AIPs on parameter recommendations (102 parameter updates across 21 assets), 2 Market Risk Monthly reviews, new weekly risk updates in Aave News, and launched the Aave Risk Dashboard. Gauntlet has invested heavily in the proper infrastructure including ETL data pipelines, agent-based simulation infrastructure, and financial models that make possible the parameter recommendations and front-end Risk Dashboard.

The below will outline how Gauntlet has been able to create value for the Aave ecosystem. We also describe specific ways the Gauntlet Platform will make an even more significant impact moving forward.

Impact of the Gauntlet Platform

How the Gauntlet Platform drives value to Lenders, Borrowers, and Aave stakeholders:

- Mitigating losses from liquidations and insolvencies - $6.7M of annual value
- Increase capital efficiency and yield for users - $16.4M of annual value
- Safely position Aave for sustainable growth

Mitigating losses from liquidations and insolvencies - $6.7M of annual value

Gauntlet's parameter recommendations save Borrowers' collateral lost to liquidators by safely lowering liquidation bonuses. When Borrowers' collateral are liquidated, they lose an extra portion of their collateral to liquidators. This bonus incentivizes liquidators but often can be reduced without sacrificing protocol risk.

From our first liquidation bonus updates (2021-08-27) to present Gauntlet has saved Aave V2 protocol users $218,141 in liquidations due to lower liquidation bonuses, which equates to $1,447,663

on an annualized basis. It is important to note that this time frame experienced relatively low levels of asset volatility. Higher levels of asset volatility would lead to more liquidations, and more savings realized.

Additionally, Gauntlet has reduced the total capital at risk due to insolvencies and liquidations when markets are under duress (Value at Risk). Gauntlet's parameter recommendations reduce VaR, following the community's risk tolerance, which protects Borrowers, as less capital is expected to be lost during market shocks. In addition, lower VaR accrues value to Aave token holders, as insolvencies lead to payouts from Aave's Safety Module.

On average, Gauntlet's recommendations have shown a 14% reduction in VaR

. Our simulations observe an average of 0.48% of Aave V2's TVL being at risk on any given day. In the scenario where volatility reaches similar levels as Black Thursday, we expect to save Aave users an average of $5,258,511

in liquidations and insolvencies.

In the future, should the community assign a riskAdmin

role, Gauntlet can achieve more precise adjustments and streamlined risk management. Compared to the time-intensive ARC, Snapshot, and AIP processes, our response time during catastrophic market shocks would return tangible benefits. One example of this is adjusting liquidation bonuses swiftly to prevent liquidation cascades.

Increasing capital efficiency and yield for users - $16.4M of annual value

One of the core functions of the Gauntlet Platform is increasing capital efficiency for borrowers while controlling insolvency risk. Gauntlet's recommendations have led to higher borrow demand following lower collateralization ratios. On Sept. 4th, 6.1% of users had collateralization ratios below 2.00

. As of Oct. 21st, the number of accounts has grown by roughly 14%, and 8.9% of new accounts have collateralization ratios below 2.00

. New positions opened after Gauntlet's parameter recommendations have higher borrow demand

, as seen in the histogram below.

Histogram of new accounts since 09/04 by Collateralization Ratio and Borrow Value

From another angle, Borrow Usage is an additional measure of capital efficiency and signifies how aggressively depositors of collateral borrow against their supply. Since Gauntlet's parameter recommendations, we have seen a 1.1 percentage points increase in borrow usage.

Also, corresponding to these updates, an increase in yield for depositors has been realized. Depositor income the month before our parameter updates was $24.7M. The average monthly yield after Gauntlet's parameter updates was $37.7M. Increased capital efficiency and the resulting benefit to depositors should, at least in part, be attributed to risk parameter optimizations. Given the increase in borrow usage for the same amount of assets lent, Depositors will earn an estimated $5.6M additional yield

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Let's look at an illustrative example of how a fast path, via riskAdmin

, to parameter changes can facilitate opportunistically increasing LTVs and magnify impact. Say borrowers on AAVE have at least a 2% return on their borrowed capital above borrow cost. If we assume 50% of the year is low volatility, Gauntlet raises LTVs by an average of 5% during low volatility periods, and ~$20B of collateral on Aave, then we can conservatively estimate $10M of value to Borrowers.

Those new borrows would also generate over $800K worth of additional interest income for depositors.

Safely position Aave for sustainable growth

Gauntlet's risk management empowers Aave not only to optimize existing assets but immediately support new assets. We have already made parameter updates for the newly added DPI in AIP-43.

Gauntlet is also closely monitoring the growth and stability of new assets FEI and FRAX. Should market conditions allow for safely turning on collateral, which initial simulations suggest can be done, we will seek community consensus to do so. Doing so could unlock $80M in collateral today and scaling proportionally, using the DAI borrowed on Aave to that in circulation, tens of millions more.

Safely supporting new collateral helps make the DAO sustainable beyond the Ecosystem Reserve.

Risk Dashboard

Gauntlet has launched a Risk Dashboard for the community to provide key insights into risk and capital efficiency. The dashboard focuses on both the system-level risk in Aave V2 and the market risk on an individual collateral level. Our goal is to help convey our methodology to the community and provide visibility into specific parameter recommendations. The dashboard will continue to be updated daily.

Expectations

Gauntlet will continue to deliver on the same risk parameters and communications plan outlined in the originaProposal while expanding the scope to include the two changes below:

- Configuring Reserve Factors
- Supporting Borrow Caps when the protocol is upgraded

Updated Cost

Gauntlet's standard liquidity protocol fee model has been updated universally since the original proposal. The updated formula to calculate the service fee still has four components:

1. An asset multiplier to track risk management complexity
2. [Updated] A proxy for capital efficiency
3. [Updated] A marginal base fee
4. [Updated] 30-Day VWAP (Volume Weighted Average Price) of AAVE

Component #1

remains the same. The asset multiplier calculation is log(Number of Assets, 10)*. New assets on the protocol add complexity to risk management.

Components #2

, #3

, and #4

have been updated. Total Borrow remains the best proxy for capital efficiency and is now calculated as the 30-day average and rounded down to the nearest $1B. The base fee now takes marginal reductions to be more scalable for DAOs. Lastly, the requested AAVE denomination has been updated to protect the DAO and Gauntlet from short-term price fluctuations.

Gauntlet's method for token transfer has also been standardized and improved. No longer will any portion of the requested payment, stkAAVE, not be subject to vesting. A Sablier stream will be requested for the full payment vesting over one calendar quarter.

Marginal Base Fee

Total Borrow

10 bps

$0 - $5B

5 bps

$6B - $10B

2.5 bps

$11B - $15B

1.25 bps

$16B - $20B

*Gauntlet quarterly service fee denominated in AAVE (table above calculated at $312)

*Log value is the minimum of the tier range except in the "<= 10" column, where it is 10. For example Column "21-25" returns log(21,10)

** When Total Borrow < $2b, there is no basis point fee. The formula is log(Assets,10) * $1,200,000 / 4)

Conclusion

In just a few months, the Gauntlet Platform delivered significant value to the Aave ecosystem, and importantly, the future impact will be even greater. Through rigorous quantitative analysis and agent-based simulation frameworks derived from industries including algorithmic trading and autonomous vehicles, the Gauntlet Platform empowers Aave to optimize yield, capital efficiency, and mitigate depositor losses. Gauntlet currently provides parameter recommendations covering over $49B of assets. Managing risk for numerous protocols allows our data scientists and engineers to improve our models ahead of realization events occurring on Aave. As Aave continues to scale, it is crucial to adapt and translate complexity into trade-offs to support community decisions.

About Gauntlet

Gauntlet is a simulation platform for market risk management and protocol optimization. Gauntlet's continuous risk management work includes Compound, Acala, Benqi, and of course Aave. Gauntlet's continuous incentive optimization work includes Balancer and SushiSwap.

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