CVI

Market Fear Index for the Crypto Space

A new DeFi Primitive

Created by coti

cvi.finance

TL;DR:

1. The VIX, commonly referred to as the "Market Fear Index", is one of the most important indexes in traditional finance, allowing traders to hedge or to take profit from market volatility.

2. COTI is launching CVI, the first decentralized version of the VIX for the crypto market, covering major crypto assets.

3. We have created CVI so that traders can hedge themselves against volatility or lack thereof.

4. CVI is created by computing a decentralized volatility index from cryptocurrency option prices together with analyzing the market's expectation of future volatility and working in a decentralized fashion by using a network of decentralized Chainlink oracles.

5. COTI is also introducing a fully decentralized and self-adjusting trading system that enables a permissionless way to enter long/short positions on CVI.

6. The $GOVI token will be introduced and act as a governance token for the protocol and platform

7. 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.

8. $GOVI distribution is a fair launch distribution model -
    a. No pre-mine
    b. No token sale, no fundraising
    c. No VC's and no Whales
    d. The total supply is minted gradually over three years and is capped to 32M $GOVI tokens, with no option to mint more
    e. Allocation:
        i. 10% $COTI native coin holders (3.2M tokens)
        ii. 15% incentives for liquidity providers to migrate to CVI (4.8M tokens)
            1. COTI - ETH Uniswap liquidity pool - 1.6M tokens
            2. Other Uniswap liquidity pools combined- 3.2M tokens
            3. Both of the above allocations are - locked until the platform is launched and achieves a set milestone
        iii. 15% development fund - distributed over 3 years (4.8M tokens)
        iv. 60% users of the CVI platform for their usage and liquidity - distributed over 3 years (19.2M tokens)
            1. Platform liquidity providers - 12.8M tokens
            2. Platform usage - 6.4M tokens

9. $GOVI distribution starts tomorrow!

10. Executive summary

Abstract - What is the VIX and why crypto should have one?

Most of us have heard of the VIX index in the stock market, the index that is sometimes referred to as the "Market Fear Index", measuring the implied market volatility and a counter index to the standard financial indexes that track upwards market movements.

Volatility is an important statistical measure of market behavior and the most common risk measure in financial theory. In plain words, if the volatility rises for the same asset or index, it means that the market becomes unstable.

So, it is quite natural that the VIX has become one of the most quoted indexes and a cornerstone in many of the trading strategies made by professionals. Investors can use VIX to measure the level of risk, fear, or stress in the market when making investment decisions. Traders can also trade the VIX using a variety of options and exchange-traded products, or use VIX values to price derivatives and by doing so can effectively hedge against the overall market.

The VIX index has paved the way for using volatility as a tradable asset via derivative products. CBOE launched the first VIX-based exchange-traded futures contract in March 2004, which was followed by the launch of VIX options in February 2006. Today, there are many VIX-linked instruments available for trading, including leveraged and short ETN/ETFs as well as futures/options on these instruments. Such VIX-linked instruments allow pure volatility exposure and have created an entirely new asset class. Active traders, large institutional investors and hedge fund managers use VIX-linked securities for portfolio diversification, as historical data demonstrates a strong negative correlation of volatility to the stock market returns – that is, when stock returns go down, volatility rises and vice versa.

Since the invention of Bitcoin, cryptocurrencies have evolved into a new class of financial assets. The emergence of the derivative market has signaled the need for solid pricing strategies as well as reliable risk measures. There is a growing need for a new decentralized volatility index that provides a proper estimation of the risk measurement of the cryptocurrency components, and a delivery of market status information to potential investors.

As such, we believe that the crypto market should have its own decentralized VIX, its own "market fear index".

Announcing CVI - a VIX for crypto

Today, we announce exactly that, CVI, a revolutionary and first of its kind decentralized VIX for the crypto market.

We have created CVI so that traders can hedge themselves against volatility or lack thereof.

CVI is 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.

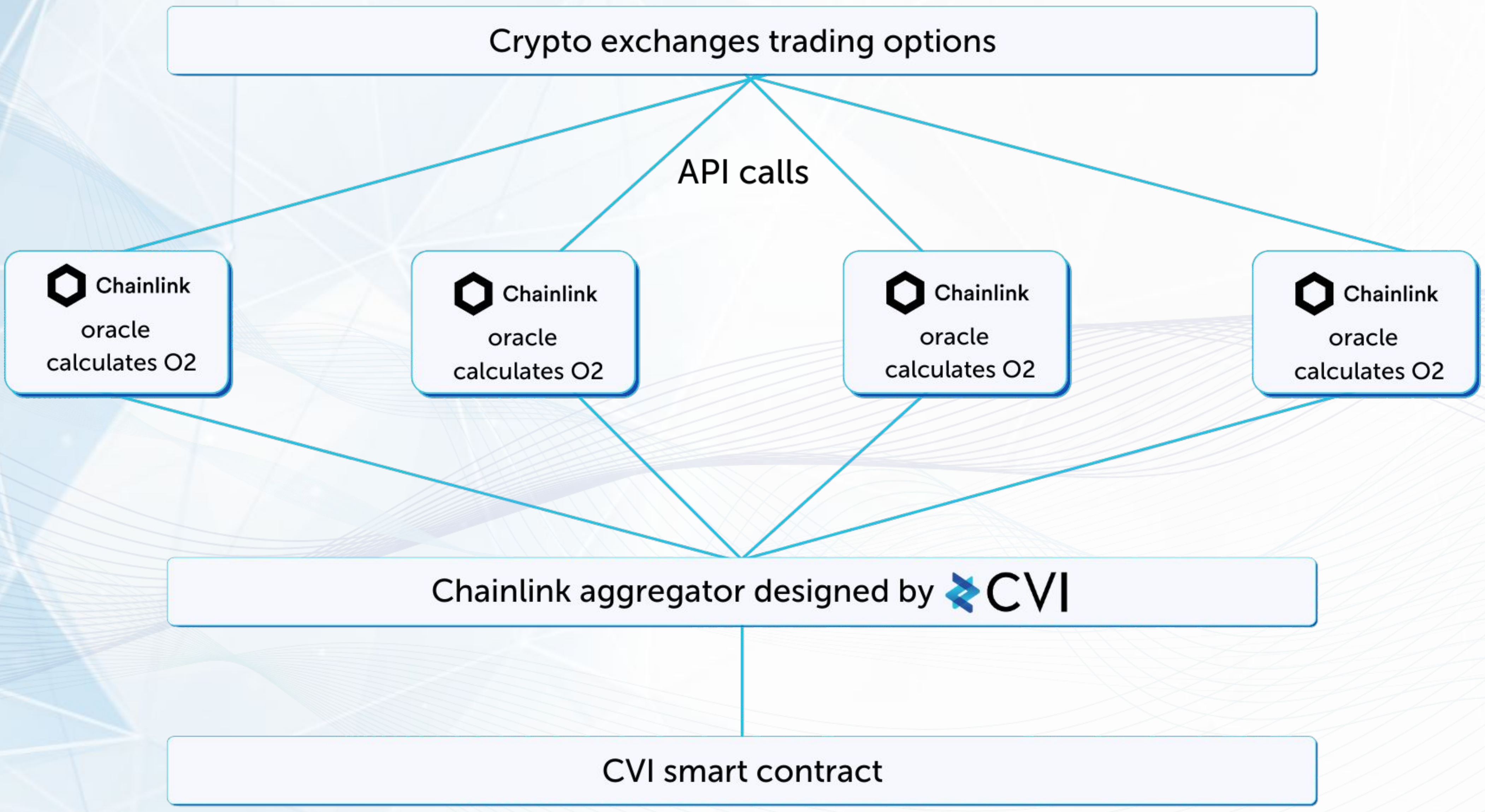
CVI is an innovative, decentralized, stable, transparent, informative and replicable benchmark for cryptocurrency volatility information.

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

To be able to implement the crypto volatility index, it is crucial to have an option exchange with rules, market makers, order book, and good turnover to provide reliable option prices. Volatility can't be accurately calculated if we can't be sure that there are no holes in the option chain. For this reason, one of the data sources we used for the CVI calculations is Deribit exchange which is the most advanced and widely adopted platform for derivatives and options.

The cryptocurrency market hardly adopts centralized solutions, so the calculations of the index are fully decentralized. As part of our index and platform, we will also release an open-source exchange connector and index calculators together with Chainlink oracles and adaptors which aggregate the data and produce the hourly index level.
For CVI 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, COTI will also introduce an innovative decentralized trading platform.

Our CVI index calculation is based on a classic approach, the Black-Scholes option pricing model, and is adapted to the current crypto-market conditions. In order to ensure decentralization and transparency, we use Chainlink architecture with multiple oracles to retrieve the required data and calculate the formulated CVI using external adapters. The calculated results from each Oracle are aggregated, verified, and passed to the blockchain node so that the data can be accessed and used both by the requesting smart contract and as a service for other use case implementations.



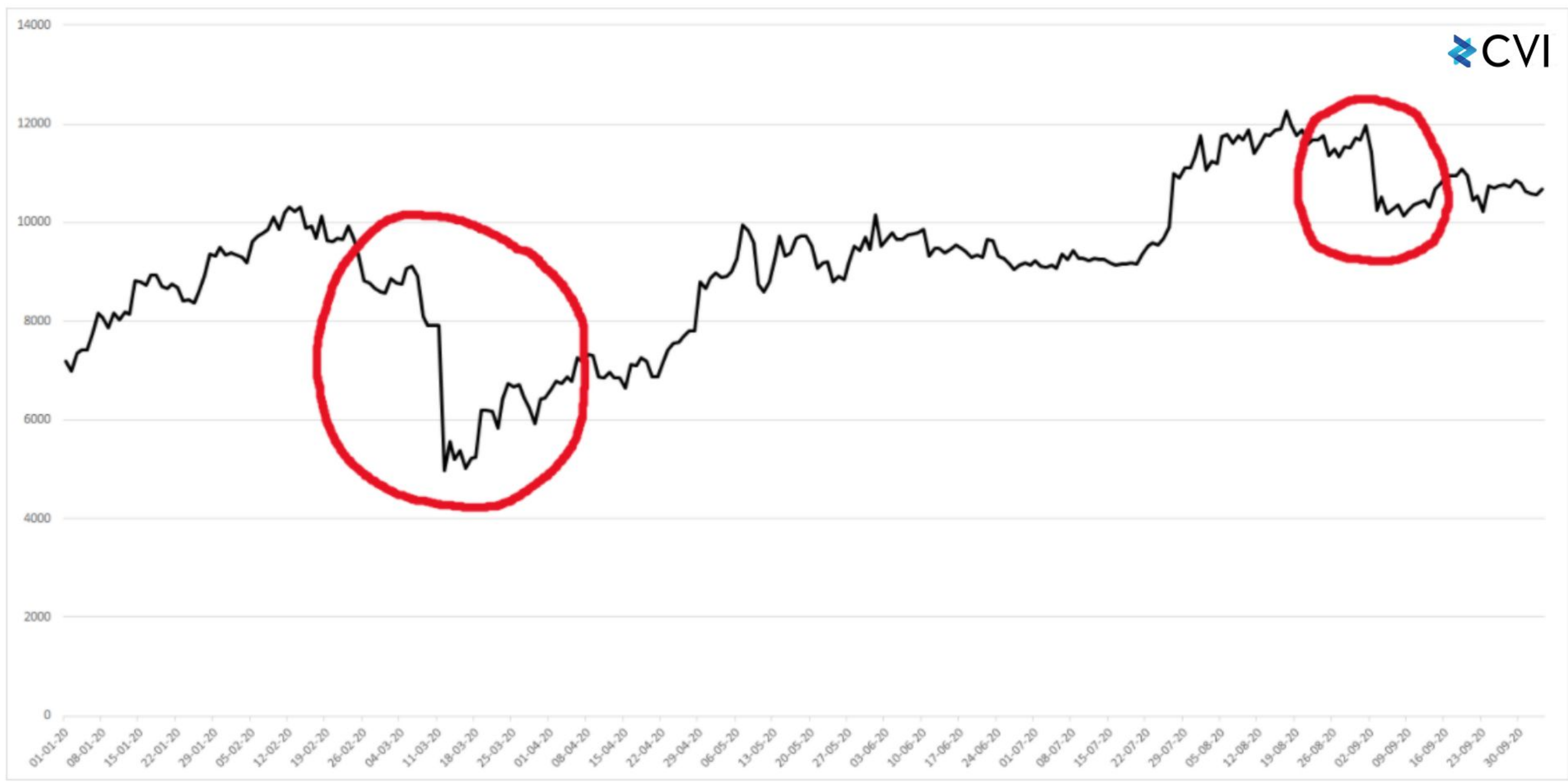
The combined CVI index is a weighted sum of CVI indices calculated for several cryptocurrencies (for example BTC and ETH), where weights are based on the currency market cap.

CVI in action

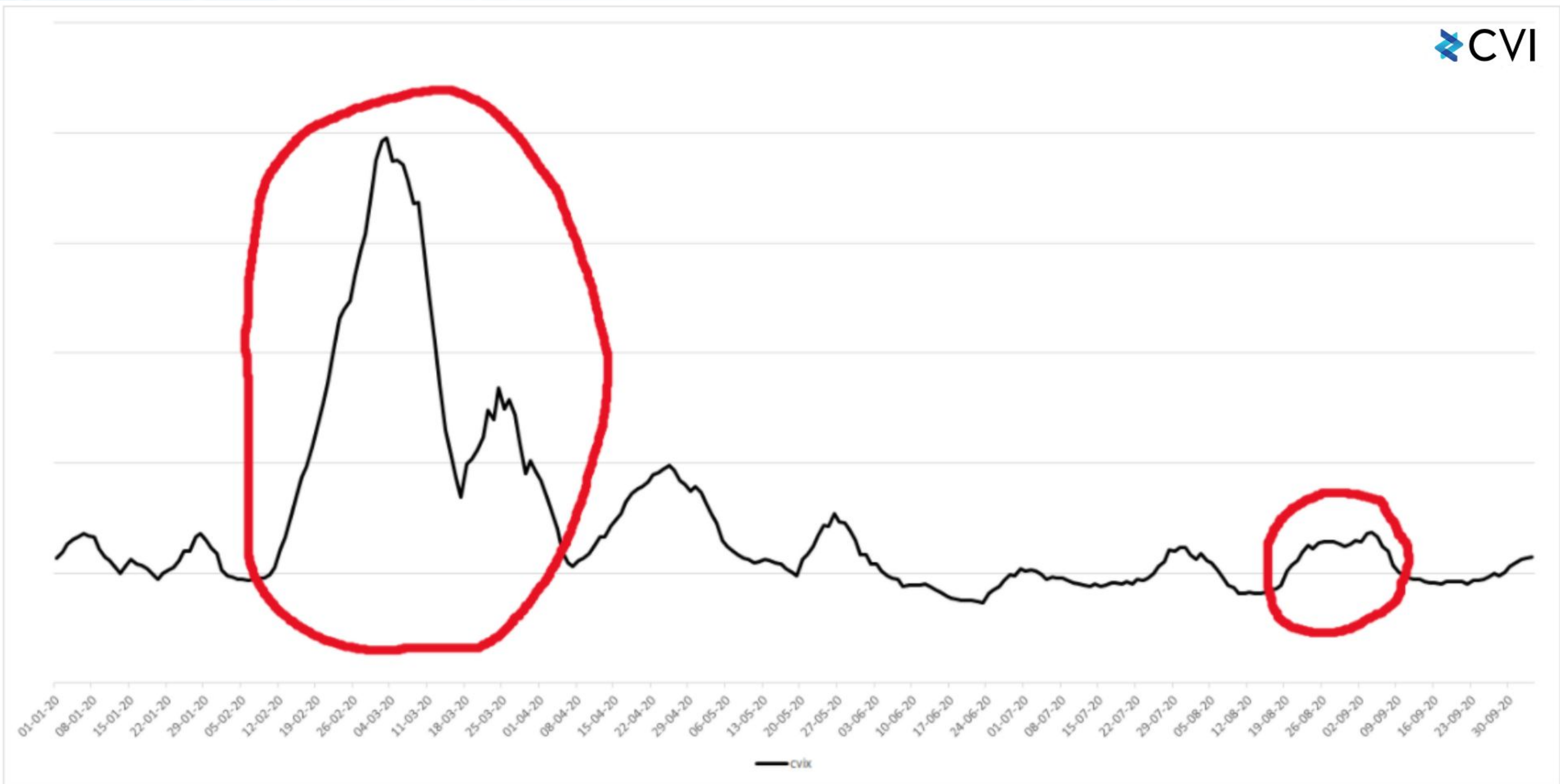
The below chart represents the Bitcoin price chart for 2020 with two visible market events:

1) COVID-19 crisis (spring 2020)
2) Defi-tokens price crash at the beginning of September 2020

Bitcoin Price:



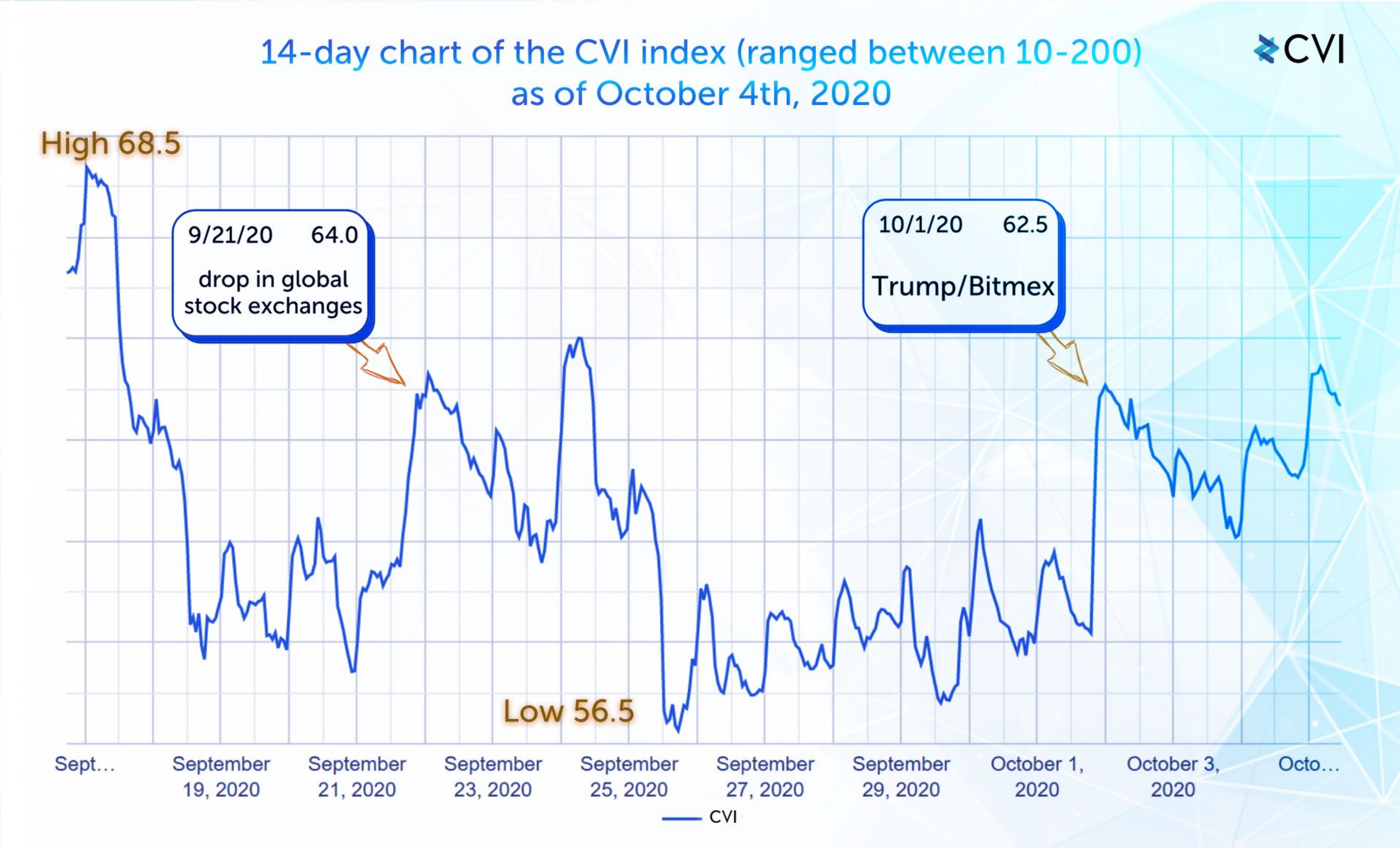
Now let's examine the CVI chart representing both of these events:



When reading the CVI chart, remember that "Market goes down, CVI goes up".

Obviously, the above chart shows that there is a strong inverse correlation between CVI and BTC prices.

The following is a 14-day chart of the CVI index (ranged between 10-200), as of October 4th, 2020. This demonstrates the correlation the index has with macroeconomic events that affected the markets, such as the drop in global stock exchanges from September 21st and the events surrounding the Bitmex lawsuits and Trump Coronavirus news on October 1st.



Using the CVI platform

In addition to the index itself, we will also introduce a fully decentralized and self-adjusting trading system that enables a permissionless way to enter long/short positions on the crypto volatility index, allowing users to hedge themselves from market volatility.

CVI has two main participants, Traders, and Liquidity Providers.

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 LONG 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 that 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 also pay a small usage fee for doing so.

The other type of user in the system is a liquidity provider. Liquidity providers on CVI play a much bigger role compared to their role when they simply provide liquidity to swap platforms like Uniswap or Balancer.

In fact, liquidity providers on CVI play the role of the counterpart for every trade made on the platform.

So, if a trader has bought a LONG or SHORT on CVI and lost that trade, the liquidity providers are the ones to recoup the lost trade, and vice versa. In other words, if a trader bought insurance against volatility or against stagnation, the liquidity providers play the role of the insurance company. This is a great position to be in as it is much more lucrative than just providing liquidity for a small fee and being at risk of impermanent loss. With CVI , liquidity providers make excellent fees AND see their liquidity pool grow over time making their projected APY far greater than what it is on other platforms that just share trading fees for liquidity provisioning.

And the traders? They are usually fine with losing their trade as it served as a hedge (the same way they would prefer to pay a home insurance premium than having their house burn down...)

CVI will be launched with support for trades and deposits with ETH and USDT and will rapidly grow to support other tokens. $GOVI token holders will play a critical role in determining the new tokens introduced to the platform.

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 Cr (Cr is the overall collateral ratio) > CrMin (Minimum required collateral threshold). 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 will 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 incentivizing 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 value, collateral value) so the LP size affects the funding fee paid on the platform.

Trading on CVI

There are a multitude of trading strategies using the volatility index.

The following describes the 3 most common strategies for trading the volatility index:

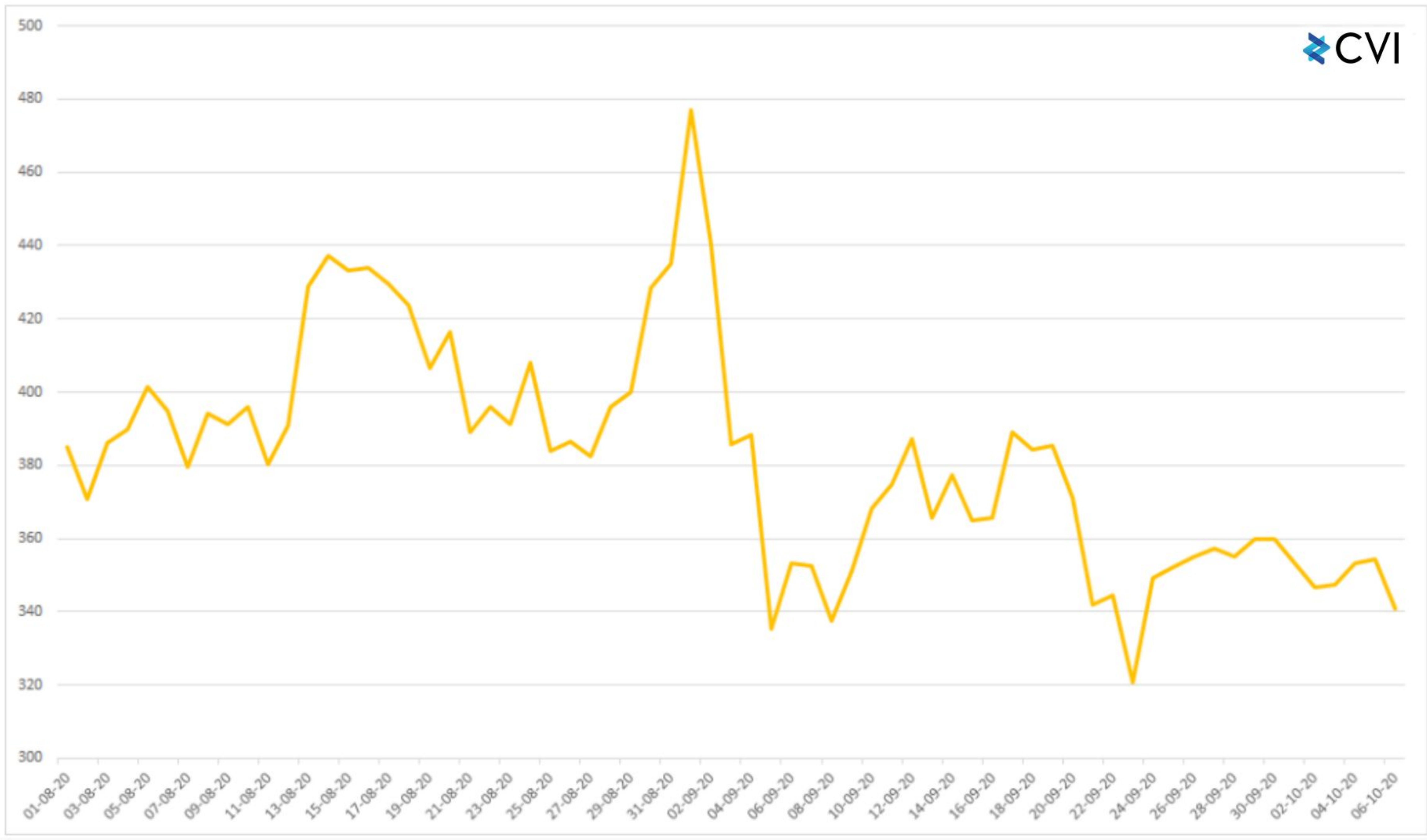
1. "Black swan" - hedging strategy

If a trader expects that some large scale shock can affect the whole market, he can buy CVI and, if the market downturn really happens, the trader can make substantial gains from the trade.

For example, if the trader entered the market on some of the first days of February 2020 when the CVI level was at 50, he could have made a 260% profit closing the position when the CVI level was at 180.

2. Overheated market - hedging strategy

Unlike the previous trading strategy, this is a much more common situation for all financial markets. Let's look at the last known one, at the beginning of September. The event is easily distinguishable on the Bitcoin price chart above, and even more so if we examine the Ethereum chart:



The explanation for this market behavior is the overbought state of the market into the "DeFi" tokens - very promising and quickly developing market segment, but no investment market can be stable being overbought. As a result, when the stock market plunged by approximately 5%, cryptocurrency markets lost much more and the Defi components which are based on Ethereum got the most significant drawdown.

The possible strategy of using CVI for this situation is to buy volatility entering the rising market. If a trader starts buying into CVI when it is at 50 entering the market at the last day of August, together with Ethereum or other tokens, then the gain in CVI would have compensated most of his losses in Ethereum all through September.

3. Back slope - speculative strategy

As demonstrated in the previous examples, after a sharp surge CVI usually goes down to its average levels. If a trader sells CVI at such a slope (like we can see in the third chart), the trader can make a profit once the index is going down. Like all speculative trades, this strategy is more sophisticated and requires more analysis, but on average it can be more profitable than the other examples described above.

The following are two detailed trading examples:

Trading Example 1:

Trader 1 (Alice) enters a position in the CVI platform and deposits 4 ETH as she anticipates increased market volatility, and wants to hedge her current cryptocurrency portfolio, which contains several currencies such as: BTC, ETH, LINK etc. When Alice entered her position, the CVI value was at 40 (out of 200), therefore each CVI index point cost Alice 0.2 ETH (40/200).

After a few days, due to COVID-19 fears, the market became increasingly volatile and Alice's cryptocurrency position sustained losses as a result. Due to the volatility, which in this case pushed the market down, the CVI index went up to 80, leading to profits on Alice's CVI position. Alice now has ~7.98 ETH (40 to 80 climb, or 100% gain, while paying some fees).

Trading Example 2:

Trader 2 (Bob) is a volatility trader. He profits when the market is volatile and loses during times of market stagnation. Bob is also a liquidity provider on Uniswap, but wishes to diversify his liquidity provisions and to avoid an impermanent loss. Bob deposits 60 ETH into CVI's collateral pool (LP) in order to diversify, as he believes that the CVI LP is more profitable due to the fact that generally speaking, a fear index always returns to its mean value when the market settles and he sees the current value (80) as too high and wishes to short it.

Later that day, Alice enters another position in the CVI platform, depositing 40 ETH when the CVI index is at 80 (She actually bought 100 CVI - 40*200/80=100 CVI). However, after a few days, the index drops to 20 due to a DeFi fueled bull cycle. As a result, Alice now has about 10 ETH while Bob has gained 30 ETH.

The CVI technical white paper, which covers the index composition and how the trading platform works will be released in the coming weeks for the community's review.

The platform itself will launch no later than the end of the year.

Why COTI?

At COTI, we always take pride in revolutionizing the way traditional finance works. We see ourselves as pioneers, bridging the gap between traditional finance and digital finance.

CVI is not an overnight forked project from an anonymous team or a short-live trend and is instead an innovative product and a useful trading platform accompanied by a sustainable token model.

We see CVI as yet another utility of COTI and we are proud of building it in a fully decentralized manner, for the benefit of the entire space.

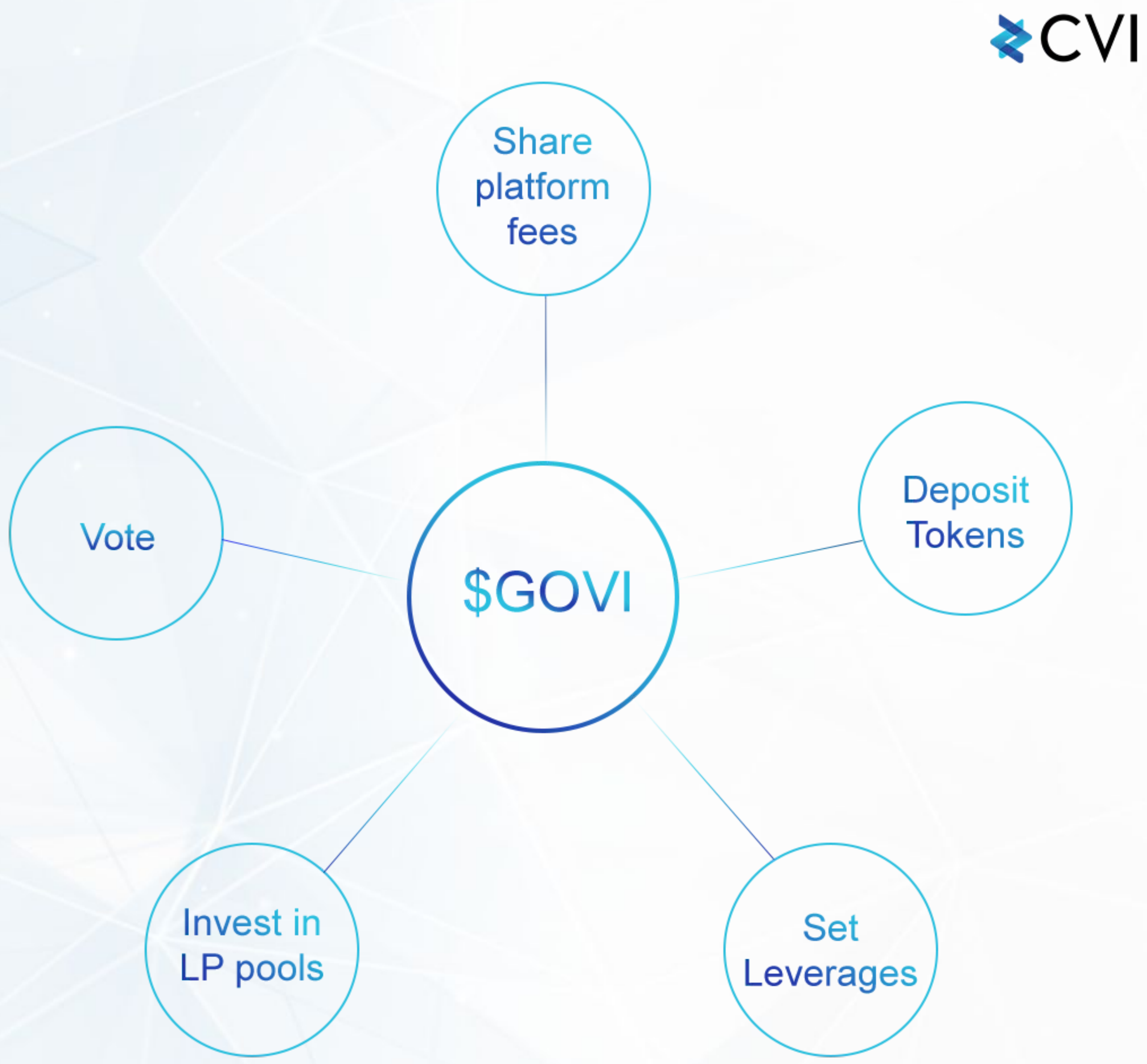
Over time, as the Trustchain tech stack will have complete support for smart contracts over DAG, the CVI platform will migrate from Ethereum to the Trustchain. While we will keep interoperability with Ethereum and other chains, we expect that the superior performance of the Trustchain will demonstrate much lower usage fees and far greater speed.

Introducing the $GOVI token - a governance token for CVI

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 -

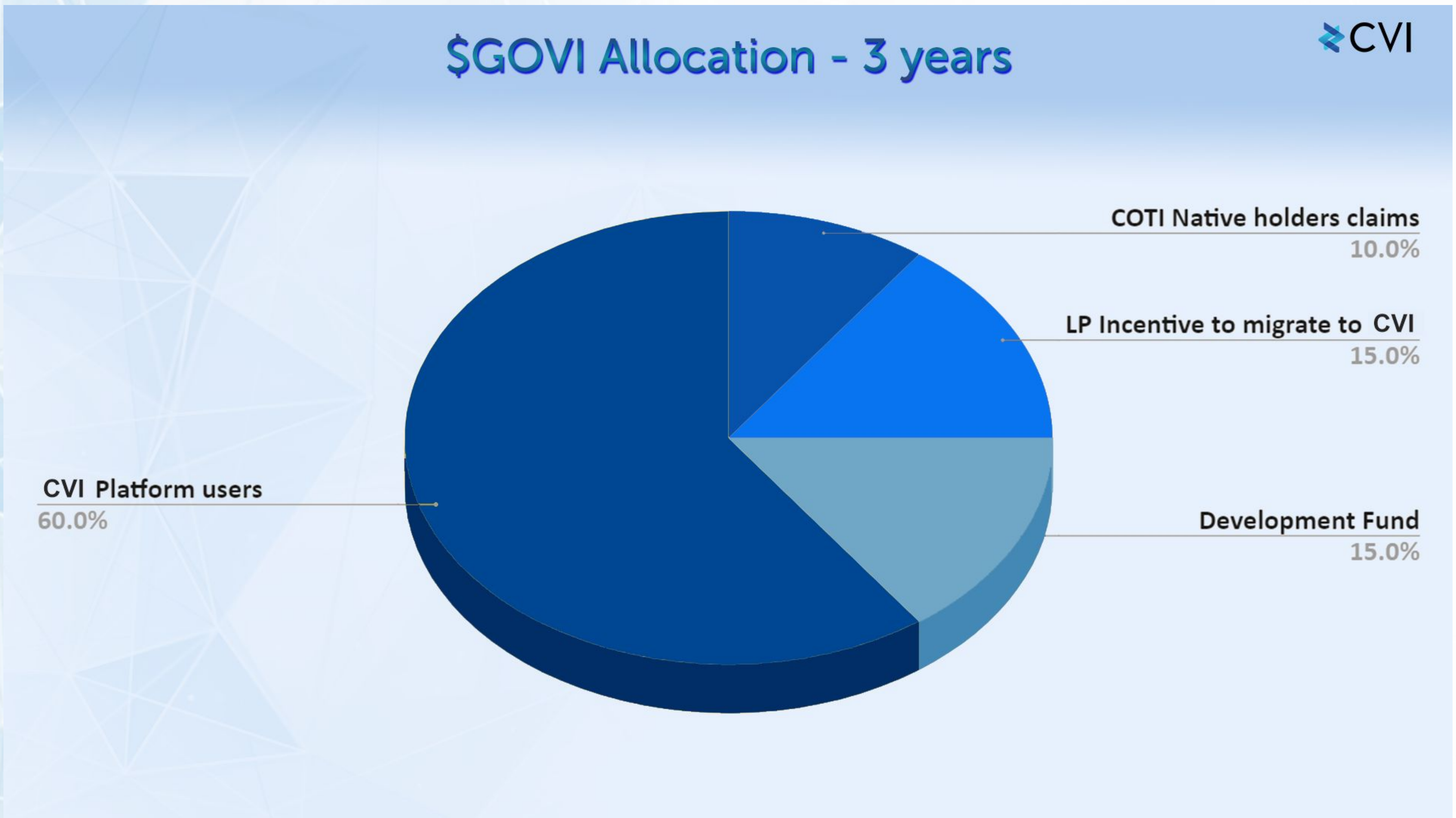
- *Vote to change the leverage*
- *Vote to change the fees*
- *Vote to change* D_0 *(opening position deposit size)*
- *Vote to change* D_{min} *(liquidation position deposit minimum level)*
- *Vote on changes to the data source and aggregation protocol*
- *Vote on trading platform changes and enhancements*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

$GOVI fair distribution model

CVI is a fair launch product. Distribution of the governance tokens ($GOVI) will run over a period of three years, with no pre-mine, no fundraising and no allocation for VCs or Whales.

On CVI, everyone starts equally and users of the platform will govern it and enjoy its fees.

The $GOVI tokens three year allocation distribution:



- 10% $COTI native coin holders (3.2M tokens)
- 15% incentives for liquidity providers to migrate to CVI (4.8M tokens)
  - COTI - ETH Uniswap liquidity pool - 1.6M tokens
  - Other Uniswap liquidity pools combined- 3.2M tokens
  - Both of the above allocations are - locked until the platform is launched and achieves a set milestone
- 15% development fund - distributed over 3 years (4.8M tokens)
- 60% users of the CVI platform for their usage and liquidity - distributed over 3 years (19.2M tokens)
  - Platform liquidity providers - 12.8M tokens
  - Platform usage- 6.4M tokens

The $GOVI total supply is minted gradually over three years and is capped to 32M $GOVI tokens, with no option to mint more.

The distribution schedule for each allocation is as follows:

- **Distribution to native $COTI holders**
  Starting tomorrow, October 14th at 6am UTC and ending once the CVI platform is launched, we'll be distributing 10% (3.2M $GOVI tokens) of the $GOVI supply

  As CVI was developed entirely by the COTI team, we believe that it is only fair that the community of $COTI holders should be the initial beneficiaries of CVI.

  Accordingly, 10% of all $GOVI will be distributed to the community of native $COTI holders that meet the following criteria:
  1. Have a COTI Pay VIPER wallet
  2. Make a claim for $GOVI by clicking "Claim" in their wallet during the scheduled claim period
  3. Hold or stake at least 10K $COTI or more during a randomized snapshot of the wallet

  To make sure that distribution is fair and that $GOVI is well distributed, the amount of $COTI that can participate in the claim process was limited to 500K $COTI coins.

  In order to support our vast community of COTI stakers on full nodes, those who are actively staking can also participate in the claim process by clicking "Claim" in their wallet and their staked amount will be taken into account as part of the process.

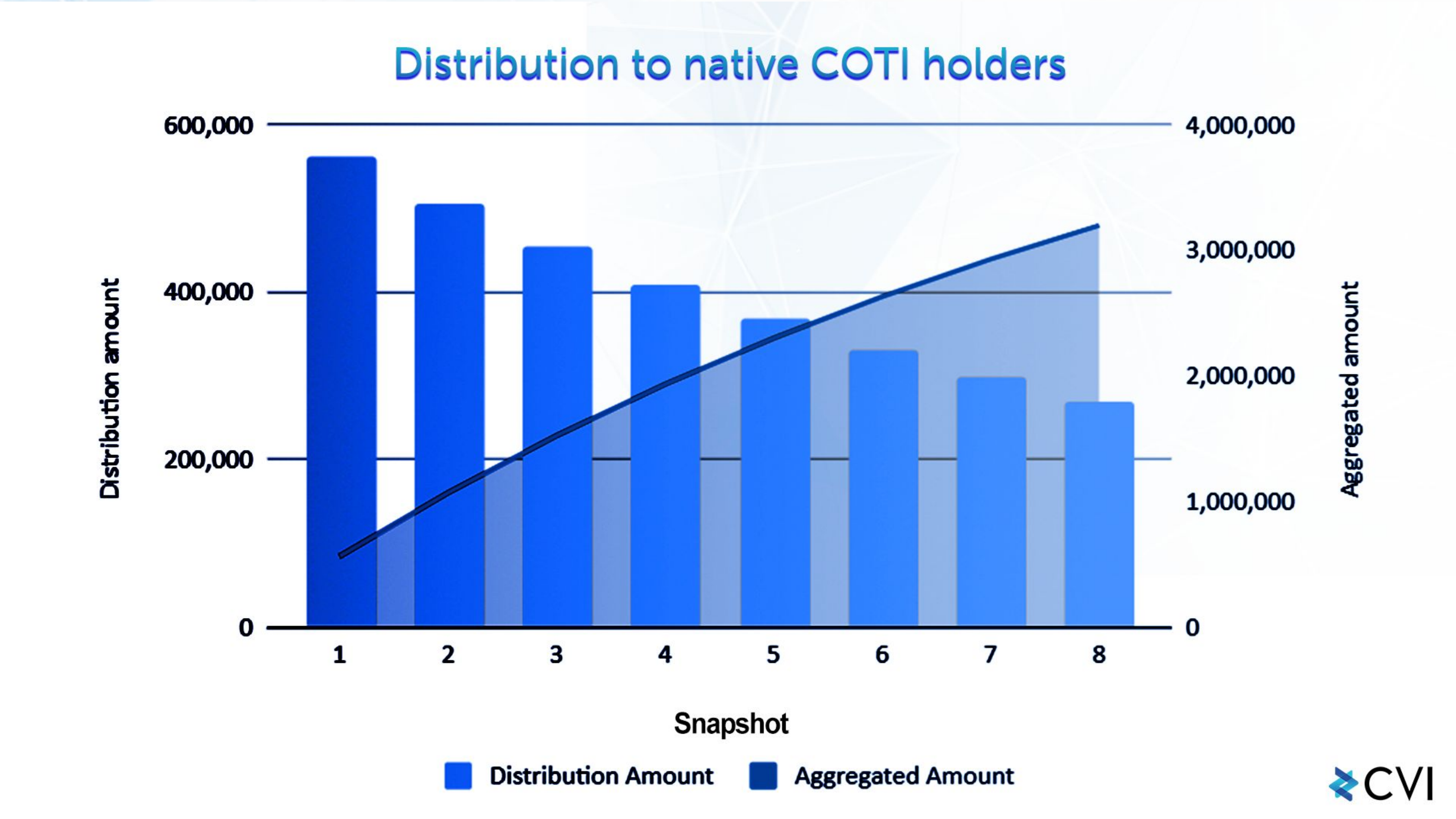
  The whole process will take place on the Trustchain, so no gas wars!

  Distribution of $GOVI to $COTI holders is not a one-time event. The first distribution will be the biggest one and then the following distribution will be 10% less and so on, until 3.2M $GOVI tokens are distributed when the platform is launched, so stay tuned for future distribution events!

  Opportunities to claim more $GOVI will be limited in time and announced a few hours before they take place, to avoid market manipulation and to keep distribution as fair as possible.

  The first distribution of $GOVI to all who are eligible will take place on October 16th, 2020, 24 hours after the first claim process. You can follow the results here.

COTI native coin holders	
Snapshot	$GOVI Amount (Total 3.2M)
1	561,900
2	505,700
3	455,100
4	409,600
5	368,600
6	331,800
7	298,600
8	268,700



- **Distribution to liquidity providers**

  Starting on Friday, October 16th 2020

In order to encourage liquidity providers to migrate their liquidity to CVI, LP's will be incentivized with $GOVI tokens.

As stated above, liquidity providers on $GOVI can earn substantially more than they otherwise would on simple liquidity pools, as they receive both fees and premiums that traders pay.

In order to encourage potential liquidity providers to review CVI's offering, we'll be offering $GOVI to liquidity providers that stake their Uniswap LP token with it. Once they are ready to migrate completely to CVI, they will be able to do so with a click of a button and get even more $GOVI, on top of the other benefits that liquidity providers get.

The first liquidity pool that will be incentivized is the COTI ERC20 / ETH pool on Uniswap - it will begin soon after the first batch of $GOVI is distributed to $COTI holders. The amounts each liquidity provider is eligible to will be set according to random snapshots of the pool on Uniswap.

The next liquidity pools to be incentivized will be decided by the CVI decentralized governance. A supporting decentralized platform will be created by COTI to support this process for the benefit of the CVI community.

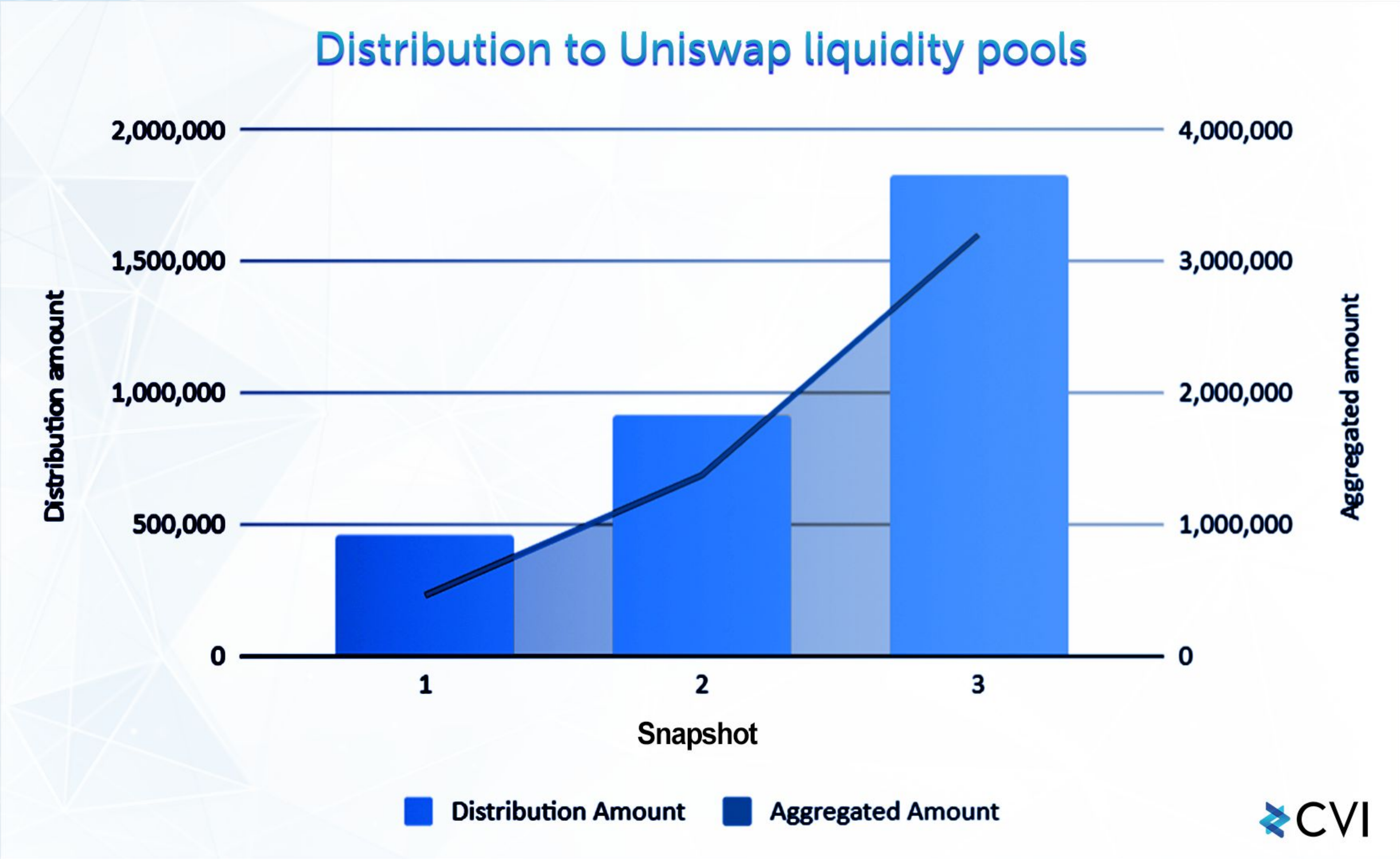
A total of 15% (4.8M) $GOVI tokens were allocated for liquidity pools incentives, distribution will start after the first liquidity pool is launched and will end when all 4.8M $GOVI tokens are distributed.

In order to avoid the short-lived hype cycles that come with distribution models that start with high amounts and decrease rapidly, it was decided to reverse the process. The first distribution will be the smallest one, the next one bigger and so on. That way, momentum and interest are kept as the overall liquidity locked on the platform grows.

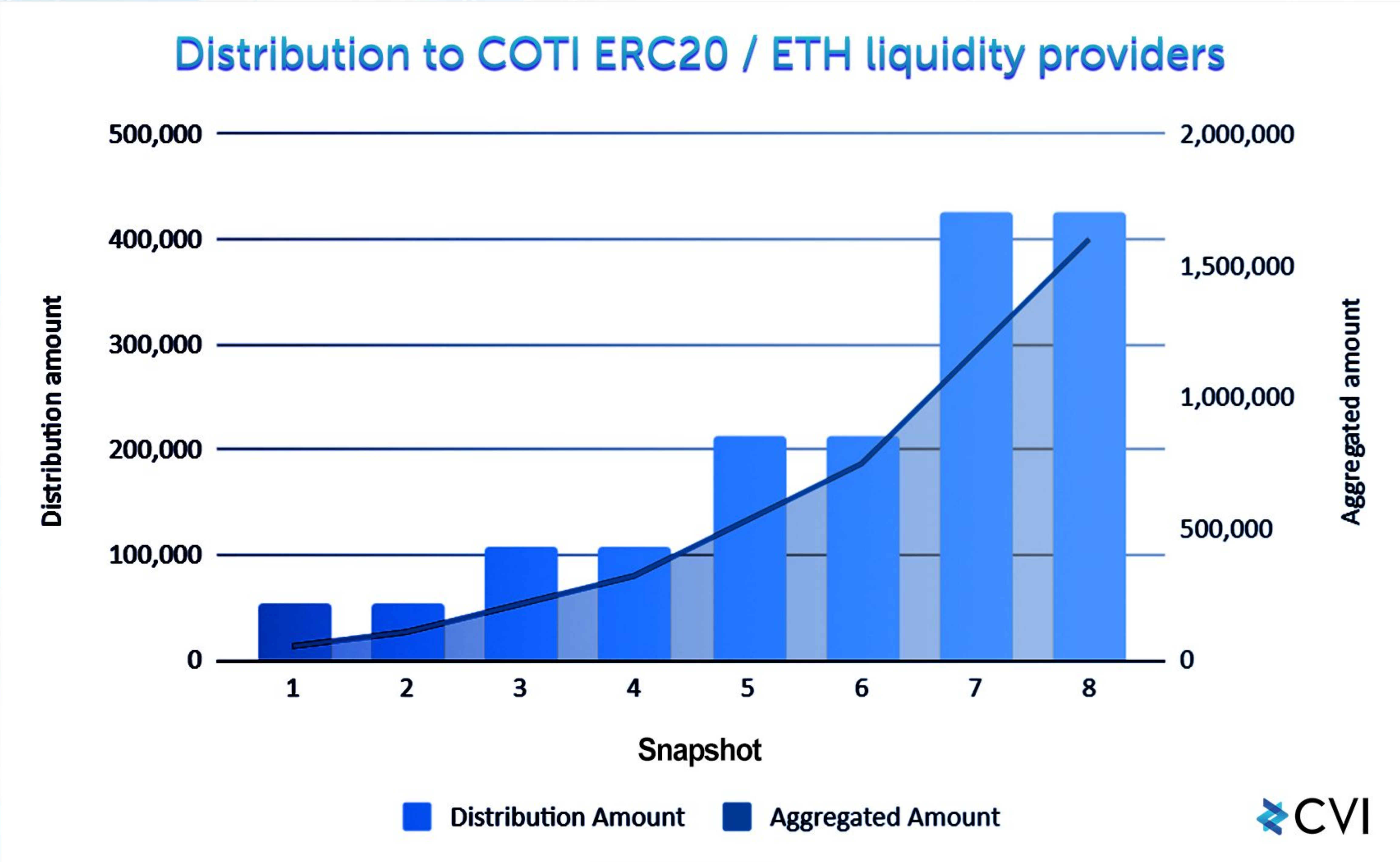
****It's important to note that all distributions of $GOVI tokens that will occur before the platform is launched will be locked until the platform is operational and USD $0.5M value is locked on the platform. We believe that tokens that can be traded should already have utility when in circulation.**

Until $GOVI tokens are unlocked, we'll be updating this webpage with all distribution-related info and where you may enter your ETH address to see the amount of $GOVI you are due to receive once $GOVI tokens are unlocked and distributed to ETH addresses, so you can keep track of your earnings.

COTI ERC20 / ETH pool on Uniswap	
Snapshot	$GOVI Amount (Total 1.6M)
1	53,300
2	53,300
3	106,700
4	106,700
5	213,300
6	213,300
7	426,700
8	426,700

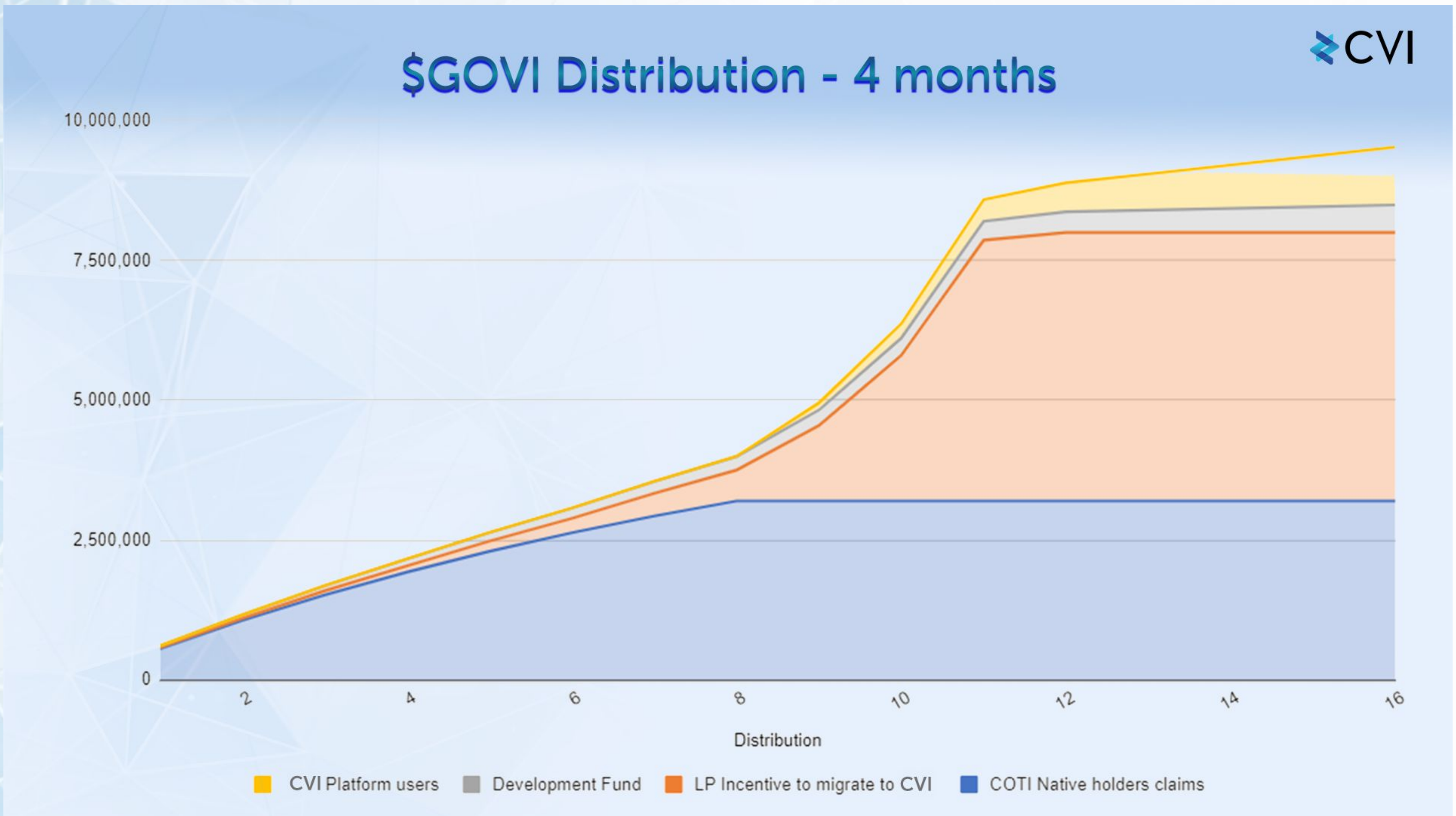


Other Uniswap liquidity pools combined	
Snapshot	$GOVI Amount (Total 3.2M)
1	457,100
2	914,300
3	1,828,600

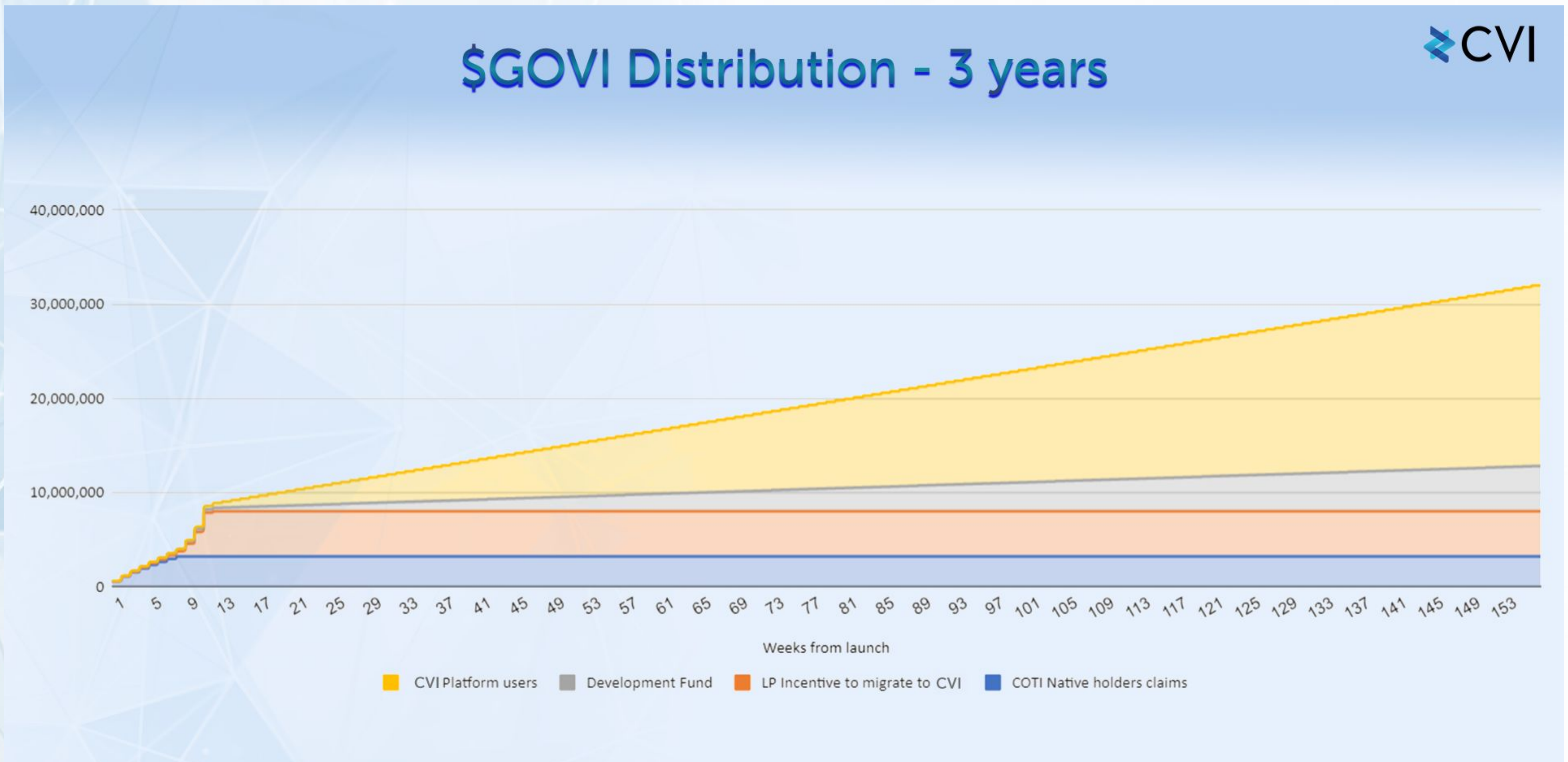


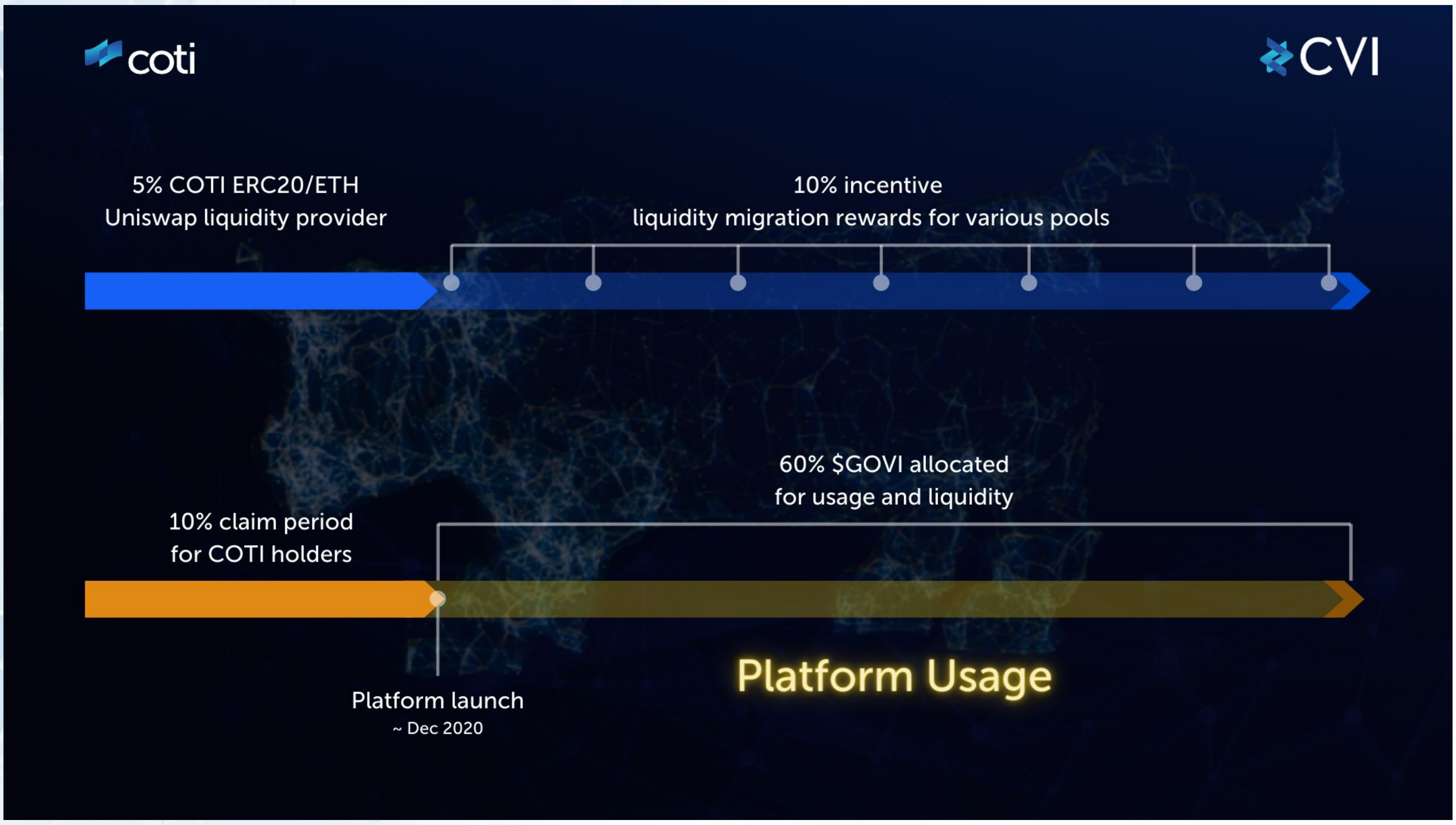
- **Total distribution to CVI platform users:**

$GOVI Distribution during the first 4 months



$GOVI Distribution during 3 years





What to do now?

1. If you don't already have a COTI Pay VIPER wallet, go ahead and create one now (we have grown our onboarding team to have expedited processing during this time).
2. Once you have a wallet, make a claim for $GOVI by clicking the "Claim" button as shown here Add image
3. If you made the claim and you meet the criteria, congrats, you will be one of the first to own a $GOVI token.
4. If you own a COTI ERC20 token, consider posting liquidity on COTI ERC20/ETH pair on Uniswap: here, to receive $GOVI
5. Follow this page to see your stack of $GOVI grow

Most importantly, stay informed. We have created a dedicated channel for CVI on Telegram and Twitter where we will post CVI related announcements, like the upcoming technical whitepaper and platform launch.

We may also drop some CVI tokens to those who remain involved.

Fear not, as the Market Fear Index for crypto is coming soon!

Stay COTI!

Website: cvi.finance
Telegram (Group): t.me/cviofficial
Telegram (Channel): t.me/cvichannel
Twitter: twitter.com/official_CVI
Medium blog: cviofficial.medium.com