ELC: A Decentralized Anti-Inflation Algorithmic Stablecoin

Abstract

In 2020, the rapid growth of the Decentralized Finance (DeFi) market drove the market cap of digital stablecoins to exceed 30 billion U.S. dollars over a short period of time, and it is expected to exceed 100 billion U.S. dollars in the near future. However, more than 90% of digital stablecoins remain fiat-collateralized stablecoins with a strong centralization nature. Among them, USDT (Tether), the largest in market capitalization, has been widely questioned about its inadequate reserves and may encounter major regulatory risks. In the future, the market share of decentralized stablecoins will steadily increase and grow sharply with the rapid expansion of the DeFi market. The DeFi concept is derived from the Ethereum ecosystem, and the Polkadot protocol with the vision of Multi-Chain interconnection to provide the best infrastructure for the large-scale expansion trend of the DeFi market.

Cycan network (CYN) is a parachain based on the Polkadot network, and Everlasting parachain (ELP), the canary network of the Cycan network, is the parachain based on the Kusama, CYN&ELP network are planed to be deployed on ETH, BSC and Tezos, etc, with its vision of building a decentralized cross-chain asset management platform. Everlasting Cash (ELC) will be playing an significant role in the Cycan ecosystem as the stablecoin, and connected to the Polkadot ecosystem. The Everlasting Parachain (ELP) is a parallel chain based on the Polkadot protocol, aiming to build a decentralized algorithm-based digital stablecoin ELC (Everlasting Coin), with a stable target pricing of one U.S. dollar for each ELC, in the future, the ELCaim (pegged rate) will be continuously adjusted and stabilized by the anti-inflation factor (K), forming an anti-inflation algorithmic stablecoin mechanism using Substrate.

Decentralized digital stablecoins include collateralized stablecoins and algorithmic stablecoins. One example of the collateralized stablecoin is DAI, which has a market cap of 1.2 billion US dollars with over-collateralization as its merit, while the demerit is that when the price of the collateral assets falls, it has insufficient stability mechanisms. On March 12, 2020, the extreme decline of Ethereum almost led to a complete system crisis. Algorithmic digital stablecoins such as AMPL, BASIS, etc., are known for totally algorithmic governance, open and transparent rules, but they

also have an unstable price, which can be described as low-volatility digital currency, not stablecoins.

Everlasting Cash (ELC), is a decentralized anti-inflation algorithmic stablecoin with reserves. The ELC ecosystem not only uses digital currencies as system reserves to ensure the basic value of stablecoins, but it also uses algorithms to control the supply of ELC so that the price approaches ELCaim. The system reserve fund of the ELC protocol can be digital assets such as CYN, ELP, etc. ELC will first be deployed on ELP protocol for testing, then Cycan network, and then connected to the Kusama&BSC ecosystem.

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1. Why Do We Need a Decentralized Digital Stablecoin?

(1) Stable Price Measurement Unit

The decentralized digital world based on blockchain technology is a parallel world to the physical world, but it cannot live independently without people's conventional cognition. It is impossible to imagine that Bitcoin and Ethereum are used massively in the process of trade, transactions, and lending because constant price fluctuations mean that economic activities cannot operate normally. Currently, a certain digital stablecoin with extremely low price fluctuations has become one of the infrastructures of the digital economy world.

The digital stablecoin market value has rapidly expanded from less than one billion USD in 2016 to about 30 billion USD. The total market value is second only to Bitcoin and will exceed 100 billion USD in the near future.

(2) The Functions of Digital Stablecoin

First, it provides traders with low-volatility digital assets.

Second, it offers currency for DeFi application scenarios such as decentralized exchanges (DEX), decentralized lending (DL), and decentralized insurance (DI).

Third, it promotes the larger expansion of the blockchain-based digital economy.

(3) Classification of Digital Stablecoins

1. Fiat-collateralized stablecoins, include USDT, USDC, TUSD, GUSD, etc. Depositing one U.S. dollar in a bank, trust, and other institutions to create a stable coin on the blockchain ensures that the price of the stable coin is anchored to the U.S. dollar, which is a centralized digital stablecoin. These are divided into compliant fiat-collateralized stablecoins and non-compliant stablecoins. The former is represented by USDC, TUSD, GUSD, etc., but their market size is currently relatively limited; the latter is USDT, it has the largest scale of all stablecoins with more than 20 billion U.S. dollars in market cap.

2. Crypto-collateralized stablecoins include DAI (ETH as the collateral) and SUSD (SNX as the collateral), etc. Crypto-collateralized stablecoins using ETH as the collateral generate stable coins such as DAI via on-chain smart contracts. Each stablecoin is anchored at one USD so it can be used as a decentralized digital stable coin. The biggest threat to crypto-collateralized stablecoins is the so-called black swan event. For example, due to the global wave of COVID-19, the digital currency market (ETH) plummeted on March 12, 2020. The MakerDAO project that initiated DAI had to auction a large number of Maker tokens to stabilize the price. At that time, the price of ETH continued to remain low, which was likely to break DAI's stable system. The over-collateralization rate of ETH to DAI is 150%, which means that when Ethereum falls by more than 30%, the mortgagor must add more ETH into the system, and the downward trend may not give the mortgagor the incentive to buy ETH to stabilize the price, instead, they may choose not to return DAI and give up the ETH pledged in the contract, which will make the entire system fragile. At present, the simple digital crypto-collateralized stablecoins cannot solve this problem.

3. Algorithmic stablecoins, include AMPL, BASIS, etc. Algorithmic stablecoins adjust the supply and demand of stablecoins through algorithms so that the price of the stablecoin will continue to approach one U.S. dollar, achieving the goal of anchoring the U.S. dollar and stabilizing its value.

AMPL is representative of single-coin algorithmic stablecoins, that is, when the price of a stablecoin exceeds $1, AMPL will be issued proportionally through Rebase to keep the number of stablecoins equal to the total market value of stablecoins, and the price of stablecoins tends to fall back to $1; This type of model is simple and effective, but it is easy to trigger FOMO sentiment during the rise of stablecoins and accelerate its rise. When the price of a stablecoin falls, it enters a cycle of death, and the price continues to fall, which in turn leads to large fluctuations in the price of tokens and rarely stabilizes at around $1, so for this reason we would not call it a stablecoin. Meanwhile, because in its Rebase process, the ledger has to be modified by super authority, and its smart contract has a huge security risk and has certain centralization characteristics.

Basis is a good example of a multi-coin algorithmic stablecoin, which is divided into

equity token Basis Shares (BAS), stablecoin Basis Cash (BAC), and bond token Basis Bond token (BAB). When the stablecoin BAC exceeds $1, a certain percentage of BAC will be issued each day and distributed to BAS holders to make the price of BAC fall back to $1; When the stablecoin BAC is lower than one U.S. dollar, BAB is issued to recover BAC. When the price of BAC rises to one U.S. dollar, BAB will be exchanged by BAC for recovery of BAB from the market. It should be noted that BAB has a time limit (five years). If the BAC cannot return to $1 before its expiration date, the BAB will be invalidated and its price can go to zero. Meanwhile, because there is no collateral as a guarantee, it may still fall into a downtrend spiral trap.

4. The market needs a stablecoin against inflation

Since the Bretton Woods system ended in 1971, we entered the age of pure credit money where there are currencies of various countries dominated by USD. Inflation has become normal, and the actual purchasing power of currencies has continued to decline. This is also an important incentive for the invention of Bitcoin.

People need a currency with a relatively stable price and resistance to inflation to a certain extent. However, the current digital stablecoins are directly pegged to the USD, and they have the same inflation as USD. As a result, they continue to depreciate over the long run.

5. ELC: The Fifth Generation of Digital Stablecoin

The first generation: centralized fiat-collateralized stablecoin, such as USDT, USDC, etc.

The second generation: decentralized crypto-collateralized stablecoin, ex: DAI.

The third generation: decentralized single-coin algorithmic stablecoins, ex: AMPL.

The fourth generation: decentralized multi-coin algorithmic stablecoins, ex: BASIS.

The fifth generation: Everlasting Cash(ELC), is a decentralized anti-inflation algorithmic stablecoin with reserves.

2. The Demand for Decentralized Stablecoins is Driven by the Boom of the DeFi Market

(1) The Boom of the DeFi Market

The entire blockchain world is one of decentralized finance (DeFi), including decentralized assets, payments, lending, and transactions, etc.
The vision of DeFi is to provide a financial system that can be used equally on a global scale. Users all over the world only need access to the Internet to be part of many different protocols and projects. This is the goal of a financial system established in an open, permissionless, and decentralized way.
In 2020, the DeFi market will achieve explosive global growth, with the storage value exceeding 10 billion U.S. dollars, the lending value reaching more than 3 billion U.S. dollars, and the annual decentralized exchange transaction volume exceeding 50 billion U.S. dollars. In the next few years, the DeFi market will continue to evolve, and the market size will expand rapidly.

(2) DeFi in Polkadot Cross-Chain Ecosystem

The development of DeFi requires a combination of blockchain infrastructures. The most crucial point is that more assets need to be digitized and interconnected. This requires an efficient and low-cost cross-chain system to realize the interconnection of numerous chains and digital assets.

(3) DeFi Market Needs more Decentralized Stablecoins

The vision of DeFi is to make financial behavior as decentralized as possible, and stablecoins, as a key component of the DeFi ecosystem, inevitably require decentralization.

Potential problems with centralized stablecoins:

1. The liquidity crisis of non-compliant centralized stablecoins led to large-scale defaults, which led to the collapse of the DeFi market using centralized stablecoins;
2. Regulatory agencies for compliant centralized stablecoins have introduced strict regulatory rules for DeFi, making it impossible for many DeFi business operations to

use these stablecoins;

3. Banks and other financial institutions holding reserve assets go bankrupt.

The quantity theory of money is the basic theory of algorithmic digital stablecoins.

In traditional financial markets, for the central bank, there are monetary expansion cycles and monetary tightening cycles.

The reserve system of non-compliant centralized digital stablecoins such as USDT is relatively opaque, and it is impossible to determine the size of their reserves or the risks. Moreover, such opaque reserves suffer the risk of being misappropriated by the issuer or the custodian bank being unable to withdraw them.

Compliant stablecoins such as USDC have a transparent and 100% reserve fund system, but their custodian banks have the nature of centralization, which severely put limitations on their scale.

Crypto-collateralized stablecoins such as DAI use over crypto-collateralization as a reserve fund system, but because there is no other buffer mechanism, when the market plummets (for example, ETH drops by more than 30% in an instant), the system may face a huge liquidity crisis or could even crashes immediately, meanwhile, the collateral position of many borrowers will also be directly liquidated.

Algorithmic stablecoins such as AMPL and BASIS do not have a reserve fund system, which makes their stablecoin prices very unstable and difficult for use on a large scale in actual scenarios.

On top of that, ELC is the first decentralized algorithmic stablecoin using the reserve fund system.

Of course, only having a reserve fund system is not good enough to be a digital stablecoin, it also needs to be in combination with algorithms to realize the inflation and deflation of circulating supply.

Therefore, if the DeFi market becomes a large-scale financial market, it will inevitably

require a large number of decentralized stablecoins derived from the blockchain world as a medium of exchange.

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(4) ELC: A Decentralized Stablecoin Focusing on the Polkadot Cross-Chain Ecosystem

Based on the Polkadot/Kusama ecosystem, Everlasting Cash (ELC) will be playing a huge role in the future DeFi market, including:

1.Adopting a crypto-collateralized mechanism to ensure the basic value of ELC.
2.Using a reserve-based liquidity mining mechanism to issue additional ELC, ELC grows in an orderly manner with the expansion of demand.
3.Adopting the anti-inflation model and using the anti-inflation factor k to adjust the ELCaim. The annual appreciation rate of ELC is roughly the same as the inflation rate of USD.
4.The buffer mechanism with reserves for price fall avoids the death loop trap of algorithmic stablecoins.

3. The Principle of ELC Digital Stablecoin

(1) Reserve Theory

In a traditional finance market, the reserve fund system is a very important part, for instance, of the bank reserve system, to ensure sound liquidity under extreme market situations. Clearly, reserves are also very important for digital stablecoins.

(2) Quantity Theory of Money

Monetary expansion cycles: If the central bank finds that the price level is dropping over a period of time, they increase the money supply to pull up the price level, that is inflation. In fact, after entering the era of unanchored fiat, most of the time the currency is in a state of inflation.

Monetary tightening cycles: If the central bank finds that the price level keeps rising over a period of time, they lower the price level by reducing the money supply.

Expansion and tightening of the money supply can work because, as stated in **The Quantity Theory of Money**, the long-term price level of an economy is proportional to the total supply of circulating money. The following is one of the examples of this theory to maintain the price of algorithmic stablecoins:

Let’s say you want to achieve a fiat currency peg like ELC at the price of 1 USD = 1 token. Then the supply of tokens can be increased or tightened in proportion to changes in the exchange rate with the linked legal tender.

Total demand = token price * total number of tokens in circulation, which can also be described as the market value of the token.

If X is used to represent the number of tokens in circulation, that is, the circulating supply. Assuming that the increase in demand in the past few months has resulted in the token's current price of $1.10, then:

Demand amount = $1.10 * X

To restore the token to its peg at one U.S. dollar, assuming that the demand remains unchanged, let Y be the expected circulation quantity, then:

Demand amount before adjustment = $1.10 * X
Adjusted demand amount= $1.00 * Y

Demand amount before adjustment should be equal to the adjusted demand amount ($1.10 * X= $1.00 * Y).

Therefore, the expected circulation quantity Y to restore the token to be pegged to $1.00 should be:

Y=X*1.10.

From the rough estimation above, **The Quantity Theory of Money** finds that if the trading price of Basis is temporarily set to P, which is too high or too low, then the protocol can restore the long-term price to $1.00 by multiplying the existing supply by P.

When the price of ELC rises to more than one U.S. dollar, it will be mainly adjusted based on **The Monetary Quantity Theory.** To adjust it will issue additional ELC at a certain ratio and distribute it using decentralized smart contracts according to certain rules. Note that the AMPL mode of changing each person's holdings by direct ledger modification is not used here to avoid the risks of possible destructive hacker attacks or super authority to do evil.

(3) Interest Rate Control Mechanism

In traditional financial markets, the central bank usually uses interest rate tools such as Rediscount Rates, the issuance, and repurchase of various bills and bonds to adjust the money supply.

Centralized digital stablecoins such as USDT/USDC and single-coin algorithm stablecoins such as AMPL do not have any of these interest rate control mechanisms.
Crypto-collateralized stablecoins such as DAI mainly need to adjust the interest rate that needs to be paid after obtaining DAI by adjusting the crypto collateral. The interest rate is determined by voting through its governance tokens and can play a regulatory role to a certain extent, which is like the basic interest rate of a central bank.

However, with the development of AVVE, COMP, and other decentralized lending projects, their interest rates will inevitably be greatly affected by the level of other contract interest rates in the market.

BASIS implements the tightening process of digital stablecoins by issuing bond tokens. The interest rate of tokens is determined by market auctions. The lower the price of digital stablecoin is, the higher the interest rate is, attracting more funds coming in, until it prevents the price of the digital stablecoin from falling further.

ELC will use a stabilization fund and a tiered fund mechanism to maintain the price of stablecoin to close to one US dollar.

(4) Avoid Liquidation Risks

So far, the largest decentralized digital stablecoin is DAI, with a scale of approximately $1.2 billion. However, the biggest risk is the liquidation risk. Since the highest proportion of ETH generating DAI is 70%, that is, if ETH falls by 30% in a short period of time, it may be directly liquidated, because there may be no chance to replenish the collateral.

ELC will come up with mechanisms to avoid liquidation risks.

(5) Inflation Theory

Inflation is the decline of purchasing power of a given currency over time, the reason for it is over-supplied currency. To maintain the value of the currency, it is necessary to adopt an anti-inflation mechanism to adjust the money supply.
ELC is the first digital stablecoin to adopt an anti-inflation mechanism, which is achieved by continuously and moderately increasing the price of ELCaim (Pegged Rate, see 4. ELC Protocol).

(6) Incentive Mechanism for Reserve Funders

For centralized stablecoins, reserve funders generate stablecoins using fiat as collateral, and can only get very low interest on demand deposits, so there are in lack of incentives. Because of that, project initiators usually tend to expand the application scenarios before expanding the scale of the stablecoins. Of course, there is no such restriction for stablecoins such as USDT with opaque reserves.

For crypto-collateralized decentralized stablecoins, the reserve funder pledges cryptocurrencies in the smart contract. Not only are they unable to obtain income, but they need to pay a certain amount of interest to maintain the system, so lack of incentives could also be a problem, it is usually used as a way of ETH-collateral financing. As a variety of decentralized lending contracts with a liquidity mining mechanism are launched, the incentive is declining.

ELC has a reserve fund system, and a liquidity mining mechanism has been designed to encourage reserve providers.

4. ELC Protocol

Everlasting Cash (ELC) is a decentralized algorithmic stablecoin with a reserve system, i.e., a hybrid of a crypto-collateralized and algorithmic stablecoin mechanism, with the collateralized mechanism providing the underlying value guarantee, and the algorithmic mechanism incentivizing the participants following the collateralized mechanism on one hand and hedging the downside risk when the demand for the stablecoin is insufficient on the other. The ELC protocol is a smart contract protocol based on the Everlasting Parachain using Substrate. All the statements of the ELC protocol below assume that the ELP is used as the system reserve .

(1) The pegged rate of ELC: ELCaim

ELC initial pegged rate: 1 USD.
ELC adjusted pegged rate: To achieve the aim of anti-inflation, the price of ELC is not pegged to $1 all the time, but to USD adjusted by an inflation rate that is, as close as possible to the purchasing power of USD in 2021.
The adjusted pegged rate is represented by ELCaim. ELC protocol adopts multiple mechanisms to make the price as close to the ELCaim as possible.
Inflation adjustment, in polkadot ecosystem, the speed of ELP/CYN block production is six seconds/block, and the pegged rate of ELC is added by K every 10,000 blocks, K is the anti-inflation factor.
ELCaim（after adjust）= ELCaim（before adjust）*（1+K）

Considering the cross-chain situation, the adjusted price of ELC on a certain public chain will be used to determine ELCaim, and the ELC protocols on other chains will be adjusted according to this ELCaim.

(2) Determination of Anti-Inflation Factor K

Over the past 30 years, the inflation rate of the US dollar has usually been between 2% and 3%. Therefore, the initial anti-inflation factor K is set to 0.00005, and ELC appreciates around 2.62% against the US dollar each year, which basically can act as a hedge against US dollar inflation.
During the operation of ELC, the anti-inflation factor K can be adjusted by the ELP governance mechanism.

(3) Stablecoin System Liability Ratio (LR)

The stablecoin system liability ratio is a key indicator to observe the whole stablecoin system. Its formula is:

- VALUE, the value of the ELCs that have been issued, Value of Outstanding ELC
- P, Price of ELP
- Amount, number of ELP in ELC contract
- LR=VALUE/P(ELP)*Amount(ELP)

(4) rELP: The Risk Asset

rELP is the risk asset in the ELC stablecoin system. The ELC stablecoin system borrows the idea of a traditional financial structured fund treating ELC as a very low-risk, preferred asset and rELP as a risk asset, i.e. the equity asset of the system.

rELP entitles its owner to the following:

- It serves as a voucher, allowing its owner to obtain additional ELPs through liquidity mining.
- When ELC exceeds ELCaim, the added ELC is allocated to the rELP holders according to the coin-day weighted average algorithm.
- When LR<90%, rELP is redeemed from the system by canceling rELP from the ELC contract according to the system price. When LR>90% the system closes the redemption function.

(5) Collateralizing ELP into the ELC Contract to Generate ELC and rELP

Under a different system debt ratio, collateralizing ELP into the ELC contract can generate both ELC and ELP or only rELP.

When LR <= 30%, one can pledge ELP to the contract and generate a certain amount of ELC and rELP and keep the system debt ratio of the stablecoin unchanged.
The formula for calculating the newly acquired rELP is:

$$\triangle Amount(rELP) = \frac{p(ELP) * \triangle Amount_s(ELP) * (1 - \mathrm{LR})}{p(rELP)}$$

When LR exceeds 30%, collateralizing ELP into the contract will generate rELP and reduce the stability coin system debt ratio.
The formula for calculating the newly acquired rELP is:

$$\triangle Amount(rELP) = \frac{p(ELP) * \triangle Amount_s(ELP)}{p(rELP)}$$

Example.
For simplicity, let's assume that the ELCaim is $1.
Alice pledges 100 ELPs into the system at LR=25% for $10 per ELP, then the new entry rELP pledge value is $1000, and can generate 250 ELCs and $750 worth of rELPs.

Bob pledges 100 ELPs into the system at LR=40% with a price of $10 per ELP, resulting in a new entry collateral value of $1,000; with total pool assets of $100,000.00, 40,000 ELCs, $40,000 Value of ELCs, 50,000 rELPs, and an rELP price of $1.20, 833.33 rELPs can be created and the system debt ratio is reduced to 39.60%.

(6) Risk Reserve System

The ELC protocol is embedded with a risk reserve system.

Sources of the risk reserve:

- The initial total number of ELP issued on the BSC network is 10 million, among them 1 million ELPs are used as the initial risk reserve. After being connected to Kusama, the total number of ELPs has increased by 10 million, of which 1 million ELPs will be used as the ELC initial risk reserve for KSM network.
- When ELCs exceed ELCaim, 5% of the additional ELCs issued through the algorithmic mechanism are converted into ELPs and deposited into the risk reserve.

The objective of the risk reserve:
To keep the ELC price between 98% and 100% of ELCaim.

Use of the risk reserve:

- Sell ELP when the prices of ELC at no more than 98% of ELCaim and buy ELC until all ELP in the risk reserve is converted to ELC. The converted ELC is temporarily withdrawn from circulation.
- Sell ELC when the prices of ELC at no less than 100% of ELCaim and buy ELP to increase the supply of ELC, until all ELC in the risk reserve is converted to ELP as a reserve against future downside risk.

(7) Algorithm-based Expansion and Contraction of Stablecoins

A. Expansion cycle

1. the Expansion Cycle Algorithm Mechanism
   When LR<=70%, ELC can be increased by the algorithm and allocated to holders of rELP and withdrawal of system risk reserve.
   When min (weighted average price of ELC for the first 24 hours of monitoring point, weighted average price of ELC for the first 1 hour of monitoring point) exceeds $1, additional ELC is issued according to the Quantity Theory of Money. However, if LR>70%, no additional ELC can be issued.

Suppose LR = 40%, the number of existing ELC is 50,000, min (weighted average price of ELC 24 hours before monitoring point, weighted average price of ELC 1 hour before monitoring point) = $1.01.

An additional 1% of ELC then needs to be issued to bring the ELC price back to $1, i.e., an additional 5 million units need to be issued.

95% of the additional ELC is allocated to the rELP holders, i.e. 4.75 million. The specific allocation formula is discussed later. The other 5% is allocated to the system risk reserve, i.e., 250 thousand, as a system risk reserve, and traded immediately through decentralized exchanges for ELP.

2. Risk Reserve Releases the ELC Holdings

   If the risk reserve holds ELC, it sells them at 100% of ELCaim to increase ELC liquidity.

B. Contraction Cycle

When the ELC price is below 98% of ELCaim, it enters the contraction cycle.

1. ELC protocol uses risk reserve to buy ELC at no more than 98% of ELCaim, and part of ELC is temporarily withdrawn from circulation until all ELP in the risk reserve is fully converted into ELC.

2. When the risk reserve is exhausted, the ELC protocol switches to the reserve to buy ELC at a maximum of 2% reserve per day, and ELC acquired with the reserve is temporarily withdrawn from circulation until the ELC price rises back to $1.

3. When the ELC price rises back to $1, the ELC protocol sells the ELC held at the reserve address at a fixed price of $1. The contraction cycle ends when all the ELCs held by the reserve are converted to ELP.

(8) ELC Reserve Liquidity Mining Mechanism

As an incentive mechanism for coin holders to deposit reserves, the ELC protocol has designed a reserve liquidity mining mechanism.

A. Base income: liquidity mining to get ELP

Example:

Coin holders deposit ELP into the contract to get rELP, then participate in liquidity mining with the rELP they hold.

To encourage long-term participation in liquidity mining and promote the reserve size in a more stable state, the concept of Coinday is introduced.

Coinday, the number of days a coin is held.

Suppose Alice holds 100 rELPs for 100 consecutive days, then the Coinday of rELP owned by Alice is 10,000 Coinday (rELP).

Suppose Bob holds 1000 rELP, which is 10 times the number of coins held by Alice and holds it for 5 consecutive days, then the value of the Coinday of rELP owned by Bob is 5,000 Coinday (rELP), which is only 50% of Alice's Coinday value, so the ELP reward Bob can get on that day is also only 50% of Alice's.

The ELP obtained by the ith coin holder through liquidity mining of a single block = ELP mined from the current block * ith holder Coinday weight Wi, where:

$$W_i = \frac{Amount(rELP)_i \times coinday(rELP)_i}{\sum_{i=1}^{n} Amonut(rELP)_i \times coinday(rELP)_i}$$

B. Stablecoin additional issuance: additional ELC is allocated to ELP

When min (the weighted average price of ELC 24 hours before the monitoring point, the weighted average price of ELC 1 hour before the monitoring point) > $1, additional ELC is issued.

- The number of additional ELCs for the day = min (weighted average price of ELCs 24 hours before monitoring point, weighted average price of ELCs 1 hour before monitoring point) * 100% * number of ELCs before additional issuance.
- The number of ELCs obtained by the ith liquidity miner = the number of additional ELCs issued on that day * 95% * Wi

- Number of ELCs added to the risk reserve = Number of additional ELCs issued on the day * 5%

(9) Extreme Scenario Response: Anti-liquidation Mechanism

When the reserve asset, such as ELP, undergoes a short-term dramatic decline, it may create great pressure on the ELC stablecoin system and cause a reserve shortage, therefore, the ELP protocol is designed with an anti-liquidation mechanism.

The anti-liquidation mechanism operates when LR>=90% . In this case:

1. The use of rELP to redeem ELP from the system is prohibited.
2. The price of collateralizing ELP in the system to generate rELP is fixed at the rELP redemption price when LR=90%.

Through this mechanism, the following are achieved:

1. The system will not collapse into a death cycle due to a full liquidation caused by the total reserves falling short of the market value of ELC.
2. The potential high earnings prompt coin holders to pledge ELP into the system in exchange for low-priced rELP, maintaining the system with sufficient reserves.

5. ELC Application Scenarios

1) DeFi Contract Currency

ELC, as a stablecoin, is the currency for DeFi applications such as decentralized exchanges, decentralized lending, decentralized insurance, and a decentralized prediction market.

Example:

- In decentralized trading pairs of ELC against other digital assets, ELC needs to be deposited in the liquidity pool.
- In decentralized lending contracts that accept ELCs, the holder deposits ELCs into the contract to receive interest.

2) Distributed Commercial Currency

As means of payment for scenarios such as gaming, trade, and e-commerce in the digital world.

Example:

- Using ELC to buy NFT and obtain crypto assets.
- Using ELC to buy goods through distributed e-commerce.
- Using ELC to participate in games.

3) Payment

Use ELCs as a means of payment in areas where digital assets are accepted as a legitimate payment method.

6. Roadmap

By February 10, 2021, the Everlasting Parachain Test Chain will go live, which is Rococo v1.

By February 28, 2021, the decentralized exchange ELSWAP, and the decentralized behavior incentive mechanism Ereward will be tested online. Meanwhile, the ecosystem wallet Alltoken launches.

By March 15, 2021, the first decentralized game on Everlasting Parachain, ELWIN, pre-launches for a trial run, using ELP and ELC in the future.

By March 30, 2021, the Cycan Network will be launched, giving CYN to ELP holders.

From March to May 2021, Everlasting Coin will be connected to Kusama through auction and become a Kusama parachain.

By April 30, 2021, the ELC protocol will be launched, and ELC can be added to the reserve pool to generate ELC.

By May 30, 2021, launch the decentralized lending contract ELloan on Everlasting Parachain, accepting ELC as the primary lending asset. At the same time, the NFT contract on Everlasting Parachain comes out, and the associated NFTs can only be traded using ELCs.