CVI (Crypto Volatility Index) White Paper

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Abstract

This paper describes CVI, a full-scale decentralized ecosystem that brings the sophisticated and very popular "market fear index" to the crypto market and is created by computing a decentralized volatility index from cryptocurrency option prices, together with analyzing the market's expectation of future volatility.

By computing a volatility index (CVI) from cryptocurrency option prices, we analyze the market's expectation of future volatility. Our method addresses the challenging liquidity environment of this young asset class and allows us to extract the implied market volatility. CVI is the first full-scale decentralized move to bring this sophisticated and very popular "market fear index" to the crypto market. We were fully aware of the set of risks accompanying the creation of sophisticated instruments for an immature market as we aimed to design a reliable financial tool suitable for the crypto market as a whole.

The starting point of our design is the understanding that it is not possible for the existing crypto market to manage risk in the same way as we can do it in the traditional stock market. For this reason, our model of the CVI trading platform is supported by the collateralization mechanism, which is well adopted by the crypto market. Using this approach and an advanced smart contract system, we have built a sustainable model of volatility trading for the crypto market.

Introduction

The very idea of the volatility index comes from the financial research of Menachem Brenner and Dan Galai. In a series of papers beginning in 1989, Brenner and Galai proposed the creation of a series of volatility indices, beginning with an index on stock market volatility and moving to interest rate and foreign exchange rate volatilities.

In their papers, Brenner and Galai proposed, "[the] volatility index, to be named 'Sigma Index,' would be updated frequently and used as the underlying asset for futures and options. ... A volatility index would play the same role as the market index plays for options and futures on the index." In 1992, the CBOE hired consultant Bob Whaley to calculate values for stock market volatility based on this theoretical work. Whaley utilized data series in the index options market and provided the CBOE with computations for daily VIX levels from January 1986 to May 1992.

The resulting VIX index formulation provides a measure of market volatility on which expectations of further stock market volatility in the near future might be based.

Since the invention of Bitcoin (and Ethereum), cryptocurrencies have evolved to be a new class of financial asset.

As cryptocurrency spot markets evolve, markets for derivatives follow. It starts with classic financial future contracts—i.e., the mutual obligation to exchange some amount of the underlying assets (e.g., Bitcoin) at a fixed price in the future. Bitcoin futures were introduced by the CME and CBOE in December 2017, reinforcing the position of crypto-currencies as a new asset class.

An option is a more complex derivative instrument: a contract that gives the buyer the right to receive (call) or deliver (put) some amount of the underlying for a fixed price (strike) at some future point in time, which can be traded. After many multilateral efforts to create a crypto options exchange, it is now possible to trade financial options with reasonable liquidity. Option pricing (like all derivatives) follows an arbitrage argument that demands the replication of the derivative's cash-flow. The dynamic nature of option replication is directly linked to the underlying asset volatility during the lifetime of the contract. Option markets can hence also be seen as markets for the exchange of volatility risk. **Volatility, as a measure of the variability of an asset over time, is the most common risk measure in financial theory.**

In the project described in this white paper, we are introducing a decentralized system extracting volatility information from this unique type of market. The document outlines how we are developing decentralized, stable, transparent, informative and replicable benchmarks for cryptocurrency implied volatility.

By computing a decentralized volatility index (CVI) from cryptocurrency option prices, the system will analyze the market's expectation of future volatility. Our method addresses the challenging liquidity environment of this evolving asset class and allows us to extract the necessary data to evaluate implied volatilities.

CVI index calculation follows the classic approach, based on the Black–Scholes option pricing model, adopted to current crypto-market conditions, while working in a decentralized way.

The cryptocurrency market does not adopt centralized solutions, so the calculations of the index must be fully decentralized. As part of our index and platform we will also release an open-source exchange connector and index calculator together with Chainlink oracles and adaptors, which aggregate the data and produce an hourly index level.

For the index to be popular and widely adopted, there should be an instrument (system) allowing traders to open positions against the index. Therefore, as part of the CVI launch, we will also introduce an innovative decentralized trading platform.

Combining all the parts together, we believe we can offer the crypto market an efficient and safe financial instrument.

CVI index calculation

The starting point of building the volatility index is calculating it.

The CVI index is calculated from exchange-traded 30-day option prices. The options are then used to calculate a classic VIX-formula index; these options are traded at widely adopted exchanges, with sufficient turnover and with market makers responsible for providing quotes for all traded options. Also, CVI calculations require that a future market exists for the underlying asset, preferably at the same exchange. For the initial CVI calculations we are using data from major and reliable sources.

The CVI index is calculated each minute, 24 hours per day, 7 days per week. The averaged index value used for settlements is described below.

Our CVI calculation follows the classic approach, based on the Black–Scholes option pricing model and discrete variant of Demeterfli formula. The classic calculation is described in the CBOE volatility index white paper.[1] The CVI calculation is similar, but adapted to the cryptocurrency market.

We define $CVI = 100 * \sqrt{\sigma^2}$

where σ^2 is the weighted average value of the square of implied volatilities for the two closest expirations.

The closest expirations are selected using the following rules:

1) Exclude all newly introduced options (first 1 hour of trading).
2) Pick the closest expiration date after 30-th day from the time of the calculation.
3) Select all expirations before and including 30-th day from the time of the calculation.
4) If there is no suitable option expiration before 30-th day from the time of the calculation, the index can't be calculated (for historical data only).

$\sigma^2 = \frac{1}{t_{month}(t_2 - t_1)} (t_1(t_2 - t_{month})\sigma_1^2 - t_2(t_1 - t_{month})\sigma_2^2)$, all t values here are in seconds.

$\sigma_i^2 = \frac{2e^{rTi}}{T_i} \sum_j \frac{\Delta K_{i,j}}{K_{i,j}^2} Q_{i,j} - \frac{1}{T_i} [\frac{F_i}{K_{i,0}} - 1]^2$, *i = 1,2.*

Where:
r is the risk-free rate (under the current market circumstances we use r=0);
T_i is the maturity in years, calculated as the difference between the expiration time and calculation time;
$K_{i,j}$ are strikes of out-of-the-money options;
$Q_{i,j}$ are market midpoint prices (a mean value of the best ask and bid prices) for the same options;
$\Delta K_{i,j} = K_{i,j+1} - K_{i,j-1}$ – steps between strikes;
$K_{i,0} = (\max (K^{calls}_{i,j}) + \min (K^{puts}_{i,j}))/2$ – this is the midpoint between the highest in-the-money call option strike and the lowest in-the-money put option strike;
F_i is the forward price (future price).
Only out-of-the-money options are included in the calculation above.

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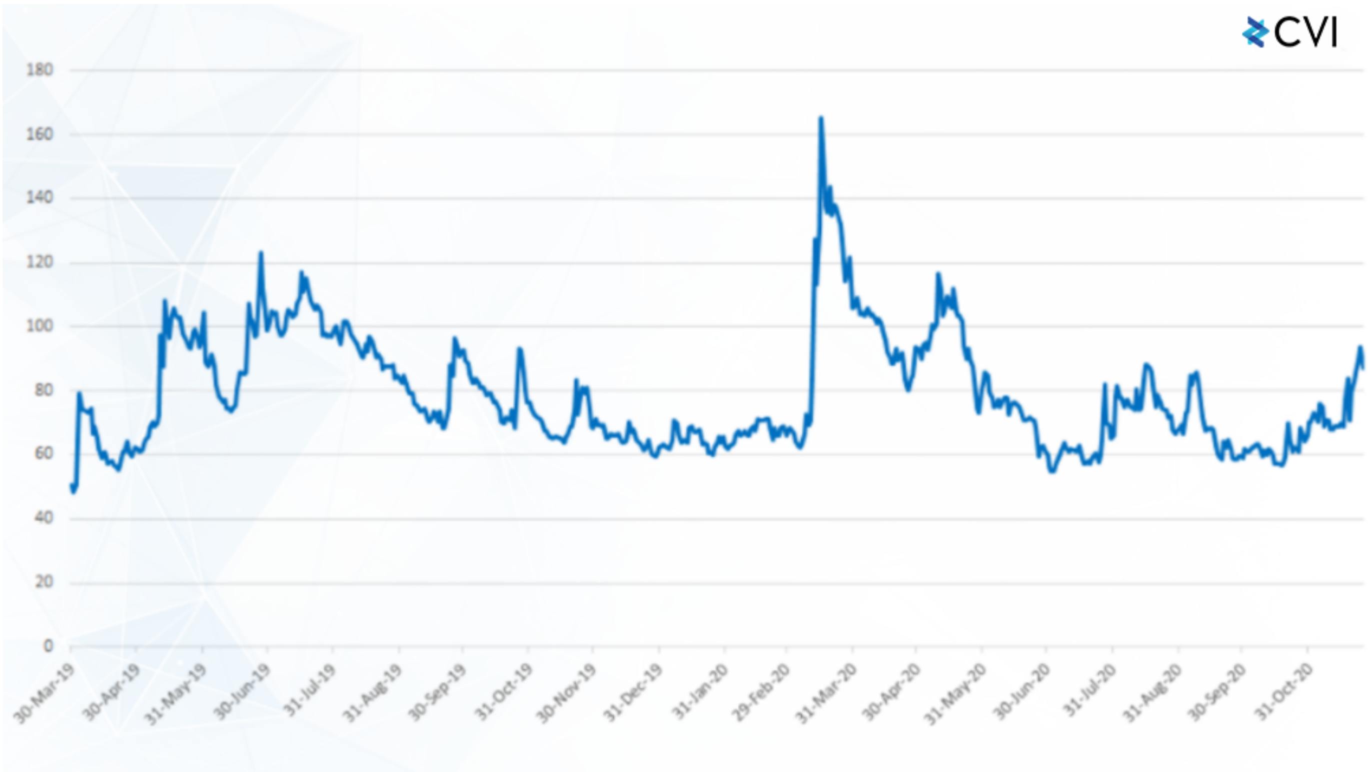
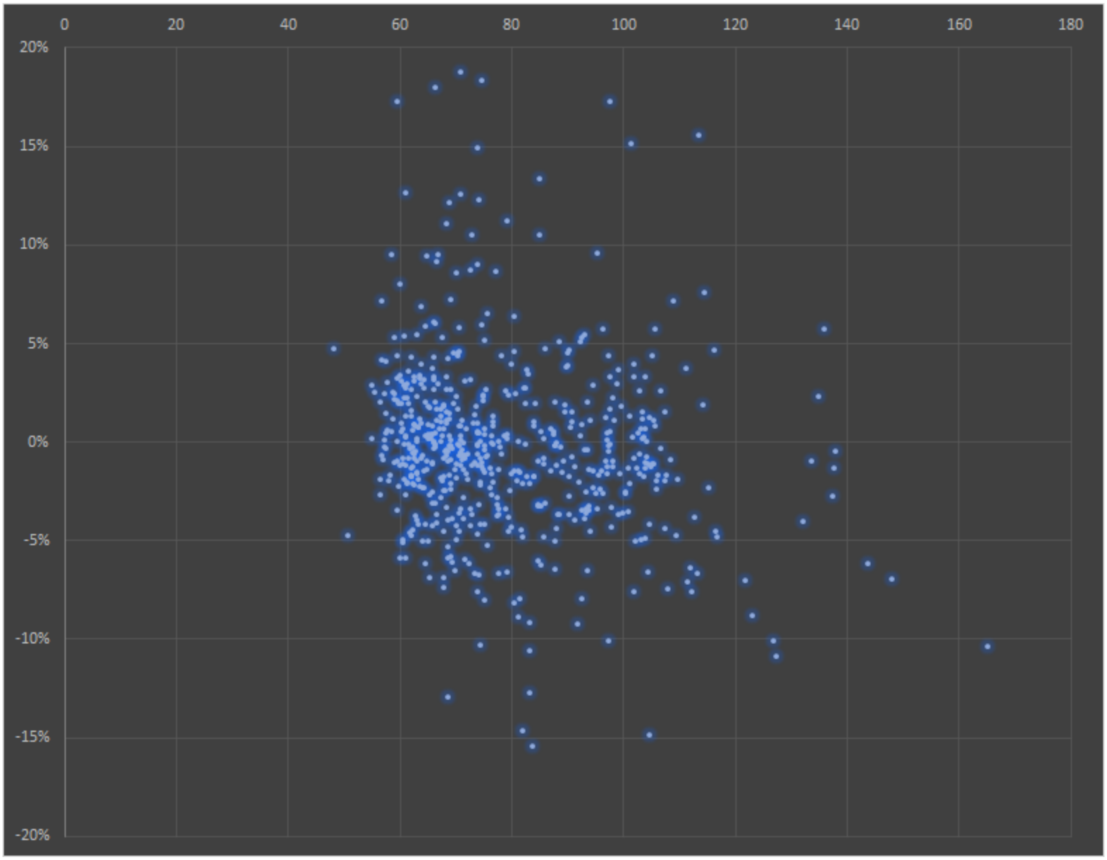
1 https://cdn.cboe.com/resources/futures/vixwhite.pdf

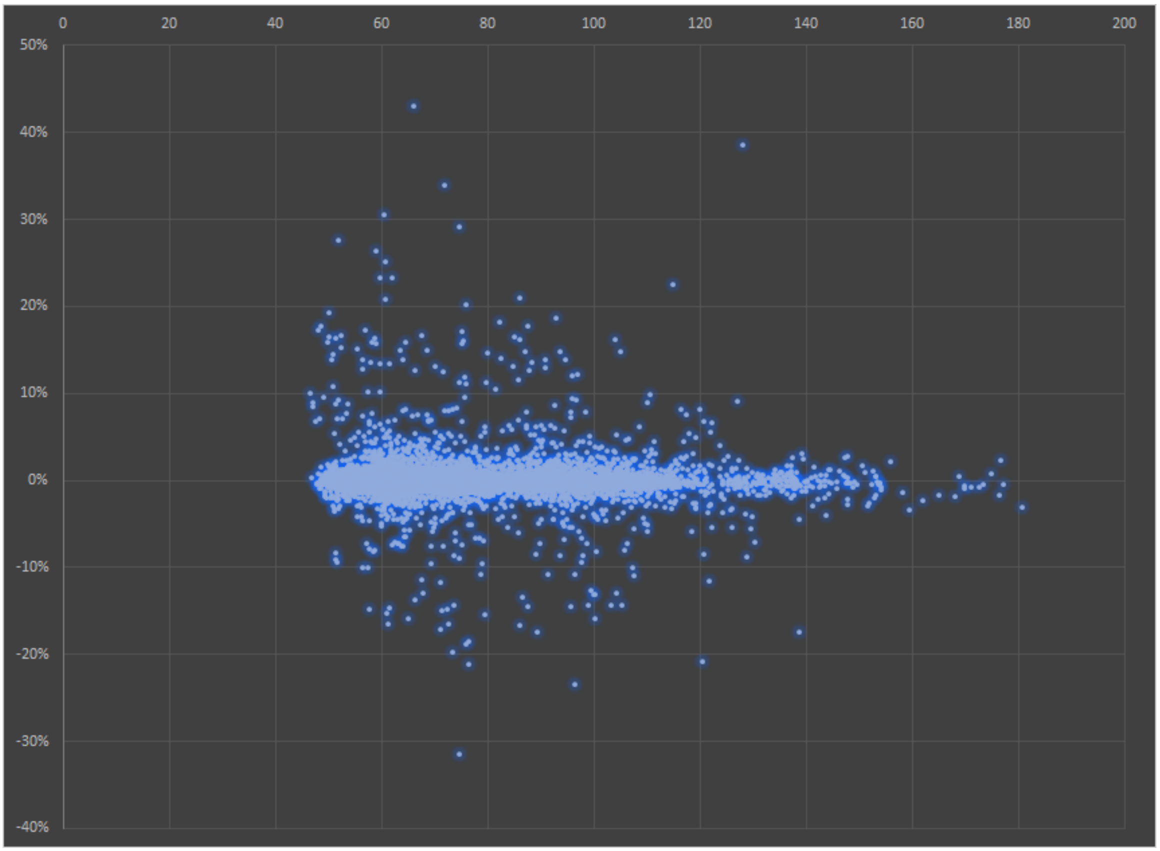
CVI instant index calculated on the historical data, end of day values:



CVI instant index end of the day change distribution:

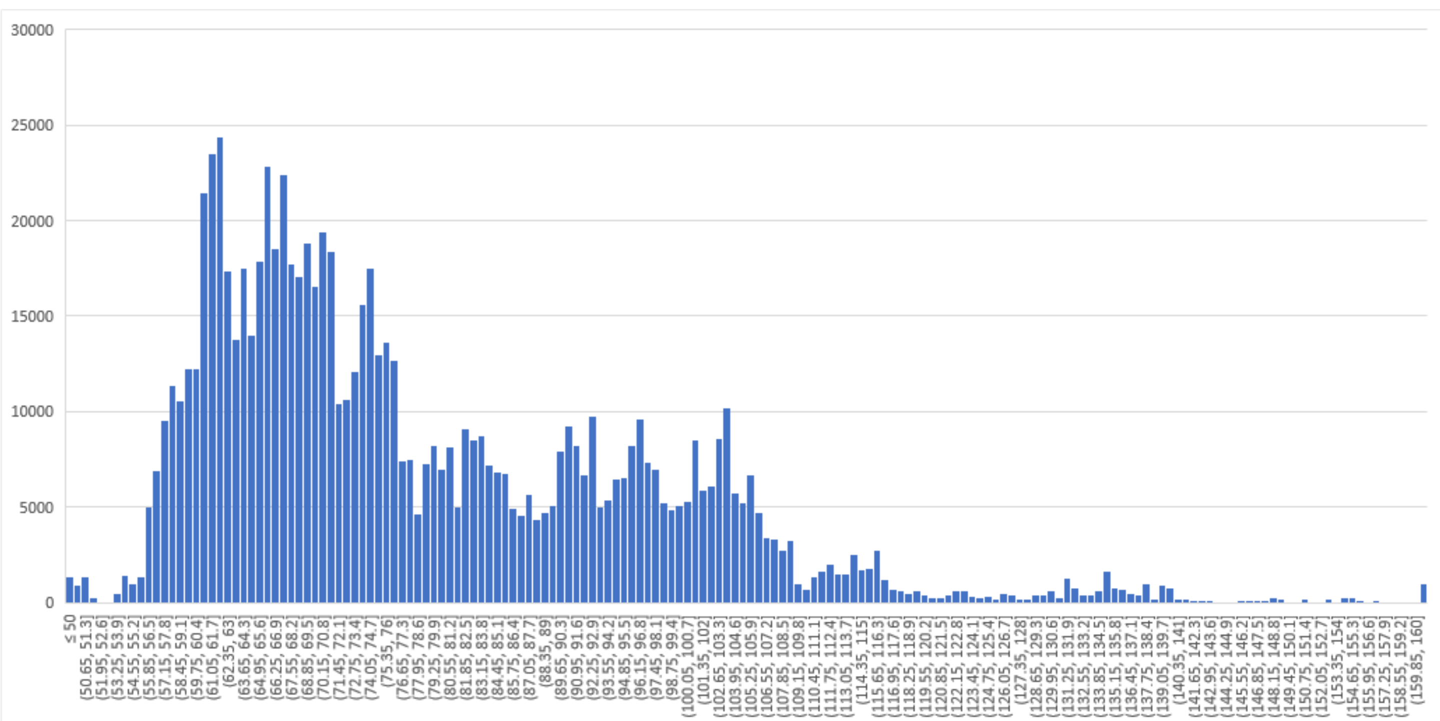


CVI instant index hour-to-hour change distribution:



Two charts above look symmetrical, illustrating that the index changes are independent.

CVI smoothed index distribution histogram:



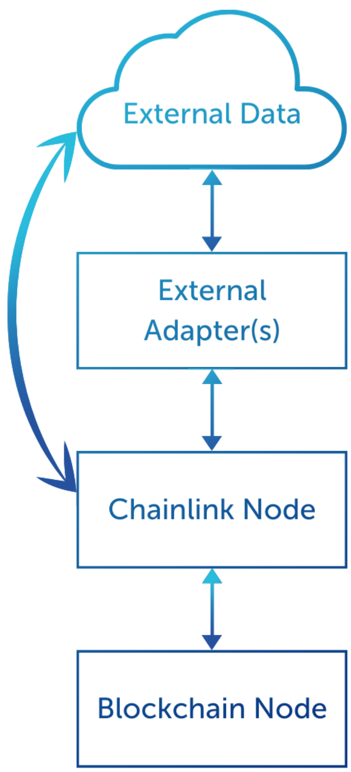
We calculate two indices, CVI-BTC and CVI-ETH, and combine them into the final CVI index value using the current market capitalizations of Ethereum and Bitcoin, provided by CoinMarketCap.

The CVI index value for settlements used below is the EMA-averaged value of the per minute-calculated CVI index value. We use an adaptive EMA smoothing factor between 0.01 and 0.11. From this point on, "CVI index" always means the EMA-averaged CVI index value.

$CVI_i^{EMA} = CVI_i * \lambda + CVI_{i-1}^{EMA} * (1 - \lambda)$, where λ is the smoothing factor.

How is the CVI index produced?

CVI index calculation is performed by the decentralized network of Chainlink oracles. To ensure decentralization and transparency, we use a Chainlink architecture with multiple oracles to retrieve the required data and calculate the CVI formula using external adapters. The calculated results from each oracle are aggregated, verified and passed to the blockchain node. The combined CVI index is a weighted sum of CVI indices calculated for several cryptocurrencies (for example BTC and ETH), where weights are set in accordance with the asset market capitalization. The index is calculated on an hourly basis.



This calculation is performed by an open-source script, which has to be run by all CVI oracles to produce the calculations of the index in a decentralized manner.

In these calculations several exchanges are taken into account; the formula for σ^2 in this case is updated to be the weighted and normalized sum of the closest expiration pairs for these exchanges, weighted by the total exchange volumes for the related contracts.

According to this definition, the CVI index is not upper-limited, but typical CVI values fall in the 0–200 range.

In order to ensure decentralization and transparency, we use a Chainlink architecture with multiple oracles to retrieve the required data and calculate the CVI formula using external adapters. The calculated results from each Oracle are aggregated, verified and passed to a blockchain node in Ethereum to be made available to both the requesting smart contract and as a service for the latest available figure via “view smart contract” calls.

The combined CVI index is a weighted sum of CVI indices calculated for several cryptocurrencies (for example BTC and ETH), where weights are adjusted and divided by the market caps for these currencies.

The model

The current model assumes that all deposits and positions are nominated in ETH (Ethereum).

For the trading model, the maximum value of the CVI is defined to be CVI_{max} = 200.

The model can also work if all deposits and positions are nominated in other currencies, for example stablecoins, but <u>it is important that the same currency is used for both the deposits and positions</u>.

At the current stage, only long positions are available for trades, so the liquidity providers are taking short positions in CVI.

Tokens

CVI liquidity tokens

The smart contract issues CVI liquidity tokens and sells them to liquidity providers.

A CVI liquidity token value is defined as the share of one token in the Liquidity pool $\frac{Liquidity\_pool}{N_l}$. The Liquidity pool value is adjusted for the gross position gain and loss at each event of changing of positions.

CVI liquidity tokens are ERC-20 tokens.

CVI liquidity tokens are redeemable.

CVI liquidity tokens are minted when sold and burned when bought back.

CVI positions

The system allows traders to open long positions against the CVI index. The positions are nominated in ETH or a stablecoin. The position value is set to be CVI/100.

CVI positions can be opened if and only if the available collateral from the liquidity providers is enough to cover the position risk (see the collateral rule below).

A CVI position nominal value is 1 ETH.

A position CVI value is $n_p * (CVI)$.

A CVI position has its current liquidation value (defined below).

<u>CVI positions are not ERC-20 tokens.</u>

CVI positions are redeemable.

If CVI position liquidation value drops below the liquidation threshold, the position is automatically closed. The transaction for position closing is created by an external liquidator. The liquidator receives a position liquidation fee.

The position data set kept for a trader is:

1) the number of open positions;
2) the timestamp (block height) of the last position change;
3) the trader's accumulated gain/loss account (can be negative).

If a trader opens new positions or partially closes existing ones, the position liquidation value is calculated, and the difference between the position liquidation value and the position CVI value (this difference is equal to the funding fee calculated from the previous position change) is added to the accumulated gain/loss account.

CVI governance tokens

The $GOVI token will be introduced and act as a governance token for the protocol and the platform. Holders of $GOVI will share platform fees and will vote on matters such as the tradable assets, leverage used, deposit amounts, platform fees, and more.

CVI governance tokens are ERC-20 tokens.

CVI governance tokens are not redeemable.

Liquidity providers

Liquidity providers on CVI play the role of the counterpart for every trade made on the platform. So, if a trader has entered a position on CVI and lost that trade, the liquidity providers are the ones to recoup the lost trade, and vice versa.

On the trading platform, liquidity providers supply X amount of ETH to the Liquidity Pool (LP). This ETH supplied to the LP enables it to mint new CVI points according to demand by buyers as long as the collateral rule is satisfied. Each liquidity provider on the platform shares the ongoing profits from fees according to their share in the Liquidity pool.

In addition to ongoing profits, the liquidity providers will also share the distribution of governance tokens. In order for new CVI tokens to be minted, it is required that 1 ETH be added to the pool. Each CVI bought by traders in the platform decreases the Cr rate which, as a result, raises the funding fee and thus incentivizes more liquidity providers to enter the pool. The overall P&L in the system = index movement P&L + funding fee payment. The funding fee payment is dependent on time, CVI index value and collateral value, so the LP size affects the funding fee paid on the platform.

Liquidity providers place deposits by buying CVI liquidity tokens. A liquidity provider can withdraw funds by selling tokens back to the smart contract according to the current price (see the calculation details below). Token buyback is possible only if the position risk will be fully covered after the buyback (see the collateral rule below).

Traders

Traders are holders of CVI positions. Traders can use the CVI in order to hedge their cryptocurrency holdings against volatility. For example, a trader may have a long position on a portfolio of various top currencies and fears adverse market conditions, and as such, takes a position on the CVI, hedging the value of their overall portfolio (in the case of a market drop, the trader may sustain some loss on their cryptocurrency portfolio but will profit from their CVI position). In that way, the trader essentially buys insurance against adverse conditions.

Another use case for a trader may be that of a trader who needs volatility in their trading strategy in order to profit. Such a trader may want to insure themselves against market stagnation, where no volatility means less profit. In this case, the trader will buy a SHORT position on the CVI.

In both cases, a trader who wishes to take a trade on the CVI needs to not only make a deposit on CVI to cover the size of the trade, but must also pay a small usage fee for doing so.

Traders can open a CVI position only if the position risk will be fully covered including the new position (see the collateral rule below).

Traders pay the funding fee according to their positions. The fee calculation is defined below.

Traders can close their CVI positions any time.

External liquidators

External liquidators are independent agents helping to keep the trading system safe.

External liquidators scan the mapping of the traders for positions with liquidation value below the liquidation threshold.

For all such positions found, external liquidators initiate liquidation transactions.

Token pools

There are three pools in the system: Liquidity pool, CVI pool, and Fees pool.

All pool funds are kept at the smart contract address.

Liquidity pool

The Liquidity pool consists of:

1) Deposits of liquidity providers;
2) Funding fees transferred from the CVI pool.

The Liquidity pool is used to:

1) Redeem liquidity tokens.

The Liquidity pool is adjusted for the gross position gain or loss.

CVI pool

The CVI pool consists of traders' payments for CVI positions.

The CVI pool value is equal to $N_p * CVI/100 + \Sigma PL_T$, where N_p is the total number of traders' positions, CVI is the index value at the last event time and ΣPL_T is the total of traders' gain/loss accounts.

The CVI pool is adjusted for the gross position gain or loss.

The CVI pool is used to

1) Close CVI positions;
2) Pay the funding fee.

Fees pool

All fees paid by the trading system participants excluding the funding fee go into the Fees pool.

The Fees pool is used to:

1) Pay for oracle services,
2) Pay gas for system operations.

The rest of the pool constitutes the profit of the governance token holders and can be distributed from time to time.

Collateral rule

The collateral ratio is: after any possible operation, the position risk should be covered.

This means (in ETH): $Liquidity\_pool\ +\ CVI\_pool\ >=\ OverCR * N_p * CVI_{max}/100,$

where N_p is the number of CVI positions after the operation, CVI is the current index value, and OverCR is the overcollateralization ratio. For now, OverCR is defined to be 1.0.

Fees

Depositing fee

Charged when a CVI liquidity token is sold.

f_d = **0.3%** (subject to change)

Withdrawal fee

Charged when a CVI liquidity token is bought back.

f_w = **0.3%** (subject to change)

Position opening fee

Charged when a CVI position is opened.

f_m = **0.3%** (subject to change)

Position closing fee

Charged when a CVI position is closed.

f_b = **0.3%** (subject to change)

Funding fee

The funding fee is the fee paid by the traders to the liquidity providers as compensation for taking the risks.

Individual funding fees are calculated individually for each trader and used to estimate the trader's position liquidation value.

Individual funding fee for a trader:

$$F_f = \sum_{t_i=t_0}^{t_{last}} n_p * CVI_i/100 * f\_rate(CVI_i) * \frac{(t_{i+1} - t_i)}{T},$$

where t_i is i-th index changing period (an hour), t0 is the period when the trader's position was last changed, T is the reference time (for example, if f_rate is daily rate and t is in hours, then T = 24), CVI_i is the CVI value for i-th period, n_p is the number of positions.

N.B. This formula requires that the full CVI history from the very beginning is kept inside the smart contract. The formula can be modified to keep only the daily values, if needed, when CVI will be the close value for the last closed day before t_i.

The gross funding fee:

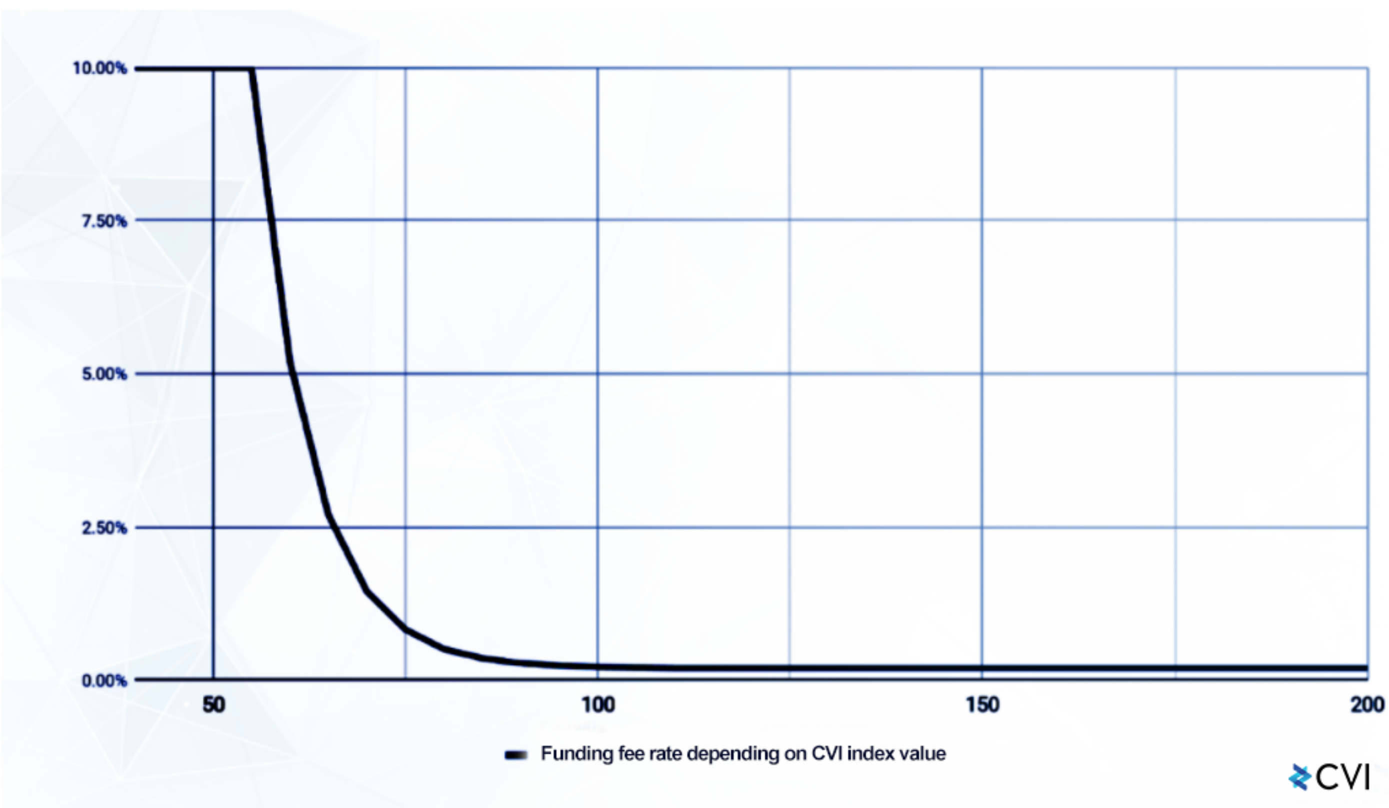
$$G_f = N_p \sum_{t_i=t_{prev}}^{t_{last}} * CVI_i/100 * f\_rate(CVI_i)* \frac{(t_{i+1} - t_i)}{T},$$

where N_p is the total number of positions, t_{prev} is the last gross funding fee transfer time.

$f\_rate = Min(f\_rate_{max} * r^{(CVI - CVI_{min})/5} + f\_rate_{min}, f\_rate_{max})$, rounded to 4 decimal places, where

f_rate_{max}=10% , f_rate_{min}=0.2% , CVI_{min}=55 , r = 0.5, CVI is the current CVI index value.

The gross funding fee is transferred from the CVI pool to the Liquidity pool with each first position changing transaction in a block, before all other changes. If there are several such transactions in the same block, only the first of them transfers the gross funding fee.



Gross position adjustment between Liquidity and CVI pools

The adjustment is used to fairly calculate the liquidity token value. It reflects the pending gain/loss for liquidity providers.

The adjustment is calculated and transferred from the CVI pool to the Liquidity pool or otherwise with each first position changing transaction in a block, before all other changes. If there are several such transactions in the same block, only the first of them transfers adjustment.

The adjustment is:

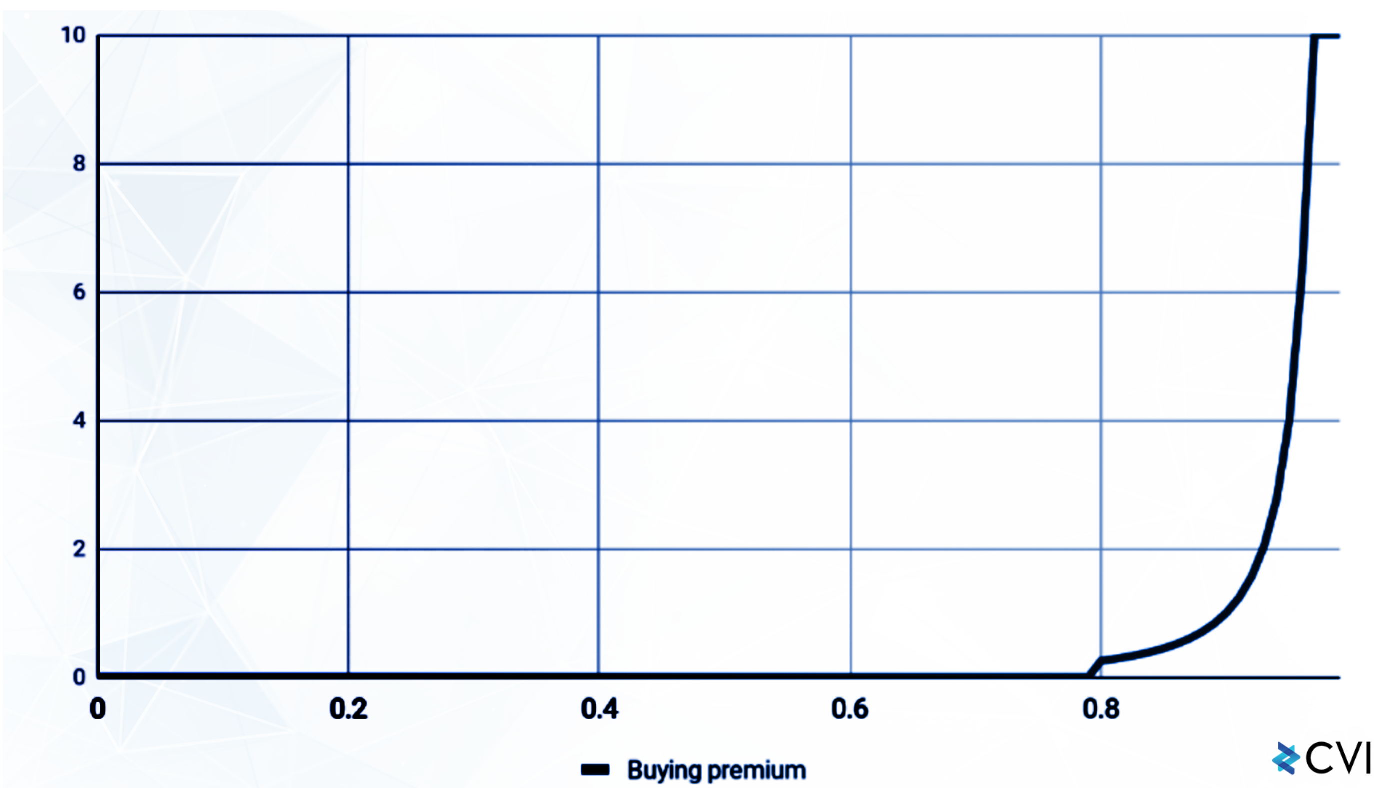
- If $CVI_{i+1} - CVI_i > 0$, then $APL = N_p * (CVI_{i+1} - CVI_i)/100$, where N_p is the number of positions, and APL value is transferred from the Liquidity pool to the CVI pool.
- If $CVI_{i+1} - CVI_i < 0$, then $APL = N_p * (CVI_i - CVI_{i+1})/100$, where N_p is the number of positions, and APL value is transferred from the CVI pool to the Liquidity pool.

Buying premium

The goal is to deal with the situation of overbuying and / or increased risk for the liquidity providers.

The buying premium goes to the Liquidity pool, so it is paid to liquidity providers.

The buying premium depends on the risk ratio = reverse collateral ratio $rr = \frac{N_p * CVI_{max}/100}{Liquidity\_pool + CVI\_pool}$, shown in the chart below (zero up to 0.8 and tangent rr=1, capped at 10%)



In addition there is a secondary element for the buying premium, which is calculated according to recent volatility. This is based on the gathered values from the oracles depending on whether the new value was triggered by a predefined deviation threshold or from the predefined schedule.

The combination of the two elements is still capped as before at 10%.

Position liquidation value

The position liquidation value is calculated per trader.

The funding fee for a trader F_f is calculated according to the formula defined above.

Position liquidation value is $n_p * (CVI) - F_f$.

Position liquidation threshold and liquidation fee

The threshold is defined to be **0.2** ETH per open position. (subject to change)

The liquidation fee is charged when a CVI position is liquidated.

f_l = **0.3%** (subject to change)

Use cases and calculations

Placing a liquidity deposit and minting CVI n_l liquidity tokens

1) The price of the tokens is $\frac{Liquidity\_pool}{N_l}$. The starting price of the liquidity token is 1 ETH.
2) The amount to pay is $n_l * \frac{Liquidity\_pool}{N_l} * (1 + f_d)$.
3) The Liquidity pool is increased by $n_l * \frac{Liquidity\_pool}{N_l}$.
4) $n_l * \frac{Liquidity\_pool}{N_l} * f_d$ is to be sent to the Fees pool.
5) n_l liquidity tokens are added to the Liquidity tokens map.
6) The gross funding fee is transferred from the CVI pool to the Liquidity pool if the transaction is the first in the block.
7) The position adjustment is transferred from the CVI pool to the Liquidity pool (or otherwise) if the transaction is the first in the block.
8) All gas is paid by the liquidity provider.

Withdrawing of a deposit and buying back n_l liquidity tokens

1) Check the collateral rule:

$$Liquidity\_pool * (1 - \frac{n_l}{N_l}) + CVI\_pool >= OverCR * N_p * CVI_{max}/100.$$

2) The price of the tokens is $\frac{Liquidity\_pool}{N_l}$.
3) The amount to repay is $n_l * \frac{Liquidity\_pool}{N_l} * (1 - f_w)$.
4) The Liquidity pool is decreased by $n_l * \frac{Liquidity\_pool}{N_l}$.
5) $n_l * \frac{Liquidity\_pool}{N_l} * f_w$ is to be sent to the Fees pool.
6) n_l liquidity tokens are deleted from the Liquidity tokens map.
7) The gross funding fee is transferred from the CVI pool to the Liquidity pool if the transaction is the first in the block.
8) The position adjustment is transferred from the CVI pool to the Liquidity pool (or otherwise) if the transaction is the first in the block.
9) All gas is paid by the liquidity provider.

Opening n_p long position

1) Check the collateral rule:

$$Liquidity\_pool + CVI\_pool + n_p * CVI/100 >= OverCR * (N_p + n_p) * CVI_{max}/100.$$

2) The amount to pay is $n_p * CVI * (1 + f_m + P_b)/100$, where P_b is the buying premium.
3) The CVI pool is increased by $n_p * CVI/100$.
4) $n_p * CVI * f_m/100$ is to be sent to the Fees pool.
5) The buying premium P_b is to be sent to the Liquidity pool.
6) n_p positions are added to the Traders' position map.
7) The timestamp (block height) of the last position change is updated.
8) The trades gain/loss account is recalculated and the new value is defined to be $PL_{T,i+1} = PL_{T,i} - F_f$, where F_f is the amount of the funding fee calculated from the previous position change.
9) The gross funding fee is transferred from the CVI pool to the Liquidity pool if the transaction is the first in the block.
10) The position adjustment is transferred from the CVI pool to the Liquidity pool (or otherwise) if the transaction is the first in the block.
11) All gas is paid by the trader

Closing of n_p long position

1) The funding fee for a trader F_f is calculated according to the formula defined above.
2) The gross funding fee is transferred from the CVI pool to the Liquidity pool if the transaction is the first in the block.
3) The position adjustment is transferred from the CVI pool to the Liquidity pool (or otherwise) if the transaction is the first in the block.
4) **The trader can close all its positions or a part of them.**

   There are three possible options of withdrawal: a) closing the position withdrawing funds, b) closing the position withdrawing all funds and the rest of the gain/loss account, c) closing the position sending funds to the gain/loss account.

5) **If funds are withdrawn**, the amount to repay is $n_p * CVI/100 * (1 - F_b) - F_f$. The funding fee F_f is the amount calculated from the last event when the funding fee was subtracted from the gain/loss account. This option is disabled if the trader's gain/loss account is negative.
6) **If funds are withdrawn with the rest of the gain/loss account**, it is added to the amount to repay defined above.
7) **If funds are not withdrawn**, there is no repay. The new value of the trader's gain/loss account is $PL_{T,i+1} = PL_{T,i} - F_f + n_p * CVI * (1 - F_b)/100$.
8) The CVI pool is decreased by $n_p * CVI/100$.
9) $n_p * CVI * F_b/100$ is to be sent to the Fees pool.
10) n_p positions are deleted from the Trader position map.
11) the timestamp (block height) of the last position change is updated.
12) All gas is paid by the trader.

Withdrawing trader's gain/loss account

1) The trader's gain/loss account balance can be withdrawn at the transaction gas price.
2) Withdrawing of a trader's gain/loss account is only possible when the account balance is positive.
3) Withdrawing of a trader's gain/loss account can't make the position liquidation value negative.

Hourly index updating

1) The calculation of the position liquidation value on the fly requires all the CVI history to be kept (if it is chosen to use the value from the last closed day, then it will be sufficient to keep the daily history).

Position liquidation

1) The external liquidators scan the mapping of the traders for positions with liquidation value below the liquidation threshold.
2) For all such positions, external liquidators initiate liquidation transactions and pay the gas.
3) The rest of the liquidation value of the position is transferred from the CVI pool to the Fees pool.
4) The external liquidator gets the position liquidation fee from the Fees pool.
5) All the n_p traders positions are deleted from the Traders position map.

Governance

CVI operates a permissionless and open-source protocol, so any user can be a part of the development of the network.

CVI includes a decentralized governance component, where holders of the $GOVI token can vote on matters such as the tradable assets, leverage used, deposit amounts, platform fees and more.

By participating in the platform, by either trading on the platform or taking part in the governance of the platform, $GOVI holders will also share fees from the CVI platform.

By participating in the platform, by either trading on the platform or taking part in the governance of the platform, $GOVI holders will be able to -

- *Vote to change the leverage*
- *Vote to change the fees*
- *Vote to change* D_0 *(opening position deposit size)*
- *Vote to change* D_{min} *(liquidation position deposit minimum level)*
- *Vote on changes to the data source and aggregation protocol*
- *Vote on trading platform changes and enhancements*

Holders will share platform fees

Future development

As the second phase of system development, we plan to introduce inverse CVI tokens, allowing traders to open positions equivalent to short selling of CVI, and more trading models.

Summary

The crypto market needs a volatility index that is a decentralized and dynamic, unbiased and not connected to any exchange. CVI is a full-scale decentralized platform that brings the sophisticated and very popular “market fear index” to the crypto market and is created by computing a decentralized volatility index from cryptocurrency option prices, together with analyzing the market’s expectation of future volatility. We believe that CVI provides the most reliable DeFi tool suitable for analyzing volatility, hedging portfolios and earning from being a liquidity provider.