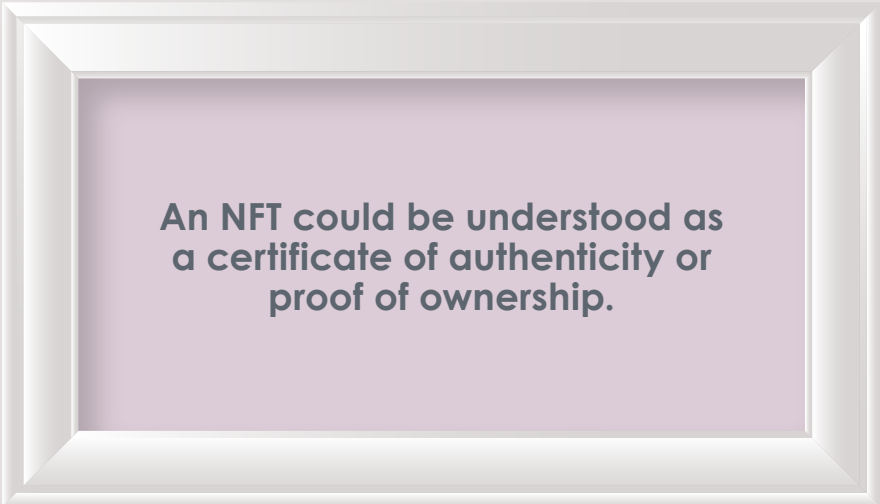


DEMYSTIFYING NFTs

What an NFT?

Debates on Non-Fungible Tokens (NFTs) and their uses have become frequent across mainstream media, social channels and investment literature. While prices for several Web 3.0 assets have come under pressure more recently, NFTs appear to still be making strides into the mainstream, aided in part by several high profile developments involving major corporates.

An NFT is a cryptographic token that could be used to represent ownership of a unique underlying asset, stored on the blockchain where transaction and ownership information is verified through decentralisation and is considered tamper-proof (immutable).



An NFT could be understood as a certificate of authenticity or proof of ownership.

When an NFT is minted (created), code is executed which involves adding ownership information onto the blockchain. The minting process involves smart contracts, or programs on the blockchain, that run under certain conditions.

“ According to market research firm Technavio, the global NFT market size is expected to grow by

USD 147.24 billion

from 2021 to 2026, or at a Compound Annual Growth Rate (CAGR) of just over 35%. ”

Uses of NFT



Art

In today's context, digital art is one of the most common use cases for NFTs. High-profile NFT digital art sales make the headlines regularly, such as the sale of 'The Merge' by a digital artist named Pak, fetching USD91.8 million, or 'The First 5,000 days' by Beeple selling for over USD60 million.

In our view, these reflect a vibrant digital art community that has thrived on the back of ownership rights and scarcity value from the development of NFTs.

Games

Apart from art, digital games are another area where NFTs and blockchain technology can be applied. Gamers today have already embraced the notion of ascribing value to digital items through microtransactions and in-app purchases. Instead of 'leasing' them from merchants, players can now own digital goods as NFTs. In some game platforms, NFT game characters are also available for sale and purchase.

Collectibles

NFT collectibles have been one of the prominent initial use cases, a mainstream example would be the introduction of NBA's NFT collectible trading video clips – NBA Top Shot.

Branding

Brands usually partner with NFT consultants and studios to launch NFT projects that helps foster customer engagement through provision of innovative experiences and exclusive benefits.

Metaverse

“ According to consulting firm McKinsey, the Metaverse could generate **USD 4-5 trillion** across consumer and enterprise use cases by 2030, up from the USD 0.2-0.3 trillion in 2022. ”

While there are still competing/differing visions of what the Metaverse is/can be, many would agree that NFTs are likely to be a common feature across Metaverse worlds. With asset tokenisation, many envisage Metaverses to allow users to own NFTs like real estate, digital art, digital apparel and avatars.

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Accessing NFT marketplace

As NFTs become increasingly mainstream, there are 2 broad types of marketplaces for NFTs.

First, there are streamlined NFT marketplaces. As the name suggests, there is an element of streamlining of operations on these platforms to help enable efficient transactions and are relatively user-friendly especially for new users. They typically have payment infrastructures that can accept both credit cards and crypto payments.


Second, there are augmented NFT marketplaces. In our view, these typically attract more niche users and can offer certain value-added services, including pricing recommendations, minting and marketing.



Augmented NFT marketplaces might command higher take-rates, given the greater amount of resources required to offer speciality services.



Risks involved with NFT and related securities



**The risks associated
with NFTs are non-trivial
and often multi-faceted.**



Scams are probably one of the most common risks in this space. One such scam involves a rug-pull, where developers build up substantial hype over an NFT but shut down the entire project once they have amassed sufficient funds. Phishing scams are also common. Other fraudulent activities include bidding scams, where scammers could place the highest bid to secure the purchase, and then subsequently change the cryptocurrency (and thus the value) used for bidding without the seller's knowledge.

At the same time, legal recourse might also be challenging given the different policies different jurisdictions may adopt. Ostensibly, an international body that can help facilitate a cross-border regulatory NFT framework in this regard could be ideal.

Valuation of NFTs are also challenging. While prices are set by the natural forces of demand and supply, an industry-wide method of assessing fair valuation is, at this juncture, elusive at best. For a traditional asset class like equities, discounted cash flow or target valuation multiple methods are generally accepted as reasonable techniques – the same cannot be said for NFT valuations. By extension, NFT pricing would naturally be highly volatile, and sentiment driven.

Given the 'crypto winter' that is often discussed in the media today, we are also seeing quite challenging times for the NFT scene more recently. Looking at Google Trends for instance, we see that interest for NFTs has certainly fallen substantially since its peak at the start of the year.

Google Trends for NFTs (over last 2 years)



Source: Google, Bank of Singapore (as of 31 October 2022)

NFT prices have also fallen very significantly. Part of this can potentially be attributed to negative high-profile developments, such as the collapse of the TerraUSD and liquidation process of Three Arrows Capital.

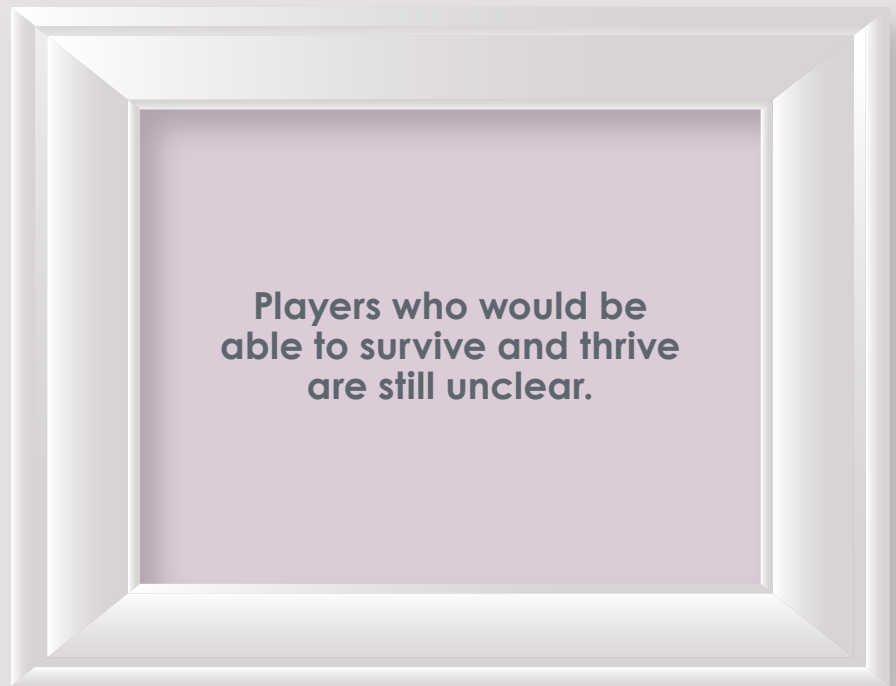
Apart from actual NFTs, there has also been a considerable amount of interest in publicly-listed companies that are deemed to provide indirect exposure to the broader Web 3.0 space, which includes the Metaverse, NFTs and Cryptocurrencies.

In our view, there are certainly a number of candidates with business models that tilt towards interesting developments within Web 3.0. These companies can potentially serve new addressable markets and challenge incumbents across a wide spectrum of verticals.

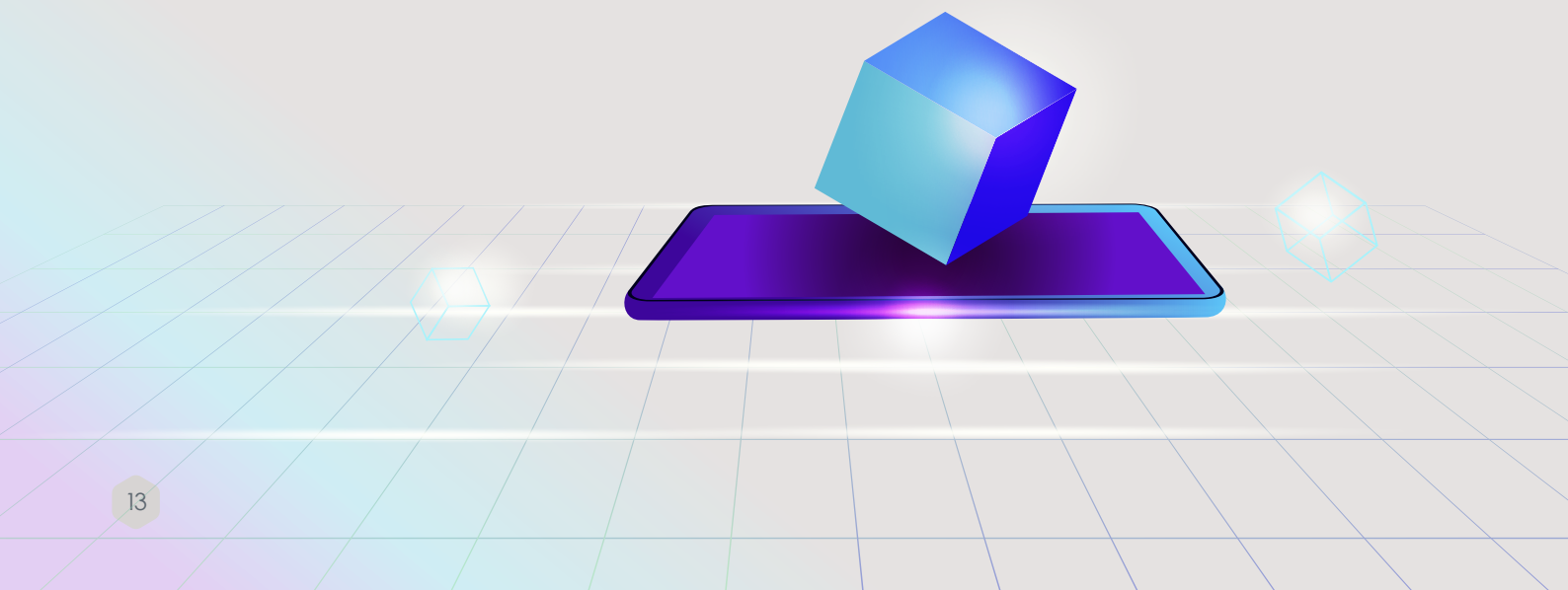
However, it would be remiss not to highlight some of the key concerns that many investors have at this juncture, as described in the next page.



First, the Web 3.0 theme and the sub-themes under it are indeed transformative, but likely to be long-term in nature. Second, a number of these firms are non-profitable, or possess a volatile earnings profile.



Given the current macro backdrop of rising rates, inflationary concerns and recessionary fears, we believe a re-evaluation of such long-duration names might prove to be challenging, even after the sharp share price correction for many of these companies.



Glossary



Non-Fungible Tokens (NFTs)

A cryptographic token that could be used to represent ownership of a unique underlying asset, stored in the blockchain where transaction and ownership information is verified through decentralised authentication and is considered tamper-proof.



Web 3.0

Broadly accepted as the next phase of the evolution of the web/internet, built around key concepts such as decentralisation, openness and trust/permissionless-ness.



Cryptocurrencies

Digital currency that generally has no central issuing or regulating authority, but instead relies on a decentralised system to manage transactions, and leverages cryptography for transaction validation.



Metaverse

There are competing/differing visions of what the Metaverse is/can be, given debates over topics such as degree of centralisation needed/desired and technical considerations relating to the construct of the Metaverse. At a high level, we believe that the Metaverse could involve leveraging augmented and virtual reality (AR/VR) technologies to facilitate interactions in a shared, immersive virtual world through the internet.



Blockchain

A decentralised and distributed digital ledger that records transactions. Such transactions are shared across users in the network, with each one verifying that the database is accurate and preventing unauthorised transactions from being completed.

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