

Economy setup

Token function. The Equilibrium token (EQ) will serve as the main utility token of the Equilibrium blockchain which in turn will be a substrate/parachain in the polkadot network. As such the EQ token will serve several functions

- Collection of fees for the DeFi applications on the network (mandatory)
- Validator's rewards (mandatory)
- Collateral for DeFi applications (optional). Throughout the calculations in this document we will assume no EQ used as collateral. If the case (as expected) proves to be different, said EQ would reduce the circulating supply of the token.

Similarities and benchmarks. Conceptually the EQ token bears similarities to the Maker token (MKR) in its function as a DeFi enabler and to ETH in its function as the main DeFi blockchain. We will use those 2 as benchmarks further in this document.

Inflation. EQ will have an annualized inflation of 2.5% (based on the initial token supply post token sale) which is often considered to be within the optimal inflation (for price stability and usage stimulus) rate¹²³.

Token swap. A token swap will be enabled for all current holders of the NUT token, who wish to switch over to the new network. Swap participants will be able to exchange their NUT tokens at the best possible Initial Parachain Offering price and get an additional bonus of between 0 and 25 EQ on top of that. The swap event will happen before the IPO and the bonus will gradually decrease as the date of the IPO approaches. The best IPO price, represented in NUT tokens is 75-to-1 based on current NUT and DOT prices (75 EQ for 1 NUT). We have added a 33% premium to this number, due to the fact that DOT users who got EQ token via Initial Parachain Offering will get their DOT tokens back at the end of the lease, bringing the final number to 100-to-1.

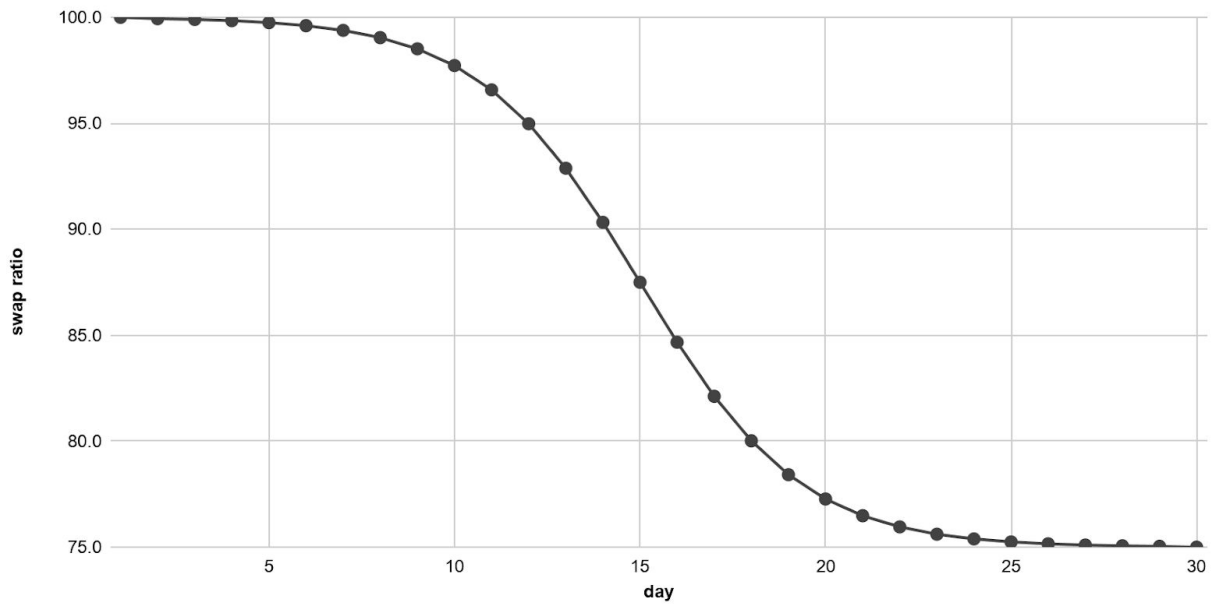
The Token swap period will be lasting for one month (30 days) when NUT holders can lock their NUT stakes and wait until the EQ token generation event. The initial exchange rate of 100-to-1 will be mathematically decreased during this month according to the S-curve. So NUT holders who locked tokens earlier will get a better exchange rate. They can unlock their NUT anytime before the EQ token generation event but they will miss the opportunity to get the initial bonus.

As a result, the best swap rate which can be obtained is 100-to-1 (25 bonus EQ) while the worst swap rate is 75-to-1 (0 bonus EQ). The rates are depicted on the chart below.

¹ https://www.kansascityfed.org/PUBLICAT/ECONREV/PDF/2q08billi_kahn.pdf

² <https://www.economicshelp.org/blog/2114/inflation/optimal-inflation-rate/>

³ <https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp2370~54ad76d487.en.pdf>



EQ tokens per one NUT token during the token swap period of 30 days.

EQ sales. EQ will be made available to investors on three occasions.

- As a bonus during the private equity funding round of the network
- During the NUT -> EQ token swap as outlined above
- During Initial Parachain Offering (IPO). This document focuses on that kind of EQ sales.

The IPO sale will be held in the form of a lease sale, where DOT token holders lease their tokens to Equilibrium for the purpose of participating in a parachain auction. DOT token holders will always get the full amount of their tokens back. The events when this will happen, respectively are

- If Equilibrium does not win the parachain auction
- If Equilibrium wins the parachain auction, tokens will be distributed back at the end of the parachain lease

Economy assumptions

Staking. Looking at other blockchains having proof of stake at their core, we can see that

- EOS has roughly 56%⁴ of all tokens staked with an annual inflation rate of 1%⁵
- Polkadot is targeting 50% stakes with an annual inflation rate of 20%⁶
- Ethereum projects using PoS expect an annual inflation rate of around 1%⁷

Our goals are 2.5% inflation (higher than EOS / ETH) with around 50% staked (this estimate will be used to determine expected circulating tokens), with the inflation rate being periodically adjusted to achieve this percentage.

Collateral. We estimate that around 17.5% (this estimate will be used to determine expected circulating tokens) of all EQ tokens would be locked as collateral at any given point in time. As a benchmark, we use Synthetix with 71%⁸ of locked tokens at the time of writing this document. Our number is significantly lower, since

- We are assuming half of the EQ supply will be used for staking
- We will have a lower proportion of collateral in EQ (about half) from the remaining supply, due to the fact that we are allowing multiple forms of collateral

Lost tokens. Inevitably some small % of tokens is going to be lost each year (lost private keys). We have done a conservative estimation of 0.5% of all tokens being lost per year. This is a conservative estimate, as studies have found that approximately 4 MM Bitcoins have been lost (approximately 25% of the available bitcoin supply as of 2017), over the course of 10 years⁹. Other estimates show this to be closer to 11% for coins proven to have been lost¹⁰.

Speculative action. In our assumptions, we have not included any speculative action assumptions, considering only the pure utility of the token.

⁴ <https://eosnetworkmonitor.io/>

⁵ <https://cointelegraph.com/news/eos-holders-vote-to-reduce-the-annual-inflation-from-5-to-1>

⁶ <https://research.web3.foundation/en/latest/polkadot/Token%20Economics.html>

⁷ <https://www.coindesk.com/3-ways-staking-will-upend-the-economics-of-ethereum>

⁸ <https://defipulse.com/synthetix>

⁹ JEFF JOHN ROBERTS and NICOLAS RAPP (2017) Exclusive: Nearly 4 Million Bitcoins Lost Forever, New Study Says

<http://fortune.com/2017/11/25/lost-bitcoins/>

¹⁰ Coinmetrics: <https://coinmetrics.substack.com/p/coin-metrics-state-of-the-network-d2e>

EQ Financials & token generation event (genesis block)

Basics:

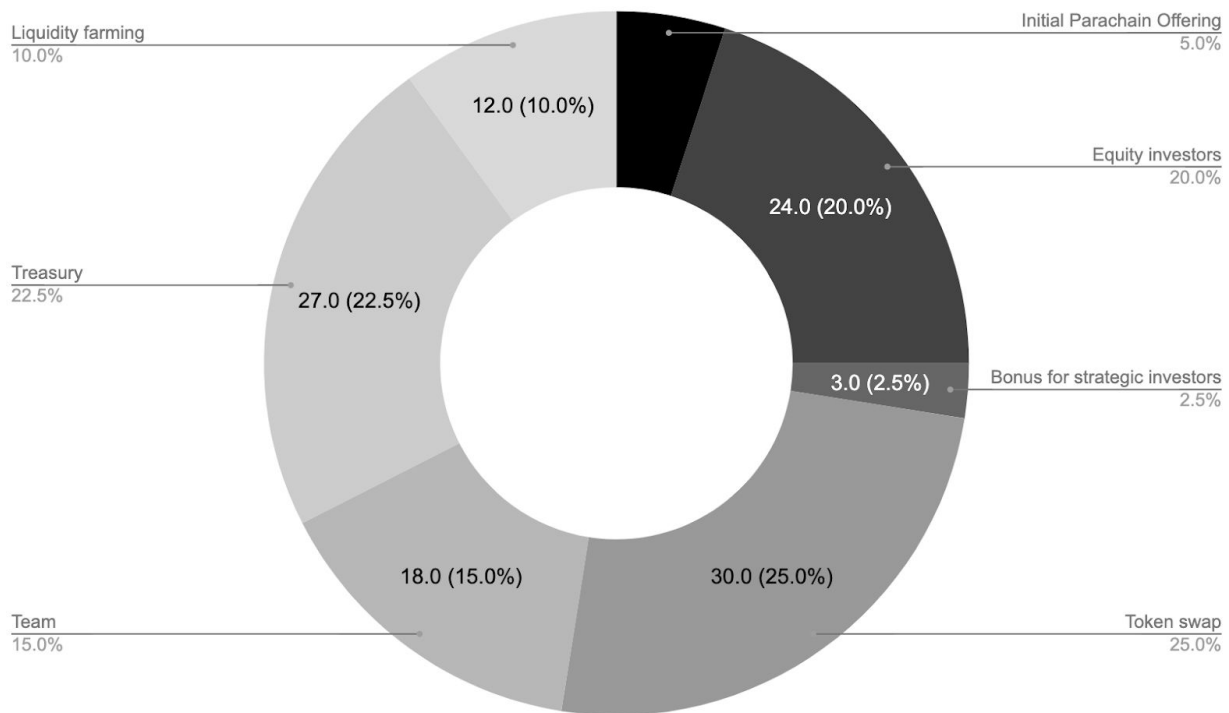
└ Ticker:	EQ
└ IPO start date:	TBD
└ IPO end date:	TBD
└ IPO Denomination currency:	DOT
└ Accepted currencies:	DOT
└ Jurisdiction:	Cayman Islands
└ Eligibility:	Subject to KYC and AML
└ Token purchase contract:	SAFT
└ IPO waves:	1

Token Generation Event Summary:

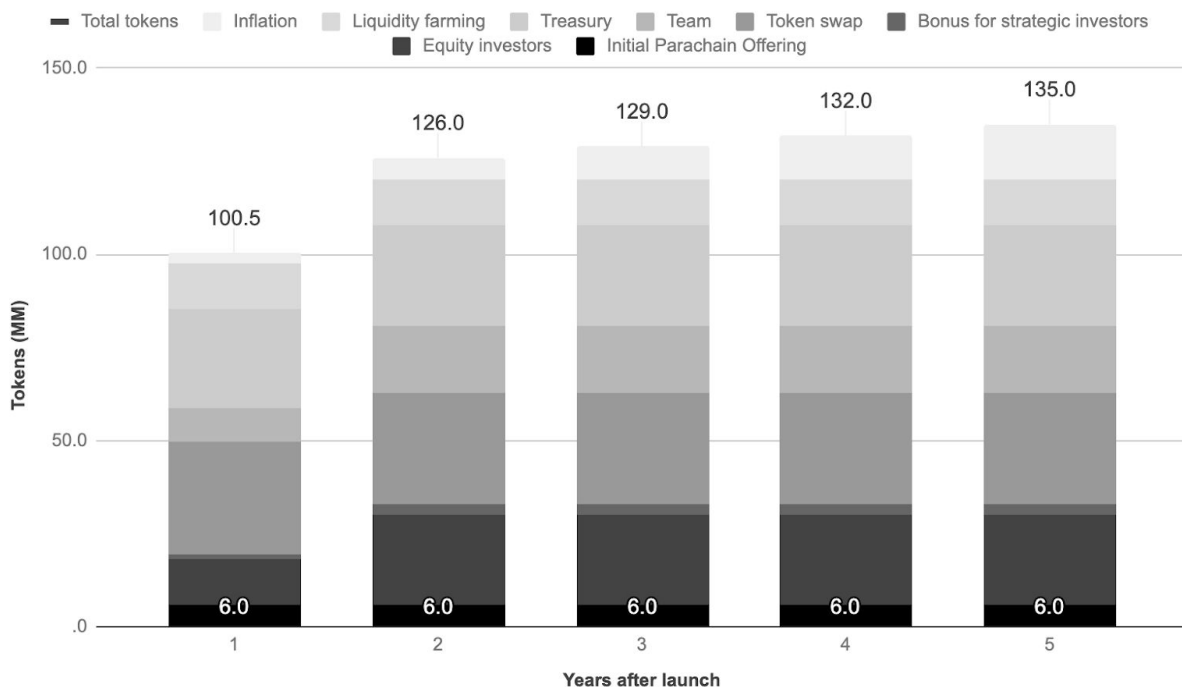
└ Sale type:	Initial Parachain Offering (IPO)
└ Softcap:	NA
└ Hardcap:	1000 K DOT
└ IPO Tokens:	6000 K EQ*
└ Remaining tokens post IPO:	burned
└ IPO allocation:	5%
└ Initial Total Tokens:	120000 K EQ
└ Token type:	Inflationary

Token Sale

└ Token price:	0.167 DOT
└ Wave cap:	1000 K DOT
└ Cumulative number of tokens available:	6000 K EQ
└ Cumulative cap:	1000 K DOT
└ Minimum investment:	100 DOT
└ Maximum investment:	TBD
└ Wave start:	TBD
└ Wave end:	TBD

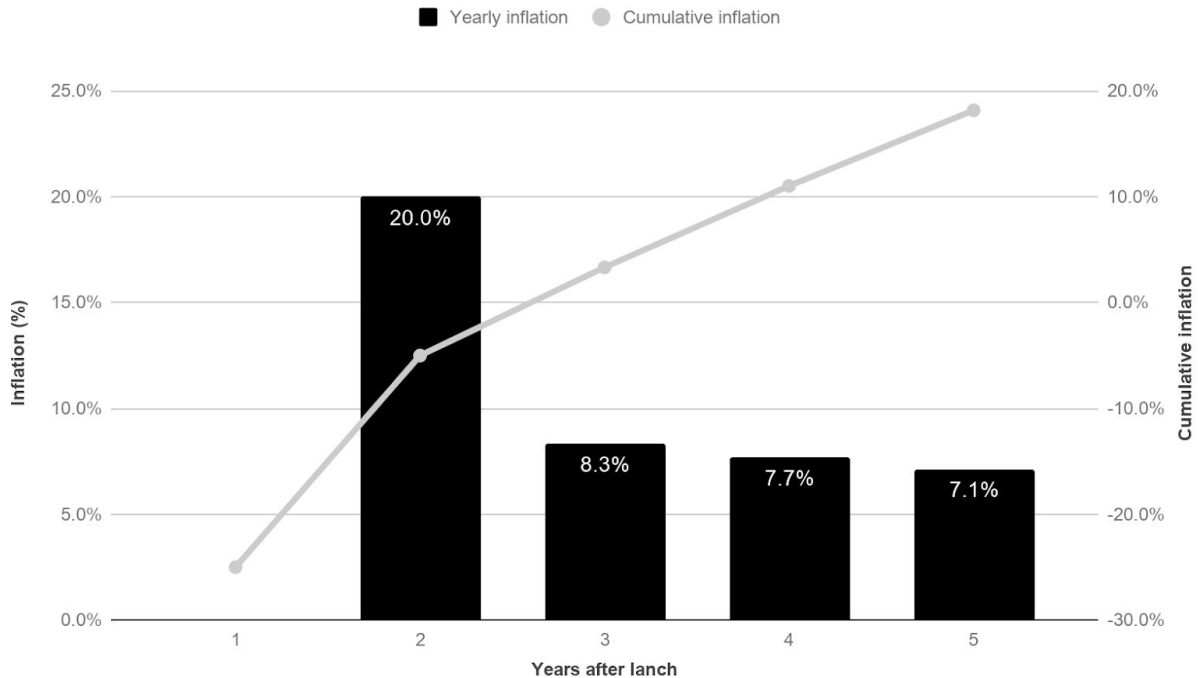


Total token allocation¹¹. Assumes reached Hardcap.



Expected actual token circulation (numbers at the bottom) compared to the total released tokens to date (numbers at the top)

¹¹ Treasury allocations will be used to ensure the system's stability, for public distributions and in case the company needs to raise additional funds through additional token sales



Token inflation, based on release schedule of vested tokens + regular inflation. Cumulative and year-on-year.

Vesting

The EQ team will have a vesting period of 2 years (their token allocation will gradually be released during this period).

Equity investors will have a vesting period of 2 years (their token allocation will gradually be released during this period).

NUT/EQ token swap participants

- Those who held NUT before August 1 will have no vesting period
- Others can claim 10% of their allocation right after TGE, 90% are a subject to a vesting period of 1 year

Parachain auction will have no vesting period.