Zeus Capital

ASSET MANAGEMENT & RESEARCH FIRM

The Chainlink Fraud Exposed

An Investigative Report on Why Chainlink is the Crypto's Wirecard

LINK Market Price: USD 7.95 | Target Price: USD 0.07 | Downside Potential: -99%

July 2020

Executive Summary

- There is abundant evidence of market manipulation with traits of classic “pump and dump” techniques such as trading on inside information, front-running the general public, unsubstantiated claims of progress, artificial transactions to imitate adoption, bogus partnerships announcements - and any other trick in the book to drive up the price prior to dumping LINK onto innocent investors.

- SmartContract, the company behind Chainlink, controls all aspects of the onboarding process of each aspiring node operator, acting as a sole gatekeeper to the ecosystem, and compromising the legitimacy, decentralization, and independence of the network.

- The tokenomics model is broken with an inherent conflict of interest between holders, clients, and the founding team with regards to the pricing of LINK - a clash and a crash are imminent.

- Despite the project's colossal development budget, Chainlink still runs on Ethereum-based testnet, exposing users to gas price fluctuations, network congestions, financial losses, and beta version bugs. Core features like staking are unavailable. Chainlink is trying to avoid a commitment of its mainnet launch date at any cost.

- The two founders behind Chainlink, are constantly selling LINK from their vast reserves at the market, as well as at a substantial discount from the current price to selected institutions over-the-counter (OTC), thus incentivizing purchasers to lock in profits by quickly selling it further, creating a downward spiral.

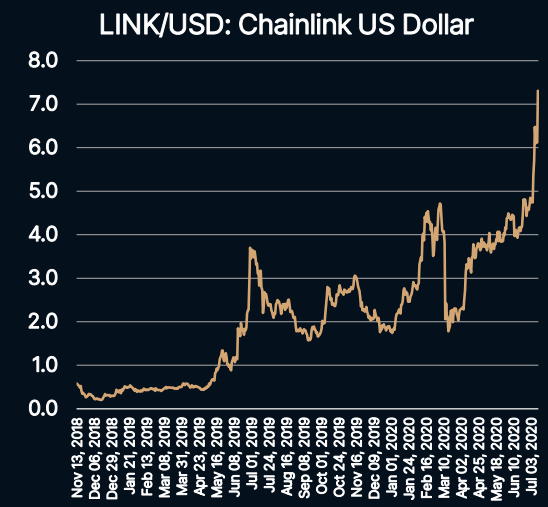
- LINK’s characteristics, such as lack of a decentralized ecosystem, combined with recent decisions by the Securities and Exchange Commission (SEC), leave no doubt that LINK will be classified as security putting the whole enterprise and the investors at risk of anything from dealing in unregistered securities to court orders for the disgorgement of proceeds.

Token Research

Utility Token | Blockchain Infrastructure

15 July 2020

Recommendation	STRONG SELL
Price Target	USD 0.07
Ticker	LINK
Current Price	USD 7.95
Potential Upside/Downside	- 99.1%
Market Cap (USD mln)	2,902
Tokens Outstanding	1,000,000,000
Free Float (est.)	365,000,000
Major Exchanges	BINANCE, HUOBI, KRAKEN, COINBASE



Development Stage	TESTNET
Token Type	UTILITY / ER677
Tokens Held by Top 10 Wallets	69.2%
Team Composite	VERY SMALL, INEXPERIENCED
On-chain Activities	DECLINING
Replication	OPEN-SOURCE, EASY
Addressable Market	USD 300,000,000
Competition	STRONG, INCREASING

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- In absolute dissonance with the price action, the actual usage of the Chainlink network is fading. The TransferAndCall function recalls have peaked in February 2020 and are currently down nearly 50% of the record levels.

- Chainlink's addressable market is expected to reach USD 300 million by the end of 2023, which is roughly 4% of LINK's fully diluted market capitalization.

- Chainlink's flagship integrators are openly disclosing that they are using the network as a secondary data provider or taking advantage of the project's deep pockets.

- The Chainlink service offering is prohibitively expensive and it makes no economic sense for companies to adopt Chainlink's oracle solutions. MakerDAO, UniSwap, Compound, etc. are internally-developing alternatives, which will eventually render the promise of LINK obsolete.

- The people behind the project are few, mostly remote part-time consultants focused on marketing and community building, and lack the professional experience to lead and manage a project with a market cap in excess of $2.75 billion out of a co-working space.

- The few software developers associated with the project are making frequent but cosmetic changes to the code, while executives who previously took the bait are either fleeing the project or trying to avoid association with it.

- Three independent valuation methods suggest the token is massively overpriced, as its intrinsic value is estimated to be in the 0.05 to 0.20 USD range at best.

- As a result, Zeus Capital maintains a STRONG SELL recommendation on LINK with a target price of USD 0.07. We believe that in the near to mid-term this will become another classical going-down-to-zero fiasco.

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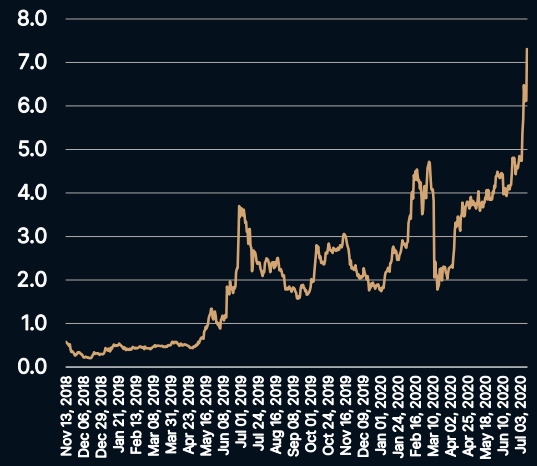
LINK/USD: Chainlink US Dollar



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Any conclusions contained herein are the opinion of Zeus Capital and are based on interpretation.

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Project Overview

Chainlink would like to present itself as a valuable network of decentralized oracles, aiming to bridge the gap between real-world data feeds and the needs of the ever-growing blockchain applications. Taking a deeper dive, however, concludes that ***the project is yet another intermediary, ultimately converging to a centralized and prohibitively expensive service, targeting an extremely narrow market, with little to no traction and essentially relies on PR stunts and price manipulation to maintain an unreasonably high market cap in the hopes of financial gains for the founding team under the motto "fake it, till you make it".***

Understanding and evaluating Chainlink's value proposition (or the lack of it) require examining the problem that the company is trying to tackle, the size and structure of the supply chain it operates in, and the project's competitive position in capturing the value it eventually creates.

What Problems is Chainlink Aiming to Solve?

While some smart contracts rely solely on information available on the blockchain, the vast majority of these applications are triggered by externally generated and stored data feeds. If two parties are making a bet on a basketball game via a smart contract on a blockchain, a third party must let the smart contract know the outcome of the game by publishing the associated data on the blockchain. As a result, a core bottleneck for the widespread adoption of the technology is the inability of smart contracts to interact with any real-world data or other resources outside the blockchain network.

Financial derivatives are actionable once predefined market conditions are satisfied. Bond prices and payments are subject to prevailing interest rates, and insurance and gambling payouts are triggered by the outcome of real-world events. These and many more applications[1] could be automated through smart contracts as long as the external data is fed in a reliable, timely, and trustworthy manner.

The Oracle Problem

One proposed solution to the data bridging problem is via an oracle[2]. An oracle, simply put, is a trusted person or entity that brings real-world data into the blockchain world. If two parties are making a bet on a baseball match via a smart contract on a blockchain, the third-party oracle lets the smart contract know the outcome of the game by publishing the associated data on the blockchain.

1 44 Ways to Enhance Your Smart Contract witih Chainlink

2 Blockchain Oracles Explained, Mycryptopedia

The key problem of the oracles is their incentive to take bribes from users or become users themselves and rig the outcome of a bet in their favor. Relying on malicious or incompetent oracles results in the outcome of a smart contract being compromised, rendering the whole smart contract concept pointless. For instance, a hacker might take control of an oracle to influence the payout of a smart contract. Or if two parties bet on a sporting event, the loser might be able to simply bribe the oracle to report the wrong winner, which would result in the smart contract sending the funds to the losing bettor. Because the blockchain itself has no way of verifying the authenticity of the off-chain data provided to it by the oracle, this kind of fraud is possible. And while the winning bettor would certainly protest, blockchain transactions tend to be irreversible.

The only thing the blockchain can do is compare answers from different oracles weighted by the amount of collateral each one provides or some alternative selection methodology. In other words, successfully cheating would require what effectively amounts to a 51% attack on the decentralized oracle network. Depending on the algorithm behind, one should compromise just a few oracles (say three to four) or stake 51% of the collateral to take control of the smart contract's outcome.

So far, the operational oracle structures have different degrees of centralization, meaning they present a single point of failure. It is clear that oracle-based smart contracts will hardly be able to offer the level of security guarantees found in completely native crypto transactions, so the question is 'How secure can oracles get?' Perhaps users will be okay with introducing a bit of counterparty risk into their spending wallets on a layer-two payments system like the Lightning Network, but would they store the majority of their savings in a smart contract where an oracle is effectively a custodian of their funds? Knowing about the oracle shortfall, how much of your wealth are you willing to risk on an oracle system? Are you willing to stake your house or entire business on it?

How is Chainlink Supposed to Work?

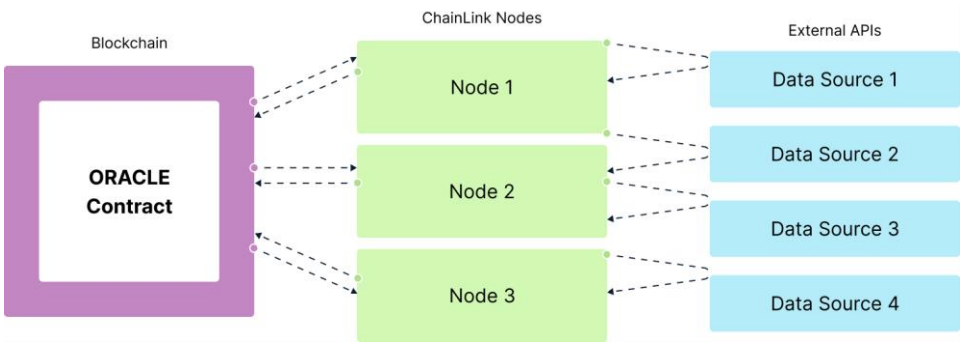
This presupposes that it does work, which is open to debate, and our conclusion is that it does not, but let us give them the benefit of the doubt for a minute.

The project is a blockchain middleware[3], providing a protocol for a network of decentralized oracles, enabling smart contracts to securely access external data feeds like web APIs, real-world events, and payment networks. The goal of the project is to create an independent reporting structure that serves two main functions:

1. It pulls and verifies data from multiple independent sources, mitigating the risk of faulty reporting, data accuracy, and system failure, and
2. It acts as a translator by importing raw data into a smart contract environment.

3 Blockonomi

How is this achieved? Upon request or a predefined trigger, the external data (e.g., security prices, weather information, outcomes of sports events, etc.) is aggregated from multiple sources by numerous node operators. Based on an algorithm adapted for this particular case, the oracles form a consensus that is then returned to the smart contract.



The Chainlink network is powered by the project's proprietary cryptocurrency LINK, the sole purpose of which is to reward operators for the work performed and investors for the tokens staked (sometimes referred to as mining 2.0). And here comes the first caveat — there is an inherent conflict of interest between token holders and the companies utilizing the LINK token. The first group benefits from a higher price, whereas the second wants it to be lower as it is directly related to users' operating expenses. We argue that the currency adds further friction to an already fragile ecosystem, rendering the LINK's existence pointless.

The ecosystem is supposed to work as follows:

1. An end-user requests an oracle service by posting a job on a marketplace like market.link[4]. The job description specifies the number of oracles needed, the minimum reputation of the oracles delivering the data, and the price (in LINK) that the user is willing to pay for the retrievals.
2. Chainlink nodes then decide whether or not to bid on the proposal. The smart contract will only accept bids from nodes that meet the requirements outlined by the user. When an oracle service provider bids for a job, it commits a certain amount of LINK that will be forfeited via a penalty payment in case of misconduct.
3. Nodes that win the bidding process are entitled to run the job and rewarded with LINK upon successful completion of each iteration (namely, each data retrieval).

ORACLE SELECTION MODEL:

THE WEIGHTS OF THESE FACTORS ARE NOT PUBLICLY DISCLOSED BY CHAINLINK YET, RAISING RED FLAGS ABOUT THE INTEGRITY OF THE PROCESS AND THE OVERALL TRANSPARENCY OF THE PROJECT

Node selection is based on a reputation system, taking into account uptime, response time, track record, size of the penalty payment put as collateral, and the total amount of LINK held by the node. And here comes the next catch — **the weights of these factors are not publicly disclosed by Chainlink yet, raising red flags about the integrity of the process and the overall transparency of the project**,

4 Chainlink Market

not to mention conflicting with the core values of blockchain technology. Nodes that provide bad or inaccurate data are penalized by a decreased reputation score and a loss of the collateral. By having 'skin in the game,' operators are also incentivized to run throughout the whole task. One byproduct of this arrangement is the decreased velocity of the LINK in circulation.

In theory, the proposal sounds appealing. There is yet another caveat, however. **The staking mechanism is not working as of the time of this report. It is expected to become live with the launch of Chainlink's mainnet.** The topic is widely discussed by the community. Chainlink's team, however, has not set any specific time frame[5] for the implementation of this feature. Since May 2019[6], Chainlink has been running on Ethereum, exposing the project to fluctuations in the gas price and malfunctioning of Ethereum (as it happened during the last crypto market crash[7]). Additionally, the loudly proclaimed acquisition of the Town Crier[8], which aimed to boost the security of the network (through Intel SGX), has not been implemented for nearly two years now.

What about the oracle problem? Does Chainlink adequately tackle it? The reputation system will most likely result in a handful of nodes performing the vast majority of work as they will have a strong competitive advantage against newcomers. Is this observed at the moment? Since August 2019, there has been an active marketplace[9] for node operators and job postings. Currently, 74 approved node operators[9] are offering 822 unique jobs[9]. However, the top 16 nodes (or ~20% of the total) are running pretty much all of the work in the network. Furthermore, SmartContract and LinkPool are in full control of the nodes operating on the network, as each addition undergoes a KYC / verification process[10]. **The result is a highly centralized network that could be compromised by the node selection process, the primary sources used, the consensus algorithm, and the oracle operators themselves.**

THE RESULT IS A HIGHLY CENTRALIZED NETWORK THAT COULD BE COMPROMISED BY THE NODE SELECTION PROCESS, THE PRIMARY SOURCES USED, THE CONSENSUS ALGORITHM, AND THE ORACLE OPERATORS THEMSELVES

Subsidies

In an attempt to stimulate adoption and achieve a dominant market position, Chainlink is granting hefty subsidies to the node operators participating in the network. The project has reserved 35% of the LINK outstanding (or 350 million tokens, the equivalent of almost USD 2.4 billion) for nurturing the Chainlink community. Pouring money into the ecosystem to foster adoption and build a leading market position is standard procedure for most high-flying unicorns these days. However, one should carefully examine the discrepancy between subsidized and unsubsidized prices, the cost of replication, and the impact of the

5 Staking with Chainlink, Medium

6 Chainlink: Connected Consensus on Ethereum

7 $LINK price chart

8 Chainlink Acquires Town Crier from the Initiative for Cryptocurrencies and Contracts

9 Chainlink Markets

10 Linkpool

influx of new tokens on the supply/demand equilibrium when evaluating the long-term sustainability of the ecosystem and valuing the token itself.

How does the process work right now? Suppose a project wants to implement Chainlink's solution. The team could either purchase LINK on the open market or contact SmartContract (the entity behind Chainlink) to get a quote for the service. An actual offer sent by SmartContract quotes USD 0.05 to USD 0.10 per node operator for each data request. At the same time, the price charged per data request on the testnet is set at LINK 1[11]. By taking this information into consideration and examining the on-chain activities[12], it becomes evident that individual nodes are paid between LINK 0.16 and LINK 0.33 per call, which is simply LINK 1 divided by the number of nodes participating in each request.*

* there are two types of LINK transfers — large, singular transactions from one address to another, that most likely are transfers between exchanges or investors; and a second type — instant transactions from one to multiple addresses, which are resembling Chainlink's operational model

Considering the staggering difference between the current price of a LINK and the SmartContract's offer, a potential user will likely pay between 20 and 70 cents per request to SmartContract. On the other hand, the company behind Chainlink will be transferring LINK 1 from the subsidy fund to the operating nodes each time a request is made, constantly inflating the tokens in circulation. Given that the current price of a LINK is USD 7.95, the discrepancy with the offer results in a subsidy of more than USD 7 per data request.

THE CURRENT MODEL MIGHT RESULT IN FICTITIOUS WORK PERFORMED IN AN ATTEMPT TO PRIVATIZE THE SUBSIDY TOKENS

Taking into account the limited number of nodes[13] performing actual work, the relatively low hardware requirements[11], and respective operating costs, **the current model might result in fictitious work performed in an attempt to privatize the subsidy tokens**.

CHAINLINK'S SUBSIDY FUND WILL LAST UNTIL AUGUST 2027

As outlined in the *Token Allocation*[14] section, LINK ~15 million from the reserve have already been paid out, leaving SmartContract with a balance of LINK 335 million for node incentives. At a rate of LINK 1 per call, 229,522[15] data retrieval calls made in March 2020 (month with relatively high activity), and 5% monthly growth in these requests implies that **Chainlink's subsidy fund will last until August 2027**. Given the price discrepancy between what SmartContract is offering and the LINK levels on the secondary market, chances are the company behind Chainlink will be selling tokens in the foreseeable future, putting the whole project at risk for regulatory scrutiny. More on this later.

From a user standpoint, the operational costs of replicating an oracle are mostly in the form of electricity expenses for running several average computers. In case of high utilization, the cost of this setup is way below the USD 0.30 to USD 0.70 per call the SmartContract users are charged.

11 chain.link
12 Etherscan
13 Chainlink Market
14 Token Allocation
15 Bloxy

Operational cost of replicating the Chainlink network		
Power consumption of a node (watts per hour)	Watts per Hour	120.0
Number of nodes	Absolute	7.0
Price of electricity	USD per kWh	$0.055
Operating cost of running the setup for 24 hours	USD	$1.109

THE COST OF REPLICATING THE CHAINLINK NETWORK IS $1.11 PER DAY

- We need **7** average computers, consuming **120 watts**[16] per hour each
- An electricity cost of **$0.055 per kWh** (which is an approximate average[17] for bitcoin miners)

Based on these assumptions, **the cost of replicating the Chainlink network is $1.11 per day**.

Bottom Line

Chainlink is attempting to tailgate and capitalize on the fad surrounding smart contracts' inability to interact with resources outside the blockchain. On top of being far from fully functional with vital features not expected to be delivered any time soon, the underlying architecture of the project fails to address key issues like security, alignment of participants' incentives and timeliness of information delivery. We argue that the Chainlink network is yet another unnecessary intermediary, the purpose of which is to promote and support the LINK — a pointless utility token whose only use case at the moment is speculative trading and enrichment of a certain group of people (namely the founding team).

16 Energy Use Calculator

17 Understanding Bitcoin Market Participants – Vulnerabilities in the Price of Bitcoin Driven by Miners

Tokenomics

Examining the long-term supply/demand incentives shows that LINK will exhibit an extremely high velocity combined with an excessive number of tokens in active circulation:

- *New nodes will constantly be looking for alternative platforms as Chainlink's network becomes exclusive to a limited number of operators. The main driver of exclusivity is a reputation system that discriminates against newcomers.*
- *The open-source nature of Chainlink is driving down the technical entry barrier, giving aspiring networks of decentralized oracles an excellent base on which to build.*
- *End users will be shopping around for the most competitive price as the service is commoditized. The result will be end users' being reluctant to hold substantial amounts of LINK as a hedging instrument against adverse price movements.*
- *Chainlink's existing competitive advantages against alternative networks are limited to treasury reserves that are highly dependent on the price of the token and a large community that is turning hostile as time progresses.*

Combining these factors should result in an influx of free-floating LINK and a game of hot potato between users and nodes, with founders, investors, and speculators adding further stress to an already-fragile market.

The LINK token has two **core functionalities:**

1. Provides access to the infrastructure by being the only acceptable payment method in the ecosystem
2. Acts as a form of insurance derived from the penalty payment in case the agreement outlined in a smart contract is compromised

Both features come at the expense of exposure to LINK price fluctuation and service price premium, compensating stakers and node operators for the cost of their capital, work performed, and reputation built.

Focusing on the long-term steady state, **demand** is meant to be driven by end customers who are sourcing tokens to pay for their operational expenses. **Supply**, on the other hand, is provided by node operators, who accumulate tokens as a compensation for the work performed and reputation built, and stakers, who convert their network rewards into other asset classes. The inherent conflict derives from users' interest in LINK's being cheaper than other currencies, while node operators and investors benefit from LINK's appreciation against other assets. The price in the long-term will converge towards an equilibrium based on supply and demand of these groups.

The following examines the incentives of each major group involved in the Chainlink ecosystem.

Chainlink's decentralized network services are an operating expense for companies and projects that are running blockchain applications. Most (if not all) of these projects will have a different operating currency to LINK, so the exposure to fluctuations in the price of LINK will be considered as an additional business risk. A natural reaction would be to seek a way to hedge the risk, which could be achieved by either locking the price in advance via the purchase of sufficient amounts of LINK or financial instruments like futures and options (which are currently quite limited for LINK trading pairs). As a result of this price uncertainty, **everything else being equal, the cost of the Chainlink network should be lower than that of an identical network that conducts transactions in a widely accepted asset like stablecoins or BTC/ETH**.

EVERYTHING ELSE BEING EQUAL, THE COST OF CHAINLINK SHOULD BE LOWER THAN THAT OF AN IDENTICAL NETWORK THAT CONDUCTS TRANSACTIONS IN A WIDELY ACCEPTED ASSET LIKE STABLECOINS OR BTC/ETH.

The commoditized nature of Chainlink's service suggests the end users' purchase decision will be driven solely by the most attractive price offered on the market. This will lead to competition between node operators and eventually to the emergence of competing networks (Chainlink and its equivalents[18]) for the limited amount of work available.

Assuming there are multiple platforms like Chainlink offering the same services with negligible switching costs, the end users will be reluctant to hold large amounts of LINK. The result is an increased velocity of the token, which will lead to depressed prices on the secondary market.

ASSUMING THERE ARE MULTIPLE PLATFORMS LIKE CHAINLINK OFFERING THE SAME SERVICES WITH NEGLIGIBLE SWITCHING COSTS, THE END USERS WILL BE RELUCTANT TO HOLD LARGE AMOUNTS OF LINK

Expanding on the expected velocity of the token, according to one of the project's developers[19], the tokens staked (either held by the node or posted as insurance for penalty payments) have diminishing returns in the node selection process:

> *Having LINK on a node helps get the node started, but there is a point of **diminishing returns for how much LINK to hold**. Nodes that simply have enough reputation may be eligible for the job. From that, the **node selection will be random**.*

Combining the bounded number of node operators as a result of the reputation system with diminishing returns of the staked tokens will lead to a **relatively flat number of LINK put out of circulation as a result of staking or collateralization**. Moreover, the LINK accumulated as part of the nodes' operational activities will most likely be dumped on the secondary market in a diversification attempt from overexposure to the ecosystem and in order to finance operating expenses (which are presumably denoted in government-issued currencies). Adding to the sell-side pressure, some of the passive stakers might offload their network reward for similar purposes, purchasing other assets. Last but not least, as outlined in the

RELATIVELY FLAT NUMBER OF LINK PUT OUT OF CIRCULATION AS A RESULT OF STAKING OR COLLATERALIZATION

18 Chainlink Competitors

19 GitHub

Token Allocation[20] subsection, SmartContract and the founding team will play a major role on the supply side as they control a staggering amount of LINK.

The implications of the baked-in token economics mean that buyers won't hold large amounts of LINK because they will constantly look for cheaper and more predictable alternatives. Meanwhile, sellers will hold relatively constant amounts of LINK to support their reputation score while pouring the excess onto the secondary market. The architecture of the reputation system will result in node operators having a negotiation power over the passive investors as there will be a limited number of highly-rated nodes and an influx of LINK holders looking to enhance the yield on their investment. The result? **LINK's velocity will be extremely high because there is no strong incentive for either party to hold it. At the same time, the staked amounts will stay relatively constant and will have a negligible yield as the transactional fees will mostly be captured by the node operators with the highest reputation score**. Finally, there is no deflationary mechanism in place to reduce the flood of tokens from founders, subsidies, and speculators.

LINK'S VELOCITY WILL BE EXTREMELY HIGH BECAUSE THERE IS NO STRONG INCENTIVE FOR EITHER PARTY TO HOLD IT.

Token Allocation

Following the 2017 ICO, 65% of the tokens, or LINK 650 million, left with the founding team, while the rest are shuffling between investors and speculators:

Two years and a half after ICO, the distribution is still highly concentrated, with the largest holdings persistently held by the team behind the project.

20 Token Allocation

No	Address	Link Held	% of the Total	Owner
1	0x98c63b7b319dfbdf3d811530f2ab9dfe4983af9d	350,000,019.86	35.00%	SmartContracts
2	Binance 7	54,015,782.32	5.40%	Binance (cold)
3	0x75398564ce69b7498da10a11ab06fd8ff549001c	50,000,000.78	5.00%	SmartContracts
4	0x5560d001f977df5e49ead7ab0bdd437c4ee3a99e	50,000,000	5.00%	SmartContracts
5	0xe0362f7445e3203a496f6f8b3d51cbb413b69be2	50,000,000	5.00%	SmartContracts
6	0xbe6977e08d4479c0a6777539ae0e8fa27be4e9d6	50,000,000	5.00%	SmartContracts
7	0xdad22a85ef8310ef582b70e4051e543f3153e11f	37,400,000	3.74%	SmartContracts
8	0xf37c348b7d19b17b29cd5cfa64cfa48e2d6eb8db	31,090,421.01	3.11%	SmartContracts
9	Aave: Lending Pool Core	7,946,629.02	0.79%	Aave
10	Binance	6,758,127.16	0.68%	Crypto.com

Out of the top 10 addresses, the founders control 62% of the tokens outstanding or whooping LINK 620 million (almost USD 4.8 billion).

Tracking down the path of the missing 30 million from the initial allocation, it becomes apparent that some of them have been transferred to secondary addresses to finally arrive at an operational one paying subsidies to nodes (step 1[21] > 2[22] > 3[23] > subsidizing wallet[24] > node operator[25]). **Others, however, have been dumped on the market following fake or grossly overstated project updates[26]**. What is the split between the two?

OTHERS, HOWEVER, HAVE BEEN DUMPED ON THE MARKET FOLLOWING FAKE OR GROSSLY OVERSTATED PROJECT UPDATES

It is hard to track all the transfers due to the number of intermediary addresses and transactions involved in the process. There have been roughly **2 million *TransferAndCall* requests since the inception** of the network. **Assuming that all of these transactions have been facilitated by SmactContract** and that the price of a call to the end customer is USD 0.50, the company behind Chainlink would have pocketed nearly USD 1,000,000 without touching the secondary market. Considering the enormous outstanding balance for subsidies (initially 350 million for LINK and now presumably in excess of 348 million) and the price dumping made by SmartContract (as we said, clients are charged 5–10 cents per node retrieval, while the current market price of LINK 0.2 is about USD 1.59), chances are SmartContract will be the sole operational use provider of LINK for a very, very long time.

THE SCHEME RESEMBLES THE SALE OF XRP BY RIPPLE, WHERE THE COMPANY HAS MAINTAINED CONTINUOUS FUNDRAISING MODE SINCE ITS ESTABLISHMENT... SOONER THAN LATER, REGULATORS WILL TAKE A CLOSER LOOK AT THESE ACTIVITIES, CLASSIFYING LINK AS SECURITY

The scheme resembles the sale of XRP by Ripple, where the company has maintained continuous fundraising mode since its establishment. Apart from the constant pressure on the supply side as a result of the continuous increase in LINK in circulation, a risk to this model is that **sooner than later, regulators will take a closer look at these activities, classifying LINK as security.** Unlike Ripple, SmartContract is not locking the tokens in an escrow account with a predefined release schedule. The company behind Chainlink could not be less transparent in their LINK purchasing and divestment activities, making us believe **they are in full**

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22 Etherscan
23 Etherscan
24 Etherscan
25 Etherscan
26 Project updates

control of the spot price action (bidding up the LINK price during periods of weakness; selling upon spikes, mostly caused by PR stunts or outright lies covered later in the report).

A byproduct of the model is that the secondary market is fully-controlled by speculators and SmartContract. Or at least until the moment node operators accumulate sufficient amounts of LINK and decide to divest their holdings. Hence, as network operational activities intensify, there will be more and more LINK in circulation, putting downward pressure on price. When will that happen? Node operators are not wasting time and quickly transfer their rewards to Binance (one[27], two[28]).

SMARTCONTRACT HAS BEEN QUIETLY SHIFTING LINK IN SMALL BADGES TO TRADING VENUES. THE ACTIVITIES HAVE INTENSIFIED OVER THE PAST MONTH AS ONE OF SMARTCONTACT'S PRIMARY ADDRESSES HAS SENT A STAGGERING NUMBER OF LINK 4.5M

From the LINK 30M that left the founders' addresses, LINK 2M at most have been paid to node operators. Where are the missing LINK 28M? They are at Binance and other exchanges! Through a series of transactions (one[29], two[30], three[31], four[32], Binance[33]), **SmartContract has been quietly shifting LINK in small badges to trading venues. The activities have intensified over the past month as one of SmartContact's primary addresses[34] has sent a staggering number of LINK 4.5M**. At an average price of USD 4 per LINK, SmartContract might have pocketed more than USD 100M from selling redundant tokens to an unsophisticated investor base.

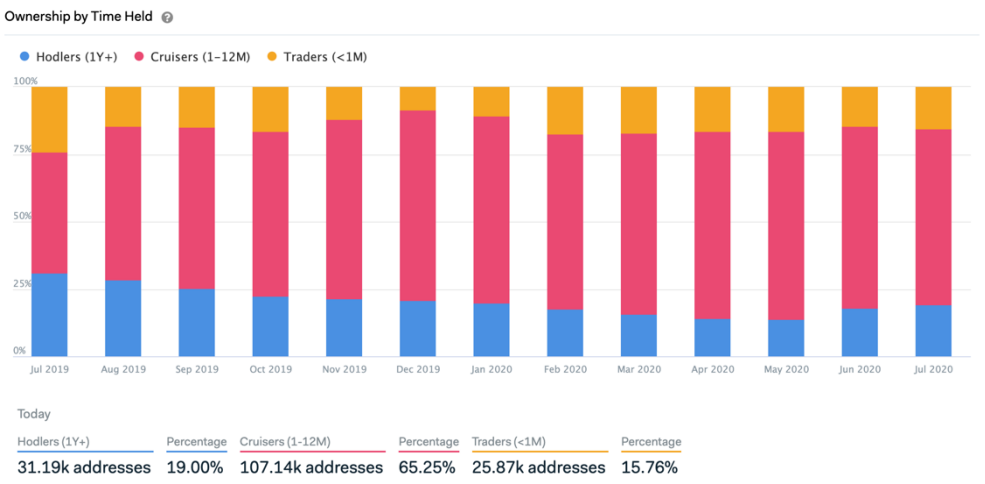
After examining the top 11–30 addresses by the number of LINK, the idea that most of the tokens are held by investors (or that at least one received tokens during the ICO distribution[35]) or exchanges holds true.

27 Etherscan
28 Etherscan
29 Etherscan
30 Etherscan
31 Etherscan
32 Etherscan
33 Etherscan
34 Etherscan
35 Etherscan

No	Address	Link Held	% of the Total
11	0xc6bed363b30df7f35b601a5547fe56cd31ec63da	6,122,039.21	0.61%
12	Crypto.com	5,988,225.50	0.60%
13	0x56d065849ef9c59c1bc5ba54b9f96caba5c88812	4,000,000	0.40%
14	0x7dff4e2ac3aafc613398ca2d42ccbcdfbc413a02	4,000,000	0.40%
15	0xdc4252e99397371ada045040a28c05025bae7101	3,997,863.61	0.40%
16	0x256353bb7db3aa6e33ec0fee3d0fbc04be735818	3,995,188.12	0.40%
17	0xff7d6eead3f2ec8c11ec6d4bb8ffda06003117d0	3,984,413.99	0.40%
18	0x11e51b2aa387a2e2d13cbcdf99d81c8c92c70869	3,964,868.52	0.40%
19	0x42c7124623bbf2048b20446b68e9d8ff3b222402	3,955,268.10	0.40%
20	0xda29e6b9c7236e8d98110a1928edc685a06ad736	3,938,649.90	0.39%
21	0x6a28cdf62ed7ab22fbfed0be840c3a61f0aa9581	3,931,206.72	0.39%
22	0xd360c6329215ec4d7d585f1d8f8c7c1c265be658	3,923,442.35	0.39%
23	0xd382fc6398d0707f9aeb01c995236ff655ee63db	3,912,689.23	0.39%
24	0x2c0fa2d84200d14826d72271d1ea74f778cc2e81	3,902,056.05	0.39%
25	0x7182bdeacab178a1c5a14502d532f8b2b7cf4285	3,667,927.68	0.37%
26	Huobi 5	3,174,493.85	0.32%
27	0x8c0b50e1f6fa5489b5606449bcbaadb3599d5d1e	3,000,000	0.30%
28	0xd24108a5f9d8ac0052cd627af7951c66bc9a6cc1	3,000,000	0.30%
29	0xd072a5d8f322dd59db173603fbb6cbb61f3f3d28	2,365,051.40	0.24%
30	0x17080b589cdcbd10ebeaa24cb0096f4bb29eb52b	2,322,802.05	0.23%

Looking at the next 20 addresses by size, a strange pattern emerges. Most of them are funded between 18 months to 1 year ago with a series of transactions, involving jump addresses and originating from Binance. Going back to SmartContract's addresses and activities, the transfers coincidence with the withdrawal of LINK 12.6M from one of founders' addresses. The whole thing looks like a clumsy attempt to diversify the concentration of LINK to more accounts that are yet again controlled by the team behind the project. Adding these to the total, SmartContract might control over 70% of the LINK outstanding.

Taking a more granular look, the distribution of investors' holding period suggests the vast majority are short-term speculators, riding the uptrend rather than true believer, betting on Chainlink's long-term place in the blockchain ecosystem.

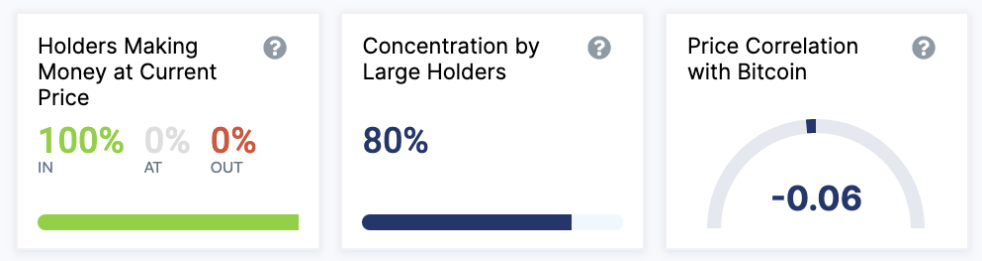


The behaviour of the token holders implies they are not loyal to the core idea nor believing in the bright future of the project. Instead, they are trying to make quick

TOKEN HOLDERS ARE NOT LOYAL TO THE CORE IDEA NOR BELIEVING IN THE BRIGHT FUTURE OF THE PROJECT. INSTEAD, THEY ARE TRYING TO MAKE QUICK MONEY BY SPECULATING ON AN ASSET THAT DO NOT UNDERSTAND, TAKING UNCALCULATED RISK

money by speculating on an asset that do not understand, taking uncalculated risk (albeit quite profitably so far).

Moreover, as a result of the rapid price appreciation, 92% of the token holders[36] have bought the LINK below the current levels. The disposition bias[37], a cornerstone in the field of behavior finance, states that investors are more willing to sell their winners and hang onto their losers. As the vast majority of LINK holders are speculators and virtually all of them have money on their bets, chances are that we are about to experience an episode of panic sale and free fall in the LINK price once the community sentiment start to cooldown.



EVEN A MODEST DIVESTMENT BY EITHER A LARGE INVESTOR OR THE FOUNDING TEAM COULD HAVE A DEVASTATING EFFECT ON THE CURRENT MARKET PRICE

Most tokens are either vested and held by the founding team or kept by retail and institutional investors. The common ground between these groups is that they have no interest in Chainlink's operational activities. Instead, they are looking for a way to realize their capital gains. Considering the lack of liquidity or any demand from actual network users (*remember, they can buy LINK directly from SmartContract for a fraction of the current price*), **even a modest divestment by either a large investor or the founding team could have a devastating effect on the current market price**. Analyzing recent on-chain activities and the behavior of SmartContract addresses, we believe the house of cards will collapse soon.

Community

Chainlink has established a digital footprint across all channels available:

Discord	Medium	Reddit	Telegram	Twitter	Youtube
7 Team 6 Ambass 591 Users	1.6K followers	17.5K members	17.6K Followers	63.5K Followers	4.6K Followers

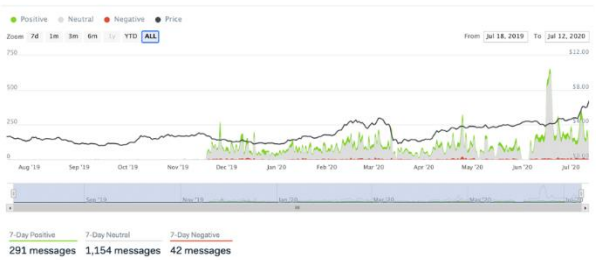
36 Binance Research

37 Disposition Effect, Wikipedia

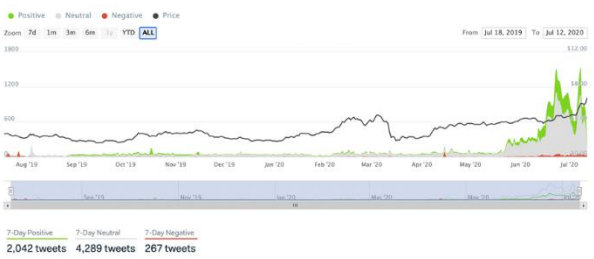
The project is quite active on Twitter and YouTube, mainly with PR stunts around partnerships[38] with discontinued projects and theoretical use case presentations that are never implemented. Its Telegram community has also grown in the number of members.

According to IntoTheBlock[39] data, the Telegram sentiment has been generally neutral as the community growth flattens.

Telegram Sentiment



Twitter Sentiment



Twitter activities have been relatively flat, fueled by messages like '*Like this tweet if you've been in $LINK for over a year or longer now.*' On Alexa, the popularity of Chainlink's landing page has been[40] flat as well. The same is true for Google Trends[41].

SCRATCHING BENEATH THE SURFACE, THE CRYPTO COMMUNITY IS TURNING HOSTILE AS NEW COMPETITORS ENTER THE ARENA, WHILE CHAINLINK IS FAILING TO CONVINCE THE LARGE PROJECTS TO IMPLEMENT THEIR SOLUTION

Scratching beneath the surface, the crypto community is turning hostile as new competitors enter the arena, while Chainlink is failing to convince the large projects to implement their solution (in fact, most of the 'paying customers' resemble a pay-to-play scheme where SmartContract stores large amounts for money in exchange for association with CeFi and DeFi projects). An example of the sentiment is a prolonged discussion on Reddit[42] echoing some of the shortfalls the project has and labeling Chainlink '*the most overvalued cryptocurrency the world has ever seen.*'

On-Chain Activities

A good proxy of the absolute number of jobs executed on the Chainlink network over time can be made using a unique technical feature of the project. LINK is an Ethereum-based ERC677 token that functions like an ERC20 with the added *TransferAndCall* function, which enables token transfers and contract execution in a single transaction. As such, the usability statistics of the function gives a clear view of the number of jobs run for a given period.

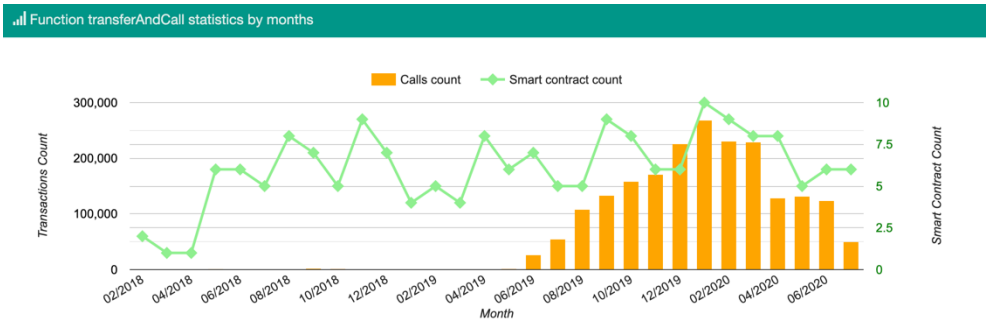
38 PR Stunts and Partnerships

39 IntoTheBlock

40 Alexa.com

41 Google Trends

42 Reddit



Source: Bloxy Info[43]

IN APRIL, HOWEVER, THE ACTUAL OPERATIONAL WORK PERFORMED ON THE NETWORK PLUMMETED, PROVING THAT CHAINLINK'S IMPRESSIVE MARKET CAPITALIZATION IS THE SOLE RESULT OF PURE SPECULATION AND UNRELATED TO THE ACTUAL STATE OF THE PROJECT

The number of calls in the *TransferAndCall* function has been growing exponentially since the summer of 2019. However, the trend recently reversed: **February 2020 was the first time since inception that there has been a decreasing number of *TransferAndCall* requests.** Moreover, contrary to the loud press releases and extreme volatility across the crypto markets, Chainlink's operational activities stalled in March 2020, suggesting the network is reaching its capacity. **In April, however, the actual operational work performed on the network plummeted, proving that Chainlink's impressive market capitalization is the sole result of pure speculation and unrelated to the actual state of the project.**

Bottom Line

Chainlink's tokenomics is broken even before being implemented as architects have failed to adequately incentivize stakeholders to keep LINK in their wallets. The resulting ecosystem will be fragile with tokens quickly changing hands between node operators, investors, speculators, and network users, putting enormous pressure on LINK's price.

Until a robust demand from actual users emerges (which we genuinely doubt), the token will be held by *weak hands* trying to time the market. The ever-growing LINK supply combined with declining operating activities is a perfect recipe for a market crash. Realizing the uprising discrepancy between price and strength of the Chainlink network, insiders have the uncanny propensity to quietly flood the market with garbage: LINK transfers from SmartContract-related addresses to trading venues have intensified over the past few months. It is a matter of when — not if the investing public become aware of LINK's absurd utility proposition or the token being classified as a security, diverting the project into debacle.

43 Bloxy Info

Macroeconomics

In theory, Chainlink's addressable market consists of all private and public blockchain applications requiring off-chain data to become fully functional. ***According to research[44], the total smart contract market is expected to reach barely USD 300 million by the end of 2023. Compare that to the present market cap of Chainlink, which is roughly 10 times larger, and look for no other argument as to why the LINK token is massively overvalued.***

In practice, Chainlink's only viable users are price-insensitive applications requiring secure data retrieval from multiple sources, namely the centralized and decentralized finance (DeFi) blockchain projects. Despite the generous subsidies, lack of strong competition, and apparent candidates for integration, Chainlink is failing to convince the leading projects to implement its solution. The only actual use case of Chainlink's oracles is to aggregate the price feed of crypto assets from various sources. As time elapses, our thesis that multiple vendors will be offering such a service for a fraction of Chainlink's price (or even for free) will inevitably come true.

Addressable Market

In theory, Chainlink's decentralized oracle network might find application in a variety of areas, such as finance, payments, insurance, supply chain, utilities, government, and regulation, as well as gambling. In fact, Chainlink has outlined 44 ways to utilize[45] their solution.

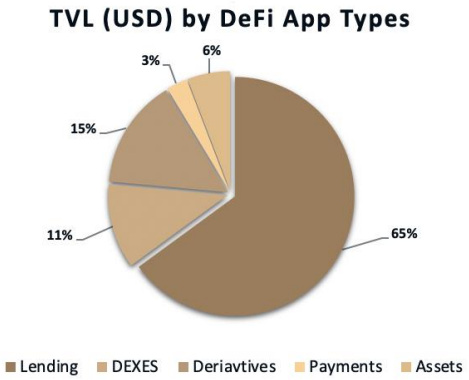
However, considering the drawbacks discussed so far, the most natural use cases would be high-value smart contracts, projects relying on multiple primary data sources, or contracts/projects requiring a high level of security. Taking into account the infant development stage of the blockchain ecosystem, by far, the most intuitive applications of Chainlink's protocol are in the financial service space.

Decentralized Finance as a Primary Potential Market

The universe of decentralized financial apps consists of lending projects, decentralized exchanges, derivatives platforms, payment applications, and assets, such as wBTC (which aims to bring Bitcoin's liquidity to the DeFi market).

44 Smart Contracts Market 2019 2023: Emerging Technologies, Business Trends, Size, Share, Global Segments and Industry Profit Growth

45 44 Ways to Enhance Your Smart Contract with Chainlink



Source: DeFi Pulse[46]

However, looking at the distribution of total value locked (TVL), it is evident the lending platforms hold the lion's share of the assets. Such dominance is justified given lending apps are the foundational basis of the DeFi space with pioneering projects, such as Maker and Compound.

Ranking	Name	Chain	Type	Locked (USD)
1	Compound	Ethereum	Lending	$698.6M
2	Maker	Ethereum	Lending	$630.1M
3	Synthetix	Ethereum	Derivatives	$389.2M
4	Aave	Ethereum	Lending	$197.5M
5	InstaDApp	Ethereum	Lending	$184.4M
6	Balancer	Ethereum	DEXes	$180.0M
7	WTC	Ethereum	Assets	$103.1M
8	Curce Finance	Ethereum	DEXes	$75.9M
9	Flexa	Ethereum	Payments	$67.7M
10	dYdX	Ethereum	Lending	$35.5M
11	RenVM	Ethereum	Assets	$34.6M
12	Bancor	Ethereum	DEXes	$22.2M
13	Set Protocol	Ethereum	Assets	$16.0M
14	Uniswap V1	Ethereum	DEXes	$11.2M
15	Loopring	Ethereum	DEXes	$10.3M
16	Lightning Network	Bitcoin	Payments	$9.3M
17	Nexus Mutual	Ethereum	Derivatives	$7.6M
18	Kyber	Ethereum	DEXes	$7.4M
19	DeversiFi	Ethereum	DEXes	$3.2M
20	DDEX	Ethereum	Lending	$2.8M

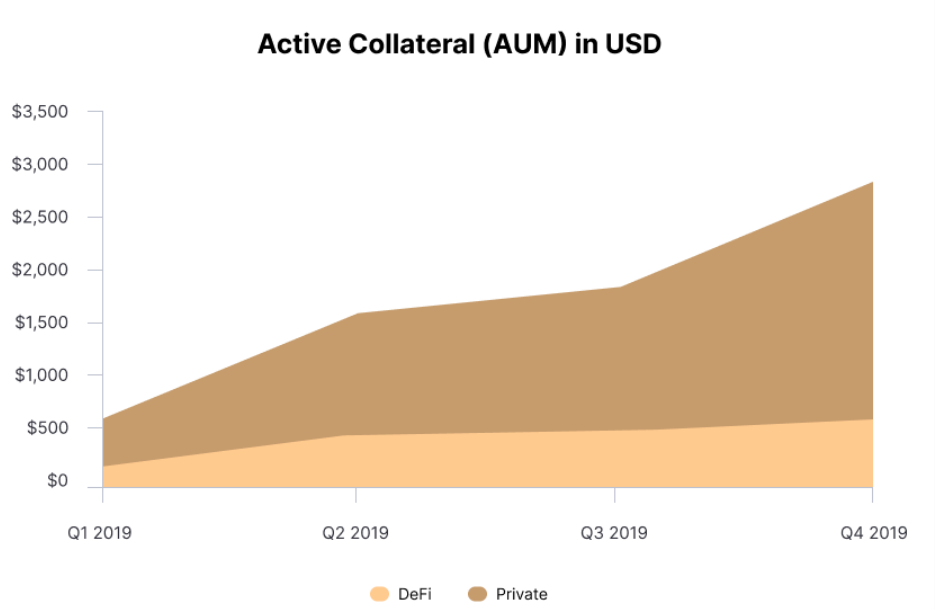
Source: DeFi Pulse[50]

A look at the top 20 DeFi projects by value, locked as collateral, clearly shows a concentration, with a few projects holding the majority of the assets, especially

46 DeFi Pulse

MakerDAO and Compound, which together constitute approximately 58% of the whole DeFi space market. Other dominant projects include Flexa (circa 88% of the TVL in Payments) and Synthetix (97% of the TVL in Derivatives). Such a concentration of locked assets speaks of scarce availability for potential users of Chainlink.

Taking a closer look at the lenders, last year the DeFi protocols like MakerDAO and Compound, and private lenders like Genesis and Nexo, showed dynamic growth. According to a report by Credmark, the cumulative value of loans originated grew by 700% between 2018 and 2019. However, the portfolios of private lenders grew much faster than DeFi and remain the stronger in terms of AUM.



Source: Credmark[47]

The increase was fueled by new players entering the market, new product launches, as well as increased levels of institutional lending. However, corporate users clearly demonstrated their preference for centralized lenders, which drove their loan-to-value (LTV) ratio up from approximately 30% in Q1 to 63% in Q4. At the same time, DeFi levels remained much lower, although the two types of lenders had the same LTV ratios at the beginning of the year.

Whales' reluctance to do business with DeFi projects is natural — the lack of legal entity behind the contract, customer support, flexibility when negotiating terms, security shortfalls, and variations in interest rates are just a few of the risks institutional investors are taking into account. The recent market turmoil and price drops have exposed the weakness of fully autonomous organizations. Both private lenders and DeFi platforms offer collateralized loans and liquidate positions when

47 Credmark

the value of collateral drops below certain levels. However, while private lenders are able to intervene in the liquidation process with tailor-made offerings and flexible arrangements with their clients, DeFi relies entirely on automated liquidation mechanisms. Thus, in the case of negative price movements, DeFi platforms end up liquidating significant amounts of collaterals, which, in turn, lead to further price drops. In the most recent crash, we have seen the total value locked (TVL) in the DeFi protocols dropping from $0.9 billion, prior to Black Thursday, to $0.6 billion the day after.

Taking the March 13, 2020 selloff as a case study, the majority of the liquidations happened on the decentralized lending platform Maker. Due to a fault in the price oracles, Maker's liquidation mechanism malfunctioned and led to free liquidations (at zero cost) amounting to $8.325 million[48], meaning that liquidated users lost all of their collaterals instead of at most 13% of it, as Maker promises in its Terms and Conditions.

MakerDAO Liquidations Per Minute ($)

Source: *The Block*[49]

The situation with Compound, another leader in the DeFi lending space in terms of value locked, was no different. It saw historically-high value of liquidations even prior to the crash (on the 8th of March), when the price of Ethereum dropped from above $250 per ETH to around $200[50], resulting in $2.5 million worth of liquidated collateral. When the price of Ethereum dropped by 30% on Black Thursday, however, Compound experienced its record for collateral liquidation amounting to $4.19 million in ETH and $120,000 of USDC in 24 hours[51].

48 Black Thursday for MakerDAO: $8.32 million was liquidated for 0 DAI, Medium

49 The Block

50 DeFi Lending Protocol Compound Sees Its Biggest Day of Liquidations since v2 Protocol Launch, The Block

51 Crypto Market Drop Triggers Liquidations Across MakerDao, Compound Lending Protocols

Despite the DeFi platform's attempts to blame the sell-off on technological malfunctions, there is an inherent conflict of interest between DeFi users and the platforms when it comes to liquidations. Generally, DeFi platforms charge lower interest rates, although they tend to fluctuate. Given the low interest rates, DeFi platforms need another source of profit, namely liquidations. When a borrower's loan is liquidated, on top of the interest rate, **DeFi lenders charge penalty fees, e.g., Maker charges up to 13% of the collateral value**. The aim of these fees is to motivate the so-called liquidators who repay the loans on behalf of liquidated borrowers and earn some return while keeping the DeFi platforms solvent. This means that liquidations are an essential part of the decentralized lending business model.

The rapid sell-off around March 12, 2020, demonstrated major weaknesses in DeFi and the ecosystem's ability to handle significant market disturbances. It has brought uncertainty among users and investors and whether decentralized finance is ready to be a mainstream service. As Tushar Jain, the partner at crypto and blockchain-centric investment fund Multicoin Capital, puts it[52], "If we just all need to accept that crypto can drop by 60%+ in a day that *severely* limits the usefulness of this tech."

THE VAST MAJORITY OF CHAINLINK'S USERS ARE INDEED DEFI PLATFORMS, AND IF THE INDUSTRY IS DOOMED, SO IS CHAINLINK

Why do we cover the DeFi in such detail? Because this is the only viable option for Chainlink integration at the moment. As we shall shortly see, **the vast majority of Chainlink's users are indeed DeFi platforms, and if the industry is doomed, so is Chainlink**.

Going back to the total addressable market, here is how DeFi projects can benefit from Chainlink's oracles:

Type	Projects	Use cases
Exchanges	Uniswap, IDEX, Loopring	Price feeds for DEX; Access to off-chain accounts for confirming assets availability
Remittances projects	RippleNet	Real-time data feeds on currency exchange rates
Payments and e-wallets	Swipe, OmiseGo, Eidoo	Validation of available funds with traditional players; Link to various digital ledgers
Lending platforms	MakerDAO, RCN, NEXO, Aave	Decentralized price feeds as a trigger for liquidations or payments

52 Twitter

Tokenized assets	Paxos	Price feeds of the physical asset that is tokenized
Stablecoins	USD Coin, TrueUSD	Decentralized price feeds
Investment platforms	SwissBorg, Molecular Future, DigixDAO	Asset under management (AUM) calculations based on real-time price feeds

Recall that Chainlink users are charged for each data request. If the application requires high frequency of data retrieval for multiple events, the costs incurred will quickly stack up, making Chainlink an impractical supplier for exchange implementations. Moreover, the added layer of complexity certainly results in price delays, exposing the users to exploitations by high frequency trading companies. At the same time, projects involving large transactions will be unwilling to take the security risks associated with Chainlink's oracles. As such, the project's **addressable market is extremely narrow and, as we shall shortly see — mostly already absorbed[53] by the company.**

EXAMINING THE USERS, IT BECOMES APPARENT THAT THESE ARE EITHER LAGGERS IN THEIR RESPECTIVE VERTICALS OR PROJECTS THAT HAVE BEEN PAID FOR THE PARTNERSHIP WITH CHAINLINK IN ONE WAY OR ANOTHER

Ultimately, LINK's price is dependent on the adoption and success of its users—the blockchain projects that are implementing the oracle network. If any of these projects make it, so will Chainlink as a whole. **Examining the users, it becomes apparent that these are either laggers in their respective verticals or projects that have been paid for the partnership with Chainlink in one way or another**.

Set Protocol

- Set Protocol is an Ethereum-built DeFi platform that allows for the creation, management, and exchange of Sets, which represent a basket of underlying assets. Set Protocol's native interface is called TokenSets and currently supports DAI, ETH, WBTC, USDC, cUSDC, and LINK.
- Set Protocol launched the LINK RSI Set[54] on TokenSets. The new token Set rebalances between LINK and USDC, depending on LINK's daily Relative Strength Index (RSI). Chainlink's decentralized LINK/USD oracle is used to power the Set. The strategy decides when to hedge into stablecoins and when to re-enter LINK based on predefined conditions. In March, Set Protocol also introduced the LINK ETH/RSI Trading Set[55].
- Chainlink oracles are used to only retrieve price data for the LINK pairs. For the rest of the assets supported by Set, the protocol is utilizing alternatives:

"FOR BITCOIN AND ETHER, WE ACTUALLY WORK WITH MAKERDAO TO UTILIZE THEIR PRICE ORACLES. FOR THE LINK-USD PRICING, WE HAVE WORKED WITH CHAINLINK TO PROVIDE THE LINK-USD PRICE. FOR OTHER ORACLES LIKE THE COMPOUND TOKEN, WE ACTUALLY BUILD OUR OWN ORACLES—WHAT WE CALL META ORACLES—ON TOP"

"For Bitcoin and Ether, we actually work with MakerDAO to utilize their price oracles. For the LINK-USD pricing, we have worked with Chainlink to provide the LINK-USD price. For other oracles like the compound token, we actually build our

53 Addressable Market

54 Introducing the LINK RSI Set on TokenSets, Medium

55 Introducing the LINK/ETH RSI Ratio Trading Set on TokenSets, Medium

*own oracles—what we call meta oracles—on top."*Felix Feng, Founder and CEO of Set Protocol in front of Clay from Nomics[56]

Synthetix

- Synthetix is an Ethereum-built synthetic asset issuance protocol allowing users to mint, hold, and trade a wide range of synthetic assets (Synths), including fiat currencies, commodities, stocks, and cryptocurrencies. Synths are created by staking Synthetix Network Tokens (SNX) as collateral. They allow holders to transfer value in an agreed-upon and widely accepted denomination without the need of a third party to hold the collateral.
- Synthetix used to rely on centralized data providers to get real-time information from financial markets. In June 2018, bots manipulated the data feed, capturing USD 1 billion[57] before the transaction was reversed. This malfunction of the system necessitated the integration of Chainlink as a step towards greater decentralization and higher security.

	24h Trade Volume, $	% of Total 24h Trade Volume on Exchange
AUD/USD	92,865	2.07%
EUR/USD	0	0.00%
CHF/USD	0	0.00%
GBP/USD	0	0.00%
JPY/USD	0	0.00%
XAU/USD	89,294	1.99%
XAG/USD	364,790	8.14%
Total (ChainLink pairs)	**546,949**	**12.20%**
Total on exchange	**4,483,898**	

Source: *Synthetix.Exchange*[58], data as of June 13, 2020

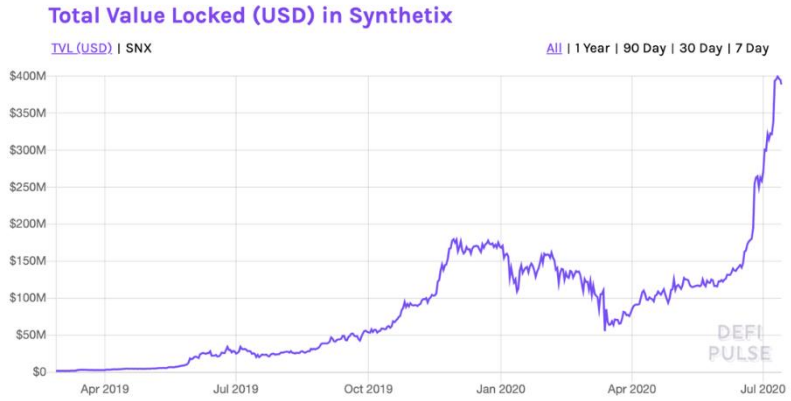
TOGETHER, THEY REPRESENT LESS THAN 0.3% OF THE TOTAL 24H VOLUME TRADED ON THE EXCHANGE, IMPLYING A RELATIVELY LOW LIQUIDITY AND A NEED FOR CHAINLINK IN THE FIRST PLACE

The table above shows the 24h trading volume of all the commodity and FX price pairs selected for the initial deployment of Chainlink. **Together, they represent less than 12% of the total 24h volume traded on the exchange, implying a relatively low liquidity and a need for Chainlink in the first place**.

56 Set Protocol and the Future of Crypto Trading, Nomics

57 Breakthrough for DeFi: Chainlink and Synthetix enter into partnership

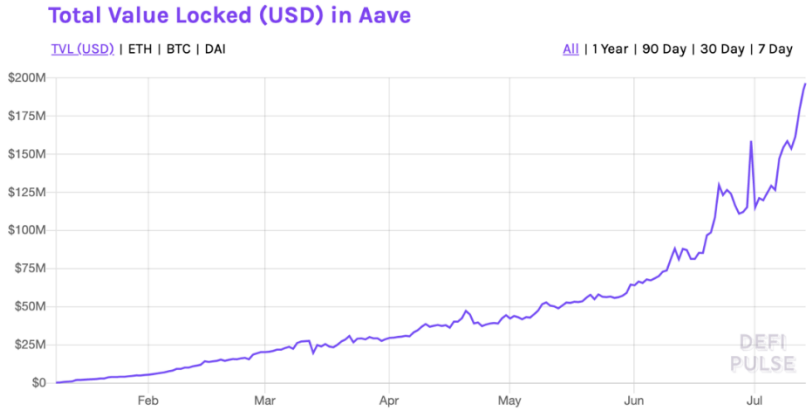
58 Synthetix.Exchange



Source: DeFi Pulse[59]

Aave

- Aave is an open-source, decentralized, and non-custodial money market protocol. Its core features include instantaneous borrowing without any collateral (flash loans), interest rate swaps, and the ability to earn interest on various tokens.
- Aave uses Chainlink[60] to obtain lending rates and prices from multiple on- and off-chain platforms, ensuring that Aave's price data reflects the real-time market dynamics. With the data, Aave is able to formulate a weight-adjusted on-chain price that smart contracts can reference when making loans.
- Currently, Aave has 0.03% (USD 197.5 million) of its total supply locked. The market share of the protocol, though increasing, is still low (approximately 8.6%).



Source: DeFi Pulse[61]

59 DeFi Pulse

60 The Aave Oracle Network Powered by Chainlink is Now Live!

61 DeFi Pulse

IT BECOMES APPARENT THAT THE CHAINLINK INTEGRATION RESEMBLES A 'PAY-TO-PLAY' SCHEME... WE BELIEVE THAT THESE ASSETS HAVE BEEN 'PARKED' BY PEOPLE CLOSE TO CHAINLINK AND ARE BEING USED TO BOOST AAVE'S VISIBILITY

- Taking a closer look at the platform[62], **it becomes apparent that the Chainlink integration resembles a 'pay-to-play' scheme**. LINK is the second most borrowed asset on the platform, trailing only to LEND – Aave's native token. **We believe that these assets have been 'parked' by people close to Chainlink and are being used to boost Aave's visibility**. For instance, this wallet[63] transfers substantial amounts of LINK to Aave while withdrawing stablecoins in exchange. If these tokens are owned by SmartContract, then the company is able to tap instant liquidity without interrupting the secondary market.

THIS DEVELOPMENT IS COMICAL BECAUSE THE LATEST CRYPTO CRASH MADE IT APPARENT THAT CELSIUS'S LIQUIDATION POLICIES ARE NOT AUTOMATED

- In a similar manner, Celsius has announced a partnership with Chainlink[64] while disclosing that it will hold several million dollars worth of Chainlink's crypto assets in its interest-bearing wallets. **This development is comical because the latest crypto crash made it apparent that Celsius's liquidation policies are not automated**. If most of their operations are performed manually, then why would they integrate Chainlink? Probably because of SmartContract's deep pockets.

Bottom Line

Despite the relative maturity and generous subsidies that have been provided, low usage rates by prospective customers demonstrate the lack of product fit and/or technical capabilities of the Chainlink network. Moreover, the few use cases seem to take advantage of Chainlink's deep coffers rather than the oracle services that are offered. They use as few of Chainlink's services as possible while simultaneously utilizing alternative solutions.

To evaluate Chainlink's probability of success, look no further than the behavior of the most influential projects in the DeFi area. How do they perceive the offering: are they lining up to buy it or build internal substitutions/partnering with competing networks? Presumably, these high-profile users have gone through an extensive due diligence process and arrived at a conclusion on whether Chainlink's offering makes sense in the long term.

A concern for LINK token holders should be the behavior of the leading DeFi projects, who are relying on internally-developed alternatives:

ONE MIGHT ARGUE THAT MAKERDAO'S BYPRODUCT HAS MORE SUCCESSFUL IMPLEMENTATIONS THAN THE USD 2.8 BILLION CHAINLINK

- The bespoken leader in the DeFi lending space, MakerDAO, is using its own oracles[65]. The project is also in ongoing discussion with **0x, dYdX, and Gnosis** for external implementation of the product. Also, as mentioned above, Set Protocol is also using Maker's oracle for price feed on BTC and ETH pairs. In fact, **one might argue that MakerDAO's byproduct has more successful implementations than the USD 2.8 billion Chainlink**.

62 Aave

63 Etherscan

64 Celcius Networks Partners with Chainlink, Brave New Coin

65 Introducing Oracles V2 and DeFi Feeds

- The second most popular project in the space, **Compound, is also building its own Open Oracle System[66]**, a community project that will enable developers to contribute and leverage data from a distributed price feed. Currently, a prototype of the project is running on the Ethereum Rinkeby[67] testnet. It publishes data from three reporters: Coinbase Pro, Kraken, and Binance. Moreover, **Compound recently announced they would take advantage of Coinbase Oracle[68]** which, combined with Open Oracle[70], is a free equivalent to Chainlink.
- Looking at the behavior of the exchanges, in late March, **Uniswap announced[69] the launch of the second version of its protocol, which includes improved price feeds functionality,** allowing contracts to calculate time-weighted average prices. The advancement comes after the previous version of Uniswap's more centralized solution played a major role in the price manipulation attacks[70] on the margin trading protocol bZx.

UNISWAP ANNOUNCED THE LAUNCH OF THE SECOND VERSION OF ITS PROTOCOL, WHICH INCLUDES IMPROVED PRICE FEEDS FUNCTIONALITY

Why are all these keystone blockchain projects looking at alternatives to the Chainlink network? Well, Chainlink doesn't make economic sense. Let us do the math. If MakerDAO decides to implement Chainlink instead of internally replicating the network, even at its current state, the project would make 200 price calls per day[71]. **At a subsidized cost of 5 cents per call and 7 oracles, Chainlink will be more than 60 times more expensive than the cost of replication** we calculated earlier in this report. And, here, we don't take into account MakerDAO's forgone possibility to sell the in-house solution to third parties. To make the example more relevant, let's assume MakerDAO makes a request every 10 seconds, or 8,640 times a day per asset. If there are five assets supported by the platform, this equates to 43,200 price requests per day.

AT A SUBSIDIZED COST OF 5 CENTS PER CALL AND 7 ORACLES, CHAINLINK WILL BE MORE THAN 60 TIMES MORE EXPENSIVE THAN THE COST OF REPLICATION

Effective cost per Chainlink for MakerDAO		
Number of data retrievals per day	Absolute	43200.0
Cost of using Chainlink (subsidized)	USD	$15,120.00
Cost of replication	USD	$1.109
Chainlink / cost of replication ratio	**Absolute**	**13,636.36x**
Annual savings if replicated	*USD*	*$5,518,395.29*

THE MORE EXPENSIVE CHAINLINK SOLUTION WILL BE TRANSFERRED TO THE END USER, PUTTING MAKERDAO IN A COMPETITIVE DISADVANTAGE AGAINST RIVALS

Based on these assumptions, **Maker will save more than USD 5.5 million a year by developing an internal solution**. The higher transaction costs associated with the more expensive Chainlink solution will be transferred to the end user, putting MakerDAO in a competitive disadvantage against rivals.

66 The Open Price Feed

67 Etherscan

68 Introducing the Coinbase Price Oracle

69 Uniswap V2: ERC 20 Pairs, Oracle Upgrades, Flash Swaps + Uniswap DAO, DeFi Rate

70 Uniswap V2 Offers Better Price Feeds and Doubles Down on Flash Loan Concept, Cointelegraph

71 DeFi Explore

Chainlink's Entry Barrier

Currently, Chainlink's competitive advantage is derived from three sources:

1) The massive funding available in the form of LINK 300 million, or the equivalent of nearly USD 2.4 billion, held for product development and LINK 350 million (USD 2.8 billion) reserve to foster the ecosystem added on top of USD 32 million secured during the 2017 ICO, presuming they liquidated it right away and did not ride the leg down that saw Ether (ETH) lose more than 80% of its dollar value.
2) A supposedly large community of true believers who are also passive LINK investors.
3) Existence of live product (albeit, in testnet) and actual clients.

Examining the first two — Chainlink's vault is as deep as the token's valuation. A portion of the community presumably consists of early investors, hailing the project mostly as a byproduct of the capital gains attained. If there is a correction in the LINK price (which seems inevitable due to the large divergence between the actual operational activities and the capitalization of the token), both advantages will evaporate.

Another negative factor faced by the project is the inherent inability to build a technological moat around its offering. The open-source nature of the project makes it vulnerable to replications by competitors.

Despite the small market size (limited to a handful of blockchain projects) for oracle services, the number of competitors is rapidly growing, which will undoubtedly intensify once/if strong demand for decentralized oracle services emerges. Stressing on a point discussed earlier, the nodes that are unable to lure end users to the Chainlink ecosystem will be quick to switch to alternative networks. **As a result, Chainlink might run into the problem of investing time and resources to educate the market about its products and services, only to lose its users to projects offering better terms and technical capabilities** (much the way MySpace lost its first-mover advantage to Facebook).

Competitors

How do existing projects compare with Chainlink? Generally, there are three types of services—one built around an existing product like MakerDAO's or Coinbase Oracles, centralized oracle services like Provable[72], and decentralized protocols utilizing proprietary tokens or being paid in widely acceptable currencies like USD, BTC, and ETH. The table below summarizes the most prominent competitors of Chainlink:

72 Provable

	MAKER	Provable	Witnet	tellor	Band Protocol	ERASURE	coinbase | Oracle
Description	By-product of Maker's core offering; tailor-made solution for DeFi; using the median response of 14 independent oracles – MKR token holders vote for inclusion / exclusion	Offering platform-agnostic "attestation-as-a-service" - demonstrates that the data fetched from the original data-source is genuine and untampered; using Intel SGX technology	Replicating ChainLink's idea, yet in early innings - still incentivizing nodes to participate in testnet, and as we can see in Telegram - there are aspiring node operators proving our point for Chainlink	Decentralized oracle on the Ethereum network; provides access to high-value off-chain data; data is submitted by miners competing to provide correct information and get a reward for this	Decentralized data oracle; makes data readily available to be queried on-chain, using delegated proof of stake to ensure data integrity	Decentralized data marketplace allowing anybody to upload predictions, stake them with cryptocurrency and build a track record that everyone can verify, and eventually earn money	Coinbase Oracle API allows users to receive signed price data for BTC/USD and ETH/USD markets; it is sourced by Coinbase Pro, which is among the world's most liquid exchanges
Benefits	Specifically-built for particular use case - optimized, cheaper (as uniform data retrieval are used by all end customers; constant improvements	No token price exposure; dedicated team to help with custom solutions; current pricing is aligned with the subsidized quote of Chainlink	Lack of biased reputation in the node selection process; no token price exposure	The first truly decentralized and trustless oracle for Ethereum	Permissionless oracle; intuitive and instance query processing; payment in native currency; supports multiple data types and blockchains	Allows any hedge fund, institutional investor or private investor to leverage predictions; predictions are time-stamped; past predictions are available; supports any currency	High-quality data due being backed by Coinbase Pro; compatible with Compound's Open Oracle; off- and on-chain filtering that catches data that deviates significantly from last reported price
Drawbacks	Limited functionality, not blockchain-agnostic	It isn't a network of decentralized oracles; no marketplace	No traction, no funding	Slow data retrieval mechanism not fit for real-time data; storing data on Ethereum is expensive and inefficient; low supply	Limited market as there are few dApps that need oracle information to scale	Low popularity and as a result - low value; staking can be used by investors to safeguard predictions and keep them for themselves	A brand new solution that though introduced by a trusted company may need some time to gain users and technical excellence
Users	dYdX, Set Protocol, Gnosis, ENS, Nuo, Dharma	Eidoo, (a lot of well-known logos on their site, yet none is clearly defined as a customer)	N/A	N/A	Binance, CoinGecko, DeSquare, Woodstock Fund	CoinList	N/A
Investors	Walden Bridge Capital, Scanate, Polychain, IOSG Ventures, FBG Capital, etc.	Poseidon Group (acquired it in May 2019)	Reflective Venture Partners, Oyster Ventures	MakerDao, Binance Labs	Sequoia Capital, SeaX Ventures, Dunamu & Partners	N/A	N/A but Coinbase's investors include Tiger Global Management, Fundamental Labs, Polychain, etc.
Alexa Rating	38,619	660,650	2,887,385	644,643	338,405	254,556	1,453

In addition to the way participants are incentivized and the services' level of centralization, oracle options differ in terms of consensus mechanism design. Chainlink uses what is known as a federated model. The approach seems the most obvious to tackle the oracle problem, yet it is far from the most effective. TheBlock presented[73] a comprehensive summary of the different consensus algorithms, concluding that Chainlink's approach is a good stepping block on which more advanced methodologies could be derived.

ONE PARTICULAR EXAMPLE OF A POTENTIAL CHAINLINK KILLER IS COINBASE'S RECENTLY INTRODUCED ORACLE PROJECT

As the decentralized financial applications are the most immediate and, so far, sole paying users of Chainlink, the project's largest threats are the alternatives, offering price feeds at a competitive rate. **One particular example of a potential Chainlink killer is Coinbase's recently introduced Oracle project[74]**. What the largest US retail-oriented and second biggest exchange in the world is offering is signed data feed to DeFi projects with the company's reputation at stake. The announcement outlines multiple levels of protection against price manipulations and security breaches. **The functionality will allow the DeFi projects to integrate price feeds easier and free of charge with platforms like Open Oracle System[75]**. Additional to the cost efficiency, the Coinbase/Open Oracle System solution also mitigates the problems associated with corrupted oracles and price manipulations, to which Chainlink is exposed. When deciding between using an expensive price feed from multiple sources (including those with questionable reputations) and utilizing the Coinbase/Open Oracle System alternative, some of Chainlink's existing customers will certainly take the opportunity of making tokenomics/valuation even more absurd.

THE FUNCTIONALITY WILL ALLOW THE DEFI PROJECTS TO INTEGRATE PRICE FEEDS EASIER AND FREE OF CHARGE WITH PLATFORMS LIKE OPEN ORACLE SYSTEM

Going forward, we believe there will be three types of (de)centralized oracles:

1. Highly efficient networks that are specifically built for a particular application (as in the case of price data feeds provided by MakerDAO and Coinbase)
2. In-house solutions (what Augur has done with its prediction market algorithm), and
3. Flexible multipurpose platforms as the one offered by Chainlink.

From a price and specialization standpoint, the multipurpose solutions can hardly compete with the application-specific alternatives due to design limitations and the inability to use the data retrieved multiple times.

Price-sensitive applications will either use internally-built solutions (if replication is cheap enough), sacrificing security and automation while saving multitudes of the cost required to operate proprietary networks, or they will look for the cheapest multipurpose option on the market.

73 Can DeFi Oracles Be Better?, The Block

74 Introducing the Coinbase Price Oracle, Medium

75 The Open Price Feed, Medium

THERE WILL BE MANY ONE-FITS-IT-ALL PLATFORMS LIKE CHAINLINK, COMPETING FOR WORK, AND NODE OPERATORS. THE MOST FREQUENTLY USED INFORMATION (LIKE ASSET PRICE DATA FEEDS) WILL BE CHEAP, IF NOT FREE, AND READILY AVAILABLE FROM MULTIPLE VENDORS

Finally, **there will be many one-fits-it-all platforms like Chainlink, competing for work, and node operators. The most frequently used information (like asset price data feeds) will be cheap, if not free, and readily available from multiple vendors (as is the case with Coinbase's price Oracle)**. The limited potential for achieving economies of scale suggests there will be specialization among platforms, with different actors offering the most competitive pricing in a set of verticals.

Considering the environment, the likelihood of Chainlink being the sole middleware provider is close to zero percent.

The Decentralized Oracle Graveyard

Chainlink is hardly the first project trying to tackle the oracle problem. Unsuccessful initiatives include Truthcoin[76], which was an early attempt to develop the concept of a peer-to-peer oracle network focused on prediction marketplaces. Orisi[77] and Concurrence[78] also failed in their aim to develop a distributed oracle system for validating smart contracts. These projects shared significant similarities with Chainlink in their effort to decentralize external data fed to blockchains and make it tamper-proof. Truthcoin's whitepaper mentioned a weighted voting system on contract outcomes, similar to the staking mechanism Chainlink is proposing. Concurrence even names Chainlink[79] on its website as a leading project in the area of decentralized oracles.

Currently, all of these projects seem to be inactive. Truthcoin eventually turned into a blog on prediction markets and closed due to low usage rate[80], while Orisi is no longer available. Concurrence has not had GitHub[81] activities since the beginning of 2018, despite the attempt in 2017 by Austin Griffith[82] to form a community of developers, miners, and enthusiasts to work on the project.

76 Truthcoin

77 GitHub, Orisi

78 Concurrence

79 Other Oracles, Concurrence

80 Bitcoin Hive Forum

81 GitHub, Concurrence

82 Introducing: Concurrence.io – Decentralized Blockchain Oracle

Bottom Line

Chainlink's existing addressable market is limited to a handful of DeFi and CeFi projects. The alarming reality that none of the leading lenders or exchanges is utilizing the network derives from the prosaic fact that Chainlink subsidized price 60 times more expensive than an internally developed alternative.

Chainlink's widely pronounced users are either utilizing the network for an insufficient portion of their operations or are benefitting from SmartContract's deep coffers. The project is also quickly running out of potential integrator and partners, making the end of the overly-exaggerated announcement a matter of time.

Despite the nascent development stage of market, the competition between oracle service providers is heating up. Behemoths like Coinbase are offering Chainlink's flagship product out of charge, making the network and LINK token worthless.

Team Overview

The current Chainlink team is disclosed on the company's website, and Sergey Narazov, the founder and CEO, acts as the project's figurehead and spokesman. As an early BTC adopter and miner utilizing cloud services, Narazov maintains a high profile in the blockchain space. The technical development team he has hired resembles a 'friends and family' circle of former colleagues from Pivotal Labs. The business development team is small and inexperienced. Also noteworthy is the chief marketing officer's efforts to avoid association with the project, and the recent departure of Chainlink's COO, who was a high-profile employee.

WE FIND ODD THE FACT THAT SUCH A HIGH-PROFILE PROJECT IS REGISTERED ON THE ADDRESS OF A REGUS CO-WORKING SPACE

The physical office of SmartContract, the company behind the multibillion-dollar token, is located on 50 California Street, Suite 1500, San Francisco. **We find odd the fact that such a high-profile project is registered on the address of a Regus co-working space**[83]. Focusing on the people within the organization, there are multiple red flags with regard to their background, behavior, and the overall progress they've achieved.

Management

Sergey Nazarov[84], the CEO, claims to have established relationships with institutional investors, access to capital, and useful connections in the business world and computer science industry (from his previous and failed entrepreneurial endeavors).

Mark Oblad[85] – former Head of Operations, left the company after one year of employment but is still on Chainlink's corporate website[86]; Oblad was probably Chainlink's highest-profile hire. He currently works at Gunderson Detmer (his former employer).

Technical Team

Composed of several full-time employees, Chainlink's core development team is quite active on GitHub[87]. However, a close look at the code changes[88] shows that the number of line additions and deletions is roughly the same. In fact, **a large**

83 Regus.ru

84 Sergey Nazarov, LinkedIn

85 Mark Oblad, LinkedIn

86 Chainlink Corporate Website

87 GitHub

88 GitHub

A LARGE PORTION OF THE PULL REQUESTS ARE COSMETIC CHANGES. THE COMMITS ARE SHORT AND NOT MATERIAL

portion of the pull requests[89] are cosmetic changes[90]. The commits are short and not material.

Steve Ellis[91], Chief Technology Officer (*se3000[92]*)

- BSc in Computer Science from New York University around the time Nazarov was there, and both were teachers' assistants at NYU;
- His first work experience was at Pivotal Labs[93] (acquired by VMWare) (2y 9m) as a software engineer, where he apparently met the rest of Chainlink's technical team.

Dimitri Roche[94], Software Engineer (*dimroc[95]*)

- BSc & MSc in Computer Science from the University of Miami;
- Worked at Microsoft as a software developer (3y8m), McKinsey & Company (project lead and senior software developer) as a consultant (10m), and Pivotal Labs (senior software engineer); former CTO of a gift-sending startup
- Having various noteworthy side projects[96]

Alex Kwiatkowski[97] – Software Engineer (*rupurt[98]*)

- .NET and web developer from 2006 to 2011;
- Joined Pivotal Labs in 2011 to move to Northpass (learning platform for the workforce) in 2014;
- Part of Chainlink since March 2018.

ATTEMPTS TO ARTIFICIALLY INFLATE FUNDAMENTAL RANKINGS AND A SENSE OF PROGRESS THROUGHOUT THE COMMUNITY AND INVESTOR BASE

Take away: Considering the centralized nature and long collaborative history of the team, one would assume they will make more infrequent, albeit substantial code changes. Nine months after the launch of the LinkPool marketplace[99], Chainlink's mainnet is still under construction. What could be driving the observed behavior? **Attempts to artificially inflate fundamental rankings[100] and a sense of progress throughout the community and investor base.**

89 GitHub
90 GitHub
91 Steve Ellis, LinkedIn
92 Steve Ellis, GitHub
93 Pivotal Labs
94 Dimitri Roche, LinkedIn
95 Dimitri Roche, GitHub
96 Dimitri Roche, side projects
97 Alex Kwiatkowski, LinkedIn
98 Alex Kwiatkowski, GitHub
99 Launching the Chainlink Market, Medium
100 FCAS Analytics

Commercial & Marketing Team

The current team is extremely weak in terms of head count and people with relevant experience. Given the B2B nature of the product, and when compared to companies of a similar size and funding level, it is surprising that Chainlink does not have better-prepared and globally diverse business developers and sales representatives.

Daniel Kochis[101] **–** Global Director of Business Development (since April 2018)

- BSc in Economics from the University of Michigan;
- Corporate and business development at Spigot[102], a digital marketing agency that specializes in media optimization and targeting by developing analytics and big-data technology in-house. Kochis has 'run end-to-end deal sourcing, contract negotiation, implementation process, and client management for USD 120 million+ annual search advertising partnerships.'

Adelyn Zhou[103] – Chief Marketing Officer, personal website[104]

- Harvard graduate
- Former senior associate at BCG (2y), senior marketing manager at diapers.com/Quidsi (acquired by Amazon), growth marketing at Nextdoor.com (3y);
- **She does not disclose that she works for Chainlink on LinkedIn** – 'Blockchain Company - Leading all things marketing, community and international at a blockchain company;'
- Not active on Medium[105].

Rory Piant[106] – Community Manager (since July 2017)

- BA in Broadcast Journalism from Arizona State University; M.Ed in Physical Education Teaching and Coaching
- Former community manager of Openanx, Blocksale (defunct);
- Used to work as a school teacher / coach until July 2018;
- Currently ambassador of IDEX[107] (Hybrid DEX on Ethereum)

101 Daniel Kochis, LinkedIn
102 Spigot
103 Adelyn Zhou, LinkedIn
104 Adelyn Zhou, personal website
105 Adelyn Zhou, Medium
106 Rory Piant, LinkedIn
107 IDEX, LinkedIn

Bottom Line

The level of sophistication and headcount of the multibillion-dollar Chainlink resembles an underdeveloped mom-and-pop shop. We believe that chief marketing officer's intentional efforts to avoid association with Chainlink, the lack of physical presence (apart from the coworking space in question), and the cosmetic changes in the underlying code reveal the real intention of the people behind the project: to milk the foolish investors until one day the whole project disappear.

Even if we are wrong and SmartContract's employees genuinely want to develop and operate the network, we doubt that people without blockchain and commercialization expertise could pull a project of the magnitude reflected in LINK's market capitalization.

Announcements

The macro section touched on some of Chainlink's flagship clients, who are either paid to be Chainlink partners, or projects lacking material traction or losing market share. Taking a deeper dive reveals that the glamorous partnership announcements are not actual partnerships. On a more granular level, it becomes apparent that the numerous press releases Chainlink is generating are just PR stunts, where the network is integrated with some dead project or one that does not have any commercial footprint.

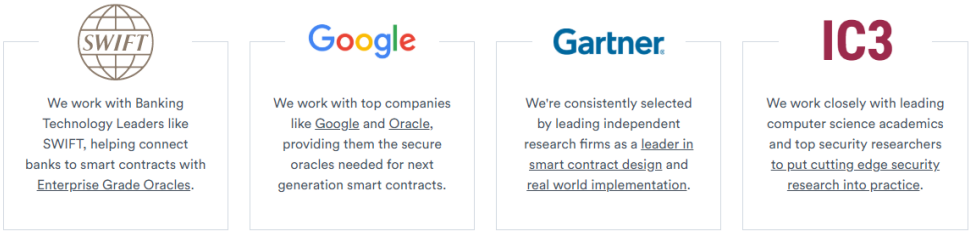
When examining the numerous headlines featuring Chainlink, a reasonable conclusion would be that the project is achieving material progress and commercial traction. The partnerships, clients, and integrations announced to date are in excess of 140[108]—and counting. Yet, despite the heavy subsidies and lack of strong competition, the actual paying clients are just a few.

The "Partnerships" with SWIFT & Google or How LINK Reached These Astronomical Levels

BACK IN THE DAY, CHAINLINK PROUDLY STATED ON ITS LANDING PAGE THAT IT WOULD BE PARTNERING WITH COMPANIES LIKE SWIFT AND GOOGLE

A FEW MONTHS LATER, THERE IS NO REFERENCE OF EITHER SWIFT OR GOOGLE ON THE PROJECT'S WEBSITE

Back in the day, Chainlink proudly stated on its landing page that it would be partnering with companies like SWIFT and Google.



Source: chain.link as of 13 December 2019[109]

A few months later, there is no reference of either SWIFT or Google on the project's website[110].

Looking from hindsight, these "announcements" have been **part of a cleverly crafted pump and dump scheme, serving as a tool to enrich** Chainlink insiders at the expense of unsophisticated LINK investors.

108 Partners, Clients and Integrations

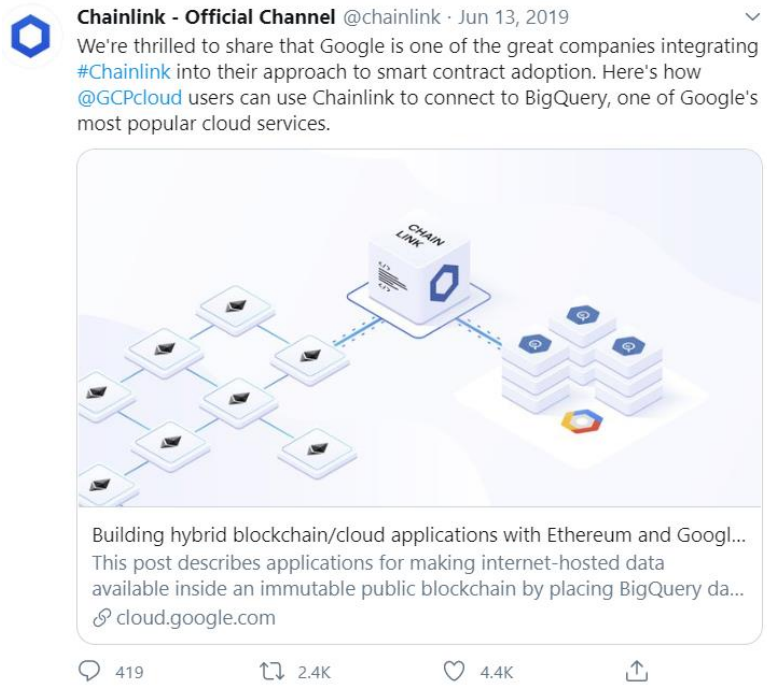
109 Chainlink via archive.org

110 Chainlink Official Website

Before diving into the details, what exactly is a *pump & dump scheme*? It is a form of financial fraud in which a group of coordinated actors artificially inflate the demand of a given asset, triggering a dramatic price increase. The goal is to lure an influx of investors who are unaware of the manipulated nature of the spike. Often this phase is augmented through the proliferation of **misleading positive statements** or **recommendations by experts**, further driving casual traders to the market.

Ultimately, the perpetrators dump their shares, flooding the market and overwhelm the organic demand. At this point the share price of the asset plummets, leaving ordinary investors holding now heavily devalued assets. Due to the underdeveloped regulations, the cryptocurrencies tend to be exceptionally vulnerable to this form of attack, as coins are often heavily concentrated in the hands of a comparatively small number of individuals, whose market activities can dramatically impact the coin price. While pump and dump manipulations are illegal and highly policed in the legacy economy, no such regulations exist in the crypto economy.

Focusing on Chainlink, the project is a textbook example of the otherwise illicit practice. First, they announced Google integration[111]. At the time, the price was USD 1.19 per LINK.



A few hours later, Google also tweeted[112]. The price is reaching USD 1.93 up staggering 62%.

111 Twitter

112 Twitter

Industry-leading outlets were deliberately or unintentionally played their role[113] in the process too. Taking a closer look at the actors, the author of Google's blog post was Allen Day[114], Science Advocate at Google, who simply posted an explanation of how Google's products can interact with decentralized applications[115] using a combination of Ethereum, Google Cloud, and Chainlink — similar to how a client app can interact with a standard database server.

The movement was amplified when two weeks later Coinbase Pro disclosed[116] it would be listing LINK on its platform, lifting the price another 23.30 percent within a few hours. Then, on June 28, Coinbase also added the coin to its core platform, inflating the LINK with yet another 104.49% in a period of 24 hours.

AnChain.AI, a blockchain analytics firm, has been vocal about the manipulative nature of the trading activities surrounding LINK's rapid price appreciation. In their first post[117], the company argued that a small number of addresses (linked by a common source of ETH gas) have performed a coordinated pump and dump involving LINK 4.2M in the period April 1 to July 26, 2019.

The second post[118] reviews the on-chain activities surrounding the Coinbase onramp. AnChain found that a group of linked accounts purchased 11 million LINK

113 Smart Contracts Startup Tapped by Google as Blockchain Partner, Coindesk

114 Allen Day, LinkedIn

115 Building Hybrid Blockchain/Cloud Application with Ethereum and Google Cloud, Google Cloud

116 Chainlink Is Now Available on Coinbase, Medium

117 Cryptocurrency Trading Investigation: Market Manipulation & the LINK Token, Medium

118 Crypto Trading Investigation: A Deeper Look at Chainlink

via Binance between 27 and 29th June. The relation between the accounts is once again the funding ETH addresses.

In the meantime, LINK 1.4M tokens were transferred into Binance from one of Chainlink's development addresses[119]. **While AnChain are reluctant to conclude that Chainlink's founding team is related to the price manipulations, we believe that the timing, sophistication, access to extensive resource and information, as well as the outflow of LINK from the development addresses points straight to the people directly related to the project**.

WE BELIEVE THAT THE TIMING, SOPHISTICATION, ACCESS TO EXTENSIVE RESOURCE AND INFORMATION, AS WELL AS THE OUTFLOW OF LINK FROM THE DEVELOPMENT ADDRESSES POINTS STRAIGHT TO THE PEOPLE DIRECTLY RELATED TO THE PROJECT

Another grossly misleading speculation from Chainlink has the "partnership" with SWIFT. However, it turned out that **none of project's current integrations are on top of the SWIFT connection to date**, putting the feature in the corner alongside the other theoretical applications. Moreover, Chainlink has deleted any digital footprint of this speculative 'partnership' (for instance, the embedded tweet[120] on here is removed).

Next, the essence of the Oracle partnership[121] is a startup boot camp, incentivizing newly established companies to build on top of Chainlink's solution. Twenty aspiring companies have been selected[122] to take part in the first batch of the program. How many of them have made a splash so far? Zero. No plans for a second cohort have been announced from either Chainlink or Oracle Corp.

These and more grossly exaggerated public announcements led to 700%+ LINK price appreciation over the second half of 2019:

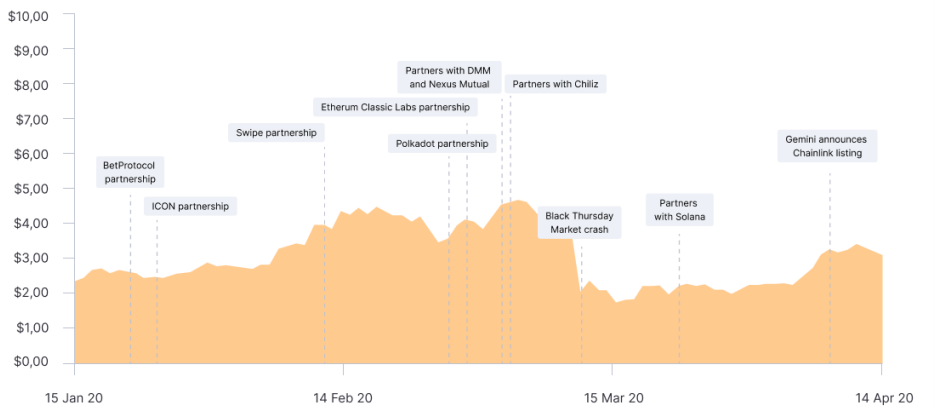
A year later, not much had changed. Chainlink is still generating large publicity based on partnerships with dead projects or projects that will never materialize, allowing insiders to quietly and gradually dump their tokens to unsophisticated investors, while also selling LINK at a deep discount to their few users. Let's take a closer look at some of Chainlink's latest press releases to illustrate the point:

119 Etherscan

120 Chainlink Token Surge by over 40% in 7 days Following SWIFT Partnership and TCF Announcement

121 Every Startup in the Blockchain with Oracle Cloud and Chainlink

122 Oracle Selects First 20 Startups for Chainlink Blockchain Project



Etherisc, a decentralized insurance platform, integrates Chainlink oracles[123] for decentralized flight insurance products.

- Etherisc appears to be an **abandoned project** with a live demo[124], no traffic[125], limited[126] to no active[127] contributors, muted trading[128] on IDEX, and a sizable, yet inactive, community[129] on Telegram.
- Right now, there are two known dApp projects in the space: Etherisc & Fizzy. The latter is a subsidiary of the insurance giant AXA **and is already defunct[130].**
- Although the market is big enough, there are plenty of flight delay compensation brokers and insurers with better access to capital than Etherisc.

Chainlink and iExec collaborate[131] to address the complex off-chain needs of next-generation dApps.

- iExec will provide computational power on top of Chainlink's data retrieval offering — Chainlink will fetch data, while iExec will run AI applications on it.
- iExec is **relatively inactive[132]** given the small number of transactions and active workers in its marketplace. Similarly to the one with Chainlink, most of the partnerships that iExec has announced relate to enhancing the core offering or infrastructure of the project rather than actual use cases (hardware from IBM, participating in the Ubisoft startup program, etc.). While iExec has accumulated a sizeable community on Telegram and Twitter, both of those channels are inactive.

123 Etherisc to Leverage Chainlink Oracles for Decentralized Flight Insurance Product, Medium
124 Etheriscs
125 Etherisc, SimialarWeb
126 Etherisc, GitHub
127 Etherisc, GitHub
128 IDEX
129 Etherics, Telegram
130 AXA Withdraws Blockchain Flight Delay Compensation Experiment
131 Chainlink and iExec Collaborate, Medium
132 Bellecour-GPU-Pool

- Similarly to the Etherisc case, the computing industry is highly saturated with companies like Google and Amazon, which are capturing the largest chunk with their cost-effective and user-friendly cloud services.

Ethereum Classic Labs collaborates[133] with Chainlink:

- Ethereum Classic provides a way of managing digital assets without the need for intermediaries like banks and other financial institutions. It is the continuation of the original Ethereum chain following the hacking of The DAO Ethereum contract in June 2016.
- **ETC Labs does not provide specific information about the projects it plans to develop using Chainlink.** It describes some possible use cases[134], such as integrating blockchain with traditional payment systems, market data, and IoT-based insurance data.
- An alternative interpretation of the 'news' is that it is an attempt to boost the already-inflated valuations of both projects with yet another partnership that never materializes.

Polkadot[135], the first non-Ethereum based project, integrating Chainlink

- Chainlink will become the primary oracle provider for the Substrate framework[136], a tool for building decentralized systems. If the integration is successful, Chainlink might become the primary oracle for Polkadot
- Polkadot has attracted an enormous amount of capital — USD 145 million in 2017 followed by a second private sale in 2020[137], claiming a valuation of USD 1.2 billion, yet it remains unclear whether the soft target of USD 60 million for the second round has been reached
- There are two major risks for Chainlink here. First, will Polkadot actually turn out to be a successful project drawing traffic from Ethereum and the other smart contract platforms? If that happens, will Substrate play a central role in this ecosystem?

Chainlink to list on Gemini Exchange[138]

- Gemini Exchange was planning to list Chainlink's LINK, Dai's DAI, and Orchid's OXT on April 24, 2020. As a result, LINK price increased[139] between 10% and 15% on the date of the announcement.
- The news was simply another venue to gamble on the price of a worthless asset.

133 Oracles with Ethereum Classic and Chainlink, Medium

134 Ethereum Classic Collaborating with Chainlink on Oracles, Crypto Briefing

135 Polkadot and Chainlink Integration Using Substrate

136 parity.io

137 Gavin Wood's Polkadot Completes Token Sale Asserting USD 1.2 Billion Valuation, Coinspeaker

138 Chainlink, DAI and Orchid Now Accepting Deposits

139 Winklevoss-backed Gemini to list Chainlink, Price Soars 15%, Decrypt

Looking back at the numerous press releases Chainlink has made over the years, none has ever materialized into a core user of the ecosystem. Instead, both projects have benefitted from the publicity associated with the announcements. Yet, it is a matter of time for the investors to that this into account when considering investing / divesting Chainlink's proprietary token.

Bottom Line

Contrary to the technical and commercial developments, Chainlink's propaganda machine is clockwork. The team manages to attract sufficient amount of media coverage to seemingly keep the market in euphoria. Fake announcements, gross overstatements and incompatible (yet mutually beneficial from PR standpoint) partnership were integral part of Chainlink's arsenal. At the risk of stating the obvious, the whole farce is a coordinated attempt to elevate the price of a fundamentally worthless token so the founding team can smoothly dump LINK 1 billion to unsophisticated investors.

Why Chainlink is Worthless: Empirical Evidence

What started as a mild de-risking across the equity markets amid fears of global coronavirus pandemic turned into a multi-asset capitulation, amplified by a surprising price war between the major oil producers and the draconian health and safety measures around the world.

The largest hit for the digital asset ecosystem took place on March 12, 2020, when a tsunami of liquidations (leveraged positions and DeFi collaterals) combined with the inability to transact on the blockchains resulted in an intraday price drop in excess of 40%, causing exchanges to go down and pushing DeFi lending projects to the brink of collapse.

On the same day, **all Chainlink's shortfalls materialized**. The arbitrage seekers who were trying to move their assets from one exchange to another, during the market meltdown, congested Ethereum's mainnet, which resulted in skyrocketing[140] gas prices. But it wasn't just arbitrageurs' fault—the **Chainlink oracles were consuming ~20% of the gas in Ethereum and were further exacerbating the problem**.

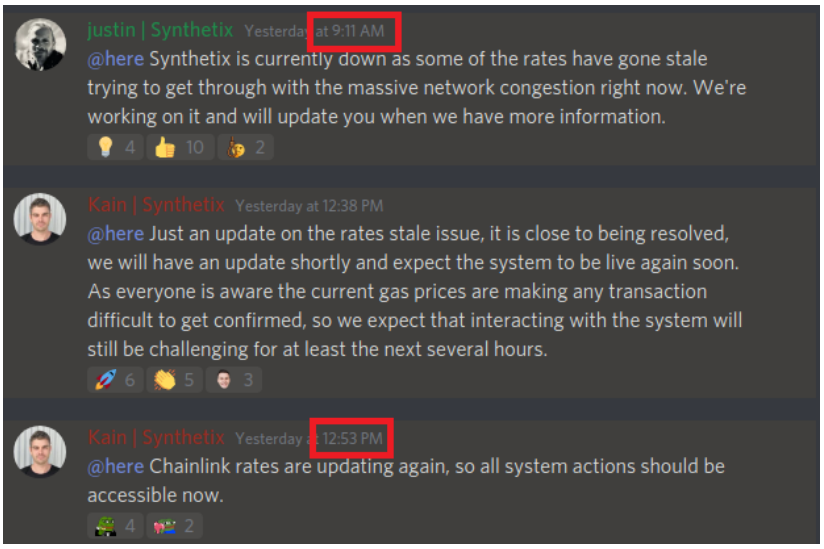
CHAINLINK'S PRICE ORACLE STOPPED UPDATING THE ETH/USD PAIR FOR MORE THAN SIX HOURS, GIVING HACKERS ENOUGH TIME TO EXPLOIT DEFI PROJECTS RELYING ON THE NETWORK

As ethereum gas price was rising and the on-chain information was coming with a substantial delay, **Chainlink's price oracle stopped updating the ETH/USD pair for more than six hours, giving hackers enough time to exploit DeFi projects relying on the network.**

140 Etherscan

Source: BAND Jedi Master's twitter account[141]

A reported victim of the malfunction was Synthetix which went down for an extensive period.



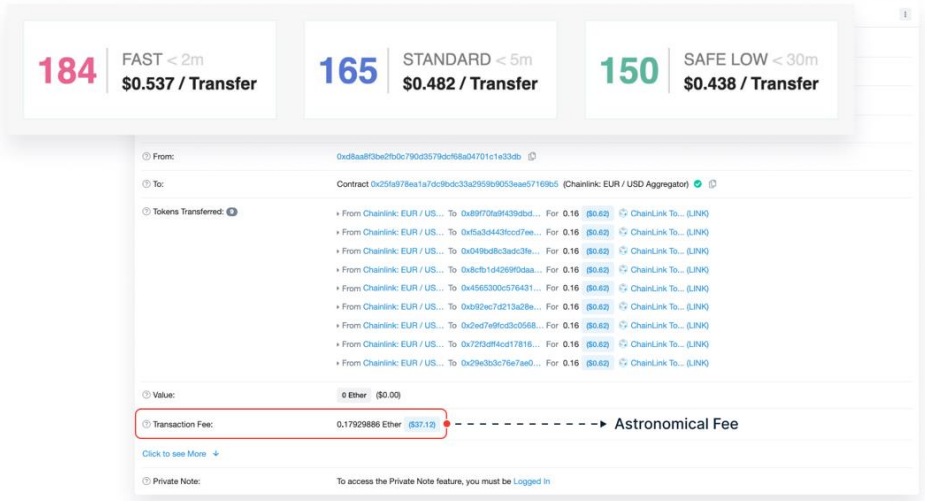
Source: DeFi Status Report Post-Black Thursday by DeFi Pulse[142]

Taking a step back, Chainlink's behavior was not simply harmful to its handful of users; it was toxic for the whole DeFi community, putting reputable projects like MakerDAO and Compound on their knees. Recall that generally the oracle data retrievals are triggered by a predefined change in the price of the underlying. In volatile markets these requests intensify, resulting in network participants outbidding each other in an attempt to find place in the current block. During the March crash, the Ethereum gas price increased to 150–200 GWEI resulting in transaction fees reaching up to USD 48.6 (or 0.212 ETH)[143]. At these levels, Chainlink's services are insanely expensive. In volatile markets, a user might make up to 300 requests per hour. At USD 50 per request, the bill could easily reach USD 15 000 per hour and most likely six figures a day. Recalling that the price of replication is USD 1.11 per day, volatility as the one observed on 12th March could cost a user the equivalent of running an own network of oracles for staggering 370 years. The calculation accounts only for the gas paid to ethereum and not the LINK reward for the Chainlink node operators.

141 Twitter

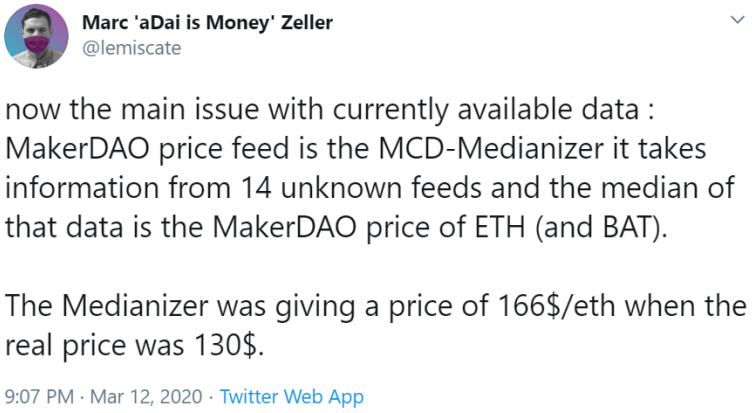
142 DeFi Status Report Post-Black Thursday, DeFi Pulse

143 Etherscan



Source: @BAND_Jedi on Twitter[144]

With gas prices so high and so many transactions in the queue, the oracles were unable to update their price feeds quickly enough to keep up with the rapidly depreciating cryptocurrencies. The Maker 'Medianizer' oracle provided radically incorrect ETH price data, giving a price of $166 when the real price was around $130.



Source: @lemiscate on Twitter[145]

When the price provided by the oracle was finally updated, many CDPs were suddenly liquidated en masse. As diligently covered by Glassnode[146], network participants took advantage of the delay in which a liquidator (likely a bot) was able to win MakerDAO's auctions with bids of zero DAI, **essentially buying bundles of ETH 50 for free**. The episode clearly outlined the immaturity of the crypto market infrastructure, pushing industry experts and crypto proponents to

144 Twitter

145 Twitter

146 What Really Happened to MakerDAO?, Glassnode Insigts

question[147] the competitiveness of the DeFi space and the crypto industry as a whole.

Chainlink, one of the largest factors causing the congestion, has not officially commented on the issue. Instead, in an e-mail interview with Coindesk[148] Sergey Nazarov simply notified that "unique market conditions created temporary congestion" on the ethereum mainnet. But what happens when a platform, which takes pride in providing more security, fails in a situation of market panic or, as Nazarov called it, 'unique market conditions'? Are these conditions really unique, and can users rely on Chainlink during the next market crash? Would it be different if Chainlink had its mainnet up and running, and what are the reasons for not having it ready? At the moment, the implied 3M BTC volatility[149] is nearly 70%, suggesting that the unique market conditions came only as a surprise to Chainlink and not the market participants.

THE MARKET WAS QUICK TO REACT AS LINK'S PRICE PLUMMETED TO NEAR ZERO ON BINANCE, FORCING CZ TO DEFEND THE EXCHANGE'S REPUTATION ON TWITTER

The market was quick to react as LINK's price plummeted[150] to near zero on Binance, forcing CZ to defend the exchange's reputation on Twitter[151]. While LINK's price quickly recovered following these technical issues, we doubt this will be the case the next time Chainlink crash while its competitors are up and running on their proprietary blockchains.

There are too many questions and too few answers. The only visible outcome is that Chainlink failed to deliver on its promise and to justify the price premium of its service.

FOR A PERIOD OF APPROXIMATELY SIX HOURS, THE FEED REGISTERED A SILVER OUNCE PRICE OF APPROXIMATELY USD 1,600 INSTEAD OF THE MARKET RATE OF USD 18

And this is not the first time there was a technical problem with Chainlink's price feed. Three weeks earlier, on Feb. 21, it was reported that an error occurred in Chainlink's XAG/USD price feed[152]. As a result, **for a period of approximately six hours, the feed registered a silver ounce price of approximately USD 1,600 instead of the market rate of USD 18**. It was later announced that the anomaly was due to human error, not due to data integrity or an exploit. Community members, however, questioned the truthfulness of this information[153]. Synthetix[154], one of Chainlink's major partners, was affected by the incident, which resulted in several traders generating a profit of nearly USD 36,000 at the expense of SNX stakers. Chainlink covered these losses. LINK price went down from USD 4.29 to USD 3.51 following the news of the price anomaly.

147 March 12: The Day Crypto Market Structure Broke, Multicoin

148 Thursday's Market Madness Strained Ethereum's Killer App: DeFi

149 Skew

150 Chainlink plummets to the value near zero on Binance

151 Twitter

152 Chainlink Pricing Anomaly Caused Another DeFi Problem

153 Reddit

154 Update on XAG Pricing Incident

Source: Twitter[155]

Bottom Line

By depleting the computing resources of Ethereum's mainnet when most needed, Chainlink proves to be the parasite of the blockchain ecosystem. During periods of congestion, the service becomes extremely unreliable and expensive, exposing users to security vulnerabilities and severe financial losses. Such technical shortfalls are premise for quick, material, and irreversible price corrections. Although LINK's price recovered from the 12th March massacre, we doubt the market will have mercy on Chainlink the next time the service is down while free alternatives are up and running.

155 Twitter

Valuation

The following section uses several independent valuation methods to arrive at a range of intrinsic values for the LINK token. LINK proves to be severely overvalued on both absolute and relative bases as the token's market capitalization is absolutely disconnected from the economic reality, size of the potential market, and implied incentives in the token design. Considering the price estimates and weak economics of the network, we recommend short selling Chainlink's token with a target price of USD 0.07 and downside potential in excess of 98%.

Absolute Valuation: The Equation of Exchange

The first valuation model used is an extended version of the widely-adopted MV=PQ model[156], accounting for the potential commercial footprint, cumulative economic value added by the project, and the cost of capital of the token holders.

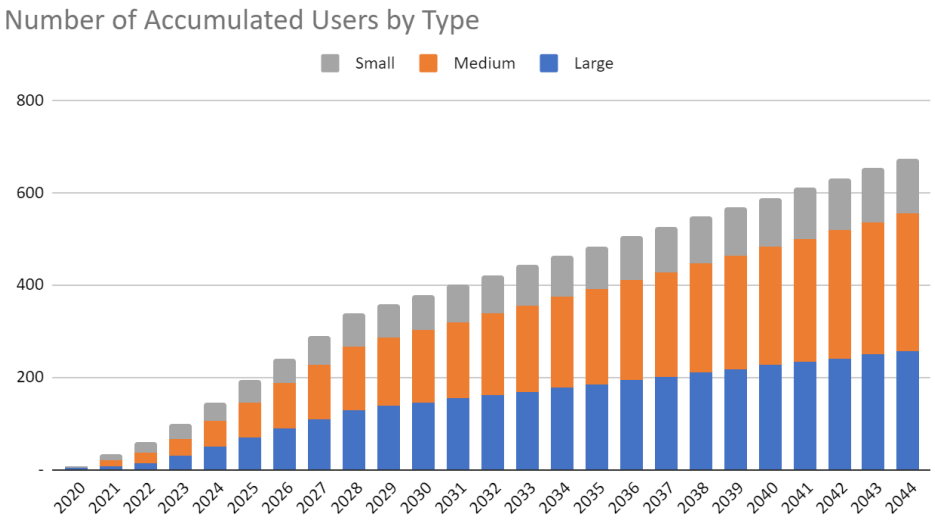
The following are a set of overstated assumptions used in the model:

- The token vesting schedule for product development is linear and takes seven years to complete; the same duration is applied to the subsidy fund.
- The percentage of tokens in circulation is 20% of the current supply (80% of the circulation is assumed to be staked, which is an overstatement given the proposed tokenomics and actual figures[157] of average staked tokens at the moment).
- The velocity of the tokens available for utility purposes is seven per annum (the annualized velocity of Bitcoin is ~ five[158], not adjusted for coins held as an investment; remember, Bitcoin is perceived as a store of value rather than a transfer/utility vehicle).
- There are three types of network users — large, medium, and small, with annual budgets of USD 500,000, USD 100,000, and USD 20,000, respectively. As a reference point, an average client pays USD 260,000 for a FactSet subscription.
- The forecasting period is 25 years, with a cost of capital of 20% (again, extremely conservative considering the macro- and project-specific risk involved).
- The clients are expected to grow as follows:

156 Cryptoasset Valuations, Medium

157 Staking Rewards

158 Bitcoin Velocity vs US Money Stock



THE FAIR VALUE OF A LINK COMES AT USD 0.155, IMPLYING A DOWNSIDE OF 95% FROM TODAY'S PRICE

Based on these assumptions, **the fair value of a LINK comes at USD 0.155, implying a downside of 98% from today's price**. Sensitivity analysis suggests a risk/return skewed to the short thesis:

Cost of Capital	Velocity 3.0x	4.0x	5.0x	6.0x	7.0x
10.0%	0.639	0.479	0.383	0.319	0.274
15.0%	0.389	0.292	0.233	0.194	0.167
20.0%	0.259	0.194	**0.155**	0.129	0.111
25.0%	0.184	0.138	0.111	0.092	0.079
30.0%	0.138	0.104	0.083	0.069	0.059

Relative Valuation: Staking Rewards as Alternative to Dividend Yields

Inspired by the dividend yield approach applied in the traditional capital markets, the intrinsic value of LINK can be estimated from the perspective of a passive token holder who is rewarded for the tokens he/she is staking through a node operator. Such an approach takes into account the prevailing market rates for PoS projects and compares them to what Chainlink needs to rake to justify its current valuation.

First, filtering the projects by market capitalization (>=USD 100 million) and proximity to ChainLink's tokenomics, we have an average adjusted reward of 3.44% and a median of 3.60%. The staked tokens are roughly 50% of the current supply.

Project	Price	Reward	Adj. Reward	Market Cap	24h Volume	Tokens Staked
EOS	$2.64	1.73%	0.73%	$2,480,919,886	$1,373,458,662	58.93%
Tezos	$3.06	5.50%	0.53%	$2,202,345,301	$354,369,997	80.13%
Polkadot	$145.40	9.73%	3.72%	$1,215,447,595	$2,618,859	55.48%
Tron	$0.018	3.34%	2.46%	$1,208,304,177	$487,386,676	26.58%
Cosmos	$4.03	8.25%	1.88%	$864,170,823	$252,627,434	71.32%
NEM	$0.046	4.71%	4.14%	$419,589,429	$9,891,878	39.08%
ICON	$0.43	12.99%	6.99%	$236,066,075	$43,198,793	36.22%
Qtum	$2.16	6.28%	5.36%	$208,268,989	$291,830,474	14.60%
Decred	$15.42	7.58%	3.60%	$181,049,694	$9,509,365	49.09%
Waves	$1.20	5.71%	2.63%	$120,195,479	$22,410,572	55.36%
IOST	$0.006	9.76%	5.76%	$97,394,287	$38,287,256	20.50%
Averages		**6.87%**	**3.44%**			**46.12%**
Median		**6.28%**	**3.60%**			**49.09%**

Source: Staking Rewards[159] accessed on 13th July

As Chainlink's mainnet is not live yet, no actual figures of the yield and tokens staked exist. Instead, the expected cash flow to satisfy the yield across the market is calculated.

Required Yield Calculation	Unit	
Tokens in circulation	LINK	365,000,000
Tokens Staked staked	Percent	80.0%
Tokens Staked	**LINK**	**292,000,000**
Yield required	Percent	3.0%
Transaction fee going to staker	Percent	40.0%
Transaction needed to satisfy the need	**Absolute**	**21,900,000**

Assuming that 80% of LINK tokens will be staked, 40% of the transaction costs go to the token holders (the remaining 60% will go to the node operators as a reward for the work performed and reputation score achieved), and yield of 3% per annum, the **total transactions that must satisfy the yield if the reward is 1 LINK per retrieval is 21.9M.**

Annualizing the *TransferAndCall* function usage over the past six months results in a run rate of 2,167,502 jobs for 12 months. To satisfy the yield required, a job needs to cost LINK 10.1 per run (21.9M/2.2M).

Current metrics	Unit	
transferAndCall usage past six months	Absolute	1,083,751
Annualized figures	**Absolute**	**2,167,502**
Price per job run	LINK	1.00
Total transactional fees during the year	LINK	2,167,502
Implied upside / downside	**Percentage**	**-90.10%**

THIS IMPLIES A USER COST OF USD 78.3 PER DATA RETRIEVAL, WHICH IS BEYOND ABSURD. ASSUMING THAT THE PRICE OF A JOB RUN SHOULD BE ROUND TO USD 0.50 PER RUN GIVES US A FAIR VALUE OF 0.09 USD/LINK

At the current rate, **this implies a user cost of USD 78.3 per data retrieval, which is beyond absurd. Assuming that the price of a job run should be round to USD 0.50 per run gives us a fair value of 0.07 USD/LINK**.

Making another sanity check: assuming that transaction costs are 0.3% of the value controlled by the smart contract, **the size of the Chainlink's addressable market should be ~ LINK 65.7 billion (21.9 million:0.3%) or USD 509 billion in order to justify LINK's current price**. The boldest prediction is that the blockchain market

159 Staking Rewards

will eventually hit USD 60[160] bln by 2024. The smart contracts are just a subset of this market; Chainlink use cases are a subset of the smart contract economy, and Chainlink will make up less than 100% of the oracle market.

Alternatively, assuming an annual budget per use case of USD 100,000, Chainlink needs 219 clients to satisfy its current valuation, which is **300%+ of the total addressable market and 20 times more than what Chainlink has publicly disclosed**.

Breakeven Point: Cost of Replication

Expanding on the replication calculation started in the subsidy[161] subsection, the operational cost to run a node is roughly USD 0.158 per day (assuming 120 watts of electricity usage per hour and price of kWh of USD 0.055).

We believe a 250% premium over the operational cost is a fair (albeit generous) compensation for the readily deployed infrastructure, reputation system, and working protocol in place. As a result, the daily income of a node operator should be USD 0.554.

Chainlink valuation based on replication costs		
Operational cost of a node operator	USD	$0.1584
Premium to operational cost held by node operator	Percent	250.00%
Expected daily income per node operator	**USD**	**$0.5544**
Number of data request made per day	Absolute	150.0
Cost in LINK per data retrieval	LINK	0.1667
Percent held by the node operator	Percent	50.00%
Expected daily income per node operator	**LINK**	**12.50**
Effective price per LINK in USD	**USD**	**$0.0444**

Next, assuming an average node will serve 150 data retrievals per day and a cost of LINK 0.1667 per request (consistent with the current price of LINK 1 per data retrieval and 6 nodes involved in the process). If the reward is split 50/50 between node operators and LINK stakers, the daily income of a node operator in LINK should be LINK 12.5. Equating the two calculations results in an implied **LINK price of USD 0.044.**

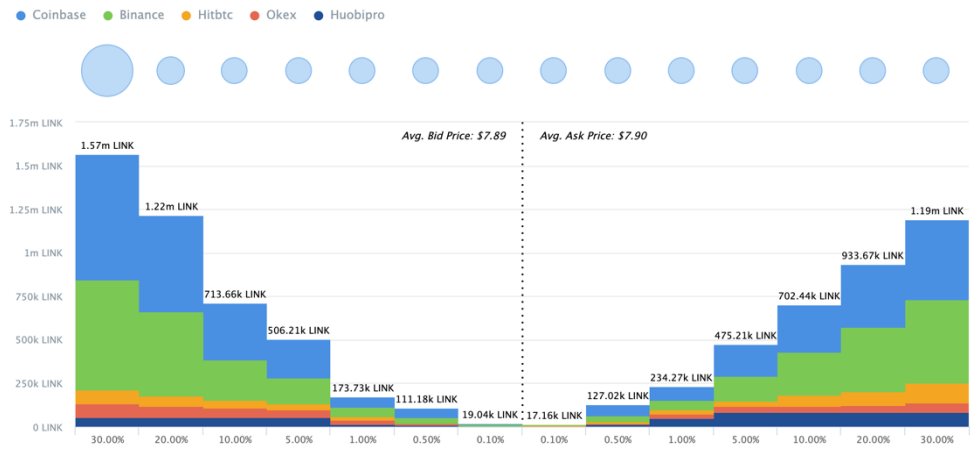
Liquidity and Trade Execution

At this point you might be wondering how to take advantage of the dissonance between LINK's price on one hand and network's operational activities and upside potential on the other. Before walking you through concrete short selling option, we examine the market infrastructure.

160 IBM

161 Subsidies

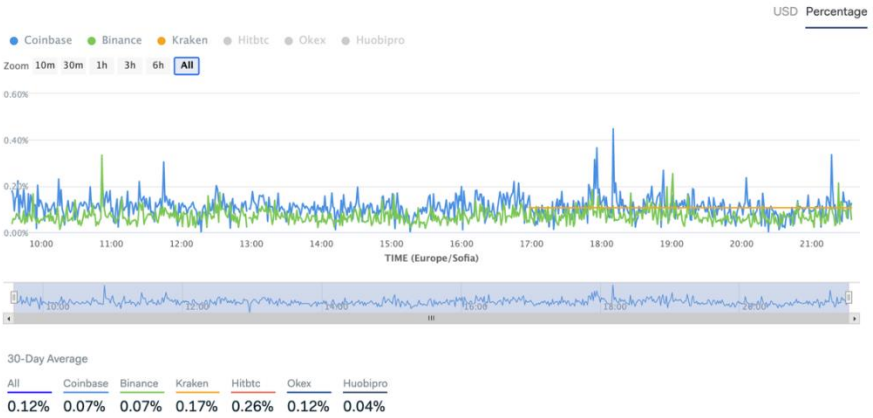
Up until recently, the LINK was only traded on the spot market. Among the recognized and reliable exchanges, there is a spot market for LINK pairs on Binance, Coinbase PRO, Huobi Pro, and OKEx. Using the depth of the order book as a proxy for one's ability to buy and sell tokens without affecting the price, within 5% of LINK's current price there are 506.2 thousand LINK (approximately USD 3.9 million) open buy side orders, **representing 0.13% of the current market cap**. The graph below depicts the number of buy and sell orders for Chainlink at different prices.



Chainlink Exchange-Onchain Market Depth, Source: IntoTheBlock[162]

For comparison, within 5% of BTC's current price, there are 11.5 thousand BTC or approx. USD 106.8 million open buy-side orders. This represents 0.062% of BTC's current market cap.

The execution is cheap, too. Chainlink's bid-ask spread is in the range of 0.04% to 0.26% depending on the trading venue:



Chainlink Bid-Ask Spread, Source: IntoTheBlock[163]

162 IntoTheBlock

163 IntoTheBlock

So far so good – at this point LINK seems liquid and easy to trade. The catches are that:

- Short-selling is either limited in terms of LINK available to borrow on each exchange or not offered at all on some trading venues, and;
- As more and more institutional investors are entering the cryptocurrency arena, the action is steadily moving towards the derivative markets.

As LINK derivative market was not available just a few months ago, the token was relatively hard to borrow and short sell. Combined with the small absolute amount of capital needed to influence the price and token concentration in founders' hands, the LINK was prone to market manipulations. These days, however, LINK futures are available on Binance and FTX, allowing leverage trading and materially more liquidity.

Another less known alternative to get an exposure to LINK's downside is by borrowing it from a lending platform like Aave or Nuo and short selling it on the spot markets. Currently, there is plenty of LINK available on Aave for as little as 0.40% per annum.

The table below summarizes the LINK short selling options:

Market	LINK Pairs	Borrowing Rate (daily)	Borrowing Limit	24h Vol (in USD)
Spot Market				
Binance	USDT (5X)/BTC(5X)	0.02% - 0.025%	15,000-150,000	$13,814,664,985
Kraken	EUR/USD/XBT/ETH		$500,000	$322,302,162
Coinbase	USD/ETH	Not disclosed	Not disclosed	$3,322,432,202
Huobi	USDT(2X)	0.10%		$1,648,856,910
OKEx	USDT(2X)	Not disclosed	Not disclosed	$864,103,945
Futures Market				
Binance	USDT	0.01%	100,000	$11,504,533,966
FTX	PERP, 0925	Not disclosed	Not disclosed	$2,043,258,815
Borrowing Platforms				
Nuo		0.01%	$72,820	
Aave		0.00%	$34,451,518	

Bottom line

Based on three independent valuation methodologies, LINK appears massively overvalued in both absolute and relative terms. Despite our generous (if not unreasonably optimistic) assumptions from project's standpoint, the margin of safety is extremely large. As a result of our strong conviction, we are short LINK and recommend the reader doing the same. With the upraise of derivative markets and lending platforms, borrowing and shorting LINK is not as difficult as it was a few months ago. While SmartContract was able to control and manipulate the tiny orderbook until recently, we believe the proactive actions of institutional and retail investors could bring the LINK back to its intrinsic value, throwing the whole project into debacle (remember, Chainlink's only trump card is the ability to print money via the token sales).

Conclusion

The report diligently proves the point that the sole purpose of LINK is to enrich Chainlink's development team instead of being a vital unit of exchange in a next generation infrastructure for data transfer. Behind the shiny façade of the multibillion dollar project we have exposed signs of absolute lack of interest in building the technology, team that is incapable on delivering what is currently reflected in token's market capitalization, and a series of market manipulations and plain lies targeting naïve investors.

We believe that the house of cards is about to collapse as operating activities on the network are fading, the pool of potential clients is quickly depleted, and the crypto community is realizing who the fool on the table is. The deterioration in LINK's fundamental values is also catalyzed by the cohorts of cheaper, faster, more secure, and most importantly - solution not reliant on useless tokens. In hindsight of our experience, we have rarely spotted in opportunity with risk/return so much skewed to the downside. Based on our findings we have opened a short position in LINK and recommend you doing the same with a target price of USD 0.07 and potential upside of nearly 100%.

About Zeus Capital

Zeus Capital is an asset management firm focused on alternative investments, market infrastructure inefficiencies, and event-driven opportunities.

Our success is driven by an unparalleled combination of deep fundamental research, predictive analytical tools, and cutting-edge technology. For our asset-specific investments, the decision-making process combines thorough fundamental, quantitative, and investigative analysis. By utilizing hard-to-find alternative sources of information, data-intensive approaches, and feedback from industry experts and operational users we get to the big picture and reveal new perspectives. We rigorously research the technology behind each project, operating and executive teams, and size of the addressable market to arrive at a range of intrinsic values for each investment.

We are a talented team of investment professionals, successful entrepreneurs, and scientists with more than 130 years of combined experience. Our world-class expertise brings together the art of investing in finance, mathematics, and computer science to assist our clients in achieving their financial aspirations. The majority of the team has extensive experience on the traditional capital markets, occupying leading roles as equity researchers, quantitative traders, and investment banking professionals.

As crypto and traditional markets are becoming ever more opaque and complex – and traditional gatekeepers and safeguards often compromised – investors and

shareholders are at greater risk than ever of being misled or uninformed by projects/companies and their executives, investors and promoters. Our mission is to sift fact from fiction and encourage greater accountability through transparency in reporting and disclosure by stakeholders and overall improve the quality of the markets.

Whistleblowing

The emergence of cryptocurrencies as a new financial vehicle, with enormous potential to generate wealth, amassed incredible public interest but also opened the door for a multitude of fraudulent investment schemes.

Due to the sheer volume, complexity of new crypto projects and dynamically changing industry landscape, original information provided by whistleblowers is becoming instrumental in helping regulators uncover scam ICOs, Ponzi schemes, price and market manipulation, and other forms of fraud. We strongly encourage anyone with quality information about fraud to step up and report it. We also understand that the decision to expose schemes and violation is not one taken lightly, and we are ready to act as a mediator and provide information to the regulatory bodies in order to protect the identity of the whistleblower and the market as a whole.

Feel free to contact us at info@zeus-capital.com to discuss misconducts and law infringements. Your anonymity is guaranteed.