

SwissBorg Community Index & CHSB Smart Yield Account

SwissBorg

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Abstract

This white paper presents the SwissBorg Community Index and the CHSB Smart Yield 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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1 Introduction

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 plan is to extend that mechanism to set the value of the Reward Program, the Protect & Burn level as well as the DAO Reward based on the Community Index. The Community Index for the week to come will officially be communicated every Tuesday.

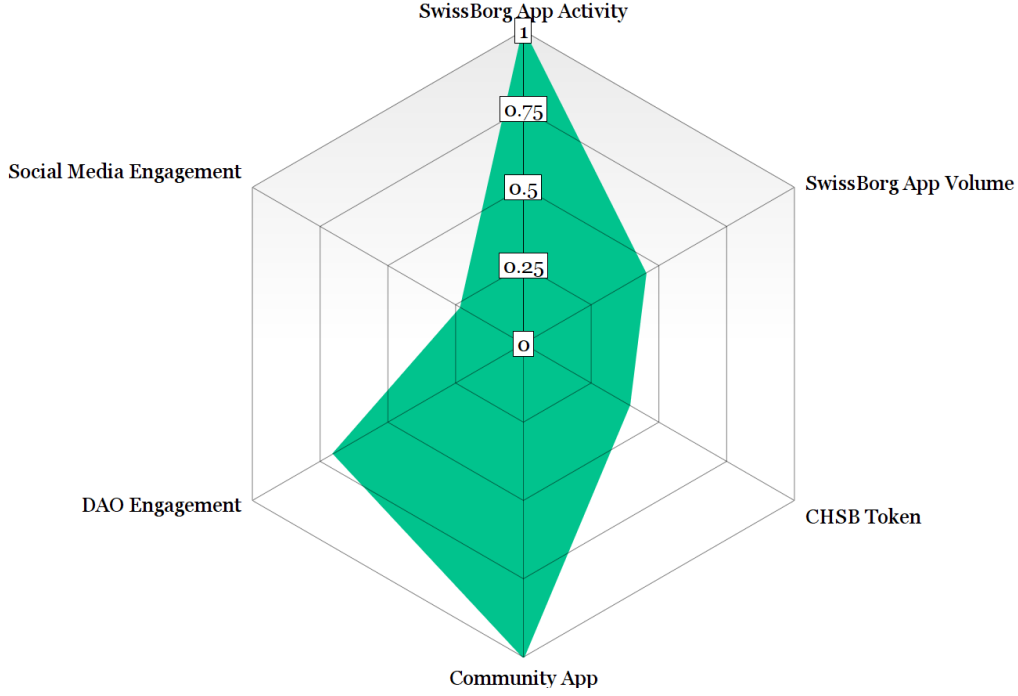
The different goals of this index are to:

- 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_{CAP} : Community App Score
- S_{DAO} : SwissBorg's DAO Engagement Score
- S_{social} : SwissBorg's Social Media Engagement Score



The total SwissBorg Community Index $SBCI$, set between 0 and 10 is calculated as follows:

$$SBCI = 3 \cdot S_{volume} + 2 \cdot (S_{CHSB} + S_{activity}) + S_{CAP} + S_{DAO} + S_{social} \quad (1)$$

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}	$S_i(x_T, k, x^0) = \min\left(\frac{1}{(1+e^{-k(x_T-x^0)})} + c, 1\right)$
$S_{activity}, S_{CAP}, S_{DAO}, S_{social}$	$S_i(x_T) = \frac{x_T - \min(\{x_t t \geq T-5\})}{\max(\{x_t t \geq T-5\}) - \min(\{x_t t \geq T-5\})}$

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.

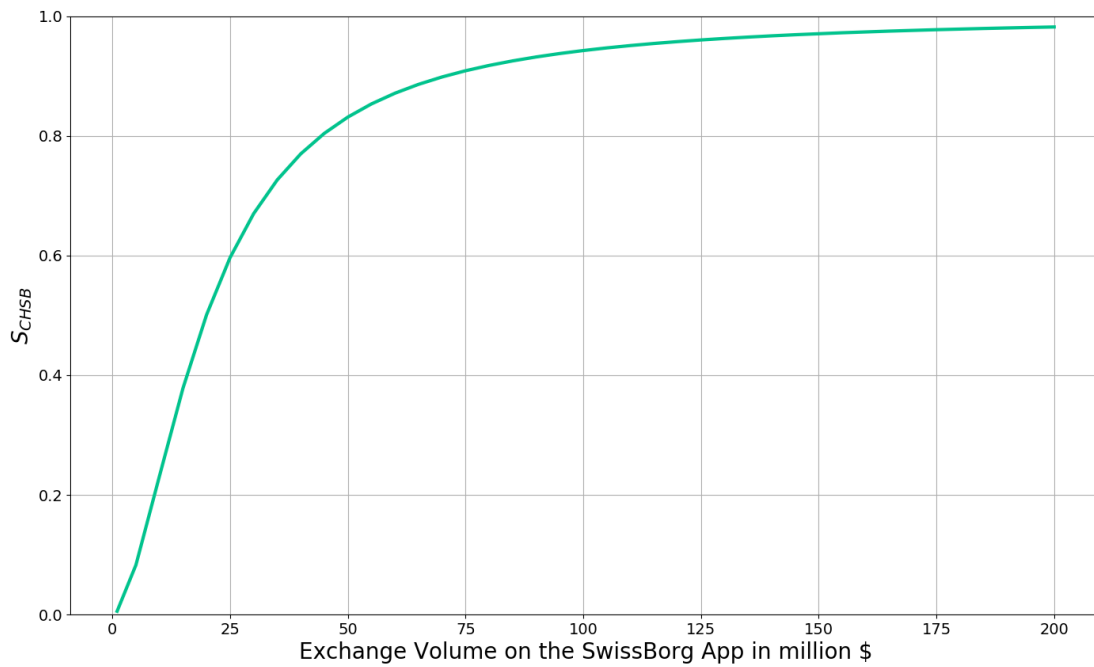


Figure 1: S_{Volume} as a function of the weekly volume in million \$.

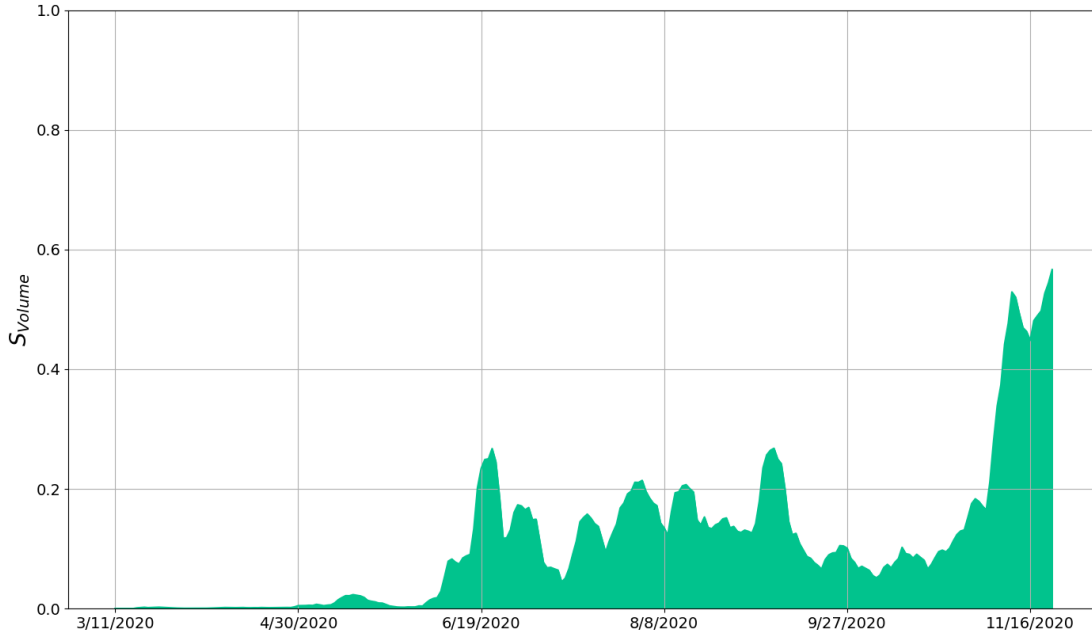


Figure 2: Historical value of S_{Volume} since the release of the SwissBorg app.

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 logarithm 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.

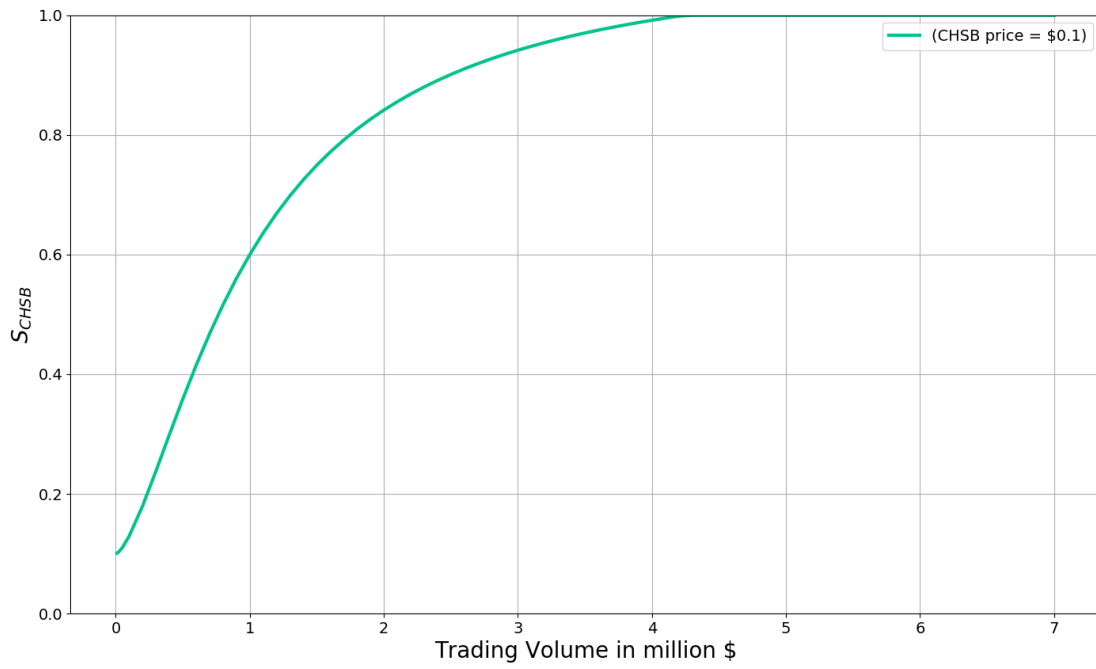


Figure 3: S_{CHSB} as a function of the volume for a CHSB price at 0.1 USD

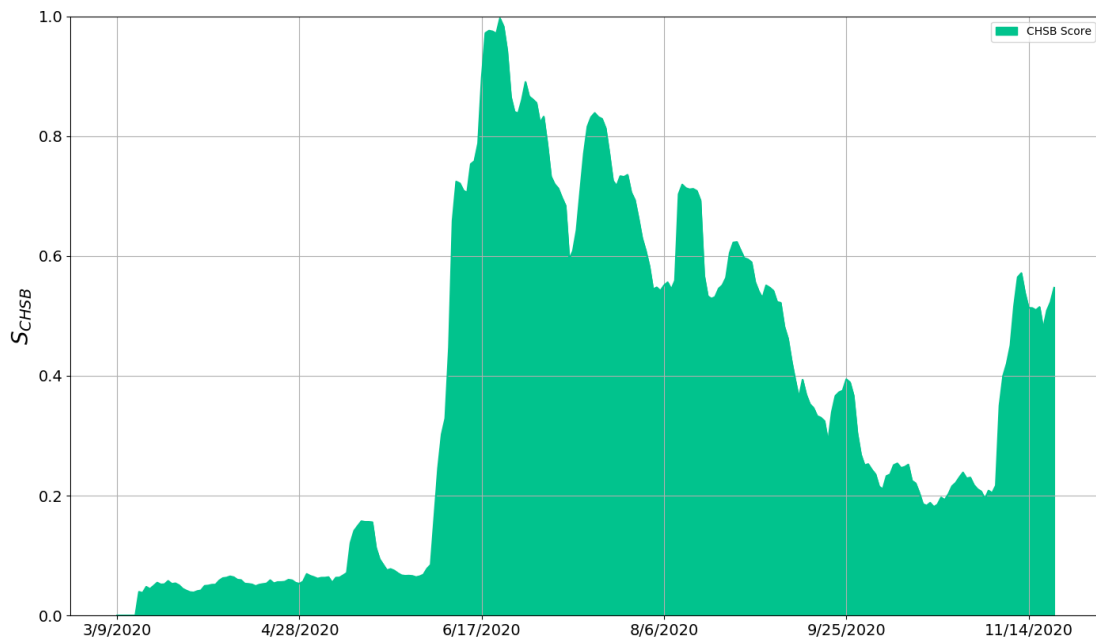


Figure 4: Historical value of S_{CHSB} since the release of the SwissBorg app.

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

This subscore is a combined measurement of the SwissBorg app weekly growth in terms of new users and the activity of the users in the app. When significant growth and large activity is observed in the previous week, the score will be higher.

The SwissBorg App Activity Score is a combination of two sub-scores: the one based on the number of new users verified in the last 7 days and the one based on the number of active users (an active user is a user who has made a deposit, an exchange or consulted his portfolio reporting) in the last 7 days:

$$S_{activity} = \sqrt{\frac{S_{verified}^2 + S_{active}^2}{2}} \quad (2)$$

As presented in the table above, this score is simply the combination of two stochastic oscillators comparing the results of the last 5 weeks. If the number of active users and the number of verified 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:

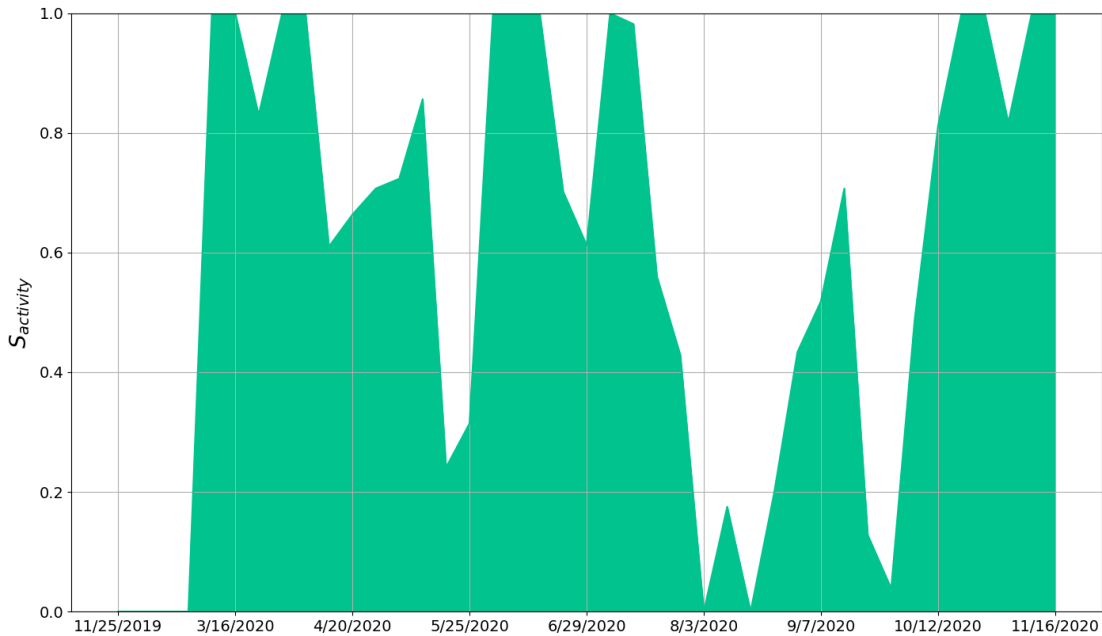


Figure 5: Historical value of $S_{activity}$ since the release of the SwissBorg app.

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_{CAP} : Community App Score

The Community App Score is similar to the SwissBorg App Activity Score, but for the Community App. It is also a stochastic oscillator that tracks the evolution of the number of new players on

the Community App over the last 5 weeks compared to the current week.

3.5 S_{DAO}, S_{social} : DAO & Social Media Engagement Score

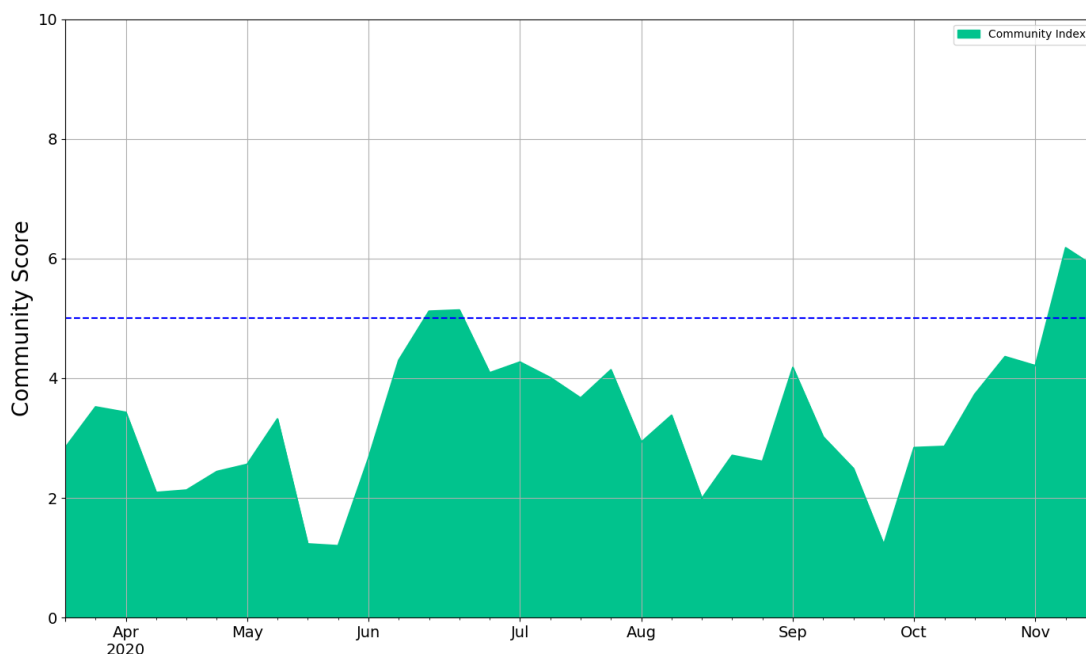
The Engagement Scores on the DAO and on social networks also follow a stochastic oscillator that compares the evolution of engagements over the last 5 weeks compared to the current week for:

- The number of weekly Active Members in the SwissBorg’s DAO in the last 7 days
- The sum of weekly engagement on Facebook, Twitter, LinkedIn and Instagram

3.6 Community Index Historical Values

Since the release of the SwissBorg app, it has been possible to determine the historical value of the Community Index as well as the detail of these components over time.

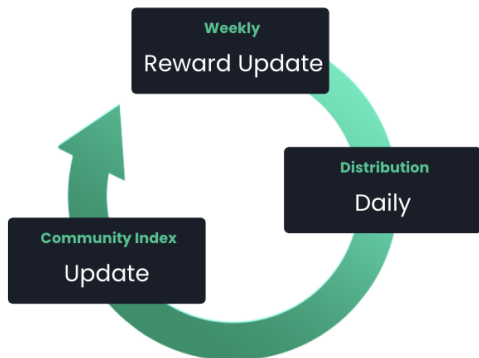
In times of strong growth, the score is boosted by important activities and commitments. In order to reach significant levels above 6.00, it is critical to have engagement and growth but also a high exchange volume on the SwissBorg app as well as a healthy trading volume on the CHSB token.



4 CHSB Smart Yield & Community Index

With the introduction of the Community Index, we are happy to announce the development of a CHSB Smart Yield account. The number of CHSB that will be distributed the following week is computed on the Tuesday before the Pow Wow, based on the Community Index and the number of CHSB held in the CHSB Smart Yield account. The Community Index is then mapped to a reward

value in CHSB (this table is updated every quarter and adjusted, see example below). According to this table, CHSB tokens will be bought back in some proportion. Finally, all users who hold CHSB tokens in their CHSB Smart Yield account will get a reward proportional to the amount held in the CHSB Smart Yield account on a daily basis.



The reward per annum (p.a.) will be thus proportional to the Community Index and will depend on the number of CHSB held by the users in the CHSB Smart Yield account. In the following table, you will find an example of the mapping between the Community Index and the CHSB reward distributed (for Premium users).

Reward Per Annum (p.a*) vs Amount of CHSB in the Smart Yield Account by all the users				
Community Index	50M	100M	200M	300M
0-2	0-5%	0-3%	0-1%	0-1%
2-4	5-11%	3-5%	1-3%	1-2%
4-6	11-17%	5-8%	3-4%	2-3%
6-8	17-23%	8-11%	4-5%	3-4%
8-10	23-30%	11-14%	5-7%	4-5%

Figure 6: Example of the mapping between the Community Index and the number of CHSB that will be distributed in following week. In addition, APY computed with different amount of CHSB held in the CHSB Smart Yield account (CHSB staked by the Premium utility excluded). *NB: These APY's are computed for Premium Users.*