

The Risk and Return of Game(NFT)

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Abstract

We utilize one of the earliest and largest NFT collections to investigate the pricing and the riskreturnprofile of NFTs. In general, we find that NFTs have higher returns than traditional financial assets. Yet, investing in NFTs comes along with extremely high volatility. The average monthly returns onNFTs range from 6.10% to 44.11%. But their standard deviations fluctuate between 44.35% and74.57%, leading to a Sharpe ratio comparable to the NASDAQ index. NFT prices surge when there isa drastic increase in demand for alternative investments and a search for yield, especially in a lowinterest rate environment. Non Fungible Tokens (NFTs) are digital assets that represent objects like art, collectible, andin-game items. They are traded online, often with cryptocurrency, and are generally encodedwithin smart contracts on a blockchain. Public attention towards NFTs has exploded in 2021,when their market has experienced record sales, but little is known about the overall structureand evolution of its market. Here, we analyse data concerning 6.1 million trades of 4.7 millionNFTs between June 23, 2017 and April 27, 2021, obtained primarily from Ethereum and WAXblockchains.

Keywords: Game, NFT, blockchain

I. INTRODUCTION

“WTF are NFTs? Why crypto is dominating the art market” is the title of the February21, 2021 episode of The Art Newspaper podcast [1], signalling both the impact of Non FungibleTokens(NFTs) on the art world and the novelty they represent for most of the general public.The revolution is not confined to the art market. While NFT adoption in gaming has alreadyreached a certain maturity, for example concerning the trade of in-game objects, different other industries, especially those involved with the production of digital content such as music or video,are experimenting with the technology. Overall, in the first four months of 2021, the NFT volumehas exceeded 2 billion USD, ten times more than the entire NFT trading volume in 2020. in the period between January 2019 and July 2020, ~ 90% of the totalvolume exchanged on NFT was shared by the Art, Games, and Metaverse categories, contributing18%, 33%, and 39% respectively. Starting from mid July 2020, the market volume has been largelydominated by NFTs categorized as Art, which, since then, have contributed ~ 71% of the totaltransaction volume, followed by Collectible assets accounting for 12%. Importantly, however, themarket composition is quite different when considering the number of transactions.Moreover, NFT systems were designed with theaim to improve cognitive performance not only in children with ADHD but also in elderly individuals. For example,Becerra et al examined the effect of NFT, which targeted thetareduction, on neurocognitive performance in healthy elderly people.They randomly assigned 14 subjects to either activeNFT or sham treatment and foundthat subjects in the experimental group exhibited greater improvement in EEG andbehavioral measurements(Ante and et,2021).

What is an NFT marketplace?

An NFT marketplace is a website where users can trade non-fungible tokens, or NFTs. These websites facilitate a location where a trade takes place, and often take a percentage from the transaction for their services. Every blockchain has its own NFT marketplaces. Some specialize in a certain niche, others embrace every type of NFT on the market. Interacting with an NFT marketplace requires a Web3 wallet, while buying (and sometimes listing) an NFT requires the base currency of the blockchain you're working on(Barberand et,2008).

On the EthereumblockchainOpenSea is the biggest NFT marketplace. However, there are plenty more options: SuperRare specializes in curated artworks, Foundation only auctions NFT art, while Rarible offers many different NFTs. Some projects even have their own internal NFT marketplace, for example CryptoPunks and Axie Infinity. Currently OpenSea supports Ethereum and Polygon. The leading NFT marketplace on the Wax blockchain, is Atomic Market. Solanart is leading on Solana, Hic at Nunc on Tezos and PancakeSwap NFT Marketplace on BSC(Beggsand et,2009).

What are NFTs or Non-Fungible Tokens?

tokens or for short are completely unique digital items that are issued on a blockchain. In many ways, they hold similar qualities to items in the real-world. Think about physical goods like limited-edition trainers, or the limited edition drops by clothing brand Supreme. These digital items are distinguishable from one another by a unique number(Buterinand et,2013).

Digital collectibles

One of the first tangible use cases to employ NFTs were digital collectible dapps such as CryptoKitties, CryptoPunks, and Topps GPK. In 2020 this is also a space that has seen a lot of activity. Users have regular opportunities to win NFTs as they are used as 'sign up bait' quite often during marketing campaigns. Furthermore, users can simply purchase NFT's.CryptoKitties is an excellent example of this process with the added game mechanic of breeding new kitties using yours and others to create a new hybrid kitty. The new CryptoKitty will hold some attributes of its parents.

The premise of the game is to collect CryptoKitties and their traits, which determine how they look. Different CryptoKitties are not just random. Images assigned to each Kitty serial number, it is a result of "reading" the traits or digital information of that CryptoKitty from the blockchain(Campbelland et,2011).

What Are Play-to-Earn Games?

An NFT game combines conventional gaming designs with unconventional game mechanisms to let users have more control over in-game assets like skins, characters, weapons, virtual lands and much more. This is made possible by launching games on blockchains and anchoring them with digital asset-powered economies. These digital assets are often NFTs so that they are distinguishable and tamper-proof. The adoption of NFT token standards also allows developers to preserve the rarity and uniqueness of some of these in-game items. This is why some blockchain game assets are considered more expensive than others(Cataliniand et,2018).

With this system in place, the players can claim ownership of game assets through 3 main strategies. They could create or breed new characters, purchase digital items on native or third-party marketplaces, or unlock and earn new items. Whichever way you choose to access these game assets, you have exclusive ownership rights over them. In essence, you can distribute or sell them and pocket all the money made from such trades. This is why this gaming model is called play-to-earn(Chevetand et,2018).

How Does the Play-to-Earn Model Benefit Gamers?

Virtual economies existing in gaming universes are not unheard of — popular massively multiplayer online role-playing games (MMORPG) like RuneScape and World of Warcraft have players in the millions. Furthermore, many games claiming to be free-to-play are running on a 'freemium' model; gamers have to splash certain amount of money, on top of time and effort, to accelerate their rise through the ranks or obtain rare in-game items. While these in-game items may be worth a tidy sum, the true ownership does not lie with the gamer, but with the game developers(Chohanand et,2021).

While gaming companies should be rightly compensated for developing entertaining titles, gamers also bring value by spending time and actively participating in the in-game economy. The play-to-earn model could be seen as a way to synergize both parties so that all are rewarded for the value they bring. On one hand, gaming companies can develop a more vibrant in-game economy. On the other hand, gamers get to own their in-game assets and be rewarded for their time spent(Congand et,2019).

Can You Make Money Playing NFT Games?

Yes — while you've probably heard of the news of people in Philippines earning a reasonable wage playing Axie Infinity, the cost to start playing the most popular play-to-earn game — AxieInfinity — has reached at least a few hundreds dollars. As of Oct. 27, 2021, the cost of the cheapest Axie you can find on the marketplace is \$93; users need three Axies to start playing. To start earning, you would have to recover your upfront cost, which could take anywhere from 50 to 80 days, before earning between \$8 to \$40 depending on their Axies(Daand et,2011).

Are There Free NFT Games?

While some of the games mentioned below — such as Gods Unchained and Splinterlands — are free-to-play, most require you to spend a certain amount to purchase a starter pack or progress further. Those not willing to fork out the upfront capital will be glad to know that there are initiatives such as Axie scholarships: sponsors loan three Axies to "scholars" and engage in a profit sharing scheme, which could see players earning around 50%-70% of the total profits(Dimsonand et,2011).

What Are the Top NFT Games?

Like all emerging and established sectors, certain platforms have positioned themselves as the main highlight of the NFT gaming world. These games are at the forefront of the current NFT craze because they have successfully integrated NFTs with popular game themes. As such, players get to play some of their favorite

game genres and at the same time engage with a profitable NFT market. Without further ado, here are some of the games that fall within this category(Dowling and et,2021).

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