Fundamental Report - Metaverse

Prime Fundamental Metaverse Report V1.1

Protocol: Axie Infinity
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Season/competition: Metaverse Rate-athon

Scorecard

1. Value Proposition	Points
a) Novelty of the solution	14 / 15
b) Target market size	12 / 15
c) Product-market fit	14 / 15
Total Points - Value Proposition	**40 / 45**
2. Competitive moat	**Points**
a) Integrations & partnerships	5 / 10
b) Intellectual property	9 / 10
c) Infrastructure - security	1 / 10
d) Infrastructure - fees and ancillary infrastructure	9 / 10
e) Treasury management	3 / 10
Total Points - Value Proposition	**27 / 50**
3. Tokeneconomics	**Points**
a) Genesis token distribution	10 / 15
b) Purpose of the token	7 / 10
c) Ongoing token issuance / inflation	8 / 10
d) Value capture	3 / 10
e) Token liquidity	4 / 5
f) Extrinsic productivity	4 / 5

Total Points - Tokenomics	36 / 55
4. Team	**Points**
a) Credibility and reputation	9 / 10
b) Relevant experience	13 / 15
c) Thought leadership and public presence	8 / 10
d) Ability to foster a community and coordinate resources	15 / 15
Total Points - Team	**45 / 50**
5. Governance	**Points**
a) Extent of governance capabilities	1 / 10
b) Active governance contributors	1 / 5
c) Governance infrastructure robustness	1 / 10
d) Process and ease of use	1 / 5
Total Points - Governance	**4 / 30**
Total	**152 / 230**

For gaming projects only:’

6. In-game economy	Points
a) Ease of use / Onboarding	14 / 15
b) Sustainability of P2E or in-game economy	8 / 20
c) Utilisation of NFTs	15 / 15
Total Points - In-game economy	**37 / 50**
Total	**189 / 280**

1. Value Proposition

The "Value Proposition" section assesses the value a protocol delivers to its users. The rating is based on the size of the problem a protocol addresses and the product/market fit of the protocol's solution.

a) Novelty of the solution (15 points)

This score evaluates the novelty (uniqueness) of the protocol. Has the protocol introduced any innovations that help solve users' problems, either technical or organisational? Or has it just forked someone else's code?

Answer:

The ERC-721 Standard was first introduced in January 2018. This specific type of smart contract standard on the Ethereum network enables the creation of non-fungible tokens, also known as NFTs. Each of these tokens minted can have a value associated and recognised in the blockchain. This innovation led to a group of new applications that could use this technology, from art collections where you could own the piece of art you are virtually buying until videogames with their own economy where you could be earning from just playing, these last ones are known as Play to Earn games or P2E.

The first game implementing this idea was CriptoKitties. However, creating from zero a long-term sustainable economy isn't something easy, many games like Plants vs Undead or Cryptoblades committed mistakes, leading to a point where they just couldn't keep "paying" the players [1]. One of the games with the biggest player base that keeps working after a few difficult times is Axie Infinity.

Axie Infinity is a game launched in 2018 in the Ethereum Mainnet. In this game, you can own NFTs that have different classes and abilities. Each part of them is an ability that can be used in game to fight against a team in a 3v3 battle. The game includes a breeding system where, based on some statistics, you can create new Axies that will inherit the abilities and class of their parents. Making breeding also an interesting part of the economy. There are few ways of monetizing the game. The easiest is buying a team of 3 Axies and playing. Every time you win, you will receive a reward in a token called SLP. The better you are in the game the more SLP you will be rewarded for your victory. You can also buy teams and create scholarships, dividing the income with the people who will be playing the game for you or, as we mentioned earlier, by breeding the new Axies people are demanding [2].

Up until early 2020, Sky Mavis had been building Axie on the Loom Network [3], a scaling tool for Ethereum that became a popular platform for blockchain-based games that needed higher processing speeds and lower fees. But when Loom shifted to focus on enterprise use cases, closed its public dApp (decentralised application) services and changed its architecture, Sky Mavis chose to abandon it in favour of building its own sidechain.

Their peers probably wondered why Sky Mavis would waste time building its own blockchain, when the founders could have quite easily used something that already existed. But Nguyen (Co-founder of Sky Mavis) wasn't convinced that the existing sidechains and layer 2 platforms were the right fit for Axie. As for optimistic rollups or zk-rollups (another type of scaling tool), he was adamant that their launch would be delayed, and anyway, it would take too long for them to mature and achieve adoption. Ultimately, he was right about the rollups, and if Sky Mavis had waited, it wouldn't have been able to provide the smooth and playable user experience the game offers today. Because of the problems explained earlier, Sky Mavis decided to create their own network called Ronin Network, where the players who were already playing the game could migrate their Axies. This network reduced transaction fees to 0, making the friction in the fund's movement disappear and leading to an explosion in the price of both project tokens (AXS and SLP).

The Ronin launch was a pivotal moment for the entire NFT gaming market and the key catalyst for Axie Infinity's explosive growth from May to June, as daily active users reached 252,000 from just 38,000 at the end of April, according to Delphi Digital research data. The game reached 2.7 million in November 2021 [4], with Ronin's transaction volume peaking at roughly 5.6 times the number of daily transactions of the Ethereum blockchain [5].

Ronin's unveiling was a shining example of Nguyen's insatiable pursuit of excellence and a gutsy signal to the rest of the Web 3 world that Sky Mavis was thinking big.

Right now, AXS is the 43rd token by market capitalization in the CoinMarketCap rank. And the 5th in both metaverse and NFT, behind Decentraland, ApeCoin, The Sandbox and Theta. And 1st in the play to earn a field [6].

The blockchain within the game is now working with (Ronin Network), it has its own utility token, opening this network to other games that want to use another low commission blockchain to build their own NFT game [7].

All in all, we can conclude that they have created a very novel solution in many ways. Axie pioneered P2E and was the primary proof of concept for P2E games, that opened the door for other builders in the space and was the main reason capital came into the crypto gaming ecosystem. They have specifically created the Ronin Network to make transactions feasible, and the game in itself is a completely novel solution, taking CriptoKitties and Pokémon as a basis for the game idea, and adding a thrilling economy with P2E capabilities. The Ronin solution was groundbreaking, because every other available chain did not have the necessary capabilities required for the game in terms of transaction costs and speed, especially when there are a lot of microtransactions involved [8].

The Ronin network is an Ethereum sidechain that was created with Axie Infinity's community in mind. Sky Mavis, the team behind Axie Infinity, needed a reliable, fast and cheap network that could cater to the demands of the game. They needed a scaling solution that put gaming first, was built to withstand the test of time and the ever increasing demands of a fast growing game. Ronin was their answer, which is basically a layer 2 scaling solution that runs parallel to the Ethereum blockchain, with their own consensus model and block parameters. Another important novelty in the space was that Axie went mobile, which is still a novel feature in the space [9].

Score: 14

b) Target market size (15 points)

The target market size evaluates the current and future size of the problem a protocol aims to solve. While the term Metaverse is all-encompassing, what is the target market size for the relevant sector? For example, NFT games are trying to disrupt the traditional gaming industry, which is reported to be worth roughly $175 billion.

Answer:

Axie Infinity doesn't only aim for the NFT gaming field, they are also building their own metaverse 'Lands' [10]. Axie Infinity has intended to be a game where features such as breeding and creating scholarships are also fundamental in the game. Because of this, the possible market size is huge, people with low resources can play as a scholar while people with higher resources can make money in an active way (breeding) or in a passive way (creating scholars). In addition to this, Axie Infinity NFTs are based on the ERC 721 standard, allowing in the future the possibility of interaction with other metaverses such as The Sandbox or Decentraland.

P2E games have experienced an exponential growth in popularity since last year and once the projects start being sustainable, many other players will be adopting this technology.

The gaming side of the market size is already huge, with almost unlimited upside. Gaming has been here to stay since a long time ago, and it will continue to do so probably for good. If you add to this the P2E side of it, with a rich NFT market, we have a combination that is very difficult to enhance in terms of possibilities of growth. Additionally, they are building a proper metaverse, with land that can be, bought, used, enjoyed, and disposed. Gaming is one of the catalysts for new people entering the space, who thought that cryptocurrencies were something speculative at some moment. Now, many have changed their opinions thanks to games like Axie Infinity, and that means that the target market size is substantial and shows signs of sustainable growth, not only for the near future, but for many decades (or even centuries) to come.

Score: 12

c) Product-market fit (15 points)

Product-market fit evaluates the degree to which a protocol satisfies market demand in their specific sector. How many users does a protocol have? What is the trading or transaction volume on a platform? Is there growth on both the buy and sell side of the market? Is the protocol targeting the right product segment at all?

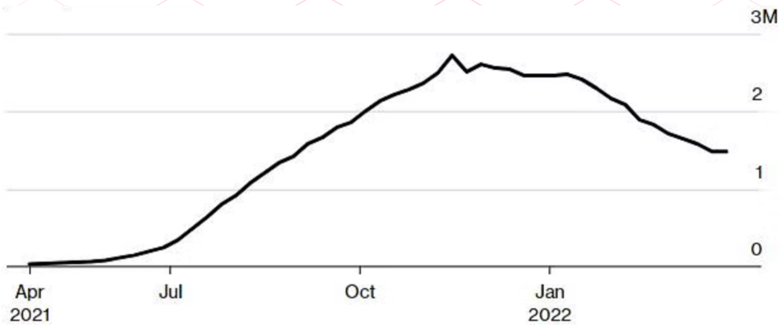
Answer:

In the field of P2E games, Axie Infinity is the clear number 1 at this moment. Many other P2E projects have tried building a long-term sustainable economy but nearly all of them have failed in the end. This does not mean the Axie Infinity formula is perfect though. Indeed, SLP Mint/Burn balance is one of the main challenges Sky Mavis has been facing so far, but everything indicates that is something they are working on, and they will most probably come up with enhancements and better solutions. Because of this, the protocol has achieved a clear market fit in a very promising market, but it still needs a lot of work to be done.

There is special demand for this kind of game that is very important. This is the demand from developing countries that do not have the same income per capita as in the United States, Canada, UK, or countries from the European Union. These people can earn, through this type of games, a decent amount of income in order to live a good life, save and increase their standards of living throughout time. Therefore, games like Axie are not only important for the gamers in developed countries to enjoy them, but also for people that do it for a living, and now have the ability to do it with just a computer or a smartphone.

The protocol has achieved a clear market fit in a very promising market, and it is expected to continue to do so. The team is working hard on enhancing the capabilities of the game, and they are currently leaders in the space, so it is very difficult to argue the fact that they have not satisfied the demand.

The daily active users peaked at 2.7 million, currently around over 1 million on most days during March and April [11]. Although it has declined sharply lately due to the hack (we will talk about it more later), this is a huge number, and it is expected to continue growing if they can solve their issues.



Score: 14

2. Competitive moat

The "Competitiveness" section looks at a protocol's competitive moat in the space and its unforkable assets. This includes integrations and partnerships, intellectual property, the underlying infrastructure being used, and treasury management.

a) Integrations & partnerships (10 points)

Due to crypto's open-source nature, the code of most protocols can easily be forked. This score represents one piece of unforkable value. Some indicators are the number of applications built on top of the protocol (vertical integration) and other entities integrating the protocol's services (horizontal integration).

Answer:

Axie Infinity is one of the games more difficult to fork currently, especially due to their own L2 scaling solution (Ronin Network), but also because of the network effects that it has already established, creating a thrilling community and a sense of nostalgia that not many games have been able to do.

Additionally, in former days, there have been few breeding events like Christmas event or Japan event where you had a chance of getting a special part for the Axie for a limited time. This gives those Axie a special value since they won't be able to be bred again and the quantity of them is limited in the market. Due to being one of the first NFT games, those Axies are unique, and they have drawn the attention of many collectors, this opens the market for a new type of people interested only in the collecting and metaverse field in the game.

Axie claims to have high quality partners [12], with some of the biggest companies and protocols such as Binance, Samsung, Ubisoft, Aave, Klaytn, Delphi Digital, Kyber Network, MakerDAO [13] and UpBit , also receiving an important investment round from Binance lately [14]. Although these partners may sound significant, we must say that there are no significant partners for Axie currently regarding the NFT space, and no significant integrations either. Axie's integrations within DeFi are limited due to the AXS token being on Ronin and there being no deep liquidity for AXS on the Ethereum mainnet.

All in all, we can conclude that the protocol has become an irreplaceable part of the metaverse ecosystem. They have, on the other hand, limited integration across the DeFi space. This is because they have kept the game closed, not allowing anyone to build on top of it. They are changing this, opening the gates for developers to build different games on it in what they call Axie Infinity Builders Program [15].

Score: 5

b) Intellectual property (10 points)

Intellectual property is and will continue to be a crucial part of the metaverse. This score considers if a project, for example, developed a unique IP that creates a sustainable competitive moat around it or, as an alternative, secured IP through agreements with outside parties.

Answer:

Axie Infinity IP is pretty well known in the crypto space, also, the agreements with the partners mentioned in the previous point, and the infrastructure they have managed to build make Axie Infinity have one of the most difficult to replicate projects. They have been able to build a powerful brand and intellectual property, partially by keeping the game closed and controlling every aspect of it. With time they have been able to create a strong community and network effects as a consequence. To create a network effect like the one that Axie has, you need to introduce serious novelties as they have done.

More specifically on the Intellectual Property matter, the site and the App and the Smart Contracts are their proprietary property and all source code, database, functionality, software, website design, audio, video, text, photographs, and graphics on the Site and the Apps (which they call collectively the "Content") and trademarks, service marks and logos contained therein (which they call the "Marks") are owned, controlled by them or licensed to them, and are protected by copyright and trademark laws and various other intellectual property rights and unfair competition laws of the Cayman Islands, foreign jurisdiction and international conventions [16].

We can safely say that intellectual property is most probably going to continue to be a crucial part of the metaverse. It has a competitive moat around it, with important network effects created by its community.

Score: 9

c) Infrastructure - security (10 points)

Metaverse projects make all kinds of choices when it comes to infrastructure. Some build their own solutions, whether Ethereum sidechains or a new blockchain entirely, and some deploy to an existing sidechain or a level 1 blockchain. These decisions have significant trade-offs across security, maintenance, ease of use, costs, and scalability, etc. This score assesses specifically the security of the chosen infrastructure solution.

Answer:

Axie Infinity uses their own sidechain called Ronin Network. At this moment, there are just a few validators chosen by the Sky Mavis team, this centralises the network with its inherent risks [17].

On March 23rd, 2022, Sky Mavis had their funds compromised by a group of hackers that managed to steal some of the private keys needed to move funds from the Ronin Network sidechain to the Ethereum Mainnet. 173,600 ETH and 25.5 million USDC were subtracted (more than 600 million USD combined), this became the biggest successful attack to the treasury of a NFT game [18].

However, Sky Mavis keeps having enough funds to keep the game development and the stealing of funds seems to be an isolated incident. In addition, Sky Mavis raised $150M led by Binance in order to compensate the hack victims, by selling equity in Sky Mavis, this means Axie partners still believe in the project and, despite the security mistakes committed, the development of the project is still in the focus of the team [19]. This, though, has caused many users to state things like Axie is not going to be able to recover from this setback. Developers have also stated that it will take years to recover from this hack [20], and they have lost a lot of active daily users as a consequence, as of the data available at the end of April [21].

This has shown a serious lack of security, with a loss of funds included. That is why we cannot score higher in this section. We hope Axie recovers soon from this attack, and makes significant improvements in security, while they keep focusing on the development of the core business/product (the game). In its original description of security for Ronin, Axie Infinity said, “To help secure Ronin, we have recruited an all-star cast of partners from the traditional gaming, crypto, and nonfungible token space to serve as validators of our network.” That didn’t work out in practice. The hacker got control of four Ronin validators being run by Sky Mavis and a third-party validator run by Axie DAO. Five of nine validator nodes are all that’s required to deposit or withdraw funds from the network. As Axie Infinity’s popularity was exploding in November, Sky Mavis, the company behind Axie and Ronin, “requested help” from the Axie DAO due to “immense user load.” The DAO enabled Sky Mavis to verify a large portion of transactions. From that point on, Ronin wasn’t really decentralised, and usability was prioritised over security [22].

Sky Mavis observed that the attacker got away with it because of a patch made in November 2021, and the “Axie DAO allowlisted” technique was stopped the following month. The team noted that the “allowlist access was not revoked,” and that “after the attacker obtained access to Sky Mavis systems, they were able to get the signature from the Axie DAO validator by using the gas-free RPC” [23]. Sky Mavis emphasised that the team is collaborating with law enforcement to “guarantee the offenders are brought to justice.” On April 14, 2022, the FBI attributed North Korea based Lazarus Group to the Ronin Validator Security Breach, and The US Government, specifically the Treasury Department, has sanctioned the address that received the stolen funds [24].

After the attack, they announced that they will be decentralising the validator set, as the attack was directed to the DAO structure.

Score: 1

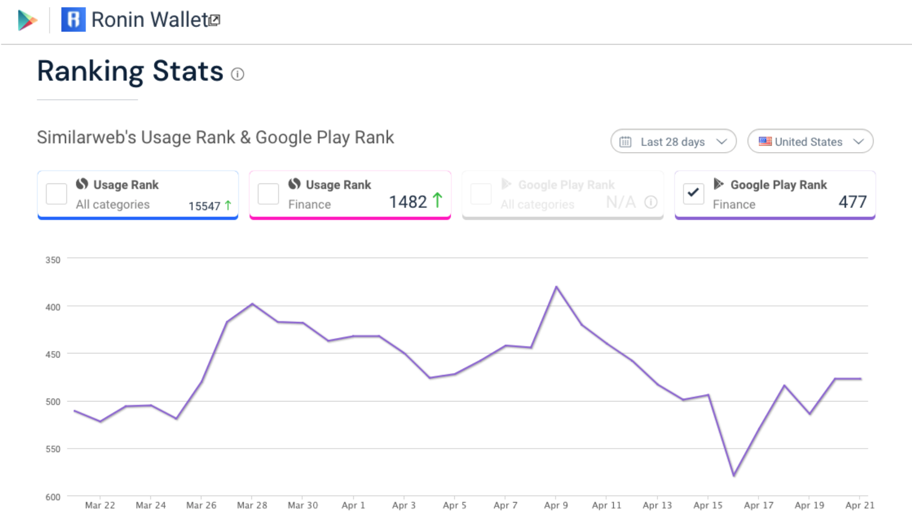
d) Infrastructure - fees and ancillary infrastructure (10 points)

The section above assessed specifically the security of the chosen infrastructure solution. This score, however, looks at the other side of the scalability trilemma - fees and the ancillary infrastructure like bridges, wallets, etc.

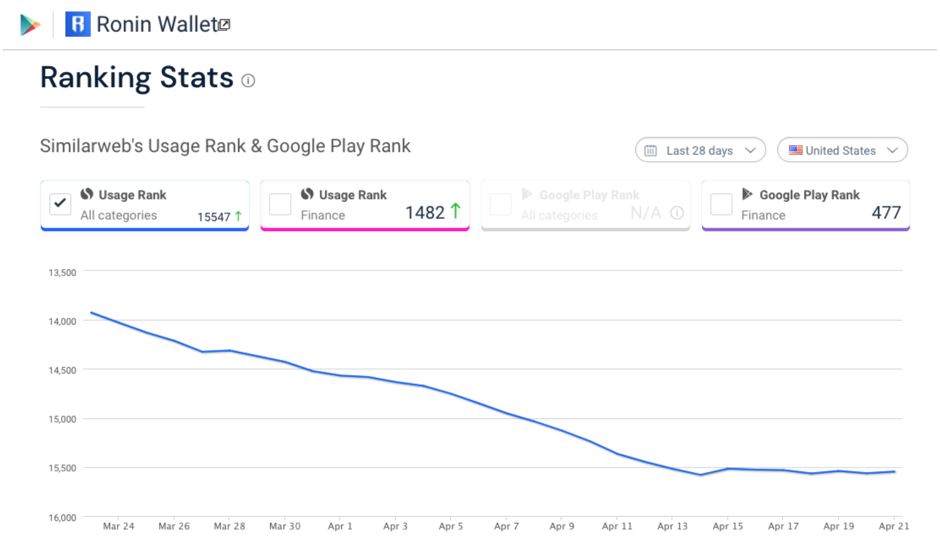
Answer:

Ronin Network [25] makes fees close to non-existent. The Ronin Wallet plugin is available for the mainstream browsers and both the interface and use are simple and very easy to use [26]. Additionally, the bridge is simple to use from both, Ronin to Ethereum and Ethereum to Ronin. There is also a direct bridge to Binance [27]. Also, Ronin Network includes its own DEX named Katana, allowing swaps between SLP, AXS, RON, WETH and USDC at a very reduced price in fees [28].

The Ronin Wallet has proven to be somewhat successful, being a very popular app (including the mobile one):



Lately, the usage has decreased sharply due to the hack:



Although the previous section was given a tough score due to its proven lack of security, in this section we have the opposite case: transaction fees are low, and ancillary infrastructure exists and is easy to use, with the only caveat that the usage is decreasing due to the hack, and it may be difficult to recover from it.

Score: 9

e) Treasury management (10 points)

Treasury management refers to the project's management of its assets and balance sheet. How diversified is its treasury? If diversified, are the assets productive? For example, does the project own its liquidity? Are there procedures and plans in place for managing the treasury?

Answer:

The treasury grows from the marketplace fees and breeding materials. At this moment, Sky Mavis takes a fee of 5,25% for each Axie sold and 1AXS for each Axie bred. At today's date the treasury is held in both AXS and wETH with 21,887,928 and 56,219.11 tokens respectively. The treasury wallet appears on the ronin explorer [29].

For the future, once the governance is completely decentralised, the treasury will deploy the funds according to the decisions approved within the DAO, making each AXS behave like a stock of the game and giving it a value not only for voting but also for the treasury it is backing [30].

The treasury has a continuous and sustainable source of income from some of the game transactions, which gives a lot of economic possibilities for the future management/deployment of funds. Currently Axie's treasury is not being managed at all. It is passive for now, meaning that nothing is done with these funds. In the future, the DAO is going to be able to deploy/use these funds to establish positive incentives and create a stronger community. Additionally, we must state that the treasury assets are not very diversified. There are mainly AXS and wETH, but not stablecoins or other non-correlated tokens to cope with possible sudden market movements.

We can conclude that the treasury is passively building a reserve of alternative assets via income but remains primarily exposed to mainly a single token (AXS). Limited work has been done on treasury diversification, with no dedicated headcount or resources directed towards this.

Score: 3

3. Token Economics

The "Token Economics" section assesses the function of a protocol's token. This includes the token distribution, its functionality, the ability of the token to incentivise desired behaviours and value capture potential.

a) Genesis token distribution (15 points)

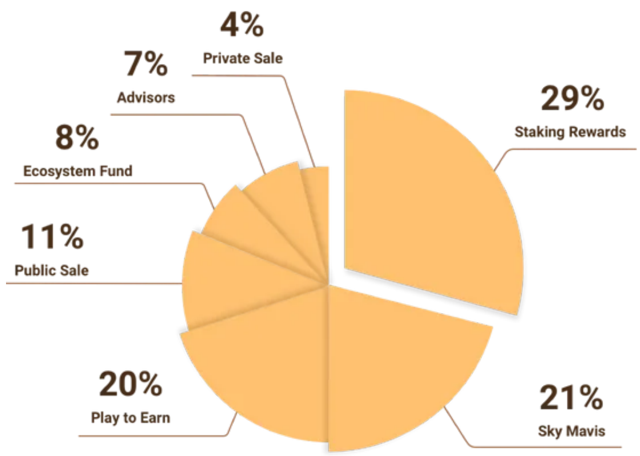
Token distribution can be an indicator of a healthy protocol and, if done well, can improve coordination and alignment among different stakeholders. Was the initial distribution fair and balanced? Are the tokens distributed widely or is the ownership concentrated?

Answer:

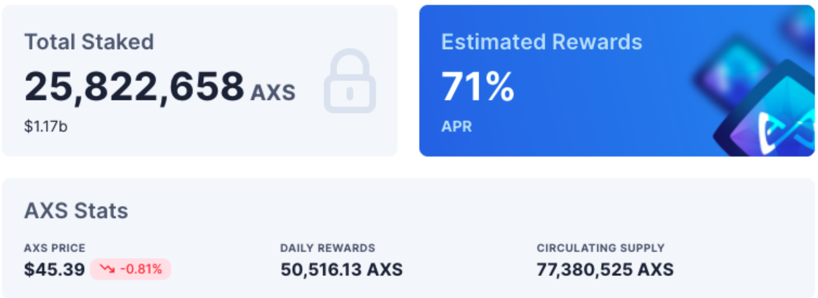
The initial distribution of the token was 59,985,000 AXS in a public sale. The tokens will be gradually being unlocked until 2026, then, the last AXS is supposed to be unlocked.

From the distribution shown we can see that the allocation to the community is not extremely high, but it is enough to align the interests of the different stakeholders. There is 29% for the staking rewards, 20% for the play to earn part, and 11% as a public sale, making it 60% for the community. The other 40% is distributed to insiders in a private sale (4%), advisors (7%), ecosystem fund (8%) and the Sky Mavis Team (21%). The Team has received a high % of the total distribution.

The distribution of the AXS token is shown in the following graph:



Over 30% of the circulating supply is staked at today's date [31]. The total supply of AXS is going to be 270 million tokens, but the current circulating supply is 77.38 million AXS.



The expected issuance of AXS is expected to be slightly lower than the unlock schedule. The Play to Earn and Ecosystem fund allocations will not be issued until the game is ready for a growth phase even if the tokens are unlocked.

We can see that the token distribution somewhat reasonably aligns stakeholders for the betterment of the protocol. The Community allocation could be higher, but they can make the case it is enough and significant. The insiders allocation, on the other hand, could have been lower (40% is on the higher side of the spectrum in the industry standards [32]). The vesting schedules and lockups are somewhat fair and promote a long-term commitment from the team, community members, investors, and people playing the game [33].

Score: 10

b) Purpose of the token (10 points)

This score evaluates the purpose of a token in the project's ecosystem. For example, does it provide utility? Does it have governance rights attached to it or a built-in value capture mechanism?

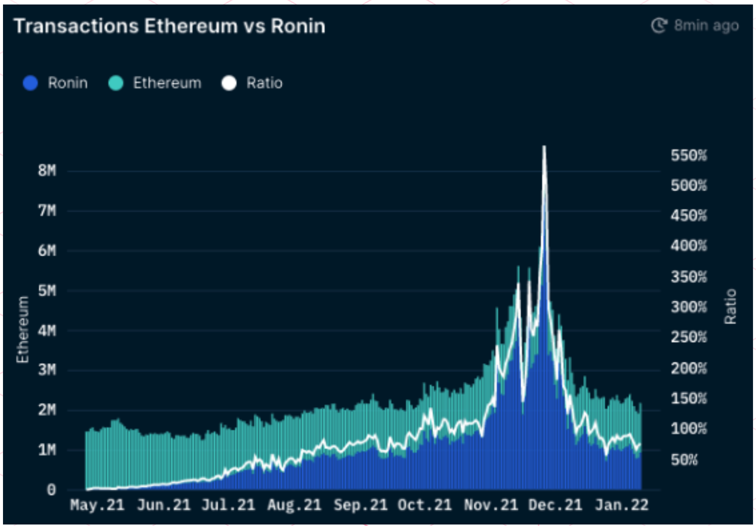
Answer:

Axie Infinity has 3 tokens, each one with a different function and purpose so we must briefly speak about each of them individually, but we are going to focus on AXS (the governance token) for the score in this section.

- RON: Ron isn't specifically from Axie Infinity, but it is the native token for the ecosystem of the Ronin Network. It is used to pay fees and will also be used to pay fees in any game built on this network. The max total supply is 1,000,000,000 and will be reached 294 months after issuance begins. Its main purpose is to secure and decentralise the network. Ronin will thrive if RON is in the hands of the builders and users of the network [34].

  Ronin was built to be an industry leading blockchain for gaming. It optimises for near instant transactions and negligible fees that allows for millions of in-game microtransactions to occur seamlessly. The network is the backbone of Axie Infinity, powers all its transactions and holds its assets - Axies, Land, SLP, AXS, Wrapped ETH (WETH) [35].

  At its peak in November, Ronin processed over 560% of the total number of transactions on Ethereum. While there is no official documentation on the max TPS of the Ronin network, it has a block time of ~3s (ETH averages ~13s). Executing trades on the Axie marketplace and sending assets over the network are completed within seconds.



  On the other hand, there are serious criticisms. The PoA consensus model means that the network is relatively centralised due to its limited number of validators and the inability of the common man to run a node. This allows the team to push out upgrades quickly and to fix any issues that might arise but goes against the ethos of a player owned game that Axie Infinity is striving towards. To alleviate that concern, Sky Mavis plans to progressively decentralise the network once Ronin is more developed and stable. They've recently launched their first community-run validator node managed by 50 members of the AxieChat Community [36] and is the first of many steps towards decentralisation.

  On top of that, the team is actively looking at developments in the blockchain space and are open to changing the consensus model to a more decentralised model once such solutions mature. One example would be zkSync which uses a ZK-rollup consensus model.

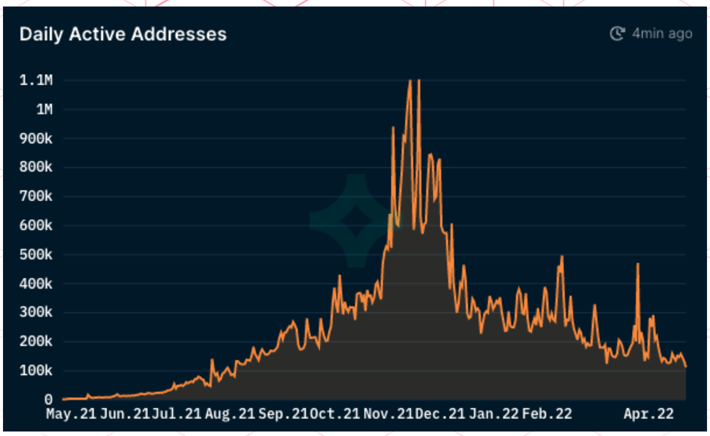
  Once Ronin is more mature and stable, other games developers can start to build their games on Ronin. This will allow the network to expand beyond Axie Infinity and potentially become the go-to blockchain for future blockchain games.

- SLP: Smooth Love Potion is the token minted for playing Axie Infinity, it is both involved in the rewards each player obtains and a burning mechanism is being developed through the so-called 'Axie Release' [37].

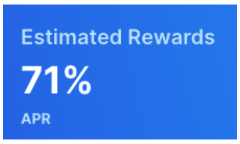
  The Axie Release is a mechanism that has been in the works for a while, mainly during 2021 and the beginning of 2022. Its goal is to ensure that there is economic balance brought back to the ecosystem. Essentially, Axie Release is used to burn Axies and SLP tokens. The burning mechanism is going to ensure that there is not an oversupply of Axies and SLP. Doing so will ensure that the Axie Infinity ecosystem can deal with the issue of inflation. Releasing allows users to release their Axies to live independently within Lunacia. In return, the former owners are given rewards, which include special Lunar New Year land items. Sky Mavis, the lead developer at Axie Infinity, has stated that Axie Releasing has always been a key component of the Axies' life as well as the economic model.

  SLP is an ERC-20 token used to breed new Axies in Axie Infinity. It can be earned by playing the game in PvE Adventure mode as well as the PvP Arena. The token has no max supply [38].

- AXS: Axie Shard token. Axie Infinity Shards are an ERC-20 governance token for the Axie universe. Holders will shape the future of Axie Infinity by signalling their support for upgrades to the ecosystem and directing usage of a Community Treasury. Its functionality at this moment is paying the prize to the high-level players, staking and payment for the marketplace. We can see that the daily active addresses have been steadily increasing until december 2021, followed by a sharp decline since then [39]:



  The staking capabilities have already been enabled, with a very interesting APR, having a clear in-built value capture mechanism [40]:



In sum, we were able to see that there are three different tokens built for different purposes. This is a very good sign, as it shows that they are not trying to create a multipurpose token that would have to compromise in specialty for different types of usage. This also shows that they have created a very important infrastructure, which will be used by many different gaming projects: the Ronin Network. Every token has its own purpose, and economics and features are specifically designed for the needs it has; something that, again, is not very common in many projects. So, we can conclude that the different tokens provide utility, revenue (specially AXS through the in-game fees that go directly to the Axie Infinity's treasury), and it will provide future governance rights to the holder, although this is not a current feature yet [41]. They are still working on enhancing them though, in order to bring the correct incentives to the whole ecosystem. As stated previously, the governance capabilities are still not completely developed, as we will see later in the governance section.

Score: 7

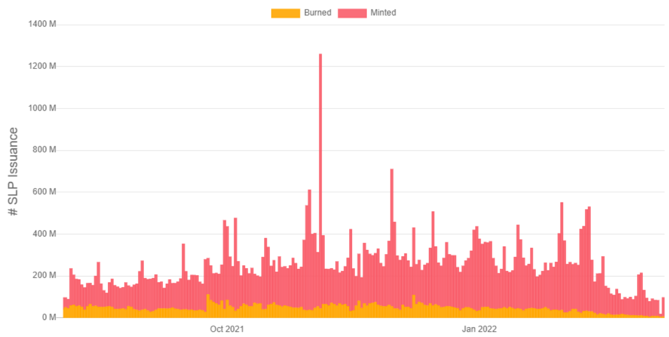
c) Ongoing token issuance / inflation (10 points)

Most tokens have built-in inflation. This section evaluates the purpose of that inflation. Is it justifiable? Does it help improve the coordination and alignment of incentives for the protocol? Does it incentivise positive-sum behaviour? Are the benefits flowing to all relevant stakeholders or just select groups?

Answer:

Here we will briefly speak again about each token individually, although only AXS is relevant for the final score in this section.

SLP token has the biggest problem in inflation terms. As we have seen in the previous section, there are many burning methods Sky Mavis is trying to implement but so far, as the inflation of this token has clearly become a problem [42]. It also has a big selling pressure since many scholars just use it as a salary, selling the SLP to obtain stablecoins or other coins with more upside potential like Eth. This, added to an unlimited supply, made SLP inflation one of the main problems Axie Infinity has had.



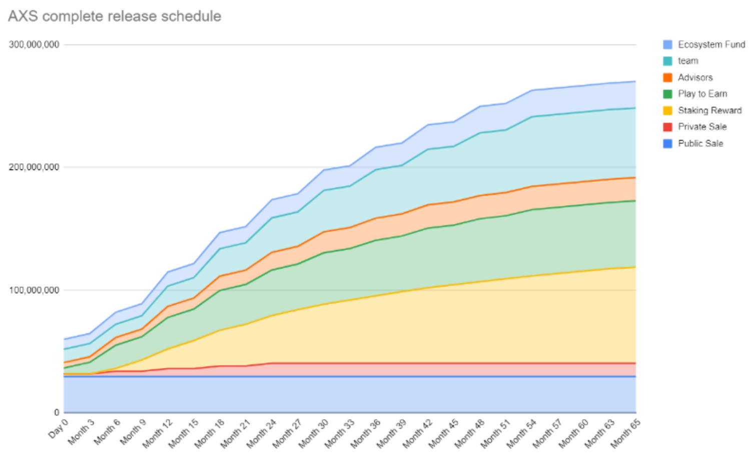
While the current Axie Releasing is a trial feature, it is going to be rolled out fully in the future. The current release will be used to gather data and make adjustments for future releases. Just like burning, Axie Releasing ensures that the tokens can no longer be used within the ecosystem.

Burning tokens is a common mechanism used by many blockchains to preserve the economy of the ecosystem. By burning tokens, it reduces supply, which curbs inflation. A burning event ensures that the reduced supply will mean that remaining tokens could see their value rise. In the case of Axie Infinity, it could mean that the value of remaining NFTs sees a positive price bump.

As of April 22, 2022, 147,443 Axies had been released by 49,513 participants. Anyone can view the current figure by visiting the events page [43]. The first trial program finished on February 20, 2022, and it seems to be working in the game, although it is still a subject of

AXS token has a maximum supply of 270,000,000 tokens. In the following graph, it is shown how the issuance will be evolving starting on November 4th, 2020.

The inflation will be decreasing until 2026, when the last AXS token will be issued according to the roadmap.



We have basically seen that every token has different inflation schedules according to the ecosystem needs, and that should be seen as a good signal, because the governance token (AXS) does not have the same inflation needs than the Ronin Network's native token or the specialised in-game token (SLP). They are, moreover, solving the inflation issues experienced with the SLP token, with an in-game burning mechanism that should help control the initial high inflation of it. This burning mechanism for SLP is still being developed and enhanced, and will probably experience some more changes to it, but we can say that it is mostly already solved.

More specifically, AXS is the token that will obtain the future governance capabilities, and we can see that the coin issuance schedule, as it is a disinflationary token by design until 2026, offers an issuance that incentivises positive-sum behaviour, and it clearly improves coordination and benefits to all relevant stakeholders. The issuance mechanism takes place through different sources, with different unlock schedules in each point:

1. Play and Earn (20%) [44]: with a gradual unlocking schedule over 5.5 years. The goal is to attract a wide range of players to the Axie ecosystem in the hunt for token rewards and to give ownership and stake to the most active community members. They intend to use the play and earn portion of the issuance to reward key behaviours within our ecosystem such as:

    - Competing in the arena and winning matches.
    - Winning tournaments.
    - Interacting with and tending to your land plots.
    - Using the Axie Infinity marketplace.
    - Breeding Axies.
    - Using future Axie products that haven't been announced yet.

    The Play and Earn allocation can be seen as a marketing budget for the Axie ecosystem. When certain game modes and products are ready to be promoted, its play to earn allocation could be increased. According to the team, these allocations are something that could potentially be decided by governance over time. Players are rewarded in order to align incentives, because they create the game's network effects.

2. Staking (29%) [45]: with a gradual unlocking schedule over 5.5 years. By staking token holders are incentivised to stake their tokens to receive the rewards in the form of new tokens entering the circulating supply through the Axie's staking dashboard [45.2]. Staking is a way for us to reward their community members for having a long term mindset and locking up their AXS tokens. In the future they plan to create the Axie Score, an upgrade on their staking system to give better rewards to those that have measurably added value to the Axie ecosystem prior to claiming. This is still in the research phase. The stakers who are not players or interested

in participating in governance could be able to delegate their required "work" to other parties. This might lead to a future where guilds or corporations with massive amounts of AXS will need to look for talented players who can ensure a high enough Axie score to collect weekly yield.

3. Ecosystem Fund (8%) [46]: with a gradual unlocking schedule over 4 years. The ecosystem fund will initially be managed by the Sky Mavis core team, and its core purpose is to grow the Axie Infinity community. The principles for the fund are as follows:
    - Clear value added to the broader Axie Infinity community
    - KPIs and goals that unlock funds (if applicable)

4. Sky Mavis (21%) [47]: with a gradual unlocking schedule over 4.5 years. Sky Mavis is the team behind Axie Infinity. These funds are meant to make the team remain incentivized to keep building after a successful token sale. By locking up the majority of the allocated supply the team, community and investors have aligned incentives.

5. Advisors (7%) [48]: with a gradual unlocking schedule over 4 years. The advisors are Hashed [49], Delphi Digital [50], Edward Lee Lee [51], Sebastièn Borget [52] and Binance [53].

6. Public Sale (11%) [54]: this had an instant unlock in order for the community to make use of the tokens.

7. Private Sale (4%) [55]: with a gradual quarterly unlocking schedule over 2 years. Axie Infinity raised $864,000 in a private sale of AXS to strategic investors in the middle of 2020. These investors purchased AXS at a 20% discount.

As we can see, the issuance model, with their different vesting/unlocking schedules, is focused on long-term positive-sum incentive behaviour, aligning the interests of all relevant stakeholders, and with a disinflationary issuance until 2026. After 2026 there will be no inflation on the circulating supply whatsoever.

As a side note, another incentive structure within Axie Infinity are the Arena Seasons [56], where players are able to win prizes in AXS and SLP for playing the season successfully against other players.

Score: 8

d) Value capture (10 points)

The ability to accrue value and consequently distribute it to stakeholders can be an effective coordination mechanism and deliver long-term benefits to a project.

Answer:

As AXS is the main token in the project, the value capture should be focused on it.

Currently, the token's main value capture for Axie Infinity is through the breeding fees. However, it can also be staked, but staking doesn't contribute to any Proof of Stake (POS)consensus mechanism, so it has no real use further than token unlocking.

As stated in the roadmap, each AXS will eventually have governance capabilities once the Axie Infinity game becomes fully decentralised, having its value backed by not only a part of the project but also a portion of its treasury.

Right now its usefulness is limited. In the future, if Sky Mavis meets the expectations created, AXS will be an interesting and useful token, due to its 3 main use cases: governance, staking and payment system. Currently it is important to state that the value is captured into the Axie Infinity treasury which, so far, does not have any direct connection with the AXS token itself (due to the lack of governance enabled). Furthermore, there is still no distribution mechanism for that revenue currently. On the other hand, the staking rewards, as we have seen in the previous section, are paid out from inflation, not marketplace or breeding fees.

To complete the analysis, although the score focuses just in AXS, we have also seen that the SLP token has clear in-game use cases, and it allows players to earn value, a game changer in the space. Additionally, RON, being the native token of the Ronin Network, has also a very clear use case: functioning as the native token of transactions in the network/ecosystem.

To conclude, there is not a clear value capture for the AXS token, and no distribution of revenue to token holders as of today. The only ways to accrue value as a token holder is by playing the game successfully or staking the AXS token, taking into account that the staking rewards are paid with new issuance. The treasury does not have a clear distribution schedule to token holders either, that is why we must finish by saying that the token has a limited value accrual and distribution mechanism, and currently plays an insignificant role in coordinating stakeholders.

Score: 3

e) Token liquidity (5 points)

Is the token widely available and is there sufficient liquidity to facilitate all protocol functionalities?

Answer:

AXS token is listed in few of the most known centralised exchanges such as Binance, Gate, Kraken, FTX, Coinex, Huobi or Bitfinex as well as many others decentralised exchanges such as Uniswap, Sushiswap or PancakeSwap (AXS has its own contract for Binance Smart Chain), so we can say it has deep liquidity, although the size of it also limits its liquidity compared to other tokens.

Axie Infinity is currently the #41 cryptocurrency by volume. In comparison to 1 year ago, the volume of Axie Infinity has increased sharply [57] during the last quarters.

Score: 4

f) Extrinsic productivity (5 points)

Can the token be used outside of the project's ecosystem? For example, can it be used as collateral elsewhere, be staked for yield or rewards, etc.

Answer:

AXS is a token that is mainly focused on its own ecosystem. Because of this, the token usability is limited to the Axie Infinity game. However, there are few centralised and decentralised exchanges that have AXS as a valid collateral for a loan, such as AAVE or Binance. It can also be used for yield farming in Pancake Swap [58] or Uniswap [59] or even on its own exchange, Katana [60].

Score: 4

4. Team

The "Team" section describes the quality of the team behind the protocol. The current version of Prime Rating favours teams that are publicly identifiable. In the case of an anon team, the track record of the specific anons involved can be taken into account.

a) Credibility and reputation (10 points)

Are the identities of the core team public? In the case of anon team members, do they have a track record or reputation in the crypto space?

Answer:

As previously stated, Axie Infinity is being developed by Sky Mavis, which is a technology-focused game studio founded in early 2018.

The team is growing rapidly, as it currently consists of over 100 full-time employees, with headquarters in Ho Chi Minh City, Vietnam. The founding team consists of the following individuals [61]:

Trung Thanh Nguyen - CEO

Trung is involved in all key decisions from product to marketing and leads the company in Vietnam. At the age of 19, Trung co-founded and was CTO of Lozi.vn, an early Vietnamese e-commerce startup which has raised around 10 M in funding and is still in operations as of now. He left Lozi once it became a stable business and the team's focus shifted from building to business/operations. Trung also had stints at Trusting Social (25 M recent funding round led by Sequoia) and Anduin Transactions (a Joe Lonsdale company) before founding Axie Infinity.

Trung represented Vietnam in the ACM-ICPC World Final 2014 held in Yekaterinburg, Russia.

He provides LinkedIn [62], Github [63] and Twitter [64] profiles.

Aleksander Leonard Larsen – COO

Aleksander is responsible for all things business-related in Axie Infinity. He also serves on the board of directors in the Blockchain Game Alliance and holds the secretary position.

He has worked in the Asia Pacific region since early 2018 and has a vast network of Blockchain industry and gaming connections, particularly in Vietnam, Hong Kong, South Korea, and Japan.

Before Axie Infinity he worked as a manager in the Norwegian state and spent his free time as a content creator and competitive gamer. He has been ranked as one of the top 200 players in Europe in DotA 2 and has represented the Norwegian national team in Warcraft 3 and DotA.

He provides LinkedIn [65] and Twitter [66] profiles.

Tu Doan - Art Director and Game Designer

Tu runs the art team in Vietnam and designed the original Axies. He is responsible for the art direction and many game design concepts.

He co-founded and formerly worked as the Head of Design at Lozi.vn.

He provides his LinkedIn [67] profile.

Andy Ho – CTO

Andy leads the engineering team and is responsible for our technical strategy and engineering operations.

He previously worked as a software engineer at Anduin Transactions and interned at Google and Paypal. He attended the International Olympiad in Informatics (IOI) 2010 held in Waterloo, Canada. He graduated from Nanyang Technological University, Singapore and also represented Singapore in the ACM-ICPC World Final 2015 held in Marrakech, Morocco.

He provides his LinkedIn [68] and Github [69] profiles.

Jeffrey Zirlin - Growth Lead

Jeff AKA "Jihoz" is responsible for growth and community development. He is also a co-founder, and spearheads the token design and works closely with the product team.

Jeff grew up collecting fossils and insects; he uses this experience when thinking about the collector side of NFTS. Jeff was a member of a top-ranked USA Horde guild in vanilla World of Warcraft; he spent much of his childhood/adolescence in raids. Academically, he studied military and economic history at Yale where he wrote his thesis on the ideological origins of Alexander Hamilton's debt restructuring plan.

He provides LinkedIn [70], Twitter [71] profiles, and also his thesis done in Yale University on “The South Sea and Mississippi Schemes as Models for Sovereign Debt Restructuring” [72].

As we can clearly see, the Team has an extremely high level of quality, being able to safely say that it is a top-tier global Team, with a high level of credibility. Additionally, they are public, and offer a high-quality background and social network that makes them a trustworthy cohort of people. They are not only developers, some of them are also well-known players, with a high degree of experience, know-how and reputation within the gaming industry.

Apart from the profiles shown, there are around another 35 people working on the project full-time according to their website (although according to CoinDesk, they have a Team of 87 people, but we can at least conclude that the Team is highly credible. In a recent interview Aleksander Leonard Larsen stated that there are currently 102 people spread over the entire world [73].

Score: 9

b) Relevant experience? (15 points)

Does the team have a track record of execution? Have individual team members built a product or a business before? Does the team have the necessary skills? For example, if a project is making a game, do they have a game developer?

Answer:

The Team has a very impressive track record of execution. As we have previously seen in the profiles, they have succeeded in building products and businesses before.

The co-founder and CEO of Axie previously was a co-founder and CTO of Lozi [74], an e-commerce platform which is a venture capital-backed social network for food bloggers. He left the company when the focus shifted from building to day-to-day business operations, which shows his building and creativity priorities. In his bio we can also see that he had stints in building two other projects (Trusting Socials & Anduin Transactions as a Software Engineer), from which we can see that he does not try to overstate his work.

The COO was also a cofounder of Axie, and currently serves on the board of directors in the Blockchain Game Alliance, holding the secretary position, and having a wide array of network connections within the gaming industry, mainly in Asia. That alone already shows that he must have some qualitative and relevant experience in the gaming industry. Previously he worked as an Executive Security Officer in the Norwegian Government Security Organisation and as a Community Management and Business Development in Parsec Frontiers [75], a virtual galaxy MMO blockchain with a complex economy. This project looks like it was not successful [76], but it certainly gave him a lot of experience for his future projects.

The Art Director and Game Designer in Axie also co-founded and worked in Lozi as the Head of Design; and the CTO previously worked as a software engineer at Anduin Transactions and interned at Google and Paypal attending international competitions in informatics and programming during his university years. The Growth Lead has a good academic background and some side hobbies that can help shape Axie in the right way.

All in all, we can clearly see that the Team has a satisfactory track record of execution, creating previously a company (Lozi) that is still running and successful, managing to raise the required capital for that. They have the necessary skills to create a successful project, seen not only in the past, but also currently in Axie Infinity itself. The Team has a different background with seemingly high synergies. That is why we can conclude that the Team is highly skilled, with relevant experience and history of executing.

Score: 13

c) Thought leadership and public presence (10 points)

To what extent do the protocol contributors participate in the public debate around the metaverse? Are the team members giving presentations, sharing their thoughts and opinions, and do they help raise the industry's collective intelligence?

Answer:

The co-founder and CEO has been granted the CoinDesk Most Influential 2021 Profile, an achievement that already shows a high presence in the DLT public space, along with people like Elon Musk, Bitcoin's Taproot developers and the chair of U.S. Securities and Exchanges Commission, amongst others. The award was given to the top 50 most influential people who defined that year in crypto, and the top 10 (in which the Axie's CEO is in) are recognized for outstanding contributions across development, business building, regulation, gaming, art and investing. The names were first selected by readers in a survey and then by staff over two rounds of intense meetings [77]. Additionally, CoinDesk commissioned 10 artists to create portraits of these influencers, with NFTs of the works available at platforms like SuperRare and Foundation. This is the NFT for sale in SupeRare:

The reason given by CoinDesk for the award is "for making crypto fun and catalysing a "play-to-earn" juggernaut". Additionally, CoinDesk wrote an extensive article about him [78], where the story of how the play-to-earn phenomenon started. He became inspired from Cryptokitties and thought he could do something better himself. He not only played the game, feeling underwhelmed due to its in-game simplicity, but also reverse-engineered their breeding mechanics (the most complex part of it), understanding the deeper intricacies of it in order to create something more complex and interesting.

Also, in the same article, it is explained that Nguyen (The CEO) expects his team to push themselves, perform better, play to his standards and put in the same effort as he does. Team members attest that Nguyen is a stickler for quality with acute attention to detail. He works the hardest out of any of them, they say, has the highest expectations and implements near-impossible standards. For the first full year, all staff were contracted to work six days a week, Monday to Saturday. His strictness strikes fear into some staff, but he does it to better the whole group. He's as hard on himself as he is on others. On the other hand, Nguyen is more of an introverted person who rarely takes interviews.

Up until mid-2018, however, Nguyen had to be more hands-on. He did the vast majority of the coding, product and user experience design, quality assurance and deployments. He gave feedback on artwork and was building community too. Currently, as the project has grown, he is more in a managing role, striving for success from a higher standpoint.

Apart from the CEO's amazing success story, and statedly being an introvert, he is very active in Twitter [79], participating in the public debate, and has granted some interviews [80], alongside with some other Team members.

Score: 8

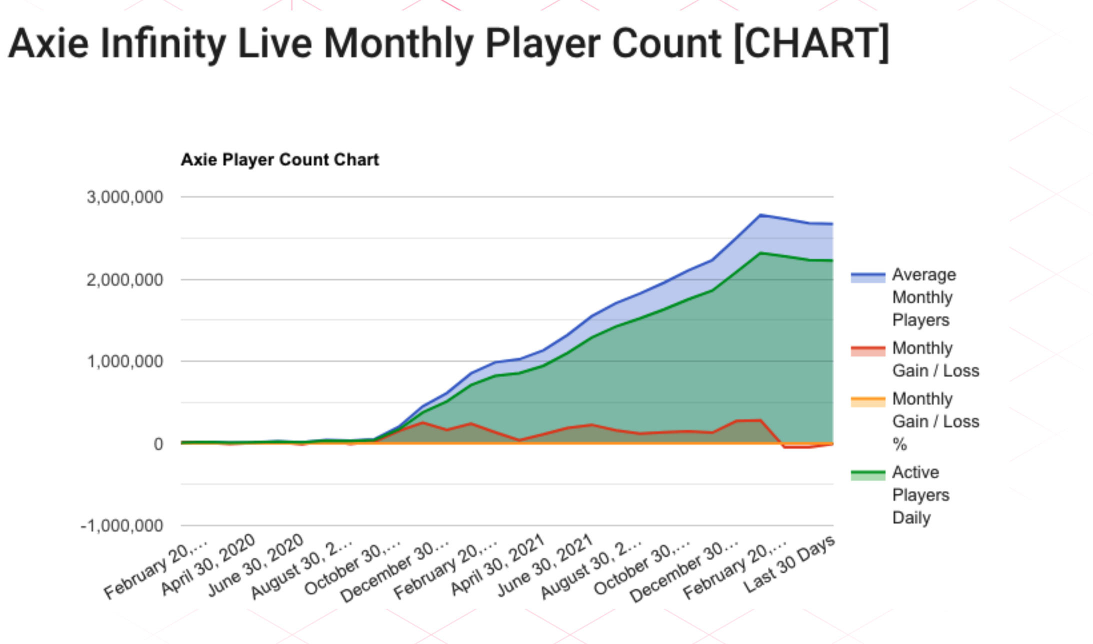
d) Ability to foster a community and coordinate resources (15 points)

How effective is the team at attracting and coordinating resources for the benefit of the protocol? Do they manage the community well, fostering a welcoming and positive environment? Does the community represent the project well externally?

Answer:

Community

If something we can say about Axie Infinity is that it has managed to build a strong community. That is what well-thought games manage to do: fostering a welcoming and positive environment, representing the project well externally. They currently have around 2,67 million active players (unique users) [81], near the historical maximum of 2,78 million:



Axie Infinity is a new type of game; one where users and the core development team are both incentivized to work together to grow the network. Axie is widely recognized as the largest and strongest community in NFT gaming [82].

In January 2022, the first Axie builders' program was released [83], which is an important step towards being able to build Axie alongside the community. Through this initial experiment, they want to "provide resources, promotion, support, and tools for community developers to continue building compelling, valuable gaming experiences on top of Axie". Anyone can apply in the specific Sky Mavis' webpage [84].

It seems that the community co-creation is the guiding north star of their thrilling ecosystem, and it has the potential to be a fundamental driver of scaled-value generation over time. In short, the goal of this program is to further strengthen their community's ability to create gaming experiences and tools, while managing risk to their community members and their gaming network at-large.

The benefits offered to the Teams that are chosen to be part of the program will receive the following:

- A minimum $5k grant in AXS to go towards their project, with a total of 5,000 AXS (~$400k) in grants available for this program.
- Guidance from SM engineering.
- Guidance from SM game design and product.
- Exclusive access to integrations such as Ronin SSO, Ronin Network testnet, and Ronin Wallet.
- Promotion of their project by Sky Mavis to the community.

This has the potential to create a thrilling and cohesive community of developers, which will, on the other hand, enhance the user experience of gamers in Axie. They are planning to create many mini-games within the ecosystem. Some of the examples of projects ideas that they offer are:

- Axie Tamagotchi
- Axie Bomberman
- Axie Tower Defence
- Axie Racing
- Axie Chess
- Axie Platformer
- Re-create Neopets games with Axie assets
- Axie trivia
- Axie educational games like Math Blaster

A new channel "Builders-Program" in the Axie Infinity Discord will be created for people who are looking for more help on their project.

Although the Axie community is relatively small when compared to conventional games, the amount of user-generated content and evangelism is very high. There are users that show that in a very clear way, creating and posting videos of an Axie Infinity real tattoo [85] and a rap music video [86], amongst other examples. Not many projects in the crypto space, or even games, can say the same thing, so we can say that the community is growing very fast, and that there is a strong sense of belonging in it.

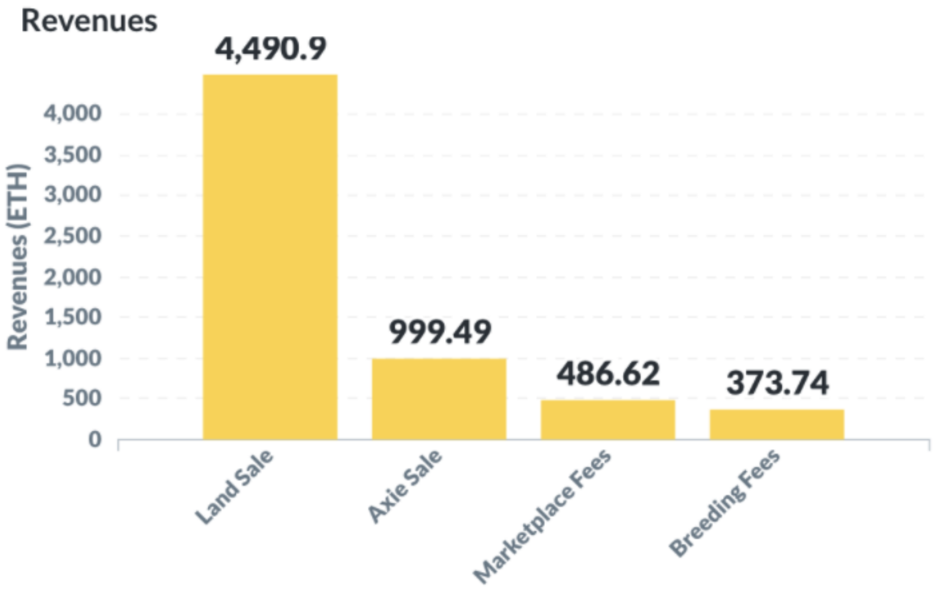
To date, the Axie community has built a variety of tools and experiences such as:

- Tools for appraising Axies.
- Tools for enhanced market search.
- Small mini-games
- Community websites to aggregate useful info like: Axieworld [87], Axie.zone [88], Axie Infinity Tools [89] and Axie Edge [90].

Resources Attraction and Coordination

Sky Mavis has not only managed to create a thrilling and massive community around Axie Infinity, but they have also managed to raise $150 million from different VC investors [91] at a nearly $3 billion total valuation, also as per a statement made by Aleksander Leonard Carlsen in an interview in Paul Barron Network YouTube channel [92]. This round was led by Binance, with participation of Animoca Brands, a16z, Dialectic, and Paradigm. They will use the funds to ensure that all users affected by the Ronin Validator Hack discovered on March 29th [93] are reimbursed, and to prevent future attacks as well. The Ronin Network bridge will open once it has undergone a security upgrade and several audits.

They have managed to finance themselves in a different way as well, bringing revenues from 4 different in-game sources: land sale, axie sale, marketplace fees and breeding fees.



These are some of the main partners that hey managed to get, and we can see that they are top-tier ones:

For now, we have seen that they have been able to create an amazing and qualitatively outstanding community and attract capital at an extremely high pace during the last 4 years. But what about human resources/capital? They have been able to attract an increasing number of professionals very rapidly, going from only 3 people working on Axie in the beginning to over 100 people around the world, some of them even moving to Vietnam (like Aleksander Leonard Larsen, who moved from Norway to Vietnam to work on the project). Every person that there is public information of has stayed since the very beginning, showing little to no human resources turnover. This is impressive, as nowadays that clearly means that they can maintain a good level of motivation and incentives within the organisation, with the ability to statedly hire the best people in the world thanks to their ecosystem.

Considering every aspect of this question, we can safely say that, up to the current date, they have had a good ability to foster a thrilling community and gather, maintain, and coordinate properly the resources available.

Score: 15

5. Governance

The "Governance" section evaluates all aspects of the protocol's governance, from infrastructure to processes and distribution of governance power.

a) Extent of governance capabilities (10 points)

Distributed governance should allow token holders to participate in the governance process. How much influence does the current governance process have when everything works as intended? What parts of the protocol does governance touch? Who can put forward a vote, and are there any limits or requirements (number of tokens, only the team can queue votes up, etc.)?

Answer:

Axie Infinity Shards(AXS) are an ERC-20 governance token for the Axie Universe. AXS holders will be able to claim rewards if they stake their tokens, play the game, and participate in key governance votes. Players will also be able to earn $AXS when they play various games within the Axie Infinity Universe and through user-generated content initiatives.

The mechanisms described above have two main goals [94]:

- To reward players for interacting with Axie Infinity while simultaneously incentivizing them to hold on to their tokens so they can claim additional rewards.
- To decentralise the ownership and governance of Axie Infinity.

We want Axie to become the first game truly owned and operated by the community that plays it. This opens up limitless possibilities but must be approached carefully. In the past, projects have been abandoned and become stagnant using the term “decentralisation” as a ruse. The shift to a true Decentralised organisation will occur gradually over time.

As we have seen, Sky Mavis has created their own decentralised organisation, using the token AXS as the governance to coordinate it. Through AXS, Axie Infinity is gradually evolving into a community-owned decentralised organisation. This process occurs as AXS is being distributed among players and stakers, with the Sky Mavis ownership becoming less concentrated over time.

For now, The Sky Mavis team maintains the majority vote on the governance process. Sky Mavis is currently able to vote with the locked Play to Earn and Staking rewards allocations. This statedly prevents hostile actors from disrupting the ecosystem during their early and crucial phases of development. They estimate that Sky Mavis will no longer have the majority vote by October 2023 [95].

The initial road that Sky Mavis has engineered to becoming a completely decentralised organisation is the following:

Version 0 - October, 2020 / Token generation event

No voting possible

Version 1 First half 2021 / Staking dashboard released

AXS holders can stake their tokens through the staking dashboard [96] and participate in governance votes brought forward by the Sky Mavis team.

These votes will revolve around which teams should receive funding from the ecosystem fund, and how the Community treasury should be distributed.

Version 2 - Early 2022

More on-chain votes about smaller issues.

Potentially changing the way votes are being counted from 1 token 1 vote to Quadratic voting.

Version 3 - September 2023 / Decentralised Organisation

AXS holders determine which governance framework should be used and how much should be voted on. Some decisions will not be up for debate such as token supply which is iron-clad in smart contracts.

Potential things that can be voted on:

- Should Axie Infinity Limited continue to pay Sky Mavis to develop Axie Infinity?
- Should Axie Infinity use the marketplace created by Sky Mavis?
- How should the Community Treasury be used to reward AXS holders and the broader Axie community?
- Should the Community Treasury funds be attached to any yield farming/staking services such as Yearn.finance or Rari.Capital?
- And more.

We can see from this timeline that they are in the process of moving into Version 2, where they will increase the number of issues to be voted on in a decentralised way. They are also contemplating quadratic voting [97], which is a very interesting way of voting, different from the traditional one person/token/address one vote type of vote. With quadratic voting individuals can allocate votes to express the degree of their preferences, rather than just the direction of them. Quadratic voting works by allowing users to pay for additional votes on a given matter to express their support for given issues more strongly, resulting in voting outcomes that are aligned with the highest willingness to pay outcome, rather than just the outcome preferred by the majority regardless of the intensity of individual preferences.

All of this shows that the Sky Mavis Team is taking governance very seriously and has a clear roadmap for a completely decentralised organisation as the endgame. They are not taking the easy path to just establishing a common governance system. They have researched for the best governance system that works for them and will implement it gradually. The gradual implementation is, on the one hand, a good sign, as it shows caution against possible unintended consequences, but on the other hand it shows that they want to maintain power for now, taking the initial decisions of the ecosystem for themselves establishing a differentiated system in which there are matters voted by the DAO and matters voted by the Sky Mavis team.

Even after the Version 3 is fully implemented, the governance will be extensive, but with some limitations. The token supply is a matter of “iron-clad in smart contracts”.

Also, it is important to mention that the community treasury for governance is live since 2021, and it receives revenue inflows from two different sources: (1) 5.25% of all Axie NFT marketplace transactions and (2) The AXS portion of the breeding fee. More streams will be added in the future from cosmetic sales, tournament entry fees, licensing fees, and more as new opportunities present themselves. The treasury can be checked in the Ronin chain explorer [98], currently owning over $1 billion worth of value in AXS, out of the $3.7 billion market cap of the total circulating supply currently, according to Coingecko [99], around 27% of the total circulating supply. Additionally, the Treasury owns around $173 million worth of wETH.

Decentralised governance is still non-existent, making the core team in total control of the ecosystem for now. The intention, as we have seen, is to open the gates gradually to decentralisation, but for now the decisions remain centralised. They recently posted an updated decentralisation timeline that shows that it will take some time for the ecosystem to be fully decentralised [100], and the transition is based on number of daily active users and not hard cap dates.

Score: 1

b) Active governance contributors (5 points)

Governance is time-consuming, and governance apathy is a common problem in most democratic systems, including crypto. Therefore, it's essential to have a sufficient number of community members allocate resources to the governance process of the protocol. How many individuals participate in the debate around the protocol? How active are voters? Is delegation enabled?

Answer:

We have seen that the community is strong and that there are many token holders of AXS. Currently over 80% of the tokens are held by 2 different addresses [101], which limits the real contribution that the community is able to attain. They have planned to distribute the token more widely in the future, but that has not taken place yet.

So basically, on the one hand, there are a lot of active governors, but on the other hand these contributors have limited power for two different reasons: (1) their votes are limited to small matters currently, and (2) the token's distribution is very centralised.

The Staking Pool Contract has 23.81 million AXS (44.68%) of the total supply, according to the Ronin Explorer [102]:

ADDRESS	QUANTITY	PERCENTAGE
AXS Staking Pool Contract	23,809,210	44.67%
ronin:a99cacd1427f493a95b585a5c7989a08c86a616b	21,884,380	41.06%

The Treasury is the second biggest holder according to the Ronin Explorer, with 21.88 million AXS (41.06%) of the total supply. Both combined have over 85% of the total supply, and they are the ones who could currently have the ability to vote. The treasury is controlled by the team.

Score: 1

c) Governance infrastructure robustness (10 points)

Robust infrastructure relates to how well the technology, software, and models used by the protocol's governance withstand actual use cases. Does the protocol have a reliable voting mechanism? How robust is the governance process, and does it facilitate good governance? Are the votes binding, or do they function solely as signals to the team?

Answer:

Here we must consider that the whole infrastructure and governance process is still in the development phase. They are planning to make it more decentralised and increasingly give the community more capacity for voting. They believe in progressive decentralisation [103], which is a deliberate, stepwise process they will undergo to enable active partnership/ownership with an increasingly broad set of community members.

In short, they ultimately commit to fully empower any willing participant to contribute and benefit from their efforts within the Axie ecosystem. They have already been experimenting with this in small ways, and the team will increase the decentralisation in governance when the participants have the knowledge, experience, and supportive infrastructure needed to convert good intentions into something valuable.

Early within a decentralisation process, a few founding members have the primary responsibility for guiding the collective, building the product to collaborate around while also creating a process to enable a broader group to partner and watching for indications of community buy-in / progress. Late within a decentralisation process, the collective has the primary responsibility to guide one another as everyone works to advance the community's well defined mission by self organising within a milieu of easy to understand expectations, conventions, and social norms. While they seem to be passionately committed to this end state, many of the prerequisites needed to properly equip interested contributors don't yet exist, according to them.

The progressive decentralisation is going to take place in three different phases, and we can clearly see that they have put a lot of thought into this and that they seem very committed to it. These three steps/phases/objectives are [104]:

1. Product/market fit
2. Community participation
3. Sufficient decentralisation (community ownership)

According to the Team, in the first stage there should be no pretence of decentralisation, where a core team drives all product decisions by necessity, in the interest of finding the product market fit. Later, community participation automatically becomes the next goal to pursue. At early signs of product traction — a growing user base, developer ecosystem and network effects — it's time to start devoting more cycles to fostering harmony between passive users, more-active contributors and the core team. This needs to be fostered with economic incentives (fees) and a proper distribution of tokens that is done in a fair and effective manner. Only after these two goals have been achieved the team will focus on the third and endgame for the governance process and infrastructure: the sufficient decentralisation.

According to the team, they are still in the first stage, starting to pursue the second stage. They claim that, although the community is excited to experience on-chain governance, there is still much research around this topic that needs to be conducted before they make the final decisions about it. Vitalik Buterin wrote an article about DeGov [105], from which the Sky Mavis team gets these highlights:

- **"Small groups of wealthy participants ("whales") are better at successfully executing decisions than large groups of small-holders**. This is because of the tragedy of the commons among small-holders: each small-holder has only an insignificant influence on the outcome, and so they have little incentive to vote. Even if there are rewards for voting, there is little incentive to research and think carefully about what they are voting for.
- **Coin voting governance empowers coin holders and coin holder interests at the expense of other parts of the community**: protocol communities are made up of diverse constituencies that have many different values, visions and goals. Coin voting, however, only gives power to one constituency (coin holders, and especially wealthy ones), and leads to over-valuing the goal of making the coin price go up even if that involves harmful rent extraction.
- **Conflict of interest issues**: giving voting power to one constituency (coin holders), and especially over-empowering wealthy actors in that constituency, risks over-exposure to the conflicts-of-interest within that particular elite (eg. investment funds or holders that *also* hold tokens of other DeFi platforms that interact with the platform in question)."

A quick scan of Snapshot shows just how primitive Web 3 voting infrastructure still is. Even for the largest projects on the platform, voter participation is typically limited to hundreds.

When they do enable governance, they want it to be substantive and meaningful. They claim not to have seen this from the current models and believe it will take some time to iterate and experiment towards a model that is airtight and limits the potential for abuse. They claim to be learning a lot from the community dialog, and to be arriving at a collection of techniques that'll help them address some of the concerns stated above. They have in mind ideas like:

- **Implementing an "Axie score" as a modifier to weight voting**. This means allowing one's contributions to the ecosystem in addition to their AXS ownership amount to be taken into account. They are currently considering a non-transferable badge system that could allow us to build a robust system around this in collaboration with the community.
- **The creation of player-driven councils** that ensure a variety of opinions and recommendations from specialists are used to inform the creation and structure of key proposals.
- **Quadratic voting**: quadratic voting is a system where voters have limited voting power and must spend this power wisely. For example, staking AXS could cause non-transferable voting power to accrue to the staker over time and that voting power would be burned when used to effect the outcome on a proposal. This creates a market dynamic around voting.

They are currently stating that the initial timeline for progressively decentralising might have been misguided, and that they are actively learning and looking for the best option in the future. Their criteria for moving to phase two is:

- An Axie game that has over 10 million DAU and average weekly growth rates of 5% for 6 consecutive months or 8 months out of 12 over a 12 month period.

- Construction of a functional, easy-to-understand governance portal and process that avoids the pitfalls outlined earlier in this article.
- At least 3 outside teams are building games with over 100,000 DAU on top of Axie Infinity outside of the core Sky Mavis team.

If these requirements are not met by the end of 2023, Sky Mavis claims that they will lead the formation of a steering committee or similar vehicle to discuss a path forward. Alternatives include hosting a virtual/physical governance summit and enlisting a 3rd party think-tank. They are also open to explore any combination of these alternatives that gets them through this phase as quickly as possible.

We can clearly see that, although they have the best intentions moving forward, and we can clearly see that it is most probably the right thing to do, we need to currently score the project's infrastructure on the current situation mainly. They are putting a lot of thought into it and are arriving at very interesting conclusions and ideas, but for now there is no voting infrastructure. That is why we need to, for now, give a rather low score in this section.

Score: 1

d) Process and ease of use (5 points)

This score is based on the documentation and process for governance. More specifically, how easy it is to participate in governance. Does the protocol have a formal governance process? Is sufficient documentation available? Is there a basic framework to establish social consensus? Are there channels dedicated to governance debate?

Answer:

Everything stated in the previous section is also relevant for this section. The governance process is being developed and there are very interesting ideas popping up and being considered. The team still thinks it is better to spend some time to give some thoughts for the decentralisation process. They are not rushing it, which is also a very important sign, and at the same time we can see the high level of commitment that they have for it. They truly want to build a permanent, high quality, ecosystem, game and community. The documentation of all this process (to get to decentralisation) is very thorough, but as we have mentioned several times before, there is no decentralised governance process functioning yet. When the governance process is complete, which will probably be in 2-3 years, we can be sure it will be very well documented, but for now we need to focus mostly on what is out there already, which is only a well documented set of nice ideas and intentions for the future, without real governance, framework or channels.

Score: 1

6. Gaming Specific - In-game Economy

Gaming is and will continue to be an essential part of the metaverse. One of the benefits of NFT gaming and blockchain technology more broadly is authentic verifiable digital ownership. For games, that enables the creation of open in-game economies. However, these economies need to be well balanced through token economics and token design. The "Gaming" section focuses on the analysis of in-game economies and their sustainability.

a) Ease of use / Onboarding (15 points)

Gaming projects are introducing crypto to a lot of people in a short space of time. How easy is it for players to get to grips with the game, token economics, and onboard funds from the traditional financial system? Can the game be played on mobile, PC (browser or install) or both?

Answer:

Although the only way to buy your Axies is using ETH (apart from paying with free Axies in Origin), it is easy moving funds from an Exchange to the Ethereum Mainnet and using the bridge to move them to Ronin. In addition to this, Binance also allows withdrawals and deposits directly from the exchange to the Ronin Network, making transaction fees nearly nonexistent although there are few changes to the address introduced that make it a bit messy but it's not something difficult to do. In addition to this, Ronin supports Ramp Network powered payments so AXS, RON, SLP and WETH can be bought directly from Fiat using this tool (integrated in the Ronin plugin) [106].

The marketplace is very easy to use once you have the funds in the Ronin Wallet. One of the biggest problems the game had was having to purchase a team without knowing the game, so probably the first purchase ended up in a bad choice. However, this was solved once Origin was launched since new players can try the game with a free team (although they can't earn SLP like this) opening the door to many new players with no crypto knowledge that just want to try the game.

The game is very easy to start playing and the mechanics are easy to understand as well: you have 3 Axies and battle other teams of 3 Axies in a 3v3 battle. Each part of each Axie has an ability that can be used and that uses from 0 to 2 points of mana. You withdraw new cards each turn and get mana each turn. The team that can kill the enemy team before their team gets killed. However, this gets more complicated with the speed stats, some cards that reflect damage or heal, shields etc… making the game fun to play and keep learning it in order to climb ranks and earn more SLP per win. There is also a lot of high quality content on YouTube since it is a game that has a very big community behind and a content creator program to support the main streamers and youtubers that make content for the game.

On the platforms you can play the game on, the main one is the computer, but there are also versions for Android and Apple. The Android version can't be downloaded in google play; so, in order to play, you have to install an APK. Apple version is a bit more complicated. Since the game is in beta, it's not yet on the Apple store and it's only available on TestFlight, restricting the number of users that can play on these platforms. The team is working on this [107]. To sum up, we can say that there are dedicated on-ramps, and the game can be played in PC and mobile (almost there). The game mechanics are easily understood, and the crypto complexity is pretty much abstracted away. There is also high-quality educational documentation available for users.

Score: 14

b) Sustainability of P2E or in-game economy (20 points)

This section scores the sustainability of the in-game economy. Does it rely on the ever-increasing growth to sustain the ecosystem? Are there multiple levers the team can pull to balance the economy?

Answer:

Even though SLP inflation is the biggest threat to Axie Infinity economy sustainability, the Sky Mavis team gave many solutions to this problem by using part of the treasury to buy SLP to burn it in order to balance the supply. In addition to this, Sky Mavis team is said to be working in Axie Lands (which will become the biggest SLP burning method), skins, genetic changes and SLP breed adjustment. However, the changes that have been done so far aren't enough SLP overproduction will end up flooding the economy and fixing it will be a very difficult task hence the development team is working on a time trial [108].

As we have previously seen, SLP does not have a hard cap on the issuance. This makes sense within the gaming ecosystem because you need a constant issuance for specific matters and incentives, but they are developing different burning events to counterattack the effects of the aggressive issuance experienced, so we can say that there are levers that are balancing, and will balance, the in-game economy.

We still must say that the game economy is still under development and must be actively managed (by developing new solutions to the problems arising) by the team/community. And up to now they have been doing it successfully, but there is still some leeway to close. There is a continued player growth that is required to keep the economy functioning [109], and the team has had to constantly make reactive changes to keep things in balance. There are limited measures readily available to make these types of adjustments autonomously.

Score: 8

c) Utilisation of NFTs (15 points)

NFTs are the fundamental building block of NFT gaming projects and enable open and transparent in-game economies. Can everything in the game be owned by players (Land, Character, Items) as an NFT, or is it limited? Once owned, can items be traded freely?

Answer:

Everything you can own in the game (lands, items or Axies) is an NFT which can be traded in the marketplace and is owned in a Ronin wallet. They can also be sent peer to peer between accounts and can be visualised in the Ronin Block explorer [110], giving the player a complete control of its funds and NFTs.

Score: 15

About the Author: Carlos Koljonen is a financial professional that has previously worked for Stoxx limited as an Index Analyst (Corporate Actions Department). He also led the Investment Analysis department for an investment company in the cryptocurrency markets, performing fundamental research over various projects, technical analysis, and deciding over the company's exposure to crypto at any given time.