Stability Scope Parameter Changes #8

Introduction

This post covers BA Labs' eighth parameter changes proposal as a member of the Stability Advisory Council. Final changes are pending approval by the responsible Stability Facilitators.

For further context, refer to BA Labs' previous Stability Scope Parameter Changes proposals below.

Previous Stability Scope Parameter Change Proposals

- [Decentralized Collateral Scope Parameter Changes #1 - April 2023](#)

- [Stability Scope Parameter Changes #2 & Non-Scope Defined Parameter Changes - May 2023](#)

- [Stability Scope Parameter Changes #3 - June 2023](#)

- [Stability Scope Parameter Changes #4 - July 2023](#)

- [Stability Scope Parameter Changes #5 - August 2023](#)

- [Stability Scope Parameter Changes #6 - September 2023](#)

- [Stability Scope Parameter Changes #7 - November 2023](#)

With this post, BA Labs proposes updated Stability Scope parameters in accordance with the most recent amendments made to MIP104 through [MIP102c2-SP21](#). Each edit and its impact on protocol parameters is explained in further detail in the Analysis section below.

In summary, the analysis section covers the following new material:

- The introduction of the Exposure Based Model for calculating Stability Fees

- The offboarding of PSM-USDP-A

- The offboarding of RETH-A

Summary Recommended Stability Scope Parameter Changes

The proposed parameter changes included in the screenshot below can be directly included in an executive vote by the Stability Scope Responsible Facilitator.

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Source:

[#8 Stability Scope Parameter Changes](#)

Yield Benchmark Parameter Changes

- Decrease the Yield Collateral Yield Benchmark

from 5.54% to 5.45%.

- Decrease the Stability Collateral Benchmark

Yield from 1.15% to 0.87%.

Base Rate Changes

- Decrease the Base Rate

from 4.18% to 4.05%.

Dai Savings Rate (DSR) Changes

- Decrease the Dai Savings Rate (DSR)

from 3.93% to 3.80%.

Enhanced Dai Savings Rate (EDSR)

- DSR utilization levels are still in Tier 1. Enhanced Dai Savings Rate (EDSR)

and effective DSR will remain at 5%.

Stability Fee Exposure Based Model Parameter Changes

- Increase the ETH K

parameter from 24.92% to 27.43%

- Decrease the WSTETH K

parameter from 12.12% to 12.46%

- Increase the WBTC K

parameter from 1.95% to 2.65%

- Increase the Spark D3M K

parameter from 10.00% to 15.53%

Stability Fee Changes

- Increase the ETH-A

Stability Fee (SF) from 5.25% to 6.74%.

- Increase the ETH-B

Stability Fee (SF) from 5.75% to 7.24%.

- Increase the ETH-C

Stability Fee (SF) from 5.00% to 6.49%.

- Increase the WSTETH-A

Stability Fee (SF) from 5.25% to 7.16%.

- Increase the WSTETH-B

Stability Fee (SF) from 5.00% to 6.91%.

- Increase the WBTC-A

Stability Fee (SF) from 5.79% to 6.70%.

- Increase the WBTC-B

Stability Fee (SF) from 6.29% to 7.20%.

- Increase the WBTC-C

Stability Fee (SF) from 5.54% to 6.45%.

- Increase the Spark DAI Effective Borrow APY

from 5.53% to 6.46%.

Reduce PSM-USDP-A Debt Ceiling & Disable DC-IAM

- Decrease the PSM-USDP-A

DC-IAM LINE (max DC) from 120M to 0.

- Remove PSM-USDP-A from Autoline

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RETH-A Offboarding Parameters Finalization

- Set Liquidation Penalty (chop) to 0%.

- Set Flat Kick Incentive (tip) to 0.

- Set Proportional Kick Incentive (chip) to 0%.

- Set Liquidation Ratio to 10,000%.

Stability Scope Bounded Mutable Alignment Artifact Changes

Assuming that the aforementioned changes are implemented, we also propose to incorporate these figures into the MIP104: Stability Scope Bounded Mutable Alignment Artifact as follows:

- 3.1.1A - The Base Rate is: 4.05%

- 3.2.1A - The Dai Savings Rate is: 3.80%

- 3.2.2A - Spark K = 15.53%

- 3.2.2C - Spark Asset Spread is 0.96%

- 14.1.1.1A - The Stability Collateral Benchmark Yield is: 0.87%

- 14.1.2.1A - The Yield Collateral Benchmark Yield is: 5.45%

- 14.3.1.3A: ETH K = 27.43%

- 14.3.1.3A: WSTETH K = 12.46%

- 14.3.1.3A: WBTC K = 2.65%

- 14.3.1.3C: WSTETH-A Asset Spread is 0.42%

- 14.3.1.3C: WSTETH-B Asset Spread is 0.42%

- 14.3.2.1: ETH-A - Stability Fee: 6.74%

- 14.3.2.2: ETH-B - Stability Fee: 7.24%

- 14.3.2.3: ETH-C - Stability Fee: 6.49%

- 14.3.2.4: WSTETH-A - Stability Fee: 7.16%

- 14.3.2.5: WSTETH-B - Stability Fee: 6.91%

- 14.3.2.6: WBTC-A - Stability Fee: 6.70%

- 14.3.2.7: WBTC-B - Stability Fee: 7.20%

- 14.3.2.8: WBTC-C - Stability Fee: 6.45%

Analysis

Yield Collateral Yield Benchmark

As stated in article 14.1.2 in the Stability Scope, the Yield Collateral Yield Benchmark is approximately based on the 3-month US Government Treasury Bill. The 3-month US Government Treasury Bill rate is at the time of writing 5.45%.

BA Labs recommends the Stability Facilitators to decrease the Yield Collateral Yield Benchmark from 5.54% to 5.45%.

Stability Collateral Yield Benchmark

According to 14.1.1 in the Stability Scope, the Stability Collateral Yield Benchmark is approximately based on the average yield earned on all Cash Stablecoins. In MIP102c2-SP21, Cash Stablecoins listed in 7.2.1.3.1A include:

- USDC - Exposure to USDC in centralized custody solutions is capped at 1.5 billion USDC.

This means that with the passing of MIP102c2-SP21, USDP will be removed from the Cash Stablecoins list under 7.2.1.3.1A. The proposed offboarding parameters for USDP are included further down in this post, under "Reduce PSM-USDP-A Debt Ceiling & Disable DC-IAM". At the time of writing, Maker has approximately 119.79 million exposure to USDP. Hence, for this month, BA Labs recommends including USDP in the calculation of the Stability Collateral Yield Benchmark. If and when USDP is offboarded, it can be removed for the calculation.

According to the calculation in the table below, the Stability Collateral Yield Benchmark should at the time of writing be 0.87%.

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BA Labs recommends the Stability Facilitator to decrease the Stability Collateral Benchmark Yield from 1.15% to 0.87%.

Base Rate Changes

Taking into account the changes in the Yield Collateral Yield Benchmark and the Stability Collateral Yield Benchmark, the new Base Rate should be 4.05%.

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BA Labs recommends the Stability Facilitator to decrease the Base Rate from 4.18% to 4.05%.

Dai Savings Rate (DSR)

With the Base Rate at 4.05%, the updated DSR should be 3.80%

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BA Labs recommends the Stability Facilitator to decrease the DSR from 3.93% to 3.80%.

Enhanced Dai Savings Rate (EDSR)

At the time of writing, the DSR utilization rate is approximately 27.7%. According to the Stability Scope language, the EDSR should remain at 5.00% up until DSR utilization surpasses 35% for a continuous time period of 24 hours (Tier 2). Once Tier 2 is entered, a new multiplier is applied to the DSR in order to establish a new EDSR. If the DSR utilization exceeded 35% today, Tier 2 DSR would result in an EDSR of 4.37%. However, since this is currently not the case, no changes will be made at this point in time.

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The DSR utilization rate is under 35%. Hence, no EDSR (and thus effective DSR) changes should be made.

Exposure Based Model for Determining Stability Fees

Methodology

[MIP102c2-SP21](#) introduces a new methodology for calculating Stability Fees/Effective DAI Borrow APY for Native Vault Engine Collateral, Non-Native Vault Engine Collateral, and Spark. This methodology was proposed by BA Labs in the [Atlas Rate System for Stability Fee Research & Introduction to Exposure Based Model](#) forum post. In summary, with the new Exposure Based Model for calculating Stability Fees (SFs), there is a corresponding variability in Stability Fees to reflect the changing risk profile of a particular Vault Type as the exposure of that Vault Type increases.

The new methodology calculates the Stability Fee of a particular Vault Type as follows:

SF = Initial Rate + LR Spread + Exposure Spread (ES) + Asset Spread (AS)

And the Spark DAI Effective borrow APY as follows:

Spark DAI Effective borrow APY = Dai Savings Rate (EDSR while active) + Liquidation Ratio Spread + Asset Spread

Initial Rate and LR Spread follows the same logic as the previous Stability Fee Model:

- Initial Rate

= Dai Savings Rate (EDSR while active) for Native Vault Engine Collateral and the Spark D3M

- Initial Rate

= Yield Collateral Yield Benchmark for Non-Native Vault Engine Collateral

- LR Spread

= Assigned spread for each particular Vault Type defined in[14.3.1.3C](#) in MIP102c2-SP21.

- ES

and AS

are Heaviside equations with two kinks:

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Where:

- SR: Starting Rate

- K: Current %Exposure (rounded to two decimal places)

- Ka: Kink 1

- Kb: Kink 2

- KFa: Kink 1 Factor

- KFb: Kink 2 Factor

Exposure Based Model Plot

With the current parameters defined in[MIP102c2-SP21](#), the Exposure Based Model results in the following spreads:

ETH

- SR = 0.00%

- Ka = 0.00%

- Kb = 40.00%

- KFa = 0.01375%

- KFb = 0.0875%

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WSTETH

- SR = 0.00%

- Ka = 0.00%

- Kb = 20.00%

- KFa = 0.00875%

- KFb = 0.0250%

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WBTC

- SR = 1.00%

- Ka = 3.00%

- Kb = 10.00%

- KFa = 0.00875%

- KFb = 0.08%

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Spark

- SR = 0.00%

- Ka = 0.00%

- Kb = 30.00%

- KFa = 0.0015%

- KFb = 0.07%

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To learn more about the methodology of the new Exposure Based Model, refer to the forum post Atlas Rate System for Stability Fee Research & Introduction to Exposure Based Model.

Implementation

Exposures

As of January 17, the following exposure percentages (K) have been calculated:

Stability Fee Parameters

With (i) ETH exposure = 27.43%, (ii) WSTETH exposure = 12.46%, (iii) WBTC exposure = 2.65%, and (iv) Spark D3M exposure = 15.53%, the following Initial Rate, LR Spread, ES, and AS should be applied to each respective Vault Type:

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For the complete calculation of the Stability Fees, refer to sections below.

Native Vault Engine Collateral Parameters

Native Vault Engine Collateral in the Stability Scope include ETH-A, ETH-B, ETH-C, WSTETH-A, and WSTETH-B.

Stability Fees

At the time of writing, the ETH-based ES is 1.49% and the WSTETH-based AS is 0.42%. This results is the following SFs for ETH and WSTETH-based collateral:

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BA Labs recommends the Stability Facilitator to perform the following parameter changes to Native Vault Engine Collateral:

Stability Fee (SF) changes:

- ETH-A: Increase SF from 5.25% to 6.74%

- ETH-B: Increase SF from 5.75% to 7.24%

- ETH-C: Increase SF from 5.00% to 6.49%

- WSTETH-A: Increase SF from 5.25% to 7.16%

- WSTETH-B: Increase SF from 5.00% to 6.91%

Non-Native Vault Engine Collateral Parameters

Non-Native Vault Engine Collateral in the Stability Scope include WBTC-A, WBTC-B, and WBTC-C.

Stability Fees

At the time of writing, the WBTC-based ES is 1.00%. This results is the following SFs for WBTC-based collateral:

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BA Labs recommends the Stability Facilitator to perform the following parameter changes to Non-Native Vault Engine Collateral:

Stability Fee (SF) changes:

- WBTC-A: Increase SF from 5.79% to 6.70%

- WBTC-B: Increase SF from 6.29% to 7.20%

- WBTC-C: Increase SF from 5.54% to 6.45%

Spark D3M Parameters

Effective DAI borrow APY

At the time of writing, the Spark D3M-based AS is 0.96%. This results is the following Effective DAI borrow APY for the Spark D3M:

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BA Labs recommends the Stability Facilitator to perform the following parameter changes to the Spark D3M:

Effective DAI borrow APY Changes:

- Increase Effective DAI borrow APY from 5.53% to 6.46%

Reduce PSM-USDP-A Debt Ceiling & Disable DC-IAM

In MIP102c2-SP21, 7.2.1.3.1A no longer recognizes USDP as a Cash Stablecoin, which means that the PSM-USDP-A (PSM-PAX-A) maximum debt ceiling must be reduced to 0 and removed from Autoline

.

BA Labs recommends the Stability Facilitator to decrease the DC-IAM LINE (max DC) of PSM-USDP-A by 120M DAI, from 120M to 0 and Remove PSM-USDP-A from Autoline

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RETH-A Offboarding

In Stability Scope Parameter Changes #6, posted in September 2023, BA Labs initiated the offboarding of RETH-A from Maker Core. We proposed that the offboarding should be performed in two parts:

1. Set RETH-A DC-IAM Line (max DC) to 0 (zero) in October.

2. At a later date, perform the remaining offboarding parameter changes.

We now propose to initiate step two of the offboarding.

As such, if the Stability Facilitators considers it appropriate to complete the RETH-A offboarding in the next governance cycle, BA Labs proposes the following RETH-A offboarding parameters:

- Set Liquidation Ratio (LR) to 10,000%.

- Set Liquidation Penalty (Chop) to 0%.

- Set Proportional Kick Incentive (Chip) to 0%.

- Set Flat Kick Incentive (Tip) to 0.

The proposed offboarding parameters are designed to minimize costs to users and the protocol. Tip and chip are set to zero as to reduce potential farming possibility. There is no emergency, so these positions can be liquidated in a slow manner. The liquidation ratio is sufficiently high to liquidate all positions, accounting for potential price increase of the collateral assets before the changes are executed on-chain. Current debt exposure of rETH-A is 1.79M dai, consisting of 20 vault positions, where the largest one represents 842k debt and where the remaining vaults are much smaller.

The offboarding process will be conducted according to MIP62.