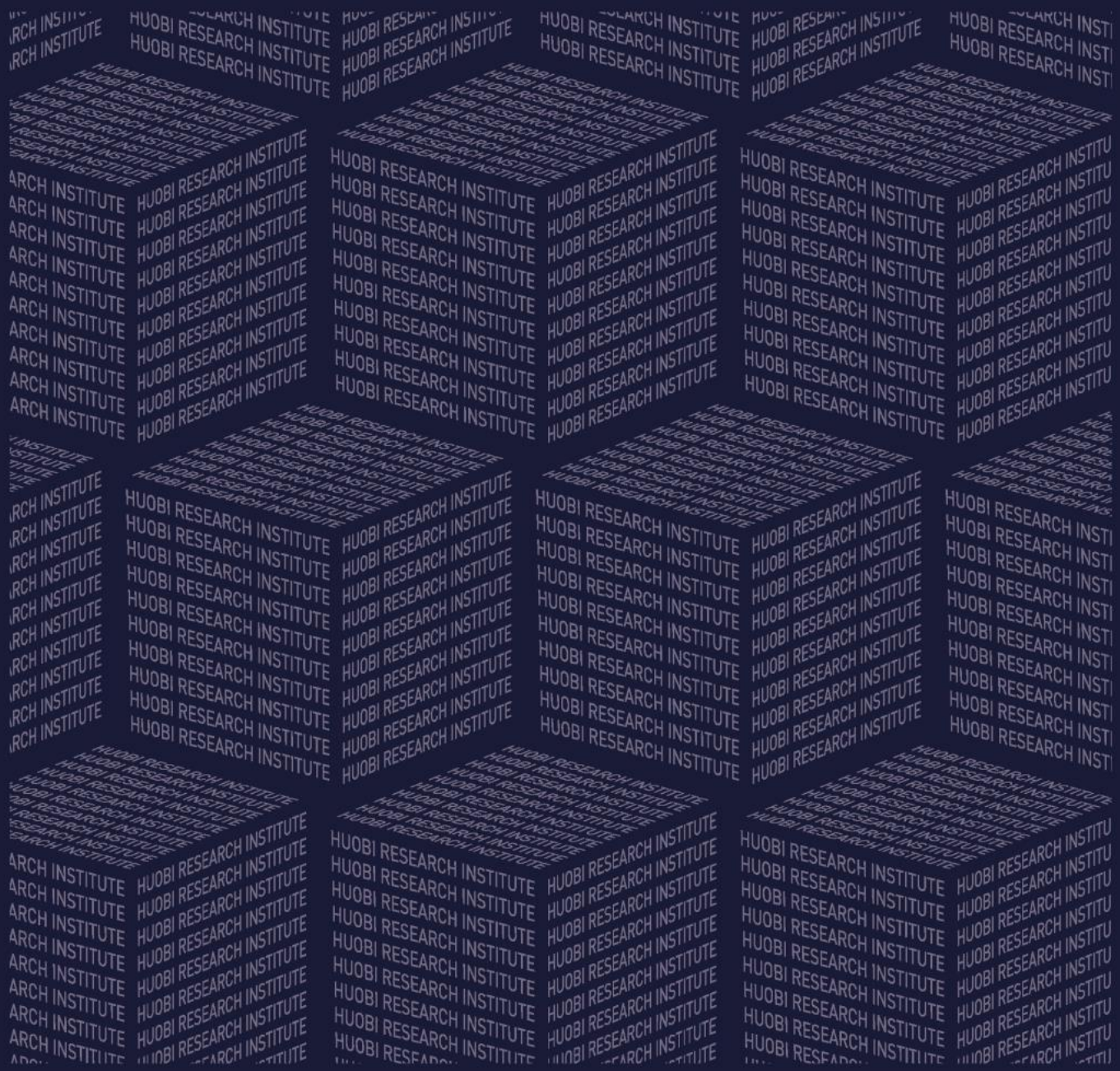

LOOKING FOR THE EYE OF THE STORM:
ANALYSIS ON NFT PRICE

Huobi Research

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Abstract

Since the second half of 2021, with the popularity of several top projects, NFT has attracted a lot of attention both inside and outside the crypto industry, and has achieved dozens of times of market value growth in a short period of time. But at the same time, NFT also suffers from doubts about inflated prices and high volatility. This paper extract the components of NFT price from collectible NFTs and game NFTs.

Through data analysis, the author attributes the price of collectible NFTs to three aspects: IP, community value and scarcity. Some attractive IP can stimulate the imagination of consumers and investors, and with the help of some celebrities, the influence of the brand can be rapidly expanded. Later, social capital brought by community gives NFT long-term value and benefits. Scarcity makes NFTs easy to hype and generate a premium.

Unlike art and collectibles, game NFTs have another set of price factors. As a digital asset that can be freely traded within the game, NFT gives GameFi players a decentralized property system, greatly lowering the barriers to trade the game assets and creating a new paradigm in the game industry. However, game NFT can only be used within the game, its value is deeply bound to the game. It is difficult to exist independently from the game project.

Through the analysis of NFT prices, the author finally makes a judgment on the future development direction of NFT: First, to further integrate with traditional industries, seek a deep connection with the physical world, and create professional communities; Second, reduce gas fees, open property rights system, optimize user experience; Third, develop NFT predictor, exploit NFT derivative market to hedge spot risk.

1 Imaginative NFT Storm

Since the second half of 2021, NFT has risen in the collectibles and game markets at the same time. With the sky-high auction of "Everydays: The First 5000 Days" and the popularity of top projects such as CryptoPunks and Axie Infinity, NFT has attracted high attention both inside and outside the crypto industry, achieving several times or even dozens of times growth in market value growth during a short time. As of now, the total market value of NFT is $18.42 billion, an increase of 42 times compared to one year ago. Trading fee has risen to a certain extent due to the increase in the price of ETH.

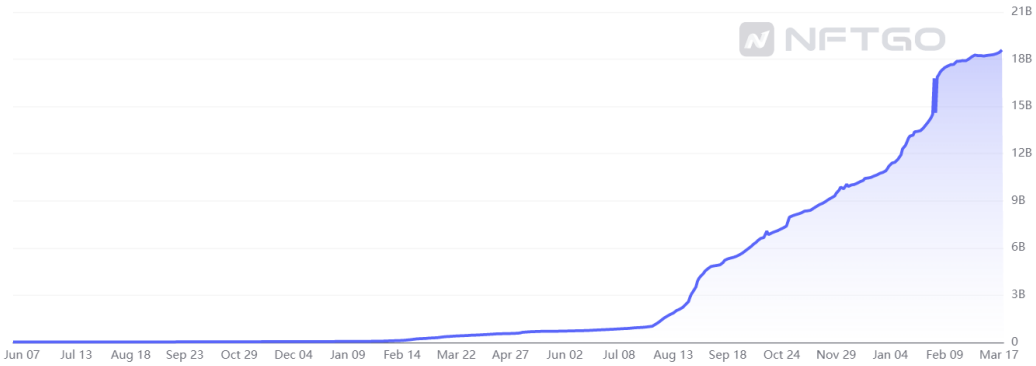

Figure 1. Total market capitalization of NFTs **Source.** NFTGO

The price of digital collections rose with its popularity. Take the Bored Ape Yacht Club as an example, this 10,000 different cartoon images have a floor price of 100ETH ($1.837 million) on Opensea. The most expensive ape, No. 648, sells for 18,880 ETH ($54.646 million). Behind the high price, many consumers have questioned its value support: How can a PNG image that everyone can download and enjoy selling for such a high price? Ethereum founder Vitalik expressed concern about this situation: "Crypto itself has a lot of dystopian potential if implemented wrong. The peril is you have these $3 million monkeys and it becomes a different kind of gambling."



Figure 2. BAYC No.648 **Source.**Bored Ape Yacht Club

But as prices continue to rise, NFT's price volatility is also high. And because it trades in cryptocurrencies, it is exposed to fluctuations on both the value of cryptocurrencies and the value of NFT itself. Through data analysis, we find that although there is a strong correlation between NFT price and cryptocurrency price (taking Apecoin as an example, since its issuance on March 17, the correlation coefficient with BTC price is 0.701, which belongs to a strong correlation according to the range grade of Pearson's correlation coefficient), aside from the price of cryptocurrencies, the price volatility caused by NFT itself remains a significant problem.

It can be seen from the average price of BAYC (due to scarcity, the price of different NFT varies greatly, so the average price is taken here), its value priced by ETH also fluctuated obviously. In USD terms, according to Nansen data, NFT has posted an annualized return of 20.9% and volatility of 7.1% since the start of 2022 as of March 9, both higher than mainstream crypto assets such as Bitcoin and Ethereum.



Figure 3. BAYC average price **Source.** NFTGO

2 Look for eye of the storm —— analysis on NFT price

There are many types of NFT, and involved in a wide range of fields, ranging from music, games, sports to fashion. Their marketing models and target audiences are different, so their price factors also have unique characteristics. In terms of market value, the current top three application areas are collectibles, games, and art. In 2021, the total transaction volume of the NFT market was 14 billion US dollars. The art and collectibles field accounts for 76.4%, and the game market accounts for 17.8%. This article analyzes NFT prices from the two fields of collectibles and game NFTs.

2.1 Collectible NFT

As the hottest track in the NFT market, collectible NFT projects account for 6 of the top 10 projects in cumulative sales volume, among which the star projects CryptoPunks and BAYC drive the development of the whole NFT industry.

	Collection	Sales	Buyers	Txns	Owners
1	Axie Infinity	$4,039,171,763	1,676,184	15,176,003	2,695,985
2	CryptoPunks	$2,147,021,822	5,363	20,604	3,538
3	Bored Ape Yacht Club	$1,553,996,779	9,885	25,330	6,373
4	Art Blocks	$1,214,094,283	27,595	147,629	32,406
5	Mutant Ape Yacht Club	$1,061,343,748	18,115	32,705	
6	NBA Top Shot	$955,924,842	421,904	18,120,230	670,467
7	VeeFriends	$518,346,188	5,946	13,071	
8	CloneX	$486,351,189	7,476	14,085	
9	Meebits	$438,312,786	9,805	28,408	
10	Azuki	$408,617,797	10,988	22,682	

Figure 4. Top 10 NFT projects **Source.** cryptoslam

There are three factors for the price of NFT collections:

- Brand and celebrity

In the information age, the communication effect of social media is significant. New projects emerge one after another every day. If you can't expand the brand awareness, a series of digital images and videos that are displayed on the computer are difficult to be valued by mainstream

consumers. How to use social media to be known to more people, NFT collectibles give a good example.

Different from the public chain and stablecoin track, which is known for its algorithm and blockchain technology, collectibles NFTs appear in the form of pictures and videos, which are easy to understand and have strong plasticity. In addition, the social media avatar itself is actually a means of publicity. When many people on the social network change their avatars to pictures with the same style, an aggregation effect will be formed, which will ignite the interest of the public and help NFT projects fully spread among online communities. As central nodes on social networks, this publicity effect is particularly evident on celebrities: on August 23, 2021, the well-known Rapper KSI with 23.4 million subscribers on Twitter purchased the BAYC monkey avatar, causing netizens to joke: "I just right-clicked this picture and saved it without spending a cent." But in the following week, many celebrities including Stephen Curry, JJ Lin, Shawn Yue entered the market one after another, attracting a lot of popularity on the Internet. The search volume of NFT topics on Google tripled, and the transaction volume of BAYC and CryptoPunk projects increased rapidly. The market value of BAYC also doubled in two weeks.

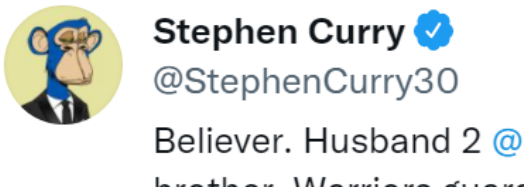

Figure 5. Stephen Curry changed his Twitter avatar

Source. Twitter

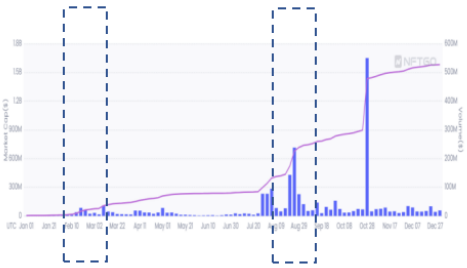

Figure 6. BAYC transaction volume in 2021

Source. NFTGO, Huobi Research

In addition to celebrities on social media, some interaction with traditional industries can help NFT quickly raise its profile. Christie auction house sold Beeple's "Everyday: The First 5000 Days" for $69.34 million in March 2021.Around this time, CryptoPunks, which had been cast in 2017 but had not seen much value growth, began to grow exponentially, and were successively listed in mainstream auction houses such as Sotheby and Christie. On November 12, multiple

Grammy Award winner Timbaland announced that he will use BAYC NFT to create music and animation for a music studio in the Metasverse. Music magazine Rolling Stone also featured BAYC NFT on its cover during this period. In the future, as a token that constitutes everything in the virtual world, NFT must break through the limitations of images and collectibles, and involve all aspects of life, including fashion, music and entertainment.

- Community construction

Disney is not limited to the production of cartoon pictures of Mickey Mouse and other cartoon characters, but actively expanded to animation, film, tourism and other industries, and eventually developed into a super IP with a market value of $251.7 billion. If NFT only focuses on digital images, when interest decreases, users will no longer pay for their insufficient value support.To pursue long-term development, NFT must find more value fulcrum, and BAYC has played a good leading role in this respect. BAYC has formed a club-like high-level community through active community operation, which has given a lot of rights and social capital to NFT buyers. And in this process, the increasing influence of the community makes the project more and more popular, mutually enhancing the value of NFT.

Entering BAYC's official website, you can see that the project uses a lot of space to promote its community construction. What users get is not only a picture, but also a club membership card, a business card of NFT veteran supporters. With this image, different apes can meet each other on Twitter, building a social channel among early NFT investors. The high price of the project also raised the threshold of the club, setting the club's position at a high-level community, and there must be no shortage of social resources. The social resources brought by such a group of members must also be rich.

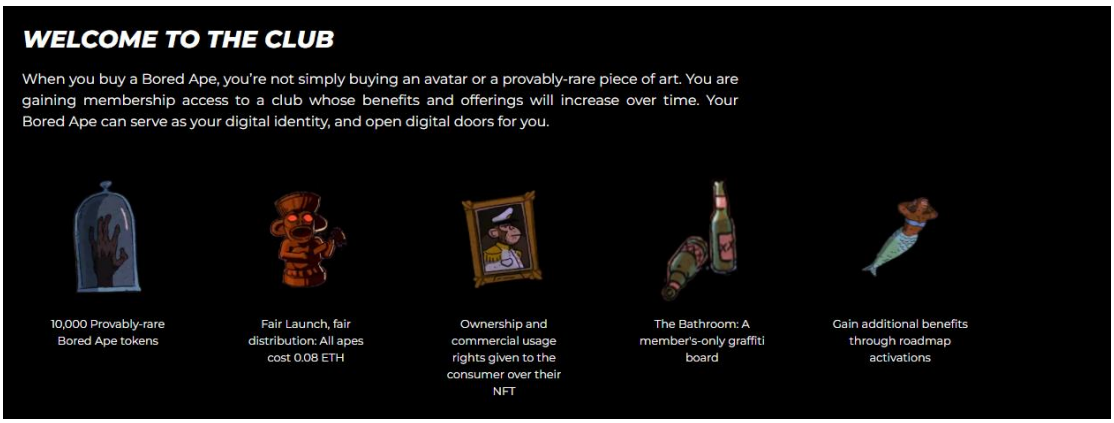

Figure 7. BAYC Propaganda Column **Source.** BAYC website

BAYC team continues to design derivative projects and organize offline activities to increase the bonus of club members and provide continuous social opportunities. As you can see from the incomplete statistics below, BAYC team maintains monthly activity and joint design, keeping their community active and expanding their brand into other fields as games, metaverse and cryptocurrency. Most of the activities give members additional benefits, making membership feel its continuous value brought by BAYC NFT.

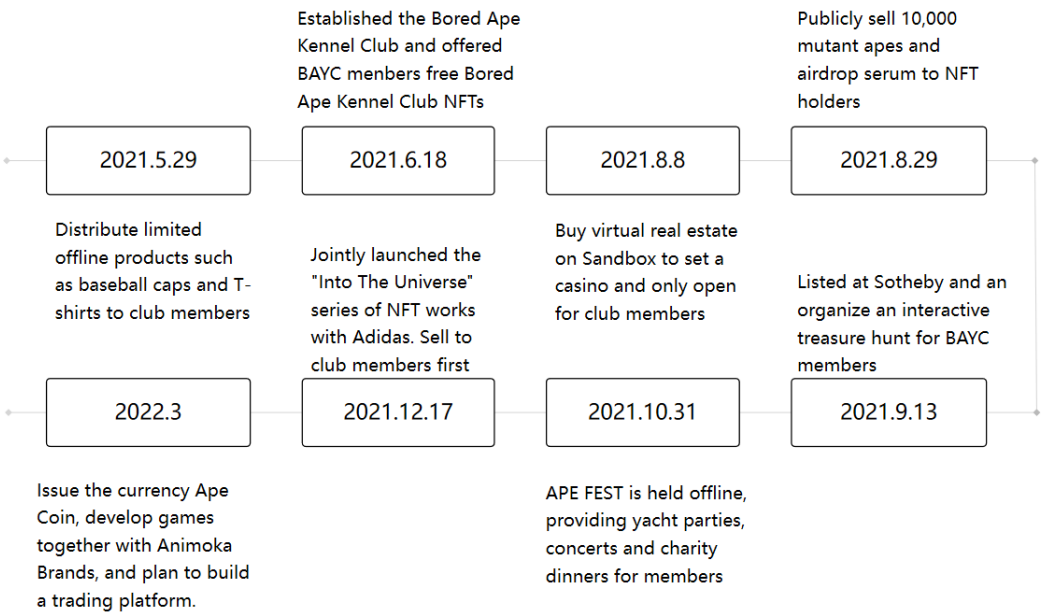

Figure 8. Activities organized by BAYC **Source.** Huobi Research

- Scarcity and the long tail effect

The issuance concept of "10K NFT project" is very popular in the NFT collectibles market. A large number of projects make their products scarce by issuing limited NFTs at one time. Among them, the most valuable ones have been listed in major auction houses several times. The scarcity of styles between different NFTs in a single project is also different: in the 10,000 NFT pictures released by CryptoPunks, the appearance of each character has a different frequency of appearance. The rarest features such as alien, cowboy hat, purple hair, were much higher than other similar products. The most expensive piece No. 5577 sells for 2501 ETH, which is more than a thousand times higher than the price of 1.2 ETH for the Pixel No. 280 without any features.



Figure 9. CryptoPunks rarity distribution

Source. NFTGO

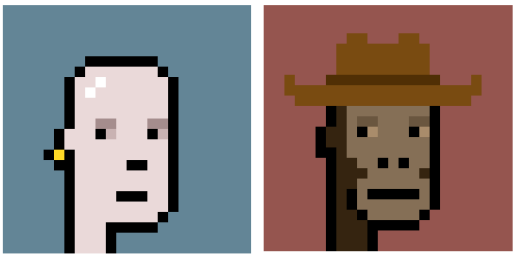

Figure 10. #280 and #5577 pieces

Source. CryptoPunks

On the one hand, scarce commodities provide limited transaction data, which makes it difficult to accurately price them, thus easily generate hype; on the other hand, use the relationship between supply and demand to generate a price premium.

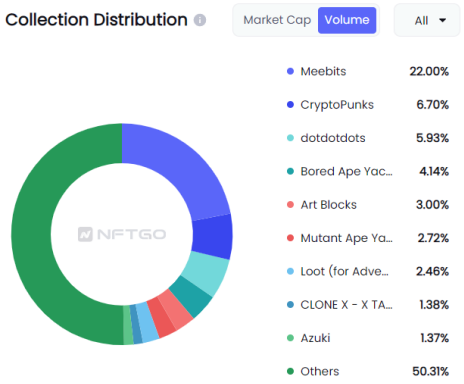

Figure 11. Distribution of NFT transaction volume

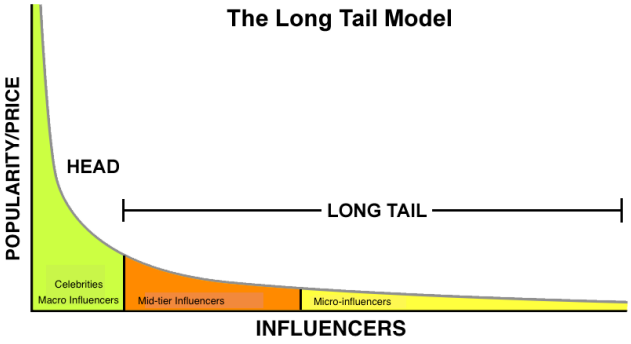

Figure 12. Long tail effect

Source. NFTGO

It is worth noting that the long tail effect is obvious in the NFT market. The market value of NFT is in line with the power-law distribution: the transaction volume of the TOP10 NFT projects accounts for more than half of the total transaction volume of the NFT market, in which the top five collectible items can easily sell for millions of dollars. In compare, a large number of NFT projects have sunk to the bottom of the market, and these long-tail assets lowered the average transaction price of NFT products in the market into a range of a few hundred dollars.

This is consistent with the development structure of new market: in the early stage of development, the industry is led by several top projects. But after that, in the mature stage, with the entry of a large number of parties and investors, those large number of ordinary individuals will become more important. Even the price of this part is not high, it is a huge market force cumulatively.

Internet companies such as Amazon and Netflix have created considerable benefits by targeting audiences into the lower part of industry chain. Beginning in 2022, emerging projects such as Loser club and Azuki will enter the market, covering cultural labels such as oriental animation and self-mockery culture, targeting consumers that has not yet been covered, and injecting new vitality into the NFT market.

2.2 Game NFT

With the excellent mechanism innovation of the GameFi track, the asset size and transaction volume of game NFT have increased rapidly since the summer of 2021. The leading project Axie Infinity has become the project with the largest NFT transaction volume with a cumulative transaction volume of US$4.04 billion. Unlike collectible NFT, game NFT cannot exist in isolation from the game project, so its price is highly correlated with the value of the game project. Its price rise mainly comes from the following points:

- Lower transaction thresholds

Making game assets exist in the form of NFT is the core mechanical innovation of GameFi track. Not only does it open up the trading channels of game assets between players, game assets can also be freely converted into cryptocurrencies and even fiat currencies through on-chain pricing. Secondary trading of game assets has existed for a long time, but the threshold has always been high, and it is difficult to convert game assets into cash. Buyers and sellers can only match transactions through external intermediaries, which is difficult to form a large-scale and transparent trading market, a pricing method supported by data volume is also lacked.

The non-homogenization feature of NFT solves this problem well. By turning various game assets into NFT, game assets can be freely traded on the chain. During the epidemic, the online industry was relatively prosperous. When the transaction threshold was lowered, the new paradigm of the "P2E" (Play_to_Earn) became popular. A large number of players earn money by playing the game. By setting an entry threshold (such as Axie Infinity, players need at least three Axies to form a team), new players entering the market increased the demand, thus raised the price of game assets, achieving growth in both transaction volume and price. As can be seen from the chart below, the number of transactions rose significantly with the number of users, and the volume subsequently rose sharply.

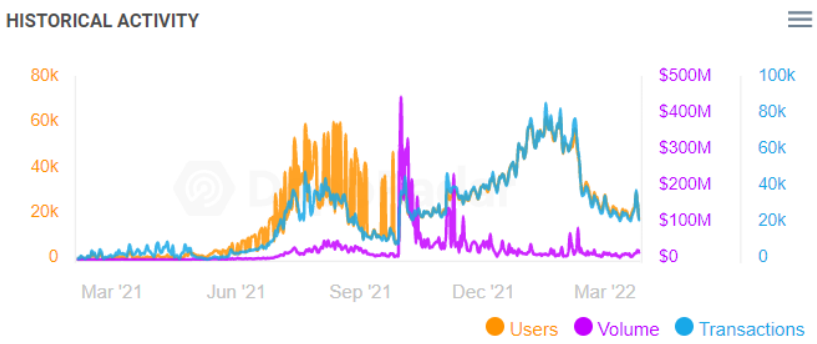

Figure 13. Axie Infinity users, volumes and transactions

Source. Huobi Research

- Property

NFT's ability to store permanently on the chain has led to a revolution in property rights in the game industry. In the traditional game industry, game assets are owned by the game platform whether or not the game player buy them. What players hold is only game data, and what they buy is only game services, so they have no right to sell and transfer the game assets they have.

As a successful practice of the concept of "decentralization plus", which means applying awareness of decentralization to other industries, GameFi has created a new operation mode. Game platform only controls the casting of game assets and the sale of the primary market. When the asset gets into player's account, the ownership belongs to the player, and there are clear NFT transaction records on the chain to prove the player's property over the asset.

A clear property rights system is the basis for the value of game NFT. Only players' rights to freely trade in the secondary market are guaranteed, player's voice in the game can be enhanced.

- High relevance to the game project

Although players have absolute control over game assets, the value of game NFT is essentially the usage value within the game, so it can only exist depending on game project. From the data, the price of game assets is also highly correlated with the popularity of the game: when the popularity of the game is high, there are more players, the demand is larger, and the price of game assets is high; However, when the popularity of the game decreases, players leave the

game causing less demand, and price of game assets decline, which in turn causes more players to sell assets and uninstall the game, resulting in an avalanche of NFT prices. The price mechanism of positive feedback significantly increases the risk, A collapse of a GameFi may be overnight.

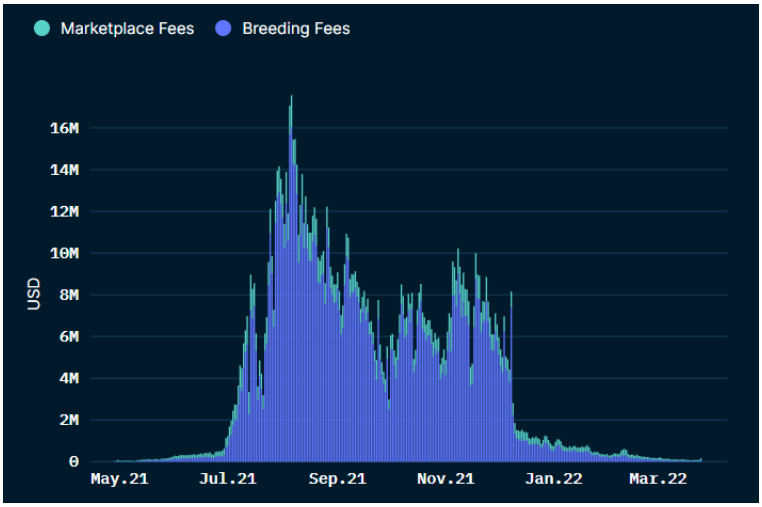

Figure 14. Changes in Axie Infinity Earnings **Source.** Nansen

In addition, when asset issuance is saturated, the lack of momentum in demand growth can lead to a significant drop in player monetization, which in turn affect retention. All of these make the game NFT high volatility characteristics, and this is also the financial attributes given to the inevitable a risk on the game: Players are entering the game with investment motivation, and both playability and monetization will be the criteria by which players will judge a game project, asking for a higher requirements on game developers in terms of both playability and the minting mechanism of game assets in the primary market.

3 Where the storm blows -- Future development direction of NFT

After the savage growth phase, the NFT market growth has slowed considerably since mid-February, and the market is looking for a long-term development mode. In my opinion, the current problems of the NFT market mainly exist in three aspects: weak value support, poor user experience and high volatility. To solve these three points, this paper puts forward the future development direction of NFT, which can be summarized as the following figure.

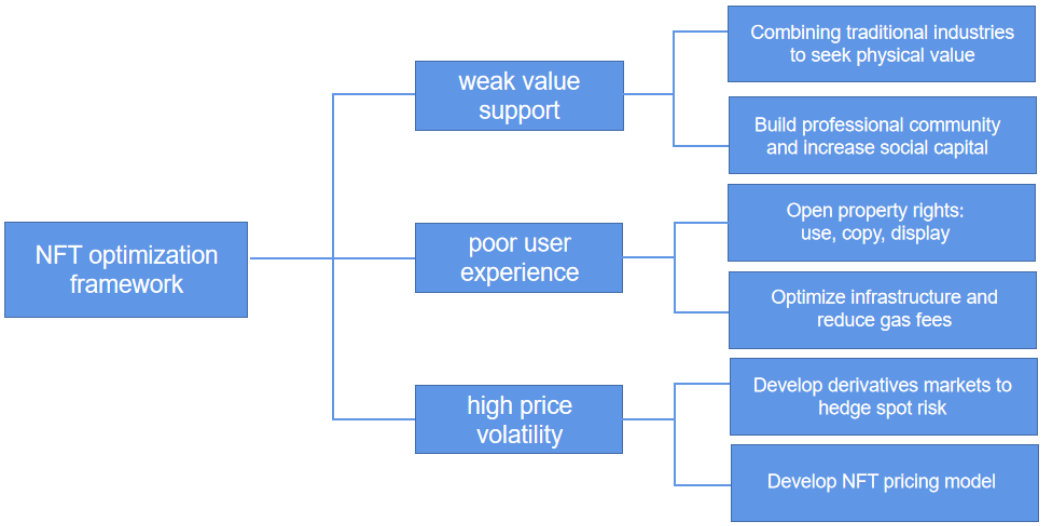

Figure 15. Framework analysis of NFT

Source. Huobi Research

- Seek value in physical side, build professional community

As a digital picture that everyone can download, it is difficult to find sufficient value support just through pictures and creative designs. Whether it is used as a social link connecting community members, or as a basic substance that constitutes the metaverse, NFT will inevitably further expand its application in the future, and find deeper value support in the process of integrating with more industries.

The author believes that there are two development paths. The first is to further integrate with offline traditional industries and explore a new model of "NFT+". On the one hand, traditional industries can use the issuance of NFT to find the connection point between the digital world

and the offline industry, and expand their business territory; on the other hand, the entry of a large number of traditional industry brands also brings more users to the NFT industry. For example, the clothing industry can sell the samples of clothing design in the form of NFT, so as to find out the market preferences, provide reference for the design. Up to now, many offline industry giants such as Nike, Gucci, Tiffany and Honda have settled in the NFT field, covering fashion, automobile, retail, entertainment and other sectors. In the future, if the final goal of the NFT is to build metaverse, then all aspects of the real world can actually be combined with the NFT and mapped into the metaverse.



Figure 16. Gucci Garden in Rolbox

Source. Gucci



Figure 17. Adidas digital apparel

Source. Adidas

The second is to build a professional community and increase its social value. It can be seen from the successful experience of BAYC that since the total amount of collectible NFTs is limited, smaller and more refined social circles are more attractive to consumers. Different from traditional social communities, NFT connects senior members who are willing to invest high prices for NFT projects. They have similar preference and common topics, and have high potential social value waiting to be tapped. In addition, professional groups like fan communities also meet the characteristics and can be combined with NFTs.

- Open property rights, optimize user experience

Due to the short development time and lacking mature infrastructure to support it, the current NFT has defects in user experience such as high transaction fees, network congestion, and weak property rights system. In response to the first two points, major NFT platforms are currently using emerging Layer2 technology or new public chains to reduce transaction costs:

Axie Infinity developed the Ethereum sidechain Ronin to conduct game asset transactions more quickly, NFT-based public chain Flow also became popular, and is currently ranked 53 on Coinmarketcap. In the future, trading NFTs will be as easy and fast as virtual currencies.

In view of the weak property rights system, the collectible NFT market needs to clarify the ownership of property rights in terms of second creation and royalties. GameFi needs to further explore the decentralization: although players currently have the ownership of the game NFT, game platform can still indirectly control NFT price by adjusting the primary market issuance. So the degree of decentralization is not high. In the future, Players can be aggregated in the form of game union to speak louder over platform, it can also teach users how to play the game and lend equipment to them.

- NFT oracles and derivatives market

High returns are often accompanied by high risks, and the current price volatility in the NFT market is significantly higher than other assets. Nansen constructed the NFT-500 indicator with the most representative 500 NFT projects. Through statistical research of the past three months, it is found that even when NFT is gradually integrated into the mainstream market, the daily volatility indicator of the NFT market (in US dollars) It is still significantly higher than mainstream cryptocurrencies such as Bitcoin and Ethereum.

NFT Categories/Indexes	Daily volatility estimation (01 Jan - 9 Mar 2022)
Nansen NFT-500 (ETH)	4.7%
Nansen NFT-500 (USD)	7.1%
Bitcoin	3.1%
Ethereum	4.5%
Shiba Inu	7.6%

Figure 18. Daily Volatility Indicators for crypto assets (2022.1.1 - 2022.3.9)

Source. Nansen

High volatility and limited value preservation methods make NFT unsuitable as a stored-value asset. Therefore, NFT oracles will undoubtedly become the next star of the NFT track: by designing the NFT pricing model, the volatility of prices can be effectively reduced.

In addition, NFT derivatives markets should also be developed to hedge spot risks. In August 2021, Paradigm proposed a floor price perpetual contract scheme "Floor perps", which allows

holders to defend against floor price fluctuations without giving up NFT ownership. However, this field is still immature and needs to be developed further.

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THE END