

How Gamers are Making a Living: A Case Study on Axie Infinity

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Crypto natives have long known about the value of crypto gaming. People may not understand how crypto works, but many are already gamers from a young age. Although games are primarily played for entertainment purposes, there is a class of gamers who play-to-earn (P2E).

As its name suggests, Play-to-Earn (P2E) involves players playing a game and earning an income. Depending on the game, there are different economies, strategies, and methods to build a reliable revenue stream.

A common example would be selling resources in-game that require a significant investment of time to obtain. Other players who seek out convenience and faster game progression but are unwilling to put in the hours are usually more than happy to pay for it.

The thing is, P2E is not a new phenomenon. Entrepreneurial players have been around way before the advent of blockchain-based [NFT](#) games. Runescape, a highly popular Mass-Multiplayer Online Role Playing Game (MMORPG) released back in 2001 by Jagex, has been the [primary source of income for many Venezuelans](#) over the past few years.

Due to the dire situation of the Venezuelan economy, players were and still are farming Runescape Gold (a form of in-game currency) which is then sold for profits outside of the game. A large part of this can be attributed to the [hyperinflation of the Venezuelan Bolivar](#), which is currently estimated to have an annual inflation rate of 3,100%. It is no wonder then that people rather earn in-game currencies than work a real job.

However, unlike regular jobs, P2E players rely on third-party platforms to transact and sell their in-game currencies. These platforms are often illegal because they do not have copyright permission from the game developers and goes against the games' terms and conditions.

This has been a real issue for Runescape - Runescape estimated that in 2013, up to 40-50% of the player base was buying 'illegal' gold. Despite the proactive bans by Jagex, Runescape's game publisher, the issue is far from being resolved.

Recognizing the drawbacks of 'traditional gaming', developers are capitalizing on blockchain technology to build their games; a large part of that process involves creating NFTs/tokens to represent digital assets and in-game currencies. This may seem inconsequential, but the implications are more significant than you think.

In-game currencies and digital assets will have access to decentralized exchanges (DEXs) and NFT marketplaces. In other words, players can freely trade and exchange for other crypto-assets like [Dai](#), [Ethereum](#), and even other gaming assets. This results from the greater player autonomy that NFTs offer because NFTs offer 'real' ownership and allow players to do whatever they want with it. Players are thus free to P2E without any restrictions while leveraging the reliability and security of blockchain infrastructure.

Indeed over the past few months, we are witnessing a shift of the hype from Art NFTs to Gaming NFTs. Many NFT games are starting to incorporate the P2E element. Boundaries between real and virtual economies are becoming increasingly blurred. Floodgates for the masses have opened. Gamers are going bankless. And at the heart of the new paradigm is the virtual-pets battle simulator, Axie Infinity.

Gameplay Overview



Axie Infinity was first developed by gaming studio Sky Mavis back in 2018 and has become extremely popular for its P2E elements in many developing countries. So much so that, in May 2021, Axie Infinity released a [mini-documentary](#) on its growing adoption rate in the Philippines. Players of all ages have suffered throughout the pandemic and are playing Axie Infinity for an alternative source of income.

The game borrows many elements from Pokémon, including a breeding system for skill cards and stats (analogous to Pokémon's moves and IV stats). The gameplay can roughly be divided

into two core features - Player-versus-Environment (PVE) and Player-versus-Player (PVP). If you are interested to learn more about the gameplay, check out our [Axie Infinity gameplay guide](#).



Source: [CoinGecko Q2 2021 Report](#)

Axie Infinity has two types of tokens (aside from Axies themselves which are NFTs). One is [Axie Infinity Shards \(AXS\)](#), and the other is [Smooth Love Potion \(SLP\)](#). Both tokens are required to breed an Axie.

Breed Count	(0/7)	(1/7)	(2/7)	(3/7)	(4/7)	(5/7)	(6/7)
SLP Cost	150	300	450	750	1200	1950	3150

Source: [CoinGecko Q2 2021 Report](#)

A single Axie can breed a maximum of seven times. The cost of breeding is 4 AXS + a certain amount of SLP (depending on how many times both parents have bred). For example, if one parent has bred zero times and the other has bred two times, the total SLP cost would be 600.

One thing to note is that Axie parents and siblings cannot mate with each other. This breeding system forms the backbone of the Axie economy.

Axie Infinity's P2E

Most players are undeniably attracted to Axie Infinity's P2E element. There are currently four primary methods in which Axie Players can P2E.

1



Sell SLP/AXS acquired from in-game on exchanges like Uniswap and Binance. Currently, Axie Infinity operates on its Ronin sidechain where assets would need to be bridged using the Ronin Wallet. However, the team is building a Ronin-based DEX which would remove the need to bridge out SLP/AXS and sell it on the main Ethereum network.

2



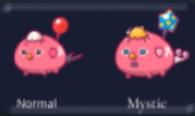
A decent team is needed to progress through higher levels of Adventure Mode and higher ranks in the Arena. Many breeders look for specific skills, traits, and parental genetics to ensure they have the best chances of obtaining offspring that fit the current meta. **Breeders will then sell their Axies on the Axie Marketplace or use the offspring to breed new Axies.**

3



AXS also doubles up as a governance token and would eventually be able to be **staked (sometime in 2021) to earn protocol revenue.** Delphi Digital, an Axie infinity Partner who helped design the tokenomics structure, has forecasted an annual percentage yield of **40% for the next 5 years.**

4



Collect and speculate on rare Axies, Axie Land Plots and other land-related assets. Rare Axies are issued by the gaming developers at special events and have different cosmetics. Land also has a limited supply, and different rarities that would influence spawn rates of resources, chimeras etc. However, **land gameplay has not yet been implemented** although users can still buy land.

Source: CoinGecko Q2 2021 Report

To truly understand how lucrative it is to play Axie Infinity, here is a typical daily routine of an Axie Player who farms SLP using Method 1, the most popular option.

 **Daily SLP Farmers**

 Assuming a player has 3 Axies, he would be able to **use 20 Energy per day.**

 Technically, a player does not need energy to earn SLP from Adventure mode. However, he would require energy to gain experience to improve his Axies' stats and progress to higher levels. Let's assume **he spends 10 energy per day on PVE games and earns the maximum cap of 100 SLP.**

 The remaining 10 Energy is spent on the Arena. Arena battles are a lot more uncertain as it is driven by decision-making, team composition, and a bit of luck. The amount earned from the Arena is also dependent on your rank - the higher your rank, the more SLP you earn. Assuming he **averages a 50%-win rate at 7 SLP per win (average SLP earned in the 1100-1299 MMR bracket), he would earn 35 SLP in total.**

 Following this routine, he would also be **able to complete the daily quest for 50 SLP.**

 At the time of writing, 1 SLP = \$0.30, putting his total earnings at **185 SLP or \$55.5 USD per day.***

Source: CoinGecko Q2 2021 Report

If we follow the base case assumption (based on the diagram above) and assume one Axie match lasts 5 minutes (based on our estimates), this translates into 100 minutes of pure playtime. To be more conservative, if we include rest periods, loading times, and extra games played in Adventure Mode (to make up for losses or if 10 games were not sufficient to reach the 150 SLP cap), we can approximate the total time spent per day at 4 hours.

Following these assumptions, here are the following earnings calculations for an Axie player compared to minimum wage jobs in select countries (before tax):

	Hourly Earnings Rate*	Monthly Earnings Rate**
Axie Infinity	\$13.83	\$1,665
UK (23 and over)	\$12.30	\$2,952
US (Federal)	\$7.25	\$1,740
Malaysia	\$1.19	\$285
Philippines	\$1.06	\$254

** Daily Earnings Rate for each country based on their respective minimum wages, which was sourced from, gov.uk, US Department of Labour, and ASEAN Briefing. At time of writing, 1 SLP = \$0.30.*

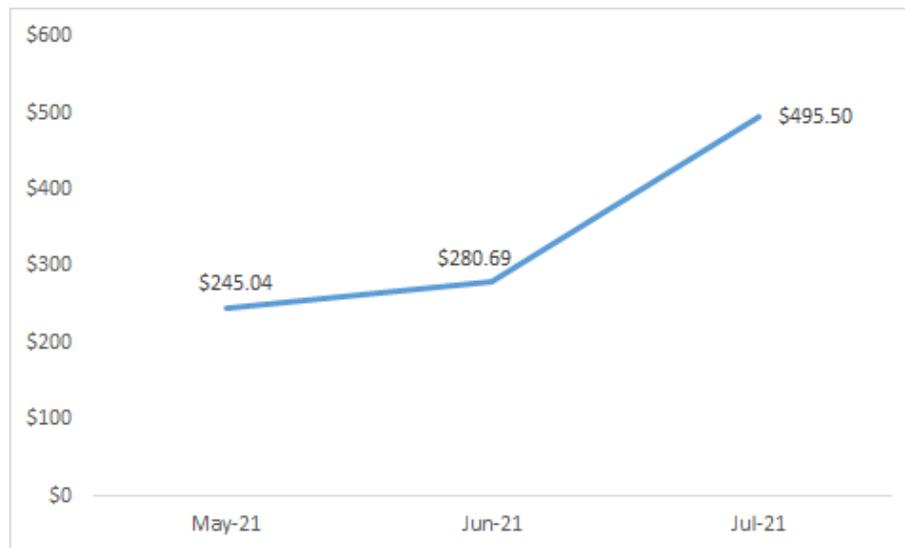
*** Monthly Earnings Rate based on 8-hour shifts except for Axie Infinity which is capped at 20 energy per day*

Take note that this is just the base case earnings rate. Players with 20 Axies or more will be able to use 60 energy per day and although Adventure mode is capped at 150 SLP, the player would be able to capitalize on more opportunities to earn SLP in the Arena. Not to mention tournaments and seasons where AXS and SLP rewards are also distributed to top-ranking players.

Regardless, earning \$1,665 per month is already very respectable by most standards, considering it only requires roughly 4 hours per day. And remember, Axie Infinity is not a job but a game. People are being rewarded just by playing a game whose ultimate purpose is entertainment!

Axie Scholarships

While playing Axie Infinity may be very lucrative, the numbers measured above do not account for the upfront capital cost i.e., acquiring the Axies themselves. Over the past few weeks, there has been huge market demand for Axies, which is driving up floor prices.



Source: *CryptoSlam*

As of 16 July 2021, the cost of a single Axie has grown by 76% in just over two weeks - it now boasts an average floor price of \$500. A person would need to invest \$1,500 upfront to meet the minimum requirement of 3 Axies to play. This is quite a significant amount, especially for players in developing countries who lack a basic income.

To address this, Axie Infinity allows Axies to be loaned through their system. Sponsors can loan Axies out by sharing their Mavis Hub password with Scholars. Scholars have no control over the assets as they are tied to the owner's Metamask/Ronin Wallets, but the scholar can still play the game.¹

In return, Scholars enter into a profit sharing agreement where the SLP earned while playing in-game is split between both parties. This has spawned a whole new class of 'employment' known as [Axie Scholarships](#). Some scholars even have CVs!

¹ Nevertheless, it should be noted that while the assets are secure, there is still an element of trust between a Sponsor and Scholar as the Sponsor has ultimate control over the SLP earnings in the Ronin Wallet: the Scholar has to trust that the Sponsor will distribute the SLP in accordance with their agreed upon terms.

To provide some context, here is an example of the expected returns for Axie Sponsors and Scholars. Our assumptions are as follows:

1. SLP price is maintained at \$0.30 throughout a 1-year period
2. The upfront cost per team is \$1,500
3. Price of assets (Axies) remains the same throughout a 1-year period

Axie Scholarship Terms (Scholar:Sponsor)	Monthly Earnings Rate (30 days)		Expected Return on Investment (ROI) for a Sponsor over a 1-year period
	Scholar	Sponsor	
70:30	\$1,166	\$500	400%
60:40	\$999	\$666	533%
50:50	\$833	\$833	666%

Axie Scholarships are immensely popular because they lower the barrier of entry to play the game. At the same time, investors are also starting to notice the Axie economy; there are already dedicated hedge funds (e.g., [Blackpool](#)) and decentralized gaming guilds (e.g., [Yield Guide Games](#)) actively investing in the game through the Scholarship system. It is only a matter of time before more institutions and private investors start to realize the potential of P2E.

Growth Rate

Axie Infinity has been around for a long while. When the battle system was first introduced in October 2018, [the game was averaging about 900 users by November 2018](#). Fast forward to this year, and those numbers pale in comparison. On 5 July 2021, the number of daily active users (DAU) reached 350,000.



Source: Axie Infinity (Twitter)

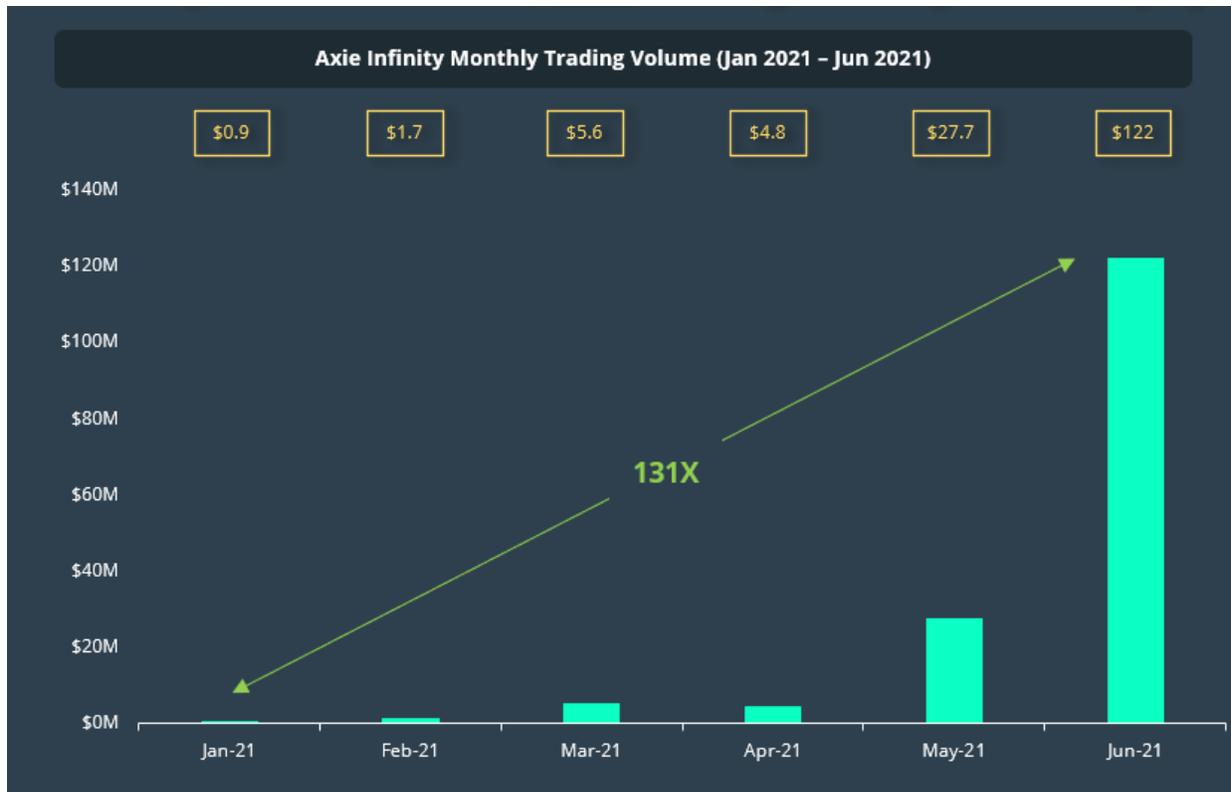
On 16 July 2021, the DAU surpassed 600k in less than two weeks as shown in the picture below.

	game-windows	 145.98K DAU 0.055%
	game-mac	 9,809 DAU 2.15%
	game-android	 437.83K DAU 1.43%
	game-ios	 8,898 DAU 0.827%

Source: Sky Mavis

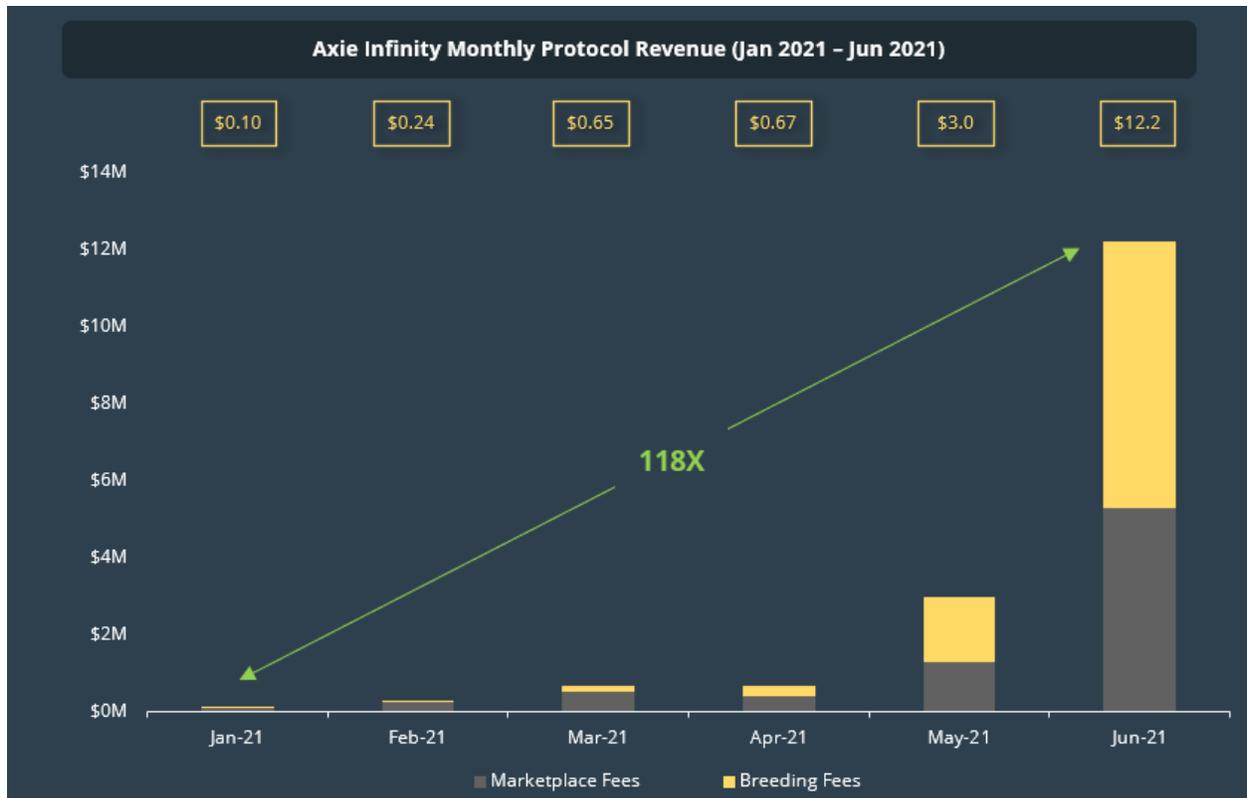
Axie Infinity also saw a huge spike in trading volumes. Monthly trading volume for Axie Infinity trended upwards in February 2021 after its Phase 1 launch of its sidechain, Ronin. However, Phase 1 only allowed land-based assets to be migrated.

The real catalyst came in May 2021 when Axies were migratable and could be traded freely on Axie Infinity's Ronin-based marketplace. At the same time, there was a surge in media hype led by [Axie Infinity's mini-documentary](#) on the impact of their game in the Philippines. All this led to a 131x increase in just a span of 6 months.



Source: CoinGecko Q2 2021 Report

With the Ronin Side Chain Phase 2 implementation, revenue ballooned along with trading volume. Revenue for Axie Infinity is generated from breeding fees and trading fees. Each time an Axie breeds, it requires 4 AXS, all of which is sent to the protocol's treasury. As for trading fees, each time an asset gets sold on the marketplace, Axie Infinity receives 4.25% worth of trading fees in ETH.

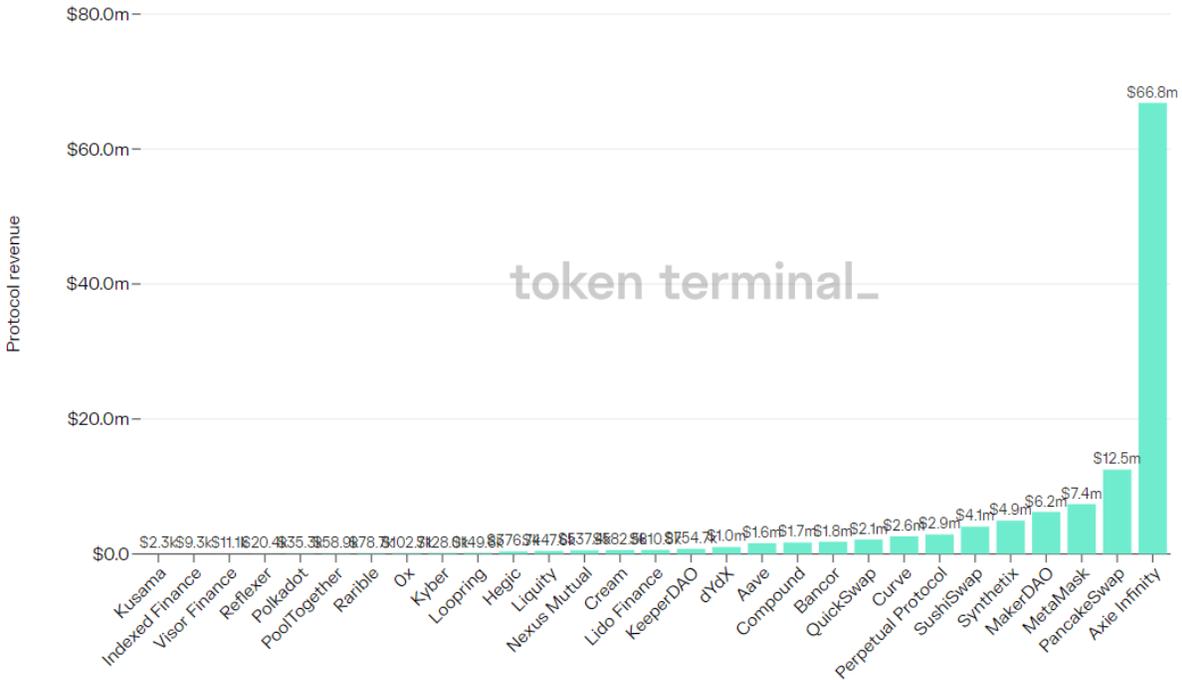


Source: CoinGecko Q2 2021 Report

Within 6 months, Axie Infinity’s revenue went up by 118x. Notably, breeding fees surpassed marketplace fees in May 2021, likely due to the Ronin migration (thus lowering the costs of breeding operations) and the increased demand for Axies. In June 2021 alone, breeding fees accounted for \$6.9 million of total revenue (57%).

A quick look at [Token Terminal](#), and you will see just how big the gap is between Axie Infinity and other top Dapps. As of 16 July 2021, Axie Infinity has generated the highest revenue (\$66.8M) over a 30-day period. The closest protocol in terms of revenue is PancakeSwap, with \$12.5M. Even if you combined the entire revenue of all other 28 protocols on the list (approximately \$52.7M), Axie Infinity’s revenue is still higher by 26.7%.

Top dapps and blockchains based on cumulative protocol revenue in the past 30 days.



Source: Token Terminal

Is Axie Infinity’s growth sustainable?

Axie Infinity has undoubtedly cemented itself as a force to be reckoned with; however, is its growth sustainable? Will its tokens and in-game assets be able to retain value in the long term? Answering this question is quite difficult and requires a deeper dive into the in-game economy.

We can break down the Axie Infinity economy into roughly five market participants:

1. Axie Infinity Protocol

Axie Infinity earns revenue from two sources - breeding fees and marketplace fees whenever an Axie is sold. Profitability is thus dependent on marketplace activity and the number of Axies being bred.

2. Land Buyers

Land and other land-related assets will eventually be instrumental for Axie Infinity’s new gameplay. While not essential to play the core game itself, land will offer a variety of features that enhances the gameplay experience for players, as well as other potential revenue generation opportunities.

Land plots are limited in nature and represented as a 301x301 grid that can be purchased, rented out, and developed by players. Landholders can upgrade and customize their territory to host shops, Chimera summoning beacons, produce resources, house NPC's, and even act as access points for dungeons.

Land buyers are mentioned as a separate market force because most buyers are either investors or collectors. Since land gameplay has yet to be introduced, it is assumed that most of them are long-term HODLers who would either capitalize on the new gameplay once it is released or traders looking to make a flip. Further, most players are likely to be priced out of the land market (at the time of writing, the lowest land price is 3.7 ETH).

3. Sponsors

Sponsors are essentially Axie investors whose primary source of revenue is SLP. If there are more sponsors, the supply of SLP grows. However, at the same time, the demand for Axies also grows. As the scene develops further, demand for more competitive teams will follow suit because higher ranks in Arena translate into more SLP earnings. This creates further demand for Axies who have optimal skills and genes as they would retain better value.

4. Breeders

Breeding optimal Axies is not easy as the breeding algorithm also has a Random Number Generator (RNG) element. Most Axies in the market are not competitive because most players do not employ selective breeding. And as for those who do, there is still always a chance that the Axie offspring still comes out sub-optimal.

There is also a time lag as a breeder can only inspect the Axie's skills and stats after 5 days when it matures to an adult. Overall, well-bred Axies require a lot of gaming knowledge, effort, and a bit of luck - this helps push up the price for Axies that are competitive and have good genes.

5. Players

Players are the bread and butter of the entire economy. Based on the media narrative, the explosive growth rates, and the main value proposition of Axie Infinity, it is safe to assume that most are playing to earn SLP while a minority are playing for entertainment purposes.

Maintaining the economy

Understanding the revenue sources and the motivations of each market participant is key to determining Axie Infinity's future success.

Axie Infinity relies on player activity to drive revenue streams. At the same time, players are mostly playing to earn SLP. More SLP is minted as more players play the game. Breeders then become the primary source of demand for SLP.

If the demand for breeding is higher, then the SLP price will go higher and vice versa. As SLP prices go higher, it will attract more players into the game and in turn, increase the revenue of Sponsors. This will encourage more Sponsors to distribute scholarships and thus increase the breeding demand. This is the carefully crafted flywheel effect of the game.

The same also applies to AXS to a lesser extent as AXS has other use cases (e.g., future staking token). As both are required to breed Axies, there is a strong correlative effect.

Over the last few weeks, we have seen this relationship in action. Since Axie Infinity decided to [increase breeding fees from 2 AXS to 4 AXS](#) on 30 June 2021, and Delphi Digital started [publishing bullish reports](#) on Axie Infinity from 30 June 2021 onwards, the prices for AXS and SLP started to skyrocket. Floor prices of Axies steadily increased throughout the period. What we are witnessing with Axie Infinity is growing market awareness that has led to exponential growth and widespread adoption.

Due to the exploding huge growth, however, Axie Infinity has also been experiencing scaling issues. Both the marketplace and game servers have suffered outages and have undergone several maintenance periods. This has had a negative effect on prices for AXS and SLP as less players are able to play.

The developers have been beefing up their engineering team and the issues are expected to be solved soon. Nevertheless, scaling issues are a good problem to have as it suggests that the game has reached escape velocity and is a strong indication of product-market fit.

As the economy develops, more players will be able to acquire their Axie teams and earn SLP on their own. In the long-term, everyone will eventually have their own teams and the demand for Axies (and thus SLP) will stagnate. There will also be higher inflation of SLP and more 'SLP dumpers'.

Thus, Axie Infinity's success is highly dependent on ensuring the price value of SLP remains profitable enough to attract and maintain a strong community of players.

This can be achieved through various means such as:

1. Generating demand for Axies
2. Reducing the supply of SLP
3. Increasing SLP breeding costs
4. Providing other use cases for SLP

Alternatively, they would have to focus on **improving the overall gameplay of Axie Infinity** thereby reducing its reliance on the P2E aspect to retain and grow the number of players.

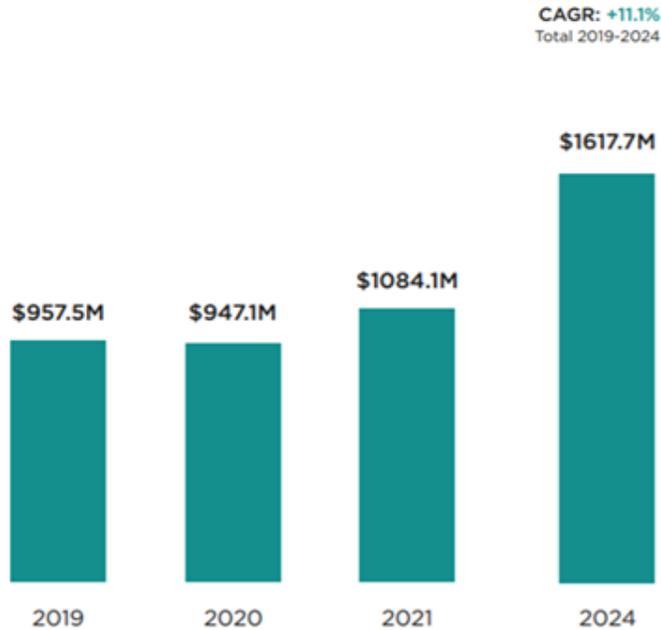
Axie Infinity's future plans

Axie Infinity is aware of these issues down the line. We can see this because aside from improving the gameplay (e.g., introducing land gameplay, refining battle animations etc.), the team is gearing towards eSports.



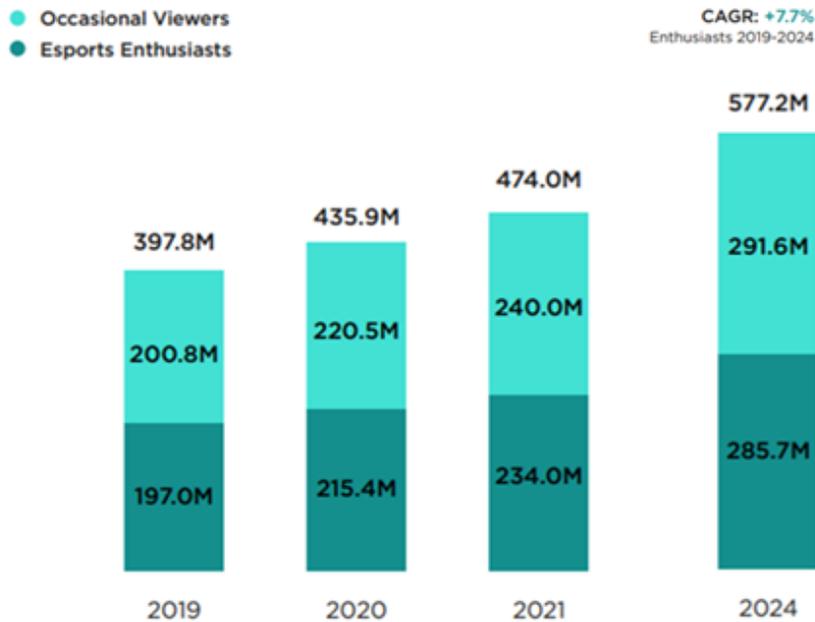
On 15 July 2021, [Sky Mavis announced](#) that they would be deploying a dedicated server for Axie eSports and have committed 5,000 AXS (worth \$145,450 at the time) for pool prizes and community tournaments in 2021. Additionally, Axie Infinity will accept event proposals from 15 to 29 July from community tournament organizers. A schedule will also be published for the remainder of the year once everything has been finalized.

And for those who do not realize the potential of eSports, here is a quick overview of the eSports industry:



Source: NewZoo: Global Esports & Live Streaming Market Report 2021

According to [Newzoo](#), eSports expects 2021's revenues to reach \$1.08 billion - this represents a year-on-year growth of 14.5% from 2020's figure of \$947.1M. Global revenues are expected to exceed \$1.6 billion by 2024 with a CAGR of 11.1%.



Source: NewZoo: Global Esports & Live Streaming Market Report 2021

Global eSports audiences are also expected to grow at 8.7% year on year to reach 474 million. The global audience number will continue to grow at a CAGR of 7.7% and hit 577.2 million by 2024. Covid-19 played a significant role as lockdown measures led to many new viewers. Improving internet infrastructure and higher mobile penetration is also increasing viewership as more mobile games become recognized as eSports; this is especially prevalent in markets like India and Brazil.

From a gameplay perspective, it is clear that Axie Infinity is already primed for eSports as it requires strategic thinking/decision-making and a balanced team composition when battling other players. Not to mention, it is also on both mobile and PC, which expands its addressable market. In fact, big eSports organizations are already starting to take notice.



Uniswap Labs 🐼 and Axie Infinity

194 552 1.5K

Source: Team Secret (Twitter)

Team Secret is a renowned global eSports brand that is known for its teams in Dota 2 and League of Legends. While the extent of their participation in Axie Infinity has not been confirmed, their mere acknowledgment of the game is a big deal. It should also be worth mentioning that Team Secret has been [expanding its presence into mobile games such as Wild Rift and PUBG](#).

If Axie Infinity is able to capitalize on its eSports approach and tap into the eSports market, there will be a lot more eyes on Axie Infinity. With increased popularity and competition, there will be higher demand for competitive Axies. Lucrative prize pools and more game viewership will also attract more players. All these factors lead to a diminishment of Axie Infinity's reliance on their P2E elements to attract/retain players. Although P2E is bound to be the primary pull factor, building and developing a competitive scene will reduce its single-source income risks and open up new and perhaps bigger revenue streams (e.g., advertising and streaming rights).

Closing thoughts

Axie Infinity is a prime example of what NFTs can achieve when they are packaged into a mobile-friendly, P2E game. With such impressive growth rates, it is no wonder that the whole world is starting to take notice.

Pundits often regard NFTs as the gateway into crypto, and Axie Infinity is proving just that. The use cases behind gaming NFTs are extremely compelling, especially its P2E elements and the ability to offer an alternative source of income. In the future, it would not be surprising if more traditional game developers make the switch and capitalize on blockchain technology,

While Axie Infinity will undoubtedly be the benchmark of success for other games, its long-term sustainability will ultimately depend on how well it manages its P2E economy. Maneuvering into the eSports industry is an astute decision; only time will tell if this strategy pays off. However, if Axie Infinity can position itself as the face of eSports for blockchain gaming, there is no telling how high they can fly.