Staked ETH and AAVE Risk (June 11th Update)

stETH has emerged over recent months as one of the most popular collateral types on AAVE. Many users have deposited stETH and borrowed ETH against it. This means that if those prices diverge or the asset "depegs", there could be a lot of liquidations in AAVE. There has been much speculation on the risks posed by a stETH/ETH price depeg on the protocol and we wanted to follow up on Paul's last post to provide an update.

Late yesterday we saw a large spike in AAVE VaR due to volatility in stETH price and immediately investigated it further. TL;DR: Current market liquidity is very likely sufficient to handle expected liquidations in the protocol and no immediate parameter changes or risk mitigations are necessary. The AAVE community may want to temporarily freeze the stETH market and pause ETH borrows as an extra precaution.

These steps can ensure that a liquidation spiral doesn't negatively impact AAVE tokenholders and users.

Current Risk Levels

We have done some quick analysis to size the estimated potential loss Aave could experience if these accounts get liquidated and kick-off a liquidation spiral.

At current parameters for stETH (81% Liquidation Threshold) we would see $250M liquidated at a 15% depeg. You can see the full liquidation breakdown below. We don't see any major insolvency risk (at current parameters potentially ~$2M with a >20% depeg), though do note that this is with current liquidity conditions and could be higher if a more severe depeg occurs.

Right now there are 3 large users that are at a higher risk of being liquidated:

- 0x94269

- 0x3ba21

- 0x8acea

The first account is the closest to the margin for liquidation at a health factor of 1.12. If there is around an additional 10-12% depeg of stETH/ETH price, then we expect this account to get liquidated (all else being equal).

We are in contact with these users (to the best of our ability to contact them) to ensure that they are aware of the risks posed here and that they are actively managing their positions to avoid liquidation.

How we can further mitigate these risks

There is inherent uncertainty in making market estimations like this. While we try to be thoughtfully conservative in our assumptions here, conditions (e.g. liquidity) can worsen over time and the protocol should consider taking action now to limit the risk here. This plan would be threefold:

1. Freeze the stETH market

2. This will prevent new positions from being opened. This will temporarily pause the stETH market except for people winding down their positions. This is essential as it allows us to take the next step, increasing the liquidation threshold (LT) for ETH. If we don't pause the market, users could increase the risk by opening new positions that take advantage of the increased LT.

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4. Increase LT for stETH to 90%

5. This will give existing positions more breathing room with regards to stETH/ETH price deviation (you can the see effect of this in the heatmaps above) and will make the protocol much more resilient to a further depeg.

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7. Pause ETH borrowing

8. If LT is changed, then preventing existing positions from increasing their risk exposure is required. To do this, you would need to prevent new ETH borrows from being opened. Almost all ETH borrowing is recursive borrowing and so while there is limited demand for ETH borrow, it's still something users want.

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As the risk in the protocol declines, we'd want to re-enable these markets as soon as we can. We'll reach out directly to key AAVE stakeholders to get feedback here, but wanted to post this to the forums ASAP so the broader community can comment.

Proactive Measures to Mitigate Risk Levels in AAVE

We want to continue to work with the community to understand how we can balance the tradeoffs here as this spike in risk is something that we investigated taking [action to prevent](). These changes were withdrawn after community feedback that lowering LTVs and LTs would have a negative user experience for a select few users with low health ratios. However doing so would also ensure that the other 99% of users can safely and efficiently use the protocol, as well as that AAVE tokenholders will not be left holding the bag in the event of a market downturn. We're looking forward to continuing the conversation on this in the future but do want to note that the above changes will not have the same user experience impact.

Next Steps

Our risk monitoring system continues to measure risk in AAVE and you can track the current risk levels[on our dashboard here](). As governance proposals take a few days to pass and go into effect, we are encouraging the community to consider the impact of the above changes carefully

. If market conditions worsen we will strongly recommend that these actions be taken immediately.