SwissBorg Community Index

SwissBorg

April 6, 2022

Abstract

This white paper presents the SwissBorg Community Index in detail. The goal of the Community Index is to determine a score based on the key figures of the SwissBorg ecosystem. It will be used to define a new rewards model for SwissBorg app users and SwissBorg token (CHSB) holders in a sustainable way.

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2 Goal of the Community Index

The goal of the Community Index is to determine a score based on the key figures of the SwissBorg ecosystem. This score, which is set between 0 and 10 and updated on a weekly basis, is used to define the yield that users will receive in their CHSB Smart Yield account. The Community Index for the week to come will officially be communicated every Tuesday.

The different goals of this index are to:

- Link the growth and performance of the SwissBorg ecosystem with its community

- Coupled with the CHSB Smart Yield account, give a sustainable income to users based on ecosystem growth

- Provide an incentive to hold CHSB tokens, beyond what is required to get a Premium Account

- Involve users with passive income in the monitoring of SwissBorg's development and growth

- Increase SwissBorg's positioning as a leader in community-centric initiatives and products

- Improve retention and boost the engagement of existing and new community members

3 How the score works?

The Community Index is a weighted sum of the following six sub-scores defined between 0 and 1:

- S_{volume}: SwissBorg App Volume Score

- S_{CHSB}: SwissBorg (CHSB) Token Score

- $S_{activity}$: SwissBorg App Activity Score

- $S_{holders}$: CHSB token holder growth Score

- $S_{invitations}$: Ecosystem Growth by invitations Score

- S_{social}: SwissBorg's Social Media Engagement Score
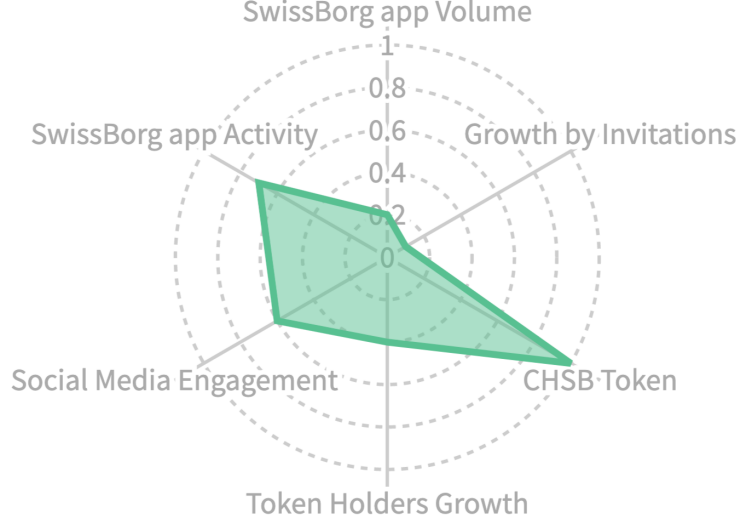
The total SwissBorg Community Index $SBCI$, set between 0 and 10 is calculated as follows:

$$SBCI = 3 \cdot S_{volume} + 2 \cdot (S_{CHSB} + S_{activity}) + S_{holders} + S_{invitations} + S_{social} \qquad (1)$$

Each of these scores is defined between 0 and 1 and are functions of key ecosystem metrics. Two different functions are used for different types of scores and are updated weekly.

Subscores	Function
S_{volume}, S_{CHSB}	$S_i(x_T, k, x^0) = \min(\frac{1}{(1+e^{-k(x_T - x^0)})} + c, 1)$
$S_{activity}, S_{holders}, S_{invitations}, S_{social}$	$S_i(x_T) = \frac{x_T - \min(\{x_t | t \geq T-5\})}{\max(\{x_t | t \geq T-5\}) - \min(\{x_t | t \geq T-5\})}$

Table 1: The two types of function defined between 0 and 1: a Sigmoid function for long-term growth and a stochastic oscillator to score the volatile metrics. T is the week in which the score is calculated and t the previous weeks.

3.1 S_{volume}: SwissBorg App Volume Score

An important component of our ecosystem is the volume generated in the SwissBorg app from exchanges and the amount locked in the different Smart Yield accounts (CHSB Smart Yield account excluded). The volume score depends on three variables:

- x_T: the logarithm of the weekly volume in million \$ over the past week

- x^0: the central value of the logarithm of the weekly volume in million \$ ($1.3 = \log(20)$ on 23.11.2020)

- $k = 4$

- $c = 0$

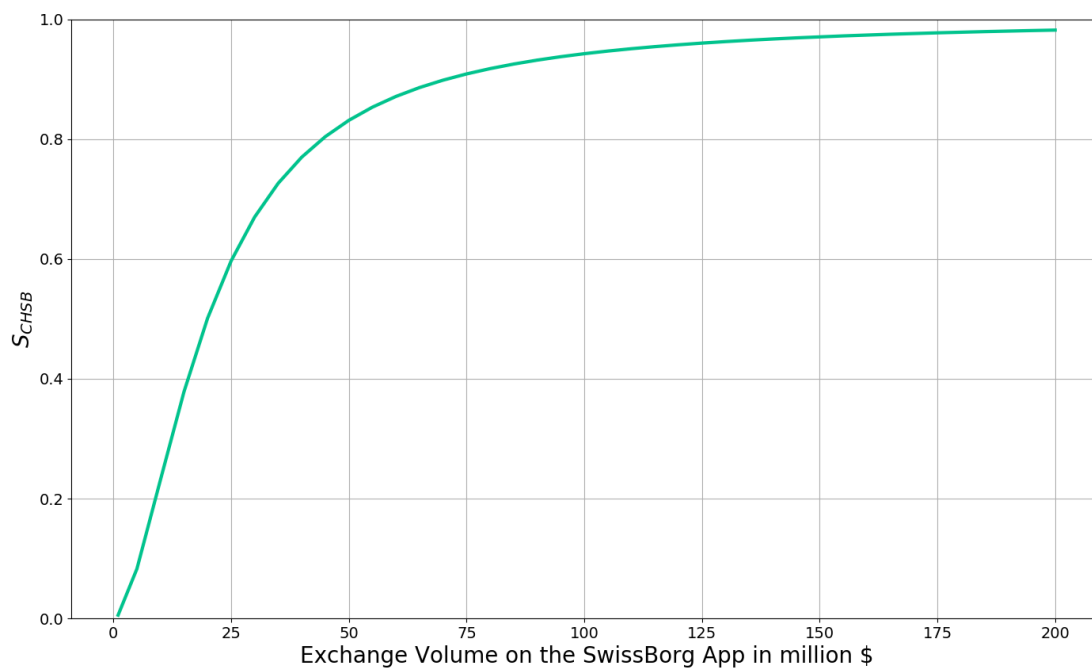Thus the higher the exchange volume and the amount locked in the Smart Yield account, the higher the score.

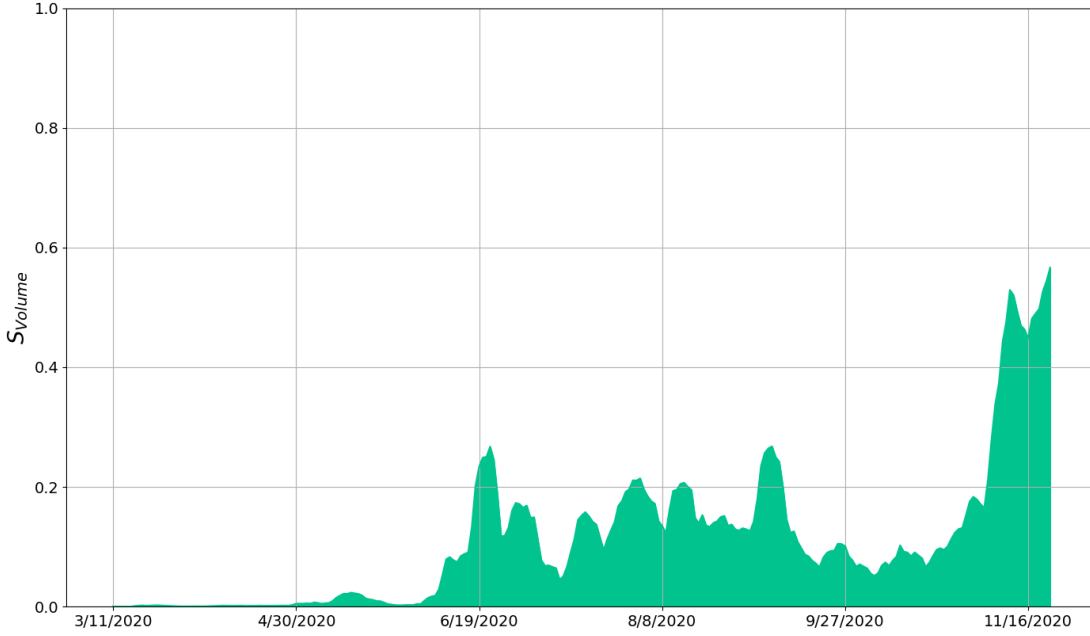Figure 1: S_{Volume} as a function of the weekly volume in million $.

Figure 2: Historical value of S_{Volume} since the release of the SwissBorg app.

3.2 S_{CHSB}: SwissBorg (CHSB) Token Score

The second most important component of the Community Index is the CHSB token subscore. This score is a function of the trading volume (on CoinMarketCap) and the price of the CHSB token in US dollars:

- x_T: the logartithm of the average daily exchange volume over the last 7 days (CMC) in $.

- x^0: the central value of the logarithm of the average daily volume over the last 7 days of the volume in $ ($1'000'000$ on 23.11.2020)

- $k = 3.5$

- c: is equal to the SwissBorg Token (CHSB) Price in $

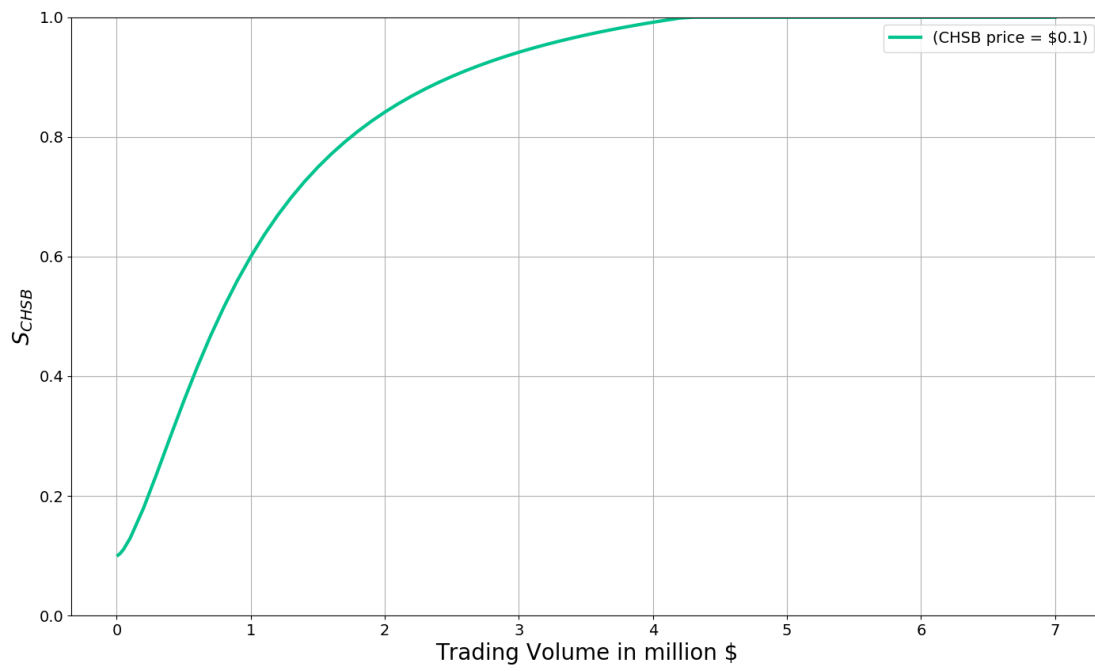Thus, a higher volume with a higher price will give a larger score.

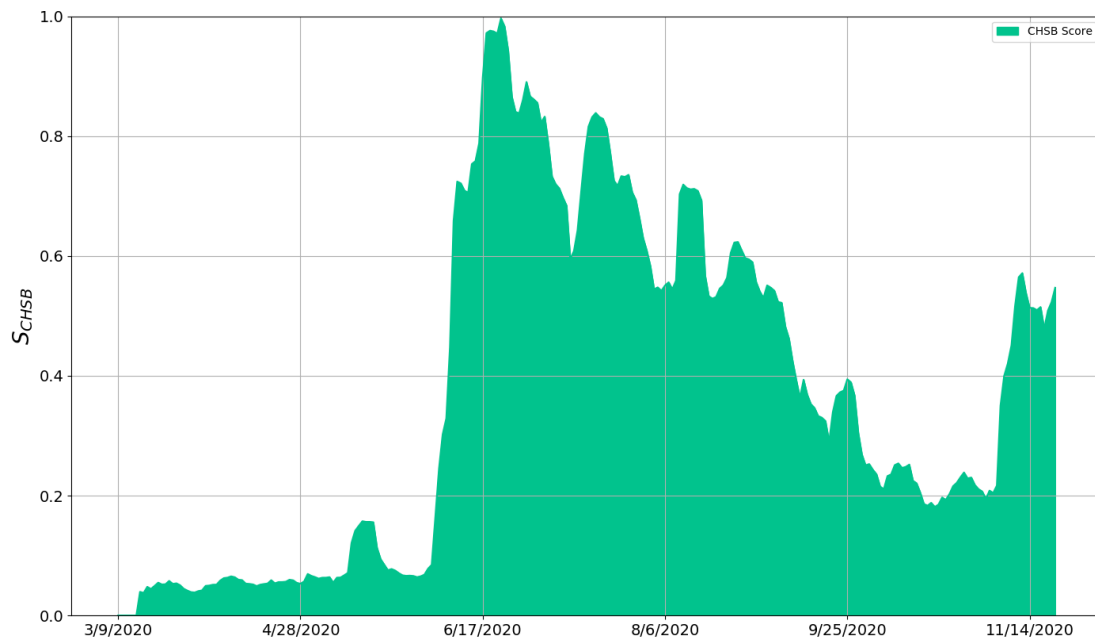Figure 3: S_{CHSB} as a function of the volume for a CHSB price at 0.1 USD

Figure 4: Historical value of S_{CHSB} since the release of the SwissBorg app.

3.3 $S_{activity}$: SwissBorg App Activity Score

This subscore is a measurement of the SwissBorg app weekly growth in terms of the users activity. When significant growth and large activity is observed in the previous week, the score will be higher. As presented in the table above, this score is simply a stochastic oscillator comparing the results of the last 5 weeks. If the number of active users is at its lowest in the last 5 weeks, the value will be "0" while if the value of growth is at its highest, the value will be equal to "1".

This momentum indicator is relatively volatile but rewards trend reversals:
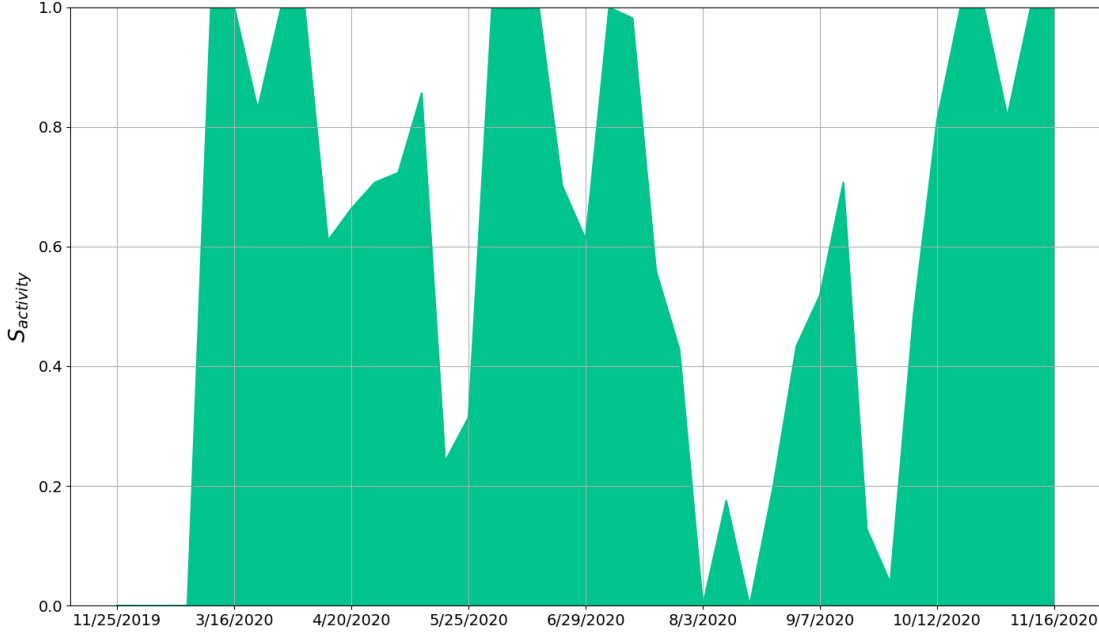

Figure 5: Historical value of $S_{activity}$ since the release of the SwissBorg app.

This means that the more users who open the app, make deposits, trade, check their portfolio or use the hourly asset analysis, the higher this score will be.

3.4 $S_{holders}$: Growth of the number of token holders

The Number of CHSB Token holders score is similar to the SwissBorg App Activity Score but in terms of number of CHSB token holders. It is also a stochastic oscillator that tracks the evolution of the number of token holders over the last 5 weeks compared to the current week. This means that the more token holders in comparison to previous weekds the higher the score.

3.5 S_{social}: Social Media Engagement Score

The Engagement Scores on social networks also follow a stochastic oscillator that compares the evolution of engagements over the last 5 weeks compared to the current week for:

- The sum of weekly engagement on Facebook, Youtube, Twitter, LinkedIn and Instagram

3.6 $S_{invitations}$: Ecosystem Growth by invitations Score

This score take into consideration the number of new users invited by other users through the reward program or any other invitation system in the future. As a user, inviting other users will contribute to increase this score and thus increase the Community Index.