



UNIVERSITY *of* NICOSIA

Week 3, Session 6

Launching a Token: Part 3

BLOC 528: Token Economics

Today's Overview

- Objective #1: Case study on valuing a token.
- Objective #2: Discuss governance tokens and airdrops.
- Objective #3: What regulatory considerations need to be taken into account?

Case Study: Axie Infinity

- Axie Infinity is a video game with a DAO governance structure, issuing governance tokens called AXS.
- Players catch, trade, and battle other digital monsters (axis) in a virtual world.



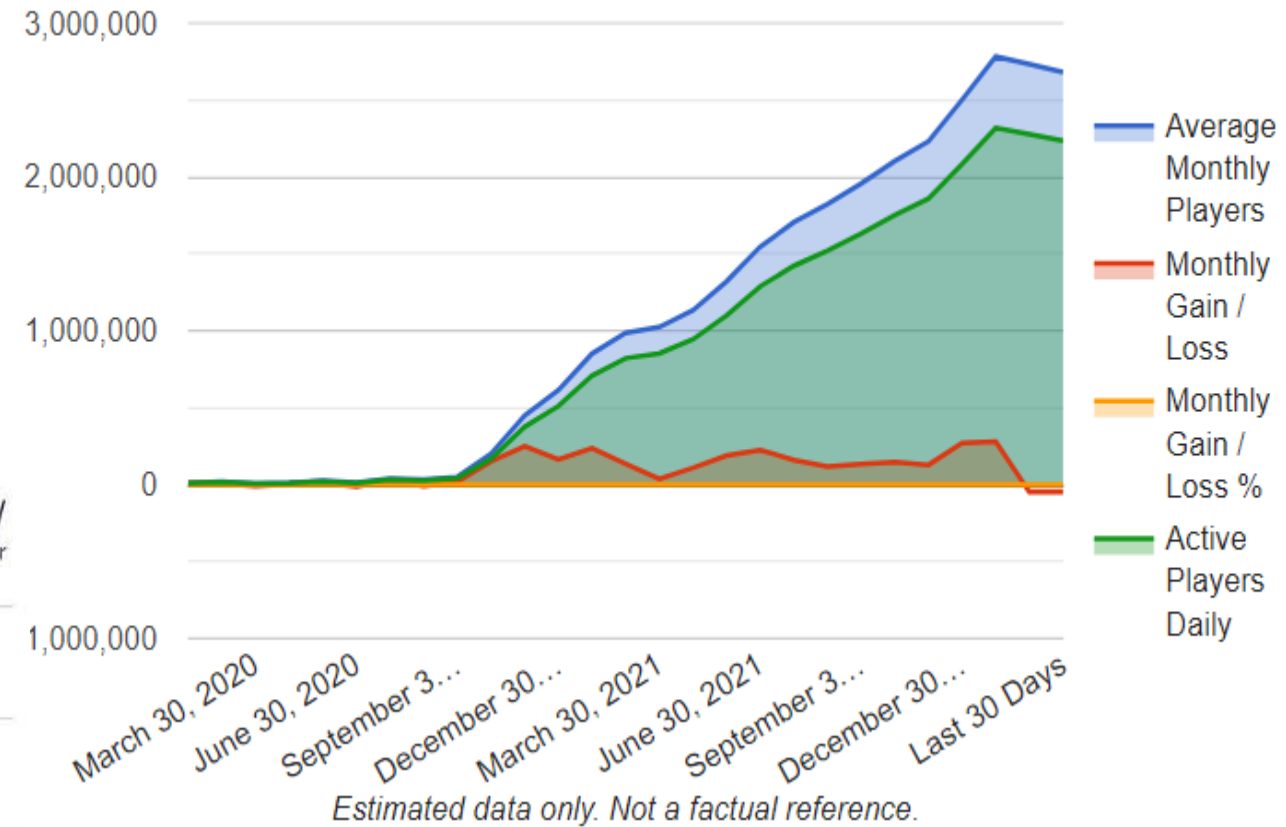
Cryptechnie Substack: Valuing DAOs: What is Axie Infinity Really Worth?

Axie Infinity: Number of Players

- Substantial growth, even though numbers not clear



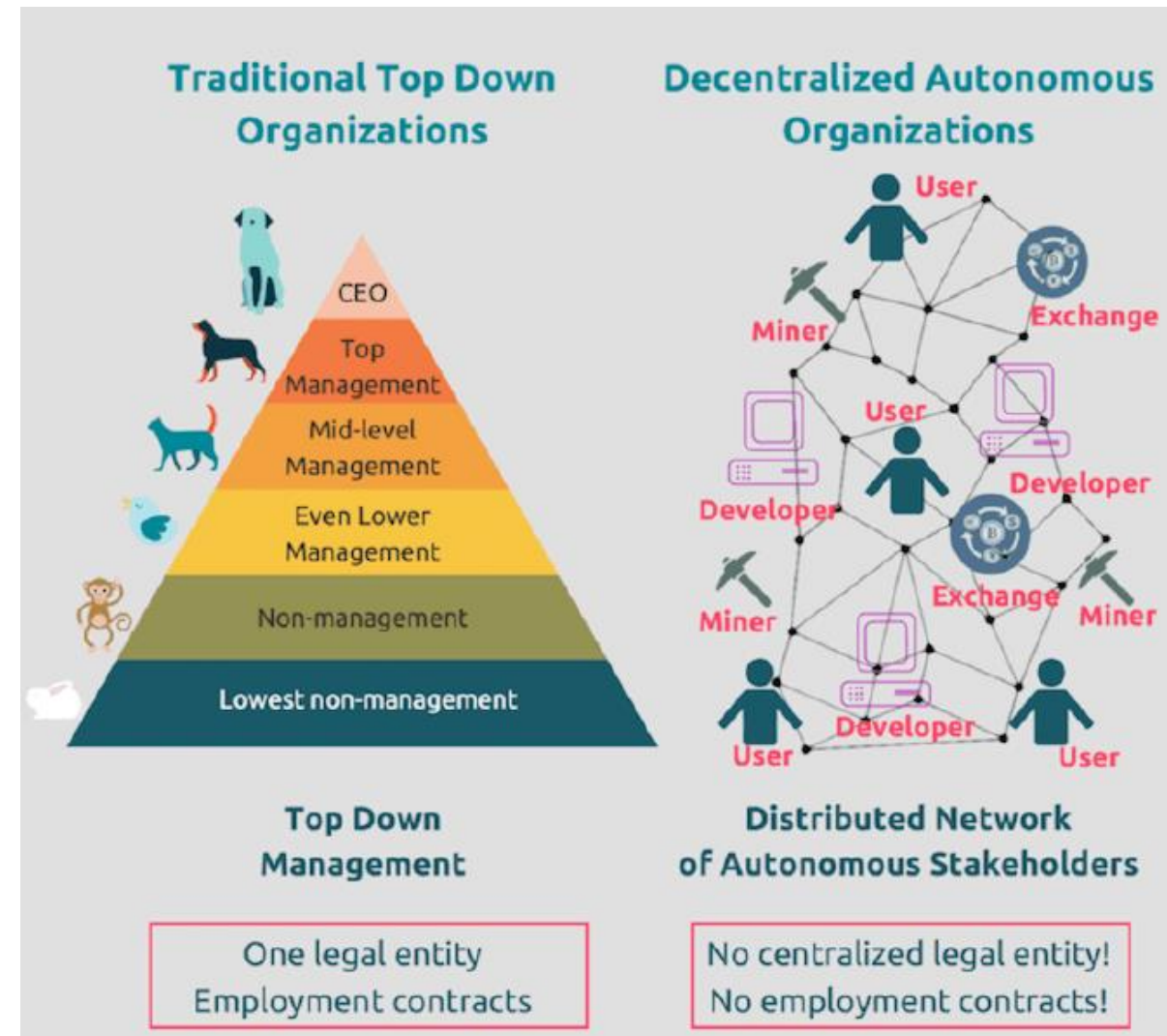
Axie Player Count Chart





<https://activeplayer.io/axie-infinity/>, <https://bravenewcoin.com/insights/axie-infinity-news>

Primer on Governance Tokens and DAOs

- Decentralized autonomous organizations (DAOs)
- Users are shareholders
- Voting rights proportional to tokens
- Actions are executed through smart contracts
- Axie Infinity has the governance capabilities and the play to earn feature where competitions lead to more tokens (and if you recruit more players, you also get compensated)









Comparison of Business Models

Cryptechie

Cost of Admission






Axie vs. popular monetization models for video games

<u>Free-to-play</u>	<u>Console/PC</u>	<u>Subscription</u>	
free games supported by in-game purchases and/or advertising	buy the device, then buy the games separately	Recurring payments for a bundle of games	
	 \$300 console \$10 per game	 \$5 per month	Need to purchase three Axies to play. Platform takes a cut of in-game purchases. Current Axie Cost: \$200

Cryptechie

The Take-Rate Model

A tried & true monetization model

				
~2% of every swipe goes to card providers	TN sales tax is a 9.55% take-rate	Uber ends up taking ~25% of every fare	The Apple App Store takes 30% of every sale	Today, Axie takes ~4.5% of every transaction

Axie Business Model Continued + Valuation

Axie token economics

- Issue shares that are inflationary – number of AXS tokens is increasing – and the price will change
- Platform / transaction fee

But how do you value the entire organization and platform?

- In the first two weeks of August, they had \$800 million worth of transactions
- But, can you simply annualize that to get a valuation? No – cannot guarantee will continue

Axie Infinity: Monthly Transaction Value



Axie Valuation

Let's imagine that Axie becomes one of the most popular games of all time (big assumption) – for perspective, Pokemon has brought in \$92 billion since its inception in 1996, or \$4B per year.

- Even though transaction fees are 4.5% right now, imagine if all those with governance tokens voted to change the fee structure so that 30% of all transactions went to community treasuries. Then, owners would get \$1.5 billion per year.
- But, how would that impact demand if transaction fees surged?

We also have to consider expenses...

- Google has a 30% operating margin, which is exceptional (Meta is 40%), so let's assume 50% here.
- Then, owners get paid \$750 million/year.
- Assume that expenses are covered by creating new tokens and you have \$1.5B/year * 20 years = a lot \$\$
- However, with inflationary tokens, then \$20B down the road might only be \$5B – and you must discount

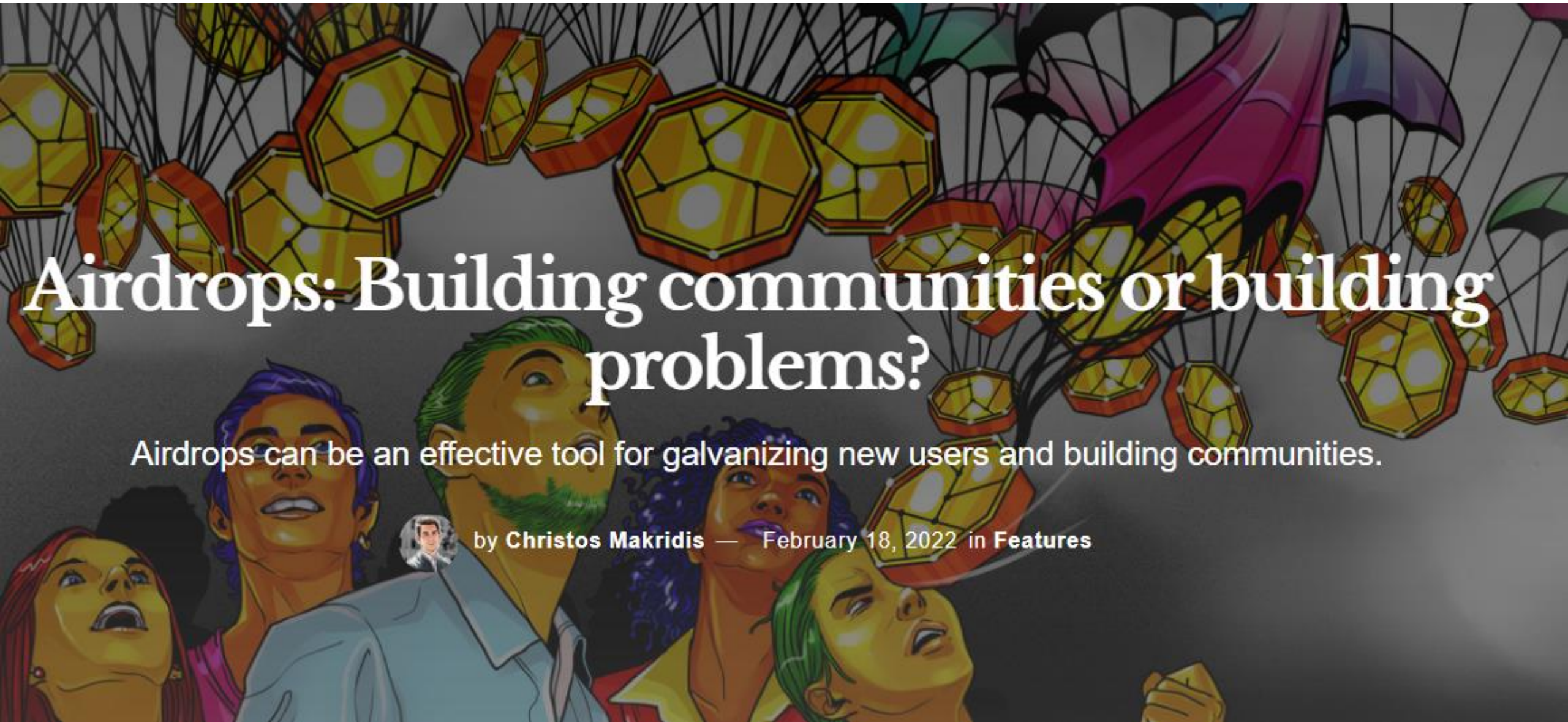
How Many Tokens to Mint and Distribute?

Similar to the question of how many shares to issue in a startup – it does not really matter, but perception has a big effect – especially early on when time and resources are so valuable.

Let's say you want to release 1 billion tokens into the market. How do you divide it up?

- Core team, developers
- Strategic reserve
- Board members
- Private raise
- Development fund
- Airdrop

Burn what you do not use in the airdrop!



Airdrops: Building communities or building problems?

Airdrops can be an effective tool for galvanizing new users and building communities.



by **Christos Makridis** — February 18, 2022 in **Features**

Airdrops and Governance Tokens

- Data from CoinGecko between 2018-2021 (about 50 major DEXs and CEXs).
- Manually determine if there is a governance token and/or airdrop, and whether the exchange is a decentralized or centralized exchange.
- Airdrops and governance tokens have positive effects, but only for DEXs.

	Market Capitalization (Growth)				Volume (Growth)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Decentralized Exchange (DEX)	-.003 [.038]	-.011 [.041]	-.106 [.071]	-.017 [.041]	.096 [.081]	.100 [.082]	.040 [.116]	.090 [.086]
Airdrop		.022 [.033]	-.025 [.037]	.004 [.036]		.093* [.051]	.069 [.058]	.070 [.052]
× DEX			.131* [.066]				.086 [.116]	
Governance Token	-.032 [.055]	-.071 [.053]	-.061 [.052]	-.147* [.076]	-.074 [.101]	-.057 [.090]	-.049 [.086]	-.183 [.122]
× Airdrop				.149* [.081]				.254* [.140]
log(Volume)		.013** [.005]	.014*** [.005]	.013** [.005]				
Trust Score Rank								
Established in 2017	-.003 [.016]	.020 [.046]	.056 [.046]	.027 [.044]	.117 [.090]	.043 [.096]	.061 [.098]	.050 [.096]
Established in 2018	-.050* [.026]	-.004 [.043]	.013 [.045]	.003 [.044]	.087 [.092]	.051 [.094]	.059 [.095]	.061 [.095]
Established in 2019	.083** [.034]	.095*** [.034]	.124*** [.038]	.111*** [.038]	.312*** [.107]	.246** [.114]	.262** [.118]	.268** [.115]
Established in 2020	.101* [.055]	.116** [.051]	.182*** [.053]	.159** [.063]	.316* [.161]	.270* [.147]	.307* [.162]	.337** [.167]
R-squared	.34	.35	.36	.36	.16	.16	.16	.16
Sample Size	940	940	940	940	1327	1327	1327	1327
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Challenges to Valuation (and Solutions)

First, tokens have short time horizons, so there's not a lot of data.

- Look at comparable tokens – look at not only the market, but also the strategy.
- Think about the unit of time – you might have hourly data, but it's not necessarily fully informative.

Second, traditional valuation models assume cash flow and dividends in perpetuity, but so much is changing.

- Use reasonable time horizons and do not over promise – better to come off as credible about a short run strategy that has clear long run implications than to over promise an unrealistic goal.
- Focus on convincing people about the vision, not the exact step by step execution.

Third, there is no “risk free” rate for comparing crypto investments.

- Not a big issue – just think about alternative investments in the market.

Fourth, there is systemic risk on the underlying blockchain.

- Choose the layer 1 integration carefully, and explore multi-bridge technologies.

<https://www.coindesk.com/markets/2017/03/03/a-framework-for-valuing-crypto-tokens/>

Regulatory Considerations and ICOs

Much like Uber was able to become a first mover in the ride sharing business through regulatory arbitrage, early cryptocurrencies were able to do that here – now the regulatory guidance is getting more stringent.

In 1946, the U.S. SEC had a case, SEC v. Howey Co in front of the Supreme Court that now has become known as the “Howey Test” for determining what is a security.

A token is a security if:

- It is an investment of money
- The investment of money is in a common enterprise
- There is an expectation of profits from the investment.

While tokens often satisfy the first two requirements, the third is not always satisfied.

- Create utility from the tokens (and some governance rights)
- Avoid promotional language

Purpose of Valuation

The purpose of valuation is not to come up with a perfect number, but rather to create a temporary guidepost that helps enhance the strategy and discipline short-term decision-making.

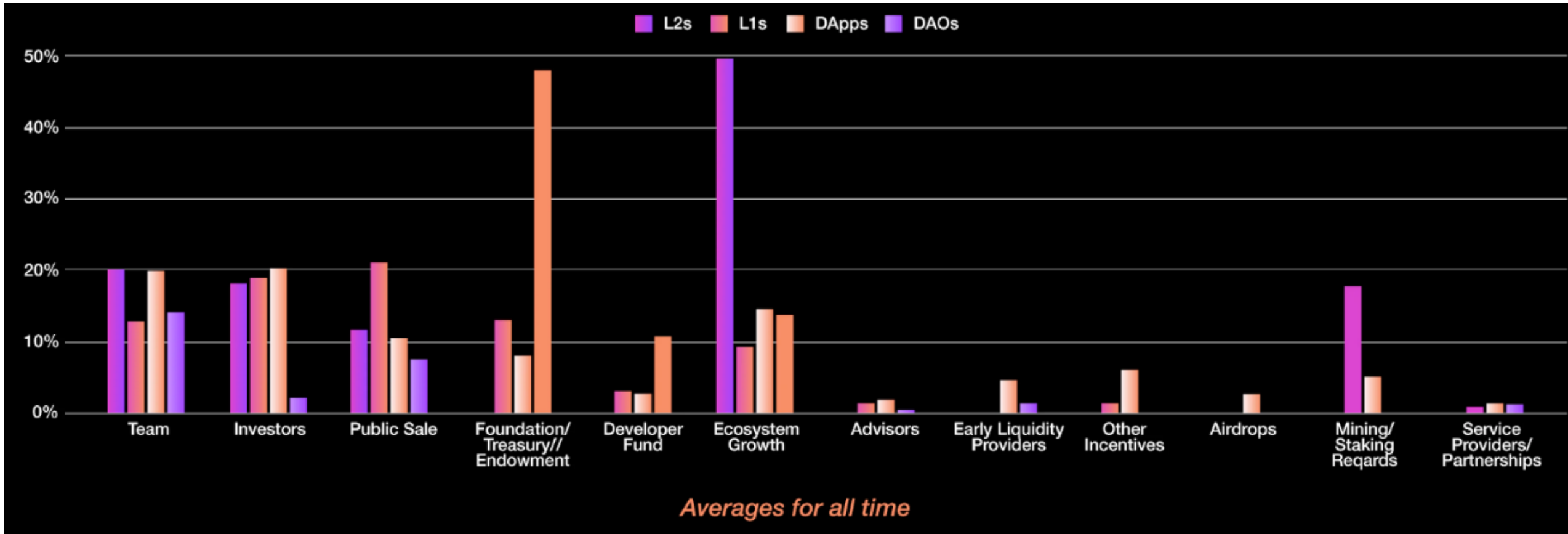
Too many factors of uncertainty exist, most notably the development of the underlying platform and user base, so most assumptions about growth are going to be wildly incorrect.

- Critical human resource (e.g., CTO) could quit
- The SEC could hit you with a billion or more dollar fine (!)
- ...

Token Allocations Across Stakeholders

- **Community Treasury:** These are retained for future distribution through governance and viewed as the project's “reserve pool” - allocated to different stakeholders through voting proposals. Treasury allocations have fluctuated over time but have generally increased from roughly 20% in 2016 to over 40% in 2021.
- **Core Team:** These are retained for founders, past, and future employees. They are subject to the longest lock-ups, much like vesting with equity in a traditional startup. These allocations have also trended up from 5% in 2013 to 20% in 2021.
- **Private Investors:** These are allocated to capital providers who purchased equity that later converted to tokens. They are subject to lock-ups. These allocations have fell from 25% in 2013 and the height of the ICOs to 15% in 2021.
- **Ecosystem Incentives:** These are earmarked for growth programs at the launch, allowing users to earn from a pre-designated pool of tokens. Incentives have emerged as an alternative to public sales, including growth programs, liquidity mining and yield farming. These incentives have increased greatly from 0% in 2016 to over 20% in 2021.
- **Airdrop:** These are retained to reward to past users for value-added actions. Airdrop tokens are liquid at inception, claimable based on a pre-set allocation for each address designed by the core team. Airdrops grew in popularity during the run-up of 2017 and peaked in 2018, but have since then grown again to 15% in 2021.
- **Public Sale:** These were the famous ICOs as regulatory arbitrage, but have fallen from 25% in 2013 to 0% today.

Empirical Distribution of Token Allocations



Guest Lecture – Eric Waisenau, Astrovaults



UNIVERSITY *of* NICOSIA

Questions?

Contact:

Christos A. Makridis | Professor | Makridis.c@unic.ac.cy

Evgenia Kapassa | Teaching and Research Associate | kapassa.e@unic.ac.cy