K33 Vinter Quality Index

May 2023 selection note – changes to the KVQ Index

Digital Assets

K33 Vinter Quality Index

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The K33 Vinter Quality Index for the period May through July consists of a selection of the top 30 cryptocurrencies by market cap as of Monday, April 24, 2023, 9:30 AM CET. The top 30 list has four changes since the assessment for the February 1, 2023, selection.

Into top 30 Token (Network)	Out of top 30 Token (Network)
ICP token (Internet Computer)	Near (Near Protocol) – not previously selected
Aptos (Aptos)	ApeCoin (ERC20) – not previously selected
ARB (Arbitrum)	Quant (Quant Network) – not previously selected
HBAR (Hedera)	ALGO (Algorand) – not previously selected

The exits from the top 30 cryptocurrencies by market cap bear no effect on K33 Vinter Quality Index. The index selection included none of the cryptocurrencies that fell out of the top 30.

The Selection

The K33 Vinter Quality index selection has one change from the February 1, 2023, selection. AVAX, the native token of the Avalanche Network, is taken out of the index. The exclusion comes from a reassessment of the expected inflationary pressure and ownership concentration. AVAX has a large percentage of tokens outstanding from future supply through rewards and, more importantly, through vesting schedules. The facts have not changed from the February assessment, but we believe we underestimated the expected supply pressure from the combination of significant inflation and token unlocks. Hence, AVAX receives a lower Inflation and Ownership Concentration score and is consequently excluded from the index.

Kept in the KVQ index Cryptocurrency (Network) (Top 30 rank)	
Bitcoin (Bitcoin) (1)	Uniswap/UNI (ERC20) (16)
Ether (Ethereum) (2)	Atom (Cosmos) (17)
Dogecoin (Dogecoin) (6)	XMR (Monero) (19)
Matic (Polygon) (7)	Lido DAO token (ERC20) (29)
SOL (Solana) (8)	
Out	
AVAX (Avalanche) (13)	
In	
None	

Changes in pillar scores

There are only two changes to the individual pillar scores from the assessment for the February 2023 rebalancing. The first is the abovementioned change to *Inflation and Ownership Concentration* for AVAX. The other change is a one-tick upward adjustment on the *Use* pillar for Litecoin. The change is based on new statistics from Bitrefill, which shows Litecoin is used more for gift cards than we were previously aware of. At the same time, this doesn't change our evaluation of Litecoin's persistent network effects, which we believe will be virtually non-existent.

Quality Filter

1. Categorize: Each asset is assigned to a category, which allows for relative comparison.

2. Exclude: Assets with faulty tokenomics, missing information, or presenting a lack of transparency, are taken out.

3. Evaluate: Five pillars enable the evaluation of an asset's quality for each category.

4. Rank: The Quality Filter selects the highest-ranked assets with scores above the cut-off Quality Score.

Categories

- Smart Contract
- Payment
- DeFi
- Inter-Blockchain Communication
- Centralized Exchange
- Money Infrastructure
- Specialized Utility
- Community
- Gimmick

Assessment for May 2023 rebalancing

The current K33 Vinter Quality Index is a selection of the top 30 cryptocurrencies by market cap as of April 24, 2023. 9 of 30 tokens passed the quality filter, resulting in an equally weighted index of the nine included cryptocurrencies, as shown below.

K33-Vinter Quality Index Selection								
1	Bitcoin	IN	11	Shiba Inu		21	Ether Classic	
2	Ether	IN	12	TRX		22	Lumen	
3	BNB		13	AVAX		23	ICP Token	
4	XRP		14	LINK		24	Bitcoin Cash	
5	ADA		15	LEO		25	FIL	
6	Dogecoin	IN	16	UNI	IN	26	Aptos	
7	Matic	IN	17	ATOM	IN	27	ARB	
8	SOL	IN	18	OKB		28	HBAR	
9	DOT		19	Monero	IN	29	Lido DAO Token	IN
10	Litecoin		20	Toncoin		30	Cronos	

Categorization

The first step in the quality filter is to categorize each token. The categorization is not a filter (exclusion criteria) in itself but is highly important when evaluating the tokens later.

K33-Vinter Quality Index – Top 30 Categorization					
1	Bitcoin	Payment	16	UNI	DeFi
2	Ether	Smart Contract	17	ATOM	IBC
3	BNB	Centralized Exchange	18	OKB	Centralized Exchange
4	XRP	Money Infrastructure	19	Monero	Payment
5	ADA	Smart Contract	20	Toncoin	IBC
6	Dogecoin	Payment	21	Ether Classic	Smart Contract
7	Matic	Smart Contract	22	Lumen	Money Infrastructure
8	SOL	Smart Contract	23	ICP Token	Smart Contract
9	DOT	IBC	24	Bitcoin Cash	Payment
10	Litecoin	Payment	25	FIL	Specialized Utility
11	Shiba Inu	Payment	26	Aptos	Smart Contract
12	TRX	Smart Contract	27	ARB	Smart Contract
13	AVAX	Smart Contract	28	HBAR	Smart Contract
14	LINK	Specialized Utility	29	Lido DAO Token	DeFi
15	LEO	Centralized Exchange	30	Cronos	Centralized Exchange

Pre-exclusion

Before evaluating the cryptocurrencies on the five pillars, we have excluded six tokens that will not be assessed further.

K33-Vinter Quality Index – Pre-pillar excluded tokens			
	Token	Category	Exclusion reason
3	BNB	Centralized Exchange	Centralized exchange risk
14	LINK	Specialized Utility	Faulty tokenomics – no link from use to token value
15	LEO	Centralized Exchange	Centralized exchange risk
18	OKB	Centralized Exchange	Centralized exchange risk
27	ARB	Smart Contract	No value capture mechanism. Pure governance token currently
30	Cronos	Centralized Exchange	Centralized exchange risk

We have excluded all tokens relating to centralized exchange services. Centralized exchange tokens are a heavily debated type of cryptocurrency. And in a sense, it's up to debate whether they should be called cryptocurrencies at all, as most of the value proposition depends entirely on trusting the exchange.

It's also hard to evaluate whether the value proposition of most exchange tokens should create significantly good token price pressure. First and foremost, exchange tokens are not like a company stock; you have no claim on the dividends of the exchange. Instead, the two common value capture mechanisms for the exchange tokens are:

- Through holding or using the token, you will get lower trading fees on the exchange
- The exchange promises to use a certain percentage of its profits to buy back and burn the token until a given amount of tokens are burned.

Once again, it should be noted that this value capture mechanism entirely depends on the exchange keeping its word. With the recent FTT (FTX) saga fresh in mind, we have decided to leave out all exchange tokens from the index at the moment. This stance might be changed later.

The principle tokenomics of Chainlink sounds reasonable. Data subscribers pay data providers in LINK to enter off-chain data into the Chainlink Network. At the same time, data providers must lock LINK on the network, which they will lose if they provide poor data.

The oracle data provided is not advanced and easy to produce. In other words, the marginal cost of delivering oracle services is low. We believe this will show itself in the market over time, and since simple oracle services are easily substitutable, LINK cannot be worth that much.

At the same time, and the reason for the exclusion, there is no direct relationship between the users of price feeds and paying for these price feeds. In simple terms, this means that Chainlink price feeds are paid for pro bono. There are certainly profit actors interested in maintaining a high-quality Chainlink service, but the uncertainty surrounding the value proposition of LINK is too significant for us to include the token in the index.

ARB, the newly launched governance token of the Arbitrum scaling blockchain, is also excluded. The reasoning is quite simple. Arbitrum has functioned for over a year without the ARB token, transaction fees are paid in Ether, and ARB is nothing more than a governance token, and what it really governs is unclear. To the best of our knowledge, ARB is an unnecessary token without a value capture mechanism and is hence excluded.

The Five Pillars and making the selection

In the assessment for the May selection, we are left with 24 cryptocurrencies to be evaluated on the five pillars. When assessing the five pillars, we consider the cryptocurrency's category, as evaluating all by the same metrics on each pillar would make little sense.

Payment tokens

There are six cryptocurrencies in the Payment category in the top 30 as of April 24, 2023. The payment cryptocurrencies and their pillar scores are shown in the table below. The reasoning behind the scores is discussed following the table.

K33-Vinter Quality Index – Payment								
	Token	Category	Persistent Network Effects	Use	Regulatory Risk	Ecosystem size and liveness	Inflation schedule and ownership concentration	Score
1	Bitcoin	Payment	5	4	5	5	5	4.83
6	Dogecoin	Payment	4	2	4	2	3	3.17
10	Litecoin	Payment	1	2	4	1	4	2.17
11	Shiba Inu	Payment	1	1	4	2	1	1.67
19	Monero	Payment	3	4	2	4	4	3.33
24	Bitcoin Cash	Payment	1	1	4	1	4	2

Persistent Network Effects

Bitcoin fathered the concept of cryptocurrency. Bitcoin (BTC) is embedded into multiple used services, owned by many, kept its position through all cycles, and symbolizes store-of-value in crypto. The code is simple, the use case is simple, and it's all about network effects. Bitcoin is, in our view, the crypto with the most robust network effects.

Other than bitcoin, we can only find arguments for Monero (XMR) and Dogecoin (Doge) exhibiting any signs of persistent network effects. XMR is the currency of choice for private and secret purchases, perhaps the most stable demand driver for the use of cryptocurrency. Doge is the original memecoin, and its track record spans multiple cycles.

Bitcoin Cash and Litecoin are Bitcoin copies with slight modifications. Bitcoin Cash has a small but avid following and basically no traction outside this crowd. We believe Litecoin is still alive simply from having a Bitcoin-like code and being early to the exchanges, with no reason for exchanges to delist Litecoin at the current moment.

Shiba Inu was, in our opinion, a money-grab operation to feed on the market frenzy of 2020 and 2021, and without the history of Doge, we can't see why it should stick around in the long term.

Use

All the SoV/MoE tokens are mainly used as speculative investment vehicles on centralized exchanges. Still, in terms of use for purposes other than simply trading or holding, BTC and XMR clearly stand out.

Regulatory Risk

The proof of work consensus mechanism is a common regulatory risk facing all the SoV/MoE tokens. While proof of work - i.e., mining - faces scrutiny from environmentally concerned regulators and politicians, mining's portable nature prevents the networks' security from being in danger despite countries potentially banning mining.

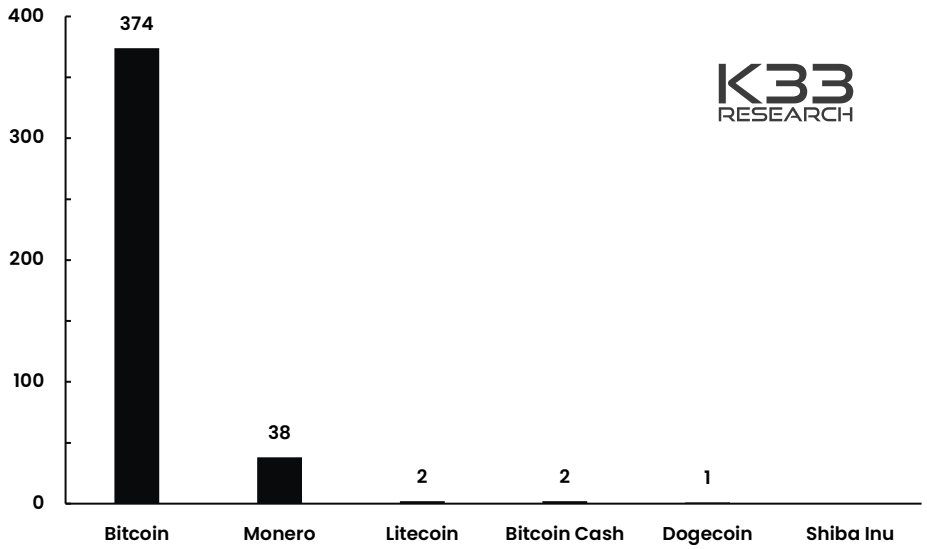
The more considerable investment risk is that jurisdictions can ban people from owning these tokens because their networks use a proof of work consensus mechanism. The measure would be draconian and likely face severe backlash, and the connection from mining to the token's value is in the past, which also will make a ban harder. We believe the risk of bitcoin and similar coins being banned in the key price-driving markets is minimal, even though the discussion will remain noisy. Bitcoin receives one grade higher than Litecoin, Bitcoin Cash, etc., due to being the only token the SEC explicitly has categorized as a commodity to date.

Monero stands out negatively in terms of regulatory risk. Monero is a privacy coin whose primary use case is Darknet purchases of drugs, weapons, etc. The inability to monitor Monero transfers has already placed regulatory scrutiny on Monero, with several big exchanges voluntarily delisting Monero.

Ecosystem size and liveness

We see that the number of active developers is by far the highest for Bitcoin. In 2nd place, by a large margin, we find Monero, before the remaining protocols have very few people working on them.

Figure 1 – Weekly active developers. Date: April 24, 2023



Source: Artemis

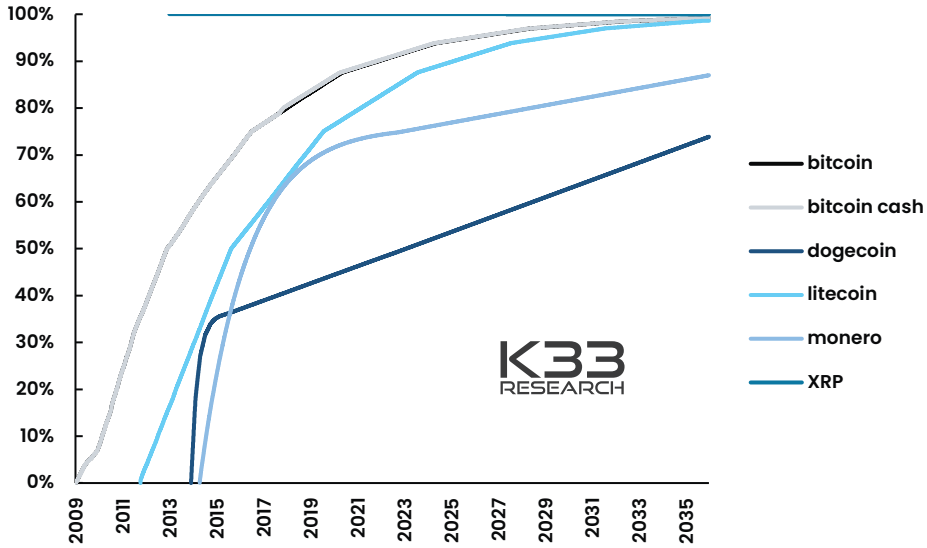
We have scored Dogecoin and Shiba Inu one grade higher than Bitcoin Cash and Litecoin, which might seem unintuitive based on the number of weekly active developers. The pillar is, however, not judged on developer activity alone. The ecosystems surrounding the memecoins are more vibrant, even though 'memey,' and hence the higher score.

Inflation schedule and ownership concentration

Bitcoin, Bitcoin Cash, and Litecoin have the same theoretical supply schedule. Bitcoin Cash is a fork of Bitcoin, and hence the supply and remaining issuance are almost identical. Litecoin, however, started later, and a larger percentage of the supply is still to be issued.

Monero and Dogecoin have significantly different supply schedules from Bitcoin. Both Monero and Dogecoin have what is called constant tail emissions. Constant tail emissions mean that the same amount of tokens will be issued annually for all eternity. The two supply schedules are still vastly different. A larger percentage of Monero's supply was issued before entering tail emissions, and the tail emissions are relatively smaller compared to Dogecoin.

Figure 2 – Supply schedules measured as the percentage of the expected supply in 2050.



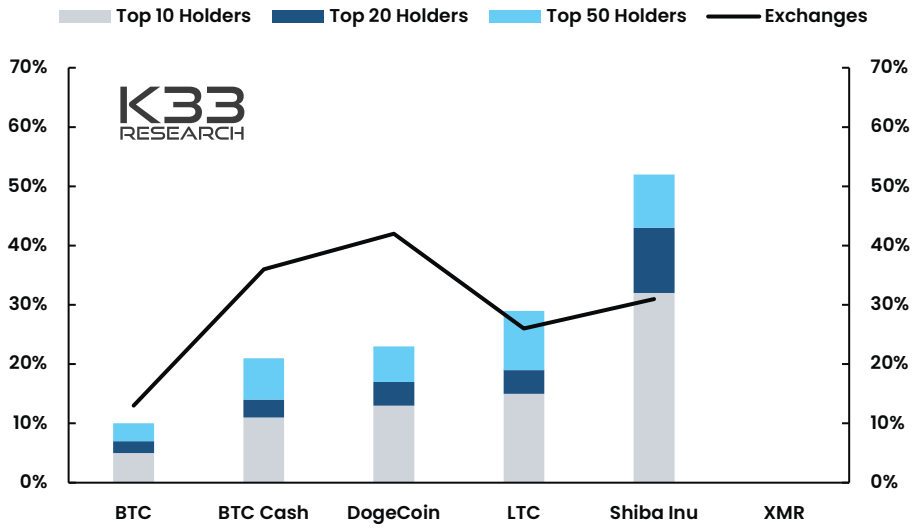
Source: K33 Research

Ownership concentration is hard to evaluate due to the pseudonymous nature of the blockchain entries. One entity can be behind multiple seemingly unrelated addresses. There are some methods to cluster addresses together, but this is easy to avoid for the technically sound. Still, even though the numbers are hard to interpret, there are substantial differences in ownership concentration among the payment tokens.

All Shiba Inu tokens were pre-allocated, meaning there is no new issuance. Shiba Inu, unsurprisingly, also stands out negatively with a very high ownership concentration. For all the other tokens, all coin issuances are block rewards. But no allocations don't necessarily mean that ownership is highly spread out. The issuance schedules are massively frontloaded - early adopters will, in practice, get huge allocations.

The figure below lists the percentage of tokens held on exchanges and the share of tokens held by the top 50 addresses (excluding exchanges). Bitcoin has the lowest ownership concentration of all the tokens by a substantial margin. Bitcoin Cash, Litecoin, and Dogecoin appear to have similar distributions, while Shiba Inu tokens are highly concentrated, as noted earlier. The privacy features of Monero prevent us from obtaining similar statistics for XMR. XMR is, relative to most other coins, used frequently as a medium of exchange, and hence we believe the supply to be fairly spread out. However, the lack of data makes us put it slightly below bitcoin.

Figure 3 – Ownership concentration



Source: K33 Research

Smart contract

There are ten cryptocurrencies in the smart contract category in the top 30 as of April 24, 2023. The smart contract cryptocurrencies and their pillar scores are shown in the table below. The reasoning behind the scores is discussed following the table.

K33-Vinter Quality Index – Smart Contract

	Token	Category	Persistent Network Effects	Use	Regulatory Risk	Ecosystem size and liveness	Inflation schedule and ownership concentration	Score
2	Ether	Smart Contract	4	5	4	5	5	4.5
5	ADA	Smart Contract	1	1	4	2	3	2
7	Matic	Smart Contract	2	3	4	3	3	2.83
8	SOL	Smart Contract	2	3	4	3	2	2.67
12	TRX	Smart Contract	2	3	4	1	1	2.17
13	AVAX	Smart Contract	2	3	4	2	1	2.33
21	Ether Classic	Smart Contract	1	1	4	1	3	1.83
23	ICP Token	Smart Contract	1	1	4	2	1	1.67
26	Aptos	Smart Contract	1	1	4	2	1	1.67
28	HBAR	Smart Contract	1	1	4	2	1	1.67

Persistent Network Effects

Smart contract blockchains have been a profitable path for projects to launch with the promise of some extra capability that generates hype and token value. Especially through 2021, we saw the mega-hype on alternative layer-1 blockchains, often dubbed Ethereum killers, rise to fame, and their associated token prices skyrocket.

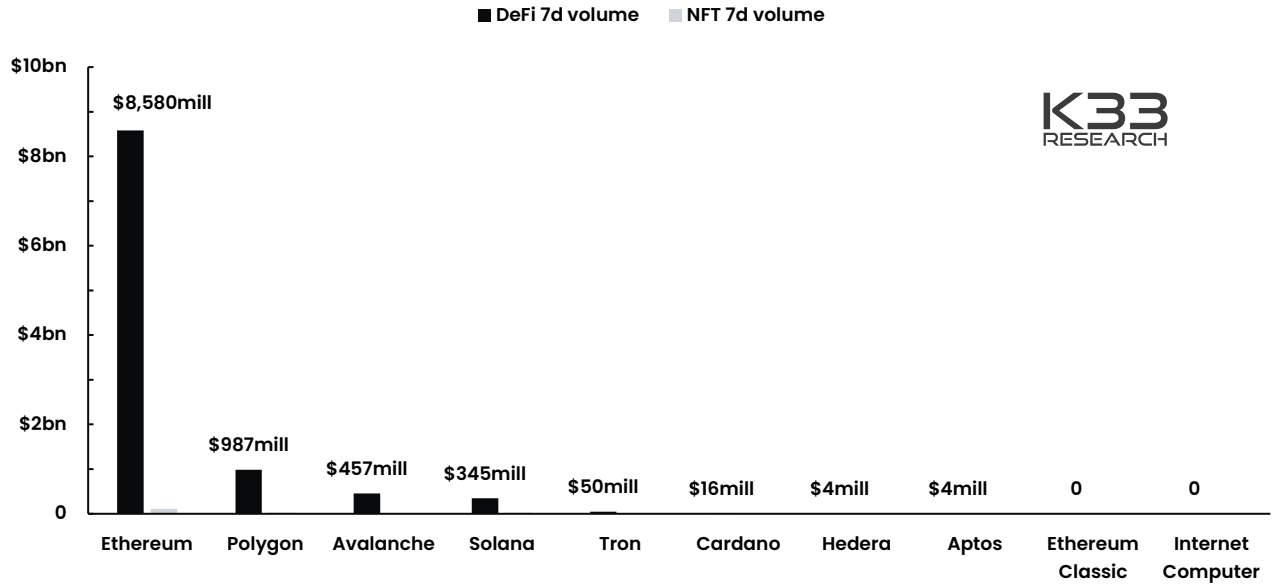
Even though the prospect of a token becoming the new Ether is enticing, there is very little evidence of that happening for other smart contract tokens. Until now, Ethereum competitors have attracted users by offering higher transaction throughput by making various tradeoffs that sacrifice potential decentralization (like introducing demanding hardware requirements to run a node). This has been partly successful during peak mania when transaction fees on Ethereum were astronomic. But with the market downturn, the persistence in this demand seems very low, and there is little evidence of any services with huge change costs being developed on these blockchains. In our view, the persistent network effects on most of the alternative smart contract blockchains are minimal.

Use

DeFi, NFTs, and other applications are the focal point of why a smart contract blockchain would be preferable to a simpler blockchain. For a smart contract blockchain native token to be valuable in the long run, we should, therefore, at least expect this token to be used for those purposes. Interestingly enough, lots of the highly valued smart contract blockchain native tokens have basically no persistent use of the unique abilities of the blockchain, and it's hard to see why this would change drastically in the future.

We have divided the smart contract blockchain native tokens into three groups of *use* activity. Ethereum reigns supreme at the top. In the next tier, we have blockchains with quite some use, but the lasting effects seem uncertain when looking at how they respond to worse market conditions. In the last tier, we have blockchains with virtually no use, and hence there should be no lock-in effect when new and probably 'smarter' chains are launched in the future. In the current bear market, use for non-CEX trading will almost perfectly overlap with the assessment of persistent network effects. In the bull market of November 2021, however, they would not have been the same.

Figure 4 - DeFi and NFT weekly volumes on the different chains. Date: April 24, 2023



Source: Defillama and Dappradar

Regulatory risk

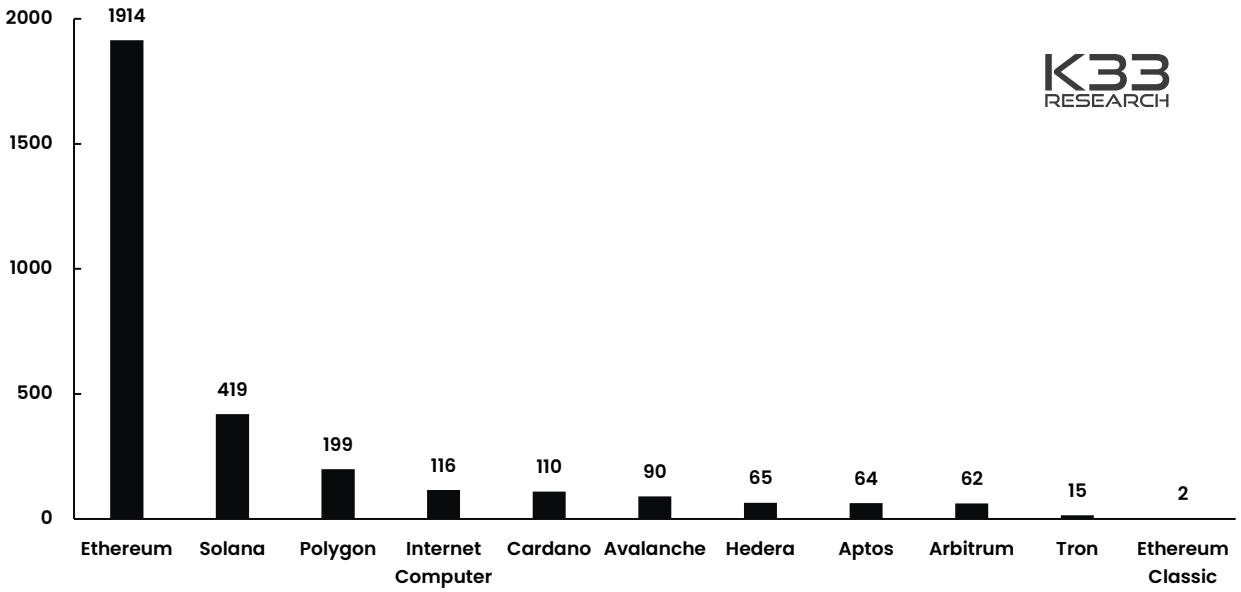
Regarding regulatory risk, there is little difference between the tokens in this category and their smart contract blockchains. Most chains are launched with huge pre-allocations, leading to uncertainty about whether they should be considered securities. In addition, proof of stake can be argued to function as an interest rate mechanism for token holders.

Ecosystem size and liveness

In the euphoric market of 2021, development on less established blockchains often was the superior strategy for a quick buck, but this was pretty much flipped on the head when market conditions worsened. Therefore, persistent developer activity, irrespective of market conditions, is critical.

Yet again, we see that Ethereum stands out at the top in terms of the combination of developer activity and interest surrounding the developments. We can divide the other blockchains into three brackets regarding developer activity. Solana and Polygon are in the same ballpark regarding the number of weekly active developers. Polygon stands somewhat out on the demand side, with many large brands launching products on Polygon. Historically, high-profile collaborations have not been a good predictor of success, so little emphasis is put on this in assessing project liveness.
In the second bracket, we have placed Cardano, Avalanche, Internet Computer, Aptos, and Hedera, while Algorand, Tron, VeChain, and Ethereum Classic are all given the lowest score due to little developer activity.

Figure 5 – Weekly active developers. Date: April 24, 2023



Source: Artemis

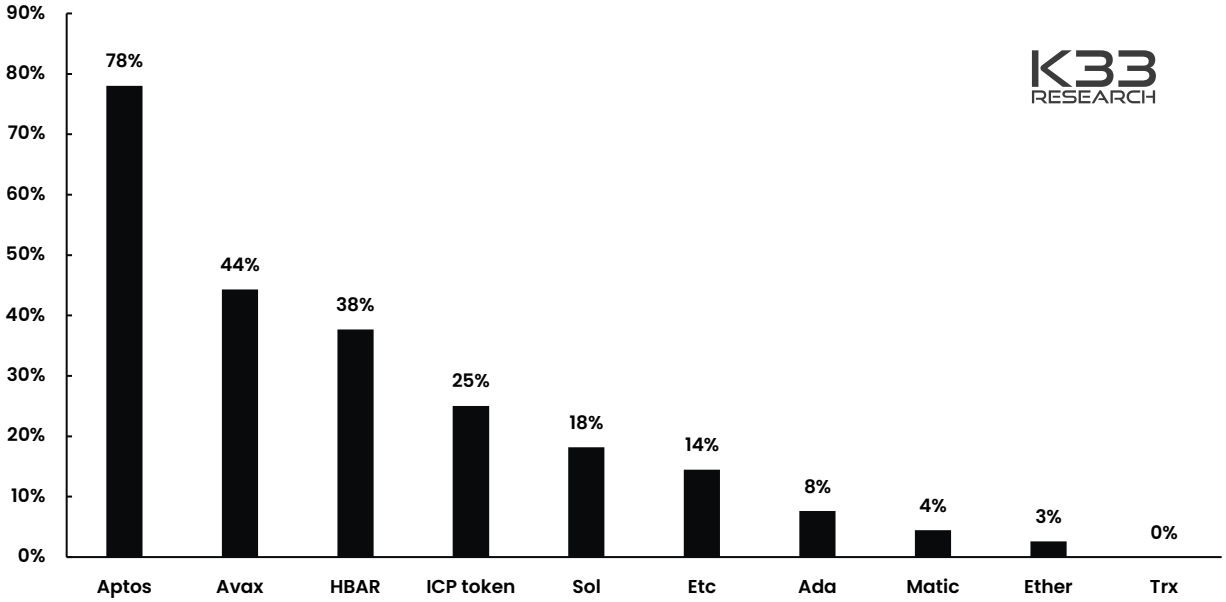
Inflation and Ownership Concentration

Ethereum has the superiorly best combination of expected inflation and spread-out ownership. Ethereum's long-term usage has been essential in getting the supply spread out on, relative to the other token supplies, many owners.

Not anywhere near Ethereum, but among tokens with an acceptable combination of inflation and ownership concentration, we have put Matic, Ada, and Ethereum Classic. TRX has no inflation as the supply is fixed, but the large concentration in token ownership is deemed a considerable risk and is hence given the lowest score.

SOL (Solana) is put one level above the rest. Solana has some considerable power players in terms of token holders, which are deemed a significant risk, but the remaining issuance is lower than for the other tokens. AVAX has a large outstanding supply, both in terms of inflation and vesting schedules. AVAX, Aptos, HBAR, and ICP Token are given the lowest inflation and ownership concentration score.

Figure 6 – Remaining issuance and unlocks of total expected supply in 2028.



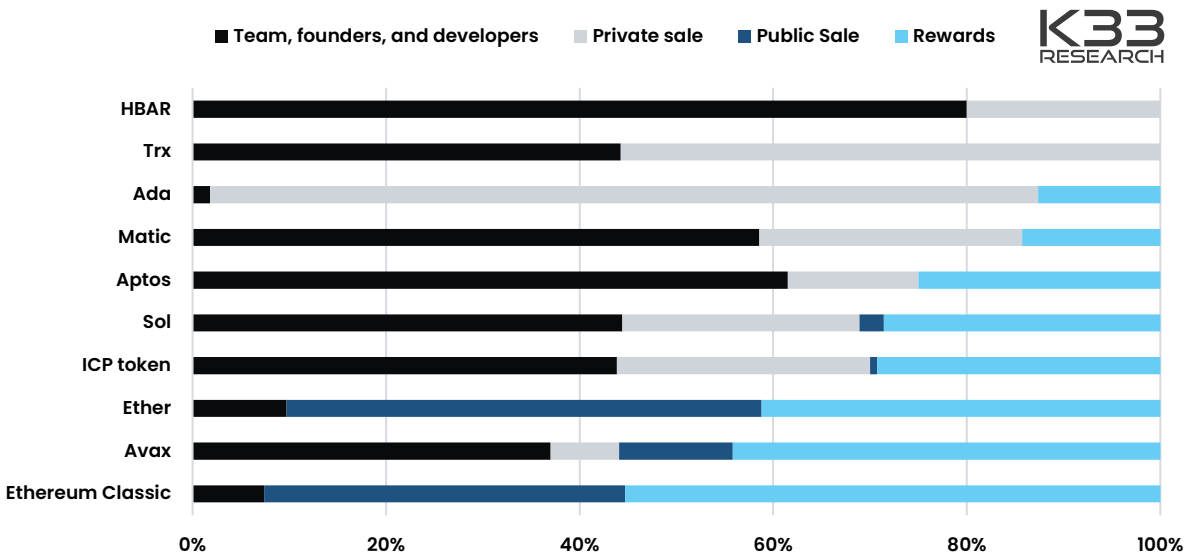
Source: K33 Research

As mentioned in the MoE/SoV coins section, ownership concentration can be tricky to measure with precision. There is no easy way to verify the identity behind the addresses which hold coins, and thus just looking at the major holders on-chain doesn't provide a reliable picture (the top 50-100 holding addresses could all be controlled by the same entity).

In contrast to the top payment tokens, which tend to have existed for a longer time, the top smart contract native tokens, in many cases, still have a large portion of their total supply as vested tokens allocated to team and investors. Additionally, another large part of the total initial supply tends to be allocated to a foundation (which usually has the outspoken goal of promoting the decentralization and use of the network but also tends to be a non-decentralized entity itself) or be marked explicitly for general future non-consensus participation rewards. As a result, overall, the smart contract native tokens will score lower than the payment tokens in this category. As crypto cycles come and go, planned rewards are distributed, and large holders take profit or capitulate, the ownership concentration will improve, but that can take quite a long time.

In the figure below, we have outlined how the initial distribution of newly issued coins until 2027 will be divided by recipient.

Figure 7 – Distribution of total supply in 2028 by initial recipient.



Source: K33 Research

Inter-Blockchain Communication (IBC)

Scaling is perhaps the hottest topic in crypto, and projects take varying paths to enable scaling. Some Layer-1s aim to scale in the base layer with large blocks and short block times. Others seek to scale in layers, as we see with Ethereum's shards and layer-2 solutions. Another approach is to build layer-1 blockchains in such a way that they can communicate with each other without using cumbersome and often vulnerable bridges. The principle behind this approach is that instead of scaling vertically, you can scale horizontally by having specialized blockchains for various purposes. In that way, the blockchains can be purpose-built and not have the problem of inheriting the unfavorable attributes from the layer-1, which you do when scaling vertically. These horizontal scaling protocols are called Inter-Blockchain Communication (IBC) protocols.

K33-Vinter Quality Index – IBC								
	Token	Category	Persistent Network Effects	Use	Regulatory Risk	Ecosystem size and liveness	Inflation schedule and ownership concentration	Score
9	DOT	IBC	1	2	4	2	3	2.17
17	ATOM	IBC	2	2	4	4	3	2.83
20	Toncoin	IBC	1	1	4	1	3	1.83

The scaling solution is just a protocol that restricts the blockchains in some sense such that they can talk to each other. In true crypto sense, however, these protocols have force-fed tokens into them with mechanics that hopefully will capture value if the protocol becomes popular.

All the IBC tokens get a reduction in score due to the highly uncertain, and in some cases not yet developed, value capture mechanism of the tokens. Toncoin is out, as nothing is happening in that ecosystem. We have marginally decided to include ATOM in the index while DOT is left out. DOT's value capture mechanism is clearer than ATOM's. Still, we see no evidence that the needed popularity to trigger DOT's value capture mechanism will happen.

Atom, however, is the native token for the Cosmos Hub in the Cosmos ecosystem. Unlike Polkadot, you can build in the Cosmos Ecosystem without ever touching Atom. The IBC protocol, the foundation for the Cosmos ecosystem, has become much more popular than Polkadot's parachains. With the planned expansions for the utility of the Atom token, there is a possibility to capture some value in the vibrant Cosmos ecosystem.

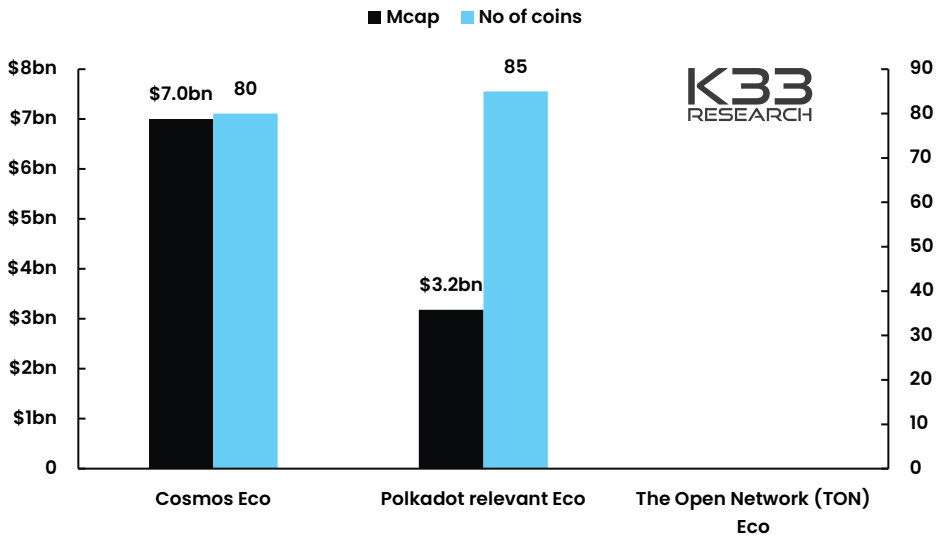
Persistent Network Effects

The score on persistent network effects for the evaluated tokens and the IBC ecosystems they are associated with is not necessarily the same. For DOT, the two are pretty much the same, while in the ATOM case, the Cosmos Ecosystem can be wildly successful without the ATOM token becoming popular. We believe the Cosmos Ecosystem has a higher chance of survival than Polkadot, but given that Atom does not necessarily become popular with Cosmos.

Ecosystem Size and Liveness

A natural starting point for evaluating the different IBC protocols' ecosystem size is to look at the market capitalization and the number of tokens within the ecosystem. There is a similar number of tokens in the Cosmos and Polkadot Ecosystems. Still, the market capitalization of the coins in the Cosmos Ecosystem is three times that of Polkadot (excluding ATOM and DOT). Going back to before the Terra collapse, these statistics would be way more skewed.

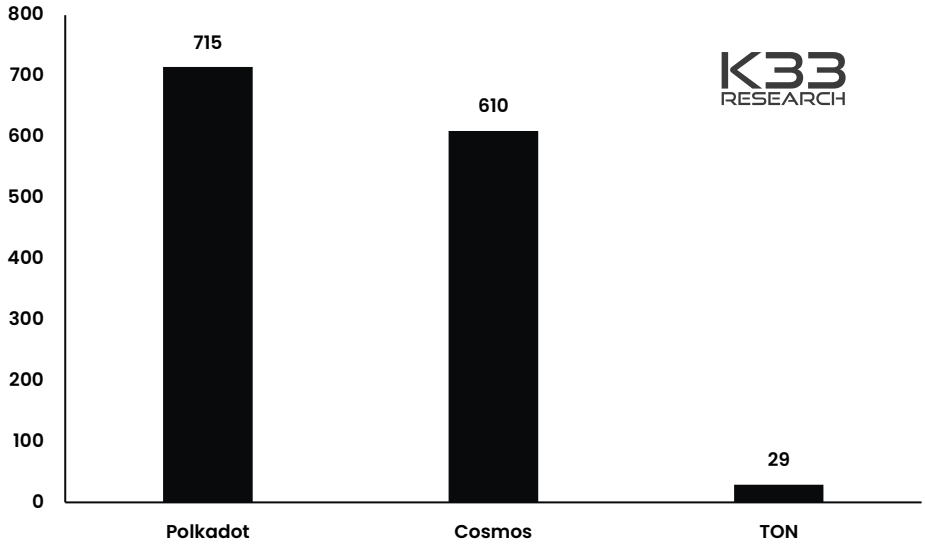
Figure 8 – Ecosystem size for IBC protocols. April 24, 2023



Source: K33 Research and CoinGecko

Market caps are not necessarily the best metric to measure an IBC ecosystem's liveness. In terms of weekly active developers, Polkadot has more developers compared to Cosmos, according to the statistics. Isolated, this indicates a better "liveness" for Polkadot than Cosmos.

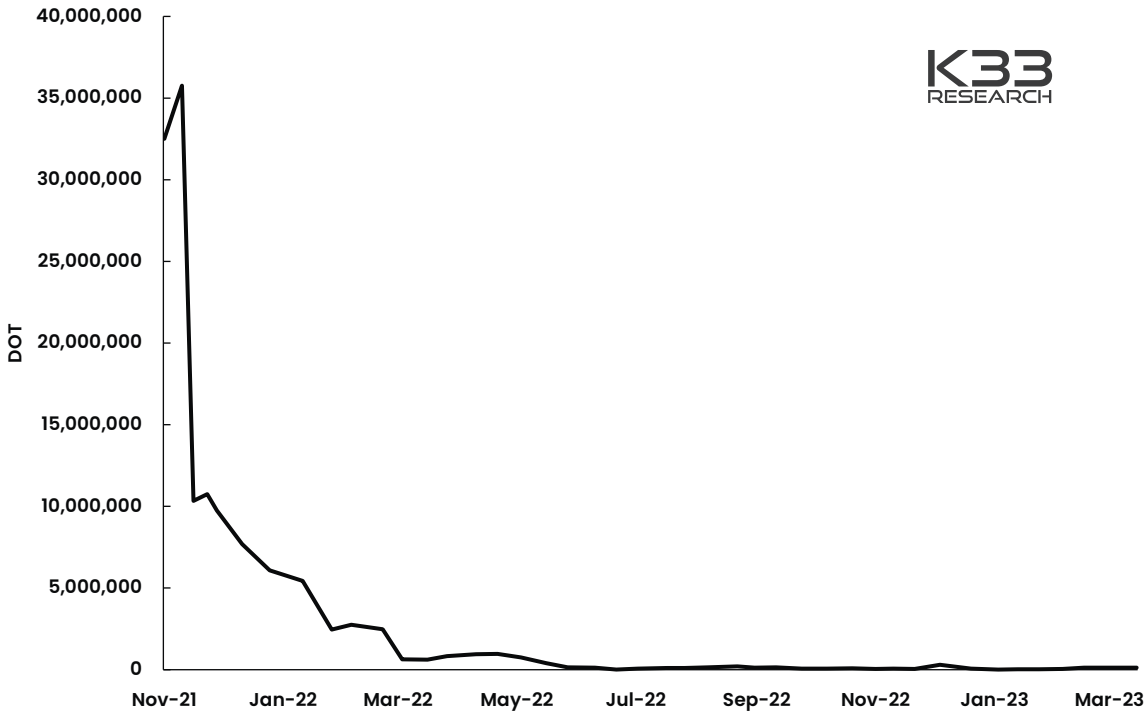
Figure 9 – Weekly active developers. Date: April 24, 2023



Source: Artemis

There is, however, something that feels a bit off in concluding that Polkadot has more vibrancy than the Cosmos Ecosystem. The Cosmos IBC stack is popular among new blockchain projects, and potentially groundbreaking new protocol Celestia is built on the Cosmos stack. At the same time, it feels like the buzz around Polkadot is entirely gone. Parachain auctions on Polkadot back up that feeling. While you needed DOTs in the hundreds of millions of dollars to secure a parachain slot one year ago, they are now virtually free. In a world where money talks, people are unwilling to bind up a lot of capital to develop on Polkadot.

Figure 10 – Parachain auctions winning bid on Polkadot.



Source: K33 Research and Polkadot

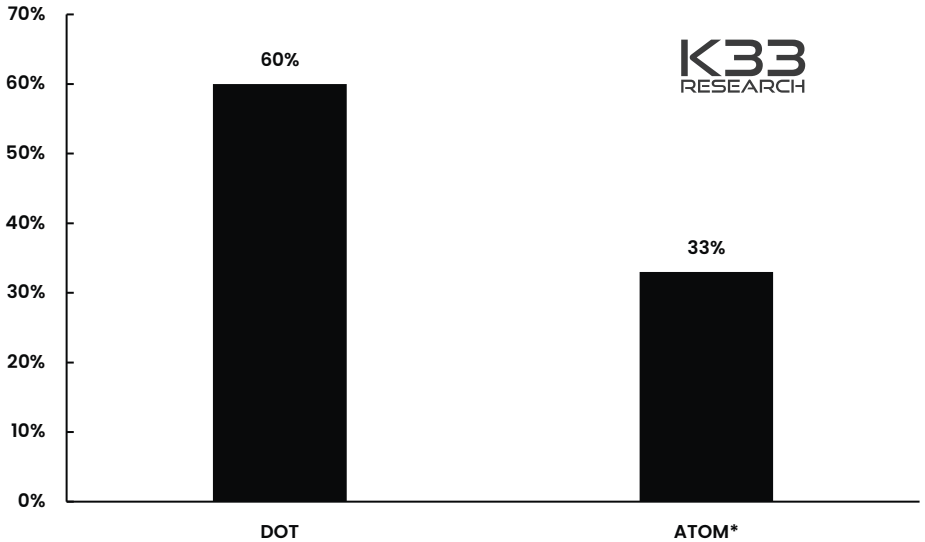
Regulatory Risk

Regarding regulatory risk, there's no good argument that IBC tokens should differ meaningfully from the smart contract blockchain native tokens. All tokens are therefore scored as a 4 on this pillar.

Inflation and Ownership Concentration

In terms of inflation and ownership concentration, we don't believe there is much separating DOT and ATOM. With the current rules, there is more outstanding issuance of DOT. But the proposal for ATOM 2.0, which will likely go through at one point, will significantly increase the future issuance of ATOM. Putting much emphasis on the currently lower inflation schedule for Atom does, therefore, not make much sense.

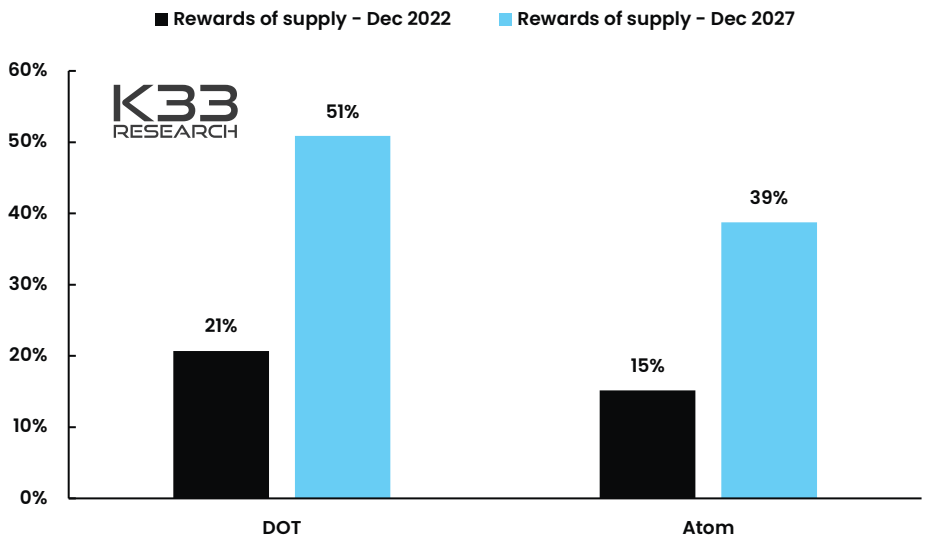
Figure 11 – Remaining issuance of total supply in 2028.



Source: K33 Research. *The supply schedule is expected to be changed via governance voting.

As with most of the tokens, a massive percentage of the supply is allocated to founders, team members, and investors. The current ownership concentration of both DOT and Atom is likely highly concentrated. 80 percent of the supply is allocated to teams, founders, and investors. As time passes, this share will get diluted, but at the end of 2027, 50% of DOT will still be pre-allocated, and the same number for Atom will be above 60%.

Figure 12 – Rewards as percentage of supply at the end of 2022 compared to the end of 2027.



Source: K33 Research

Other Categories

The remaining five tokens are placed in the Money Infrastructure, DeFi, and Specialized Utility categories. The pillar scores on these tokens are shown in the table below. The reasoning behind the scores is discussed following the table.

K33-Vinter Quality Index – Other Categories

	Token	Category	Persistent Network Effects	Use	Regulatory Risk	Ecosystem size and liveness	Inflation schedule and ownership concentration	Score
4	XRP	Money Infrastructure	2	1	1	1	1	1.33
16	UNI	DeFi	3	5	3	4	3	3.5
22	Lumen	Money Infrastructure	1	1	1	2	3	1.5
25	FIL	Specialized Utility	1	1	4	1	3	1.83
27	Lido DAO Token	DeFi	3	3	4	3	3	3.17

To avoid too much repetition, we will shortly state why we have excluded XRP, Lumen, and Filecoin here.

Excluded tokens

XRP and Lumen are both tokens associated with what we call money infrastructure. The thought is for their networks to act as a bridge between regular traditional finance companies at the transaction's start and endpoint. First and foremost, they have been around for a long time and have not yet been used for any of this. Secondly, it's far from obvious why these coins should be any better than bitcoin in doing this. In fact, they are worse because of the lower liquidity between the tokens and regular currency.

FIlecoin is a network for keeping/hosting data on a blockchain without relying on a trusted intermediary like Google or Amazon. Filecoin has also been around for a long time, and there is no evidence of people using it for anything sensible, or that use is increasing. Therefore, we see no reason to include FIlecoin in the index.

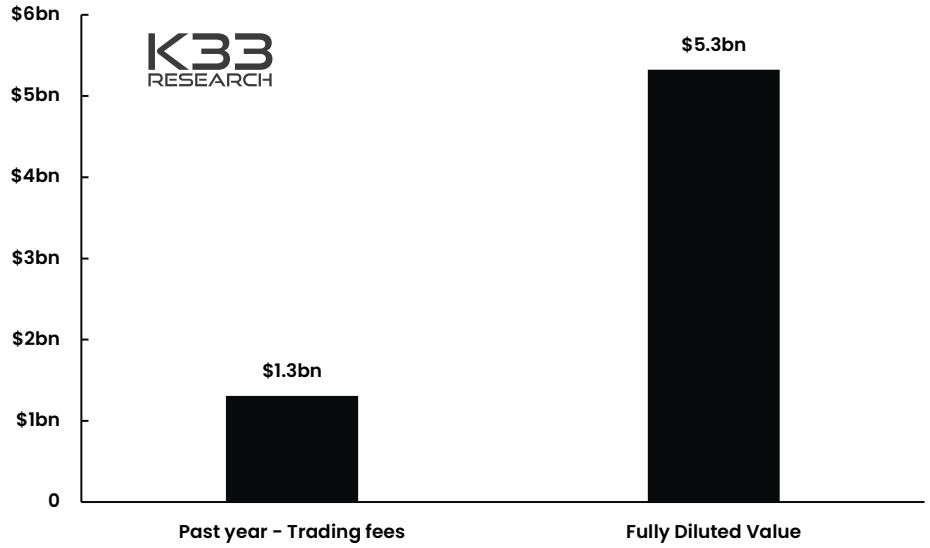
Included tokens

We have included two DeFi tokens in the index, UNI, and Lido DAO token. These tokens are somewhat easier to evaluate than the more general payment and smart contract tokens. Uni and Lido are much closer to classic equities.

UNI, the Uniswap DEX protocol token, is mainly a governance token. The current business model of Uniswap is a 0.3% fee on trades, where all fees currently go to liquidity providers. Both these parameters can be changed by governance votes to pay dividends to UNI holders. The supply is also fixed, and a majority vote would be needed to issue more UNI, much like shareholder voting in a company.

The combined sum of fees over the last year on Uniswap is close to $1.8 billion. Some of this would always have to be given to liquidity providers to incentivize them. Still, as the fully diluted market cap of UNI stands at $6 billion, it's not implausible that the UNI token can create a cash flow defending or surpassing the current market cap in the future.

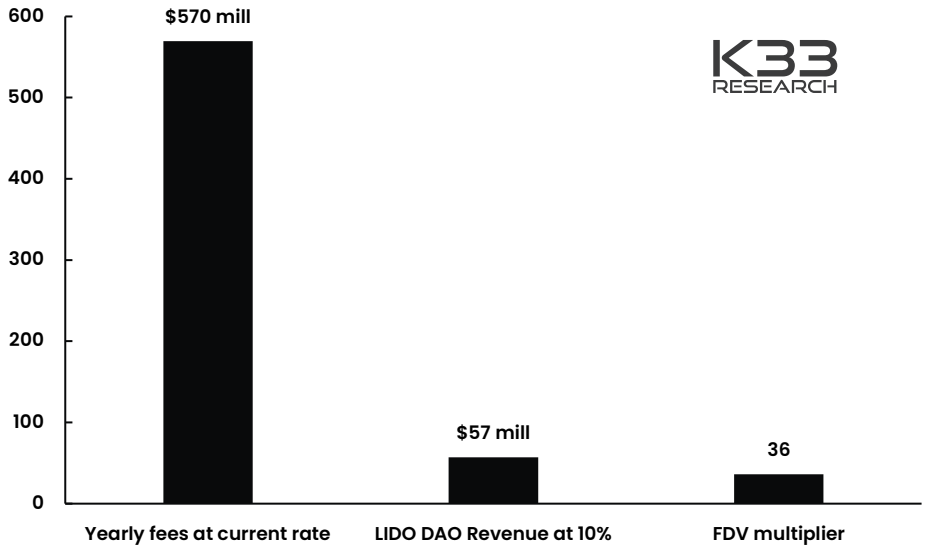
Figure 13 - Key statistics for the Uniswap protocol. April 24, 2023.



Source: K33 Research

Lido Dao Token is the governance and protocol token for the Lido liquid staking protocols. Its function is very much the same as UNI. Where UNI is not yet taking any of the protocol revenue, 10% of the Lido protocol's revenue already goes to Lido DAO Token owners. At the current TVL and staking rates, combined with the 10% cut of the LIDO DAO, the yearly fully diluted value to yearly revenue ratio is slightly above 50. This metric can be compared to a price/earnings ratio from stocks. 50 would be extremely high (negative) in the world of stocks. For us, it shows that staking in the protocol would have to grow in the future, and/or the LIDO DAO cut would have to be raised. Especially the first one is within the realm of realistic possibilities, and we, therefore, assess the risk of permanent financial loss to be lower than what would be needed for exclusion from the index.

Figure 14 - Key statistics for the Lido Protocol. April 24, 2023.



Source: K33 Research