## Overview

This is a review of Phoenix Labs' proposal to adjust supply caps on Ethereum mainnet Spark deployment.

## Purpose

Spark mainnet deployment has seen steady growth over the past month. In particular, there has been significant migration from core Maker vaults, including a migration of over 70,000 ETH and 50 million DAI debt from a 7 Siblings affiliated account. While relevant asset caps are not likely to be hit immediately, Maker governance will be mostly idle through December so any asset cap increases on Spark that may be needed to support user growth through year end should be implemented proactively.

## Growth Evaluation

wstETH on Spark has been fairly steady over the past 3 months at around 200,000 tokens, but is showing signs of growth over the past week and currently sits at 226,000 total wstETH supplied. Maker retains over 925,000 wstETH collateral in vaults, and any migration towards Spark could see a portion of these assets added to the total. Additionally, the recent growth of ETH supply creates additional incentives to deposit wstETH to participate in leveraged staking strategies, and potential increases in D3M debt ceiling may also drive growth as more users supply wstETH to collateralize DAI borrow positions.

Source: Block Analitica Spark Dashboard

rETH has also seen strong growth in the past month, particularly after it was announced that RETH-A Maker core vault would be offboarded. RETH-A has around 15,000 rETH collateral remaining, and while the vault will most likely not be fully offboarded until early 2024 there is still a decent likelihood of some of this collateral migrating to Spark. rETH may also see some growth from the increase in borrowable ETH liquidity on Spark, which will allow a greater volume of leveraged staking positions similar to wstETH.

One way to model supply growth of rETH and wstETH is to extrapolate current collateral mix and average health factors onto expected DAI borrowing growth rates, and then overlay potential supply related to leveraged staking trades borrowing ETH collateral. In our review of D3M maximum debt ceiling changes, we identified ~400 million DAI in potential additional borrowing demand related to 7 Siblings, WBTC, and RETH vaults. If we assume DAI borrowing growth of half of this amount (200 million DAI), this would imply an additional $250 million wstETH, $45 million rETH, and $145 million ETH collateral supplied to back this borrowing volume. An additional $230 million ETH could be borrowed to reach a reasonable 80% utilization borrowing equilibrium, which would require at least $255 million in additional LST collateral.

Splitting this proportionally among rETH and wstETH supplied, this would result in an additional $30 million rETH and $225 million wstETH supplied as collateral for leveraged staking. In total, these assumptions result in $475 million wstETH (~230,000 tokens) and $75 million rETH (~38,000 tokens) worth of inflows.

While the above model suggested total collateral demand of ~460,000 wstETH and ~70,000 rETH, it may be better to err on the side of caution and implement higher supply caps as higher than expected demand or changing collateral prices could lead to additional inflows beyond the modeled assumptions. We recommend increasing supply caps to 800,000 for wstETH and 80,000 for rETH, which is likely more than sufficient to meet demand through year end while still providing reasonable limits to growth in exposure.

## Risk Analysis

Both rETH and wstETH share fairly robust liquidation threshold parameters of 79.5%. Both historical and current collateralization distributions are healthy across each asset, indicating low risk of the existing user base. LST liquidity is also very robust, and with withdrawals now implemented by both Rocketpool and Lido there is little risk of sharp discounts emerging.

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Both LSTs are still exposed to operational, smart contract, and slashing risks. But each of these protocols has demonstrated a strong track record for security and a high quality validator set. As long as tail risk losses from technical issues or slashing

don’t exceed ~14% (the buffer between the liquidation threshold and liquidation penalty), it should still be possible to liquidate any unsafe accounts without incurring bad debt.

While increasing LST supply caps does expose Spark to greater tail risk, and somewhat increases the liquidity and market risk exposure to these assets, Maker ecosystem exposure is already very large and this does not materially impact the likelihood of Maker incurring an unrecoverable insolvency.

## Specification

Adjust supply caps on mainnet Spark as follows:

- Increase wstETH supply cap to 800,000
- Increase rETH supply cap to 80,000

## References

- Proposal to Adjust SparkLend Parameters
- Spark | Block Analitica