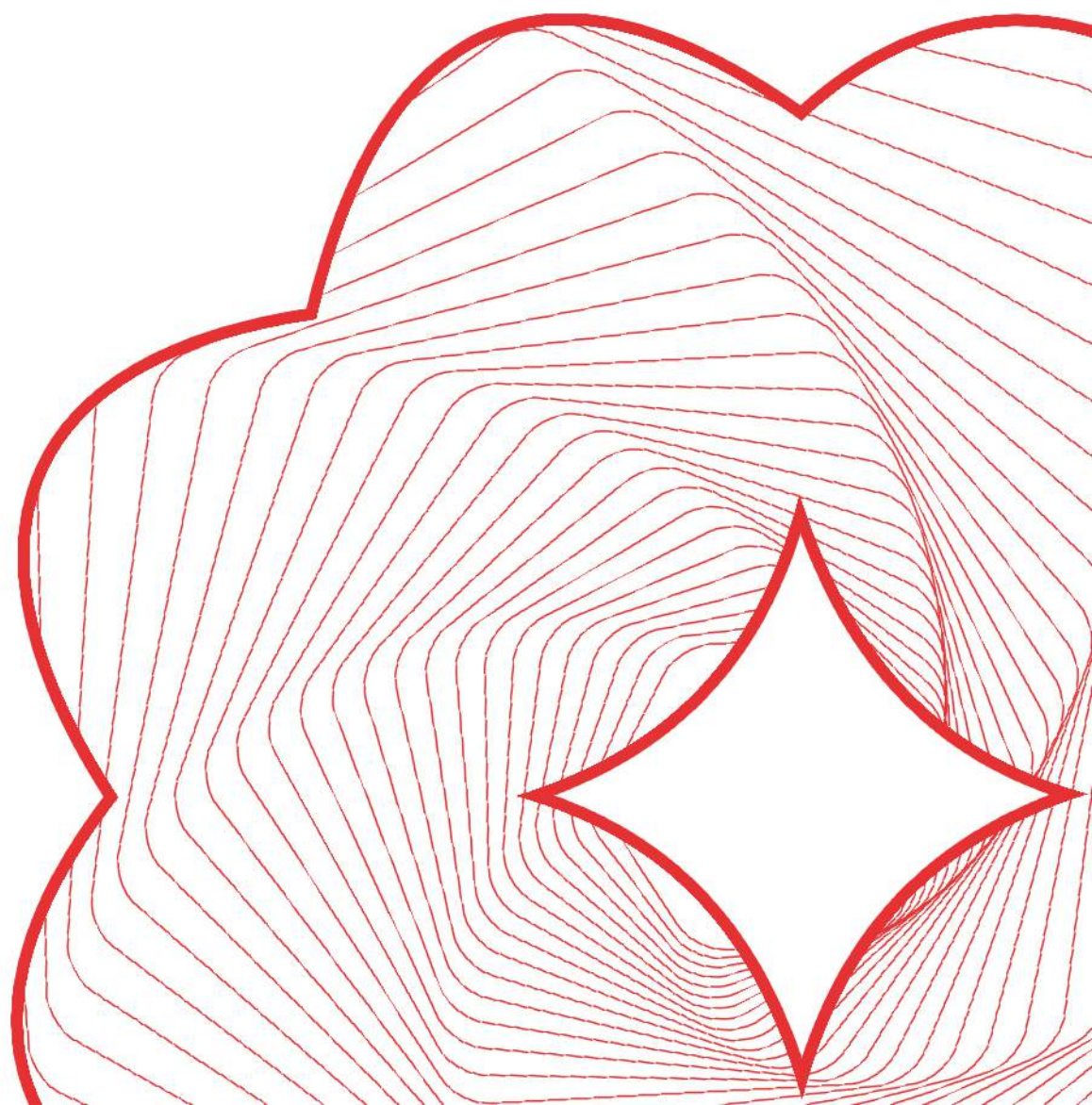# CRYPTOGRAM VENTURE FoF

CRYPTO REVIEW

More Insightful Thinking More Potential Value

- Go-to-Market in Web3: New Mindsets, Tactics, Metrics
- Right-Click Save #2: Culture is a meme. So are NFTs
- A mental primer to optimize for decision making efficiency
- Blockchain Trilemma 2.0: The GameFi Trilemma
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FEB
2022

FOREWORD

Welcome, friend of crypto world!

Blockchain technology is constantly changing the way we work, live, study and play. As far as the evolution of cryptocurrency market is concerned, 2021 is a very eye-catching year: we have seen the rise of many new blockchain projects, challenging the dominant position of Ethereum. The market value of various digital currencies such as BTC has reached an all-time high, and the dazzling NFT boom has pushed forward the large-scale implementation of blockchain technology.

As Matt Huang said, the founder of Paradigm, what cryptocurrency can do will have a great impact on the whole world, and we need to pay attention to it in the next decade. We also firmly believe that encryption technology will become one of the important driving forces affecting human economic and social development in 2022, 2023 and even 2030.

In the tide of encryption technology, Crypto Review came into being. Initiated by cryptogram venture (CGV), with the purpose of "providing in-depth value reference for global encryption practitioners", crypto review is committed to providing meticulous industry insights, the best investment and research practice guidance to encryption professionals and enthusiasts all over the world, And expand the positive impact of encryption consensus on more institutions and the wider population.

Crypto Review is not for profit and adopts the recommendation and invitation system. The content covers: 1. Encryption trends. Pay attention to the technology, management, industry and even macro factors that will affect the behavior of the encryption industry; 2. Overview of the track. Share the latest Overview Research and analysis based on a specific vertical field; 3. Project analysis. Comprehensively and deeply interpret the early dark horse project and star project, and systematically interpret their design concept and mode.

Since January 2022, Crypto Review will officially publish an electronic publication in English (Chinese, Japanese, Korean, etc. will be supported later), with one issue per month. Here, we also sincerely invite professional research institutions in the global encryption industry to seek long-term cooperation. As the co-sponsor of Crypto Review, we regularly recommend and publish the high-quality reports prepared by our organization.

The encryption world is changing with each passing day, and the opportunity of the encryption world is fleeting.

We hope Crypto Review can precipitate more valuable thoughts and really help encryption practitioners understand the present and see the future in the torrent of the times.

CGV founder

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Go-to-Market in Web3: New Mindsets, Tactics, Metrics

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She previously led go-to-market for Amazon Managed Blockchain at Amazon Web Services.

CR Recommendation:

The key difference between web2 and web3 is that the goals, growth, and success metrics of web2 and web3 are often not the same. The author explains how to introduce go to market (GTM) strategies such as Token and new organizational structure (DAO) under Web3 mode, to tell Builders should start with a clear purpose, grow a community around that purpose, and match their growth strategies and community incentives — and with them, the go-to-market motions.

Full Text

Every company faces some version of the "cold start problem": How do you get started from nothing? How do you acquire customers? How do you create network effects — where your product or service becomes more valuable to its users as more people use it — that create incentives for even more customers to sign up?

In short, how do you "go to market" and convince potential customers to spend their money, time, and attention on your product or service?

The response by most organizations in web2 — the Internet era defined by large centralized products/services like Amazon, eBay, Facebook, and Twitter, in which the vast majority of value accrues to the platform itself rather than to the users — is to invest significantly in sales and marketing teams as part of a traditional go-to-market (GTM) strategy that focuses on generating leads and acquiring and retaining customers. But in recent years, a whole new model of organization-building has emerged. Rather than being controlled by corporations — with centralized leadership making all decisions about the product or service, even when using consumers' data and free, user-generated content — this new model leverages decentralized technologies and brings users into the role of owners through the digital primitive known as tokens.

This new model, known as web3, changes the entire idea of GTM for these new kinds of companies. While some traditional customer acquisition frameworks are still relevant, the introduction of tokens and novel organizational structures such as decentralized autonomous organizations (DAOs) requires a variety of go-to-market approaches. Since web3 is still new to so many, yet there's tremendous building in the space, in this article I share some new frameworks for thinking about GTM in this context, as well as where different types of organizations may exist in the ecosystem. I'll also offer some tips and tactics for builders looking to create their own web3 GTM strategies as the space continues to evolve.

The catalyst of new go-to-market motions: tokens

The concept of the customer acquisition funnel is core to go-to-market, and is very familiar to most businesses: going from awareness and lead generation at the top of the funnel to converting and retaining customers at the bottom of the funnel. Traditional web2 go-to-market therefore attacks the cold-start problem through this very linear lens of customer acquisition, encompassing areas such as pricing, marketing, partnerships, sales channel mapping, and sales force optimization. Success metrics include time to close a lead, site click-through rate, and revenue per customer, among others.

The Customer Acquisition Funnel

Potential Customers

Marketing/ Business Development
Awareness/Lead Generation

Sales
Interest

Sales
Conversion

Customer Service
Retention

Web3 changes the whole approach to bootstrapping new networks, since tokens offer an alternative to the traditional approach to the cold-start problem. Rather than spending funds on traditional marketing to entice and acquire potential customers, core developer teams can use tokens to bring in early users, who can then be rewarded for their early contributions when network effects weren't yet obvious or started. Not only are those early users evangelists who bring more people into the network (who would like to similarly be rewarded for their contributions), but this essentially makes early users in web3 more powerful than the traditional business development or salespeople in web2.

For example, lending protocol Compound [full disclosure: we're investors in this and some of the other organizations discussed in this piece] used tokens to incentivize early lenders and borrowers by providing extra rewards in the form of COMP tokens for participating, or "bootstrapping liquidity," with a liquidity mining program. Any users of the protocol, whether a borrower or lender, received COMP tokens. After the program launched in 2020, total value locked (TVL) in Compound jumped from ~$100M to ~$600M. It's worth noting that while token incentivization attracts users, it alone is not enough to make them "sticky"; more on this later. While traditional companies do incentivize employees through equity, they rarely financially incentivize customers in a long-term way (other than through acquisition discounts or referral bonuses).

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To summarize: In web2, the primary GTM stakeholder is the customer, typically acquired via sales and marketing efforts. In web3, an organization's GTM stakeholders include not just their customers/users, but also their developers, investors, and partners. Many web3 companies therefore find community roles to be more critical than sales and marketing roles.

The catalyst of new go-to-market motions: tokens

For web3 organizations, GTM strategies depend on where an organization fits in the below matrix, according to its organizational structure (centralized vs. decentralized) and economic incentives (no token vs. token):
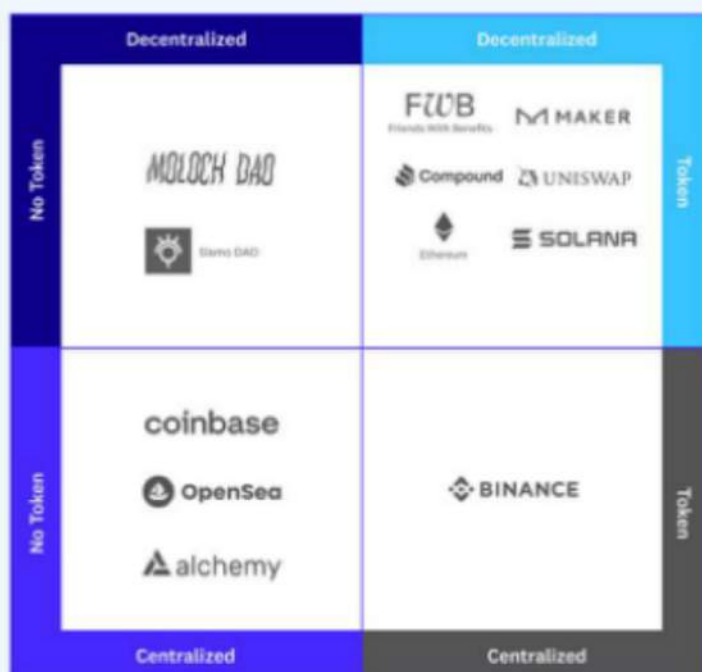
Go-to-market differs in each of the quadrants, and can span everything from traditional web2-style strategies to emerging and experimental strategies. Here, I'll focus on the upper right quadrant (decentralized team with token) and contrast it with the lower left quadrant (centralized team with no token) to illustrate the difference between web3 and web2 GTM approaches.

Decentralized with token

First, let's look at the upper right quadrant. This includes organizations, networks, and protocols with unique web3 operating models, which in turn require novel go-to-market strategies.

Organizations in this quadrant follow a decentralized model (although they usually start with a core development team or operational staff) and use token economics to attract new members, reward contributors, and align incentives among participants. (For a deeper discussion of web3 business models and the seeming paradox of capturing value, check out this talk from a16z Crypto Startup School.)

The fundamental difference between the web3 organizations in this quadrant and those using a more traditional GTM model involves the key question: What is the product? Whereas web2 companies and those in the lower-left quadrant largely must start with a product that will attract customers ("come for the tools, stay for the network"), web3 companies approach go-to-market through the dual lenses of purpose and community.

Having a product and a solid technical foundation is still important, but it doesn't have to come first.

What these organizations do need is a clear purpose that defines the reason they exist. What is the problem that they uniquely are trying to solve? This also means more than just raising money based on a white paper and founding team. It means having a strong community — not just being "community-led" or "community-first," but also being community-owned — blurring the distinction between owner, shareholder, and user. What allows for long-term success in web3 is clear purpose, having an engaged and high-quality community, and matching the right organizational governance to that purpose and community.

| **Purpose** | + | **People** | + | **Governance** | = | **GTM Strategy** |
| Why do you exist? | | Who are the stakeholders? | | What is the legal and organizational structure? | | |

Now let's go deeper into the go-to-market motions in the two major categories of web3 organizations in the upper right quadrant: (1) decentralized applications; and (2) Layer 1 blockchains, Layer 2 scaling solutions, and other protocols.

GTM motions for decentralized applications

 "Decentralized applications" covers use cases such as decentralized finance (DeFi), non-fungible tokens (NFTs), social networks, and gaming.

Decentralized Finance (DeFi) DAOs

One major category of decentralized applications are decentralized finance (DeFi) applications, such as decentralized exchanges (e.g., Uniswap or dYdX) or stablecoins (e.g., MakerDAO's Dai). While they might have similar go-to-market motions as a standard, non-decentralized application, value accrues differently due to the organizational structures and token economics.

Many DeFi projects follow a path where the protocol is first developed by a centralized development team. Following the launch of its protocol, the team often seeks to decentralize the protocol in order to increase its security and to distribute management of its operation to a decentralized group of token holders. This decentralization is typically accomplished through the simultaneous issuance of a governance token; the launch of a decentralized governance protocol (typically a decentralized autonomous organization, or DAO); and the granting of control over the protocol to the DAO.

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This decentralization process can involve many different structures and entity forms. For instance, many DAOs do not have any legal entity affiliated with them and operate solely in the digital world, while others use multi-signature ("multisig") wallets that act at the direction of the DAO. In certain cases, nonprofit foundations are established to oversee future development of the protocol at the direction of the DAO. In nearly all cases, the original developer team continues to operate, in order to act as one of many contributors to the ecosystem created by the protocol as well as to develop supplemental or ancillary products and services. (This white paper contains more details on legal frameworks for DAOs, from taxation and entity formation to operational issues and considerations.)

Here are two popular DeFi examples:

⊠MakerDAO started as a DAO in March 2015, established a foundation in June 2018, and retired its foundation in July 2021. MakerDAO has a stablecoin, Dai, whose purpose is to enable its users to transact in a fast, low-cost, borderless, and transparent way with a stable unit of value. This could be through purchasing goods and services or engaging with other DeFi applications. It also has a governance token, MKR. The DAO approves various governance changes as well as certain parameters of the protocol's operation, including the collateralization ratios the protocol uses to mint DAI.

⊠The Uniswap protocol was launched by a centralized company, but is now owned and governed by the Uniswap DAO, which is controlled by UNI token holders. Uniswap Labs, the creator of the protocol, operates one interface to the Uniswap protocol and is one of many developers contributing to the protocol's ecosystem.

So what does go-to-market look like here? Take the example of Dai, the algorithmic stablecoin issued and governed by MakerDAO. One goal for most algorithmic stablecoin issuers such as MakerDAO is to generate more usage of their stablecoin in the financial ecosystem. The go-to-market motion is therefore to have it: 1) listed on cryptocurrency exchanges for retail and institutional trading; 2) integrated into wallets and applications; and 3) accepted as payment for goods or services. Today, there are over 400 Dai markets, it is integrated into hundreds of projects, and it is accepted as a form of payment through major commerce solutions like Coinbase commerce.

How did they do it? MakerDAO initially accomplished this through a more traditional business development team that was driving many early partnerships and integrations. However, as it increased its decentralization, the business development function became the responsibility of the growth core unit, a sub-community of Maker token holders often referred to as a SubDAO. Additionally, since MakerDAO is decentralized and its protocol's operation is trustless and permissionless, anyone can generate or buy Dai using the protocol. And because Dai's code is open source, developers can integrate it into their apps in a self-service manner. As time went on and the protocol became more self-service — with better developer documentation and more integration playbooks — other projects were able to build off that at scale.

Go-to-market metrics for DeFi DAOs: With new go-to-market strategies for web3 come new ways of measuring success. For DeFi apps, the canonical success metric is the aforementioned total value locked (TVL). It represents all the assets using a protocol or network for things like trading, staking, and lending.

However, TVL is not an ideal metric to measure long-term organizational health and success. Although new DeFi protocols can copy open-source code, offer high yields, and attract significant financial inflows and TVL, this is not necessarily sticky — traders often leave as soon as the next project pops up.

The more critical metrics to track, therefore, are areas such as number of unique token holders; community engagement frequency and sentiment; and developer activity. Additionally, since protocols are composable — able to be programmed to interact with and build on each other — another key metric here is integrations. Number of and type of integrations track how and where the protocol is used in other applications, such as wallets, exchanges, and products.

GTM Metrics

DeFi DAOs	Number and quality of exchange listings	Number of unique token holders	Number of integrations
	TVL (total value locked)	Protocol revenue	

Social, culture, and art DAOs

For social, culture, and art DAOs, go-to-market means building a community with a specific purpose — sometimes even starting as a text chat between friends — and growing it organically by finding other people who believe in that same purpose. But isn't this "just a group chat" or just like traditional crowdfunding on Kickstarter, for instance?

No, because while organizers of traditional web2 crowdfunding projects may also have a clear purpose, they have to be much more clear about the means of achieving that purpose top-down. The project originators typically outline a detailed breakdown of how funds raised will be used, a clear product roadmap, and a comprehensive timeline. In the web3 model, the purpose is paramount, but the methods are often figured out later — including how funds will be used, the product roadmap, and the timeline.

For instance, with ConstitutionDAO, the purpose was buying a copy of the U.S. Constitution; for Krause House, the purpose is buying an NBA team and pioneering fan governance of a team; for LinksDAO, it is creating a virtual country club with a community of golf enthusiasts; and for PleasrDAO, it is for collecting, displaying, and creatively adding/sharing back to the community NFTs to represent culturally significant ideas and movements.

In the case of ConstitutionDAO, which raised $47M from a community of strangers that came together around this purpose, the entire process came together in a matter of weeks, and started with a clear purpose and raising money for that specific purpose only. ConstitutionDAO did not have much else — no clear roadmap, execution plan, or even a token at that point (it was created after the bid was unsuccessful). Individuals who contributed financially were so aligned with the purpose, and motivated by the community, that they simply wanted to contribute and spread the word, filling Twitter with emoji scrolls that became a meme.

Friends with Benefits is a token-gated social DAO that started as a token-gated Discord server for web3 creatives. In addition to a minimum buy-in of $FWB tokens, which represents membership in the DAO, potential members must apply to FWB through a written application. The community grew, connected in various Discord channels, ran IRL events, and eventually realized that one of the products they could build was a token-gated events app. FWB gives creatives a real stake in the community, while the DAO framework enables large-scale coordination of this decentralized social group to do things like allocate budget and accomplish projects ranging from publishing content to producing events.

Go-to-market metrics for social DAOs: One of the key measures of health of a DAO is quality engagement of the community, which can be measured through the primary communications and governance platforms it uses. For example, a DAO can track channel activity on Discord; member activation and retention; attendance on community calls, governance participation (who is voting on what, and how often); and actual work being done (number of paid contributors).

Source: Discord

Other metrics might be net-new relationships built, or measuring trust developed among DAO community members. Although some tools and frameworks do exist here, social DAO metrics are still an emerging space, so we'll see more tools emerge and evolve here as the space evolves.

Game DAOs

Today, most web3 games, whether play-to-earn, play-to-mint, move-to-earn, or another type, closely resemble popular web2 counterparts — but with two key distinctions:

1.The use of in-game assets native to open, global blockchain platforms rather than the closed, controlled economies found in traditional pay-to-own and free-to-play titles; and

2.The ability of game players to become true stakeholders and have a say in the governance of the game itself.

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In web3 gaming, go-to-market strategy is built through platform distribution, player referrals, and partnerships with guilds. Guilds such as Yield Guild Games (YGG) allow new players to start playing a game by loaning them game assets that they might otherwise not be able to afford. Guilds choose what games to support by looking at three factors: the quality of the game; the strength of the community; and the robustness and fairness of the game economy. Game, community, and economic health must all be maintained in tandem.

While developers of blockchain-based games might have a lower ownership percentage and/or take rate, by incentivizing players as owners the developers are helping grow the overall economy for all.

But unlike in web2, purpose and community lead. For instance, Loot, a game that started with content first before moving to gameplay, is an example of purpose and community, rather than product, driving GTM. Loot is a collection of NFTs, each known as a Loot bag, which have a unique combination of adventure gear items (examples include a dragonskin belt, silk gloves of fury, and an amulet of enlightenment). Loot essentially provides a prompt — or building block primitive — upon which games, projects, and other worlds can be built. The Loot community has created everything from analytics tools to derivative art, music collections, realms, quests, and more games, inspired by their Loot bags.

The key idea here is that Loot grew not due to an existing product that users flocked to, but because of the idea and lore it represented — an open, composable network that welcomed creativity and incentivized users through tokens. The community makes the product — it's not the network making the product in hopes it will attract a community. As such, a key metric here would be the number of derivatives, for instance, which could be considered even more valuable here than traditional metrics would.

GTM Metrics

Game DAOs	Game MAU (monthly active users), retention	Community Discord engagement, YouTube/Twitch views, developer forks	Economy Size of the game ecosystem, marketplace volume

GTM motions for Layer 1 blockchains and other protocols

In web3, Layer 1 refers to the underlying blockchain. Avalanche, Celo, Ethereum, and Solana are all examples of Layer 1 blockchains. These blockchains are all open source, so anyone can build on top of them, replicate or alter them, and integrate with them. Growth of these blockchains comes from having more applications built on top of them.

Layer 2 refers to any technology that operates on top of an existing Layer 1 to help solve scalability challenges with Layer 1 networks. One type of Layer 2 solution is a rollup. Layer 2 rollups do just that — they "roll up" transactions off chain and then post the data back onto the Layer 1 network via a bridge. There are two primary categories of Layer 2 rollups. The first, optimistic rollups, "optimistically" assume the transaction is honest and not fraudulent via a fraud proof. The second, zk rollups, use "zero knowledge" proofs to determine the same. The majority of these Layer 2 solutions are currently being developed for Ethereum and do not yet have their own token, but we will discuss them here as their go-to-market success metrics are similar to those of the other networks in this category.

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Additionally, protocols can be built on top of other L1s or L2s, with the Uniswap protocol, for example, supporting Ethereum (L1), Optimism (L2), and Polygon (L2).

Growth of Layer 1 blockchains, Layer 2 scaling solutions, and these other protocols can come from forks, which are when a network is replicated and then altered. For example, Ethereum, a Layer 1 blockchain, was forked by Celo. Optimism, a Layer 2 scaling solution, was forked by Nahmii and Metis. And Uniswap was forked to create SushiSwap. While this may initially seem negative, the number of forks that a network has can actually be a measure of success — it shows that others want to copy it.

GTM Metrics

| Layer 1 | Number of Github stars | Number of unique developers contributing to the protocol | Number of integrations |
| | Number of forks | Total value locked | |

These examples and mindsets all focus on the upper right quadrant, decentralized networks with tokens — broadly speaking, the current most advanced examples of web3. However, depending on the type of organization, there is still a fair amount of blending of web2 GTM strategies and emerging web3 models. Builders should understand the range of approaches as they begin to develop their go-to-market strategy, so let's now take a look at a hybrid model that blends web2 GTM with web3 GTM strategies.

Centralized and no token: The web2-web3 hybrid

Many of the companies in this lower left quadrant (centralized team with no token) provide entry points and interfaces for users to access web3 infrastructure and protocols.

In this quadrant, there is significant overlap in go-to-market strategies between web2 and web3 — especially in the areas of SaaS and marketplaces.

Software-as-a-service

Some companies in this quadrant follow the traditional software-as-a-service (SaaS) business model, for example Alchemy, which provides nodes-as-a-service. These companies offer infrastructure-on-demand through various tiers of subscription fees, determined by considerations such as amount of storage needed, whether nodes are dedicated or shared, and monthly request volume.

The SaaS business model generally requires a traditional web2 go-to-market motion and incentives. Customer acquisition is through a combination of product-led and channel-led strategies:

Product-led user acquisition is focused on getting users to try the product itself. For example, one of Alchemy's products is Supernode, an Ethereum API targeted at any organization that is building on Ethereum but that doesn't want to manage its own infrastructure. In this case, customers would try Supernode via a free tier or freemium model, and those customers would recommend the product to other potential customers.

In contrast, channel-led user acquisition is focused on segmenting out different customer types (for example, public-sector vs. private-sector customers), and having sales teams aligned to those customers. In this case, a company might have a sales team focused solely on public-sector customers such as government and education, and would deeply understand the needs of that type of customer.

I'm providing an overview in this article to help explain the difference between web2 and web3 go-to-market strategies, but it's important to note that developer-focused outreach and developer relations — including developer documentation, events, and education — is also very important here.

GTM Metrics

SaaS Companies	Tracking leads by sales cycle stage and retention/velocity through the sales cycle	Customer acquisition cost and channel analysis
	Revenue per customer	Customer churn rate

Marketplaces and exchanges

Other companies in this quadrant lean on the relatively familiar-to-consumer models of marketplaces and exchanges, such as peer-to-peer horizontal NFT marketplace OpenSea and cryptocurrency exchange Coinbase. These businesses generate revenue — the "take" — based on a transaction fee (typically a percentage of the transaction), which is similar to the business models of classic web2 marketplaces such as eBay and Amazon.

For these types of companies, revenue growth comes from growing the number of listings, the average dollar value of each listing, and the number of users of the platform — all of which lead to increased transaction volume, while benefiting users in terms of variety, marketplace liquidity, and more.

A key go-to-market motion here is increasing channel distribution by partnering with other platforms to show a selection of items. This is similar to the Amazon affiliate program, in which bloggers can link to their favorite items, and any purchases made through those links give the blogger a commission. But a key difference from web2 is that web3 structures allow for royalty distributions back to the creator in addition to the affiliate fee. For example, OpenSea offers the traditional affiliate sales channel through their White Label program, in which purchases made through a referral link give a percentage of the sale to the affiliate, but it also allows for royalties, in which creators can continue to earn a percentage of any secondary sales. (This web3 feature is uniquely made possible by crypto because smart contracts can encode the percentage arrangement up front, blockchain tracks provenance, and more.)

Since creators now have an opportunity to continue to monetize their work through the secondary markets — value they previously could not see, let alone capture, in web2 systems — they are incentivized to continue to promote the marketplace. Creators become evangelists as well.

GTM Metrics

Marketplaces and Exchanges	Number of listings	Average price per listing	Active users
	Number of transactions made	Total transaction volume	

GTM tactics

Now that I've shared an overview of key mindsets and example use cases, let's take a look at specific go-to-market tactics often seen in web3 organizations. These are the core ingredients, not a complete playbook, but can still help builders entering and exploring the space understand the tactics and options.

Airdrops

An airdrop is when a project distributes tokens to users to reward certain behavior that the project wants to incentivize, including testing the network or protocol. These can be distributed to all existing addresses on a given blockchain network, or targeted (such as to specific key influencers); often, they are used to solve the cold start problem — to bootstrap early adoption, award or incent early users, and more.

In 2020, Uniswap airdropped 400 UNI to anyone who had used the platform. In September 2021, dYdX airdropped DYDX to users. More recently, ENS conducted an airdrop to anyone with an ENS domain (a decentralized .eth domain); the airdrop was conducted in November 2021, but anyone who owned an ENS domain before October 31, 2021, was/is eligible (until May 2022) to claim $ENS tokens, which provide holders with governance rights with respect to the ENS protocol.

In the non-fungible token space, airdrops for NFT projects are also growing in popularity to help with giving more people access and other reasons. One recent notable airdrop was from the Bored Ape Yacht Club, a collection of 10,000 unique NFTs; on August 28, 2021, BAYC created the corresponding Mutant Ape Yacht Club. Each of the BAYC token holders received a mutant serum, allowing them to mint 10,000 "mutant" apes, and additionally a new 10,000 mutant apes became available for new entrants. Because there were different types of serums, serums could only be used once, and since a Bored Ape could not use multiple serums of the same tier, serums added a new scarcity model.

The rationale behind the creation of the MAYC was to "reward our ape holders with an entirely new NFT" — a "mutant" version of their ape — while also allowing newcomers into the BAYC ecosystem at a lower tier of membership. This maintains accessibility to the broader community, while not diluting the exclusivity of the original set or having those original owners feel like their contributions were downgraded. (Another way of addressing accessibility is with NFT fractionalization, where an NFT has multiple owners.) The MAYC floor price, or lowest listed price for a MAYC, is consistently lower than the BAYC floor price, but owners essentially have the same benefits.

These airdrops were done retroactively to reward NFT holders or network and protocol users (as was the ENS airdrop), but airdrops can also be used as a proactive GTM motion to generate awareness for a specific project and to encourage people to check it out. Since information is public on the blockchain, a new project can airdrop to, for example, all the wallets using a specific marketplace, or all the wallets holding a specific token.

In any case, projects should clearly articulate their overall token distribution, breakdown, and plans before conducting the airdrop. There are many examples of airdrops being used for nefarious purposes and of airdrops gone wrong. In addition, airdrops of tokens can be deemed to be securities offerings in the United States, so projects should consult counsel prior to engaging in any such activity.

Developer grants

Developer grants are grants made from a protocol's treasury to individuals or teams who are contributing in some way to improving the protocol. This can serve as an effective GTM mechanism for DAOs, since developer activity is such an integral part of a protocol's success. Examples of projects and protocols with developer grants include Celo, Chainlink, Compound, Ethereum, and Uniswap.

But grants can be given for everything from protocol development to bug bounties, code audits, and other activities beyond coding. Compound even has a type of grant related to business development and integrations, funding any integrations that grow the usage of Compound. An example of this is their funding of a grant that integrated Compound with Polkadot.

Memes

Viral images with text overlays are another GTM tactic for web3 organizations. Given the complexity and breadth of the cryptocurrency ecosystem and the short attention spans of social media users, memes allow information to be rapidly conveyed. Memes can also signal belonging, community, goodwill, and more in a highly information-dense way.

The NFT project Pudgy Penguins, a collection of 8,888 penguins, started due to its meme-ability. The primary drop of the collection sold out in 20 minutes, and the collection was featured in major media outlets, which in turn helps mainstream such projects. The social display and community element of "PFP" (profile picture) collections — in web3 this is coming about as NFTs displayed as an owner's profile picture on social media — also allow for this virality. Twitter recently rolled out a feature allowing users to prove their ownership of an NFT via hexagonal-shaped profile pictures linking to OpenSea's API.

Owners with large social media followings generate awareness of a project when they change their profile picture to one from that project, and project owners typically follow all other owners of the same project. These moves can in turn also beget other memes, as in the case of Crypto Covens and the "web2 me vs. web3 me" meme where users came to display their witches alongside their actual faces, signaling identity, belonging, and more.

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So what does this all mean for web3 founders? The biggest mindset shift is moving from planning to something more like gardening.

In web2 companies, founders not only set a top-down vision but are responsible for growing a team and planning and executing against that vision. In web3, founders take on more the role of a gardener, helping cultivate and nurture potentially successful products but also setting up the space for it all to happen. While web3 founders still set the purpose of the organization, and its initial governance structure, the governance structure itself might quickly lead to new roles for them. Instead of optimizing for headcount growth or revenue and profitability, founders might be optimizing for protocol usage and quality of community. In addition, following any decentralization, founders must adapt to environments in which no hierarchical power structures exist, and where they are one of many actors championing the success of a given project. As such, prior to decentralizing, founders should ensure that they are setting up their project for success in such an environment.

I witnessed some of this firsthand when I was chief of staff to Tony Hsieh, former CEO of Zappos.com, an e-commerce company now owned by Amazon. The company experimented with more decentralized (compared to only top-down) governance structures beginning in 2014, including the self-organized management system known as "holacracy." Holacracy involved a hierarchy of work rather than of people, and had mixed results. But Hsieh offered a useful metaphor when comparing his role as being the cultivator of a greenhouse of plants (in the holacracy model), rather than being the best plant. He had said he needed to be the "architect of the greenhouse" — setting the right conditions to enable all the other plants to flourish and thrive.

Today, Alex Zhang, Mayor of Friends with Benefits (FWB), the social DAO with a fungible token, echoes the sentiment, describing that his job "is not to set a top-down vision" but to facilitate the creation of "frameworks, permits, and regulations for community members" to approve and to build on top of. Where a web2 leader would be focused on updating the product roadmap and driving toward new product launches, Zhang considers himself more of a gardener rather than a top-down builder. His role includes watching the FWB "neighborhood" (in this case, Discord channels) and curating it by retiring channels with little traction and helping support and grow channels that have momentum. By creating a framework for these channels — and playbooks for channel success (such as a mix of activity, clear leadership, and governance structures) — Zhang becomes more of an educator and communicator.

In the case of founders of NFT projects, their role is primarily as originators and temporary stewards of intellectual property (IP). Yuga Labs, the creators of Bored Ape Yacht Club, wrote, "We see ourselves as temporary stewards of IP that is in the process of becoming more and more decentralized. Our ambition is for this to be a community-owned brand, with tentacles in world-class gaming, events, and streetwear." Owning an NFT — whether it's an image, a video or sound clip, or another form — conveys to the owner all the rights associated with the NFT. As the NFT is bought and sold, that ownership is transferred — and as ecosystems grow around the NFT, those benefits go to the NFT owner, not just the founding team of the NFT project.

NFT ownership can also be about community-driven licensing and community-driven content (unlike traditional IP franchises). An example here is Jenkins The Valet, an NFT avatar from the BAYC collection (specifically, Ape #1798) that signed with Creative Artists Agency (CAA) for representation across various forms of media. Jenkins was created by Tally Labs, the group that owns Ape #1798. Tally Labs decided to imbue the ape with its own brand and backstory, and turned the notion around of an NFT's statistical rarity being the main determinant of its price and success. They then created a way for others to participate in creating content around Jenkins through a "writer's room" NFT, where, for example, community members were able to vote on the genre of the first book.

So much more is possible here; we have yet to see what more is possible as more people embrace crypto and decentralized technologies and web3 models. Traditional web2 GTM frameworks are a useful reference, and offer some helpful playbooks — but they are just a few of the many frameworks available for web3 organizations. The key difference to remember is that the goals, growth, and success metrics of web2 and web3 are often not the same. Builders should start with a clear purpose, grow a community around that purpose, and match their growth strategies and community incentives — and with them, the go-to-market motions — accordingly. We will see a variety of models emerge, and look forward to observing and sharing more here.

Ask Not Wen Moon–Ask Why Moon

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Original link:

https://www.sequoiacap.com/article/ask-not-wen-moon-ask-why-moon/

Author:

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CR Recommendation:

On February 18, 2022, Sequoia Capital, where the author works, announced the launch of a cryptocurrency investment fund with a scale of US $500-600 million, which is the first industry-specific fund of Sequoia Capital since its establishment in 1972. The news has aroused widespread concern in the industry. Based on what considerations, Sequoia Capital has made a big leap from a traditional first-line dollar fund to try to lead the investment in Web3 and the encrypted world? The author believes that VC, like all biological systems, either evolve or die, while Sequoia Capital is always paranoid.

Full Text

2021 was a banner year for crypto: hundreds of projects launched, thousands of new developers and over 100m new users entered the space, total crypto market cap increased by a trillion USD, DeFi total value locked 4x'd to ~$250B, NFT sales broke records and garnered an SNL feature, Tom Brady & Gisele backed FTX spurring a wave of tastemaker interest in crypto, pleasrDAO rescued the Wu Tang Clan album, ConstitutionDAO almost bought the constitution, and more.

Yet, we still hear the same questions from people new to the space: WTH is happening in crypto? Is it a currency or investment or a new internet? What are the hot new tokens and NFTs? Wen Moon?

The better question is actually: Why Moon? Why is crypto/web3 happening? Why now? Beyond the token market caps that tend to put $$ in people's eyes, why does it matter?

While arguably a Sisyphean task, we tried to answer these questions in a few pages. This will feel simplistic to anyone deep in the space, but our hope is that by providing a broad overview of crypto in its historical context and a decent mental model for the ecosystem, more people—users, developers, operators, and founders—will dive in. We also hope it sheds some light on why Sequoia has conviction that crypto is one of the most important platform shifts of our time.

Why crypto is happening and why it matters (the 30,000 foot view)

Money is about trust. Many people on our planet enjoy trust in their money and financial systems. We trust our central banks not to devalue our currency overnight. We trust our governments to avoid hyperinflation so our money retains purchasing power. We trust banks to secure our money and not loan it recklessly, and private companies to help us safely use our money for commerce and other financial services. We pay for the privilege of this trust in taxes and fees to financial services companies (a multi-trillion dollar industry). This foundation of trust has been an essential bedrock of our economic progress over the last few centuries.

Yet, many do not enjoy this level of trust in their financial systems, if they can access them at all. This is true even in some of the most prosperous and populous countries. Recent events, especially the Great Financial Crisis of '08-09, eroded trust even in the US. Global monetary stimulus in response to COVID has many questioning again whether their trust is well-placed.

It is unlikely a coincidence that the Bitcoin whitepaper which ignited the crypto industry was published October 31, 2008, just six weeks after Lehman Brothers collapsed in the Great Financial Crisis. Titled "Bitcoin: A Peer-to-Peer Electronic Cash System," it described the solution to a holy-grail problem in cryptography: using a distributed network to validate the authenticity of a digital file. This introduced a new phenomenon on the Internet: verifiable scarcity, and enabled the direct transfer of value online without intermediaries. To exchange Bitcoin, all we need is internet access and trust in Bitcoin's open source code. Just as billions now trust the Internet for the global free exchange of information, 220M and counting now trust a blockchain for the global free exchange of value.

Viewed in historical context, "internet money" can be seen as a natural evolution of our financial system. The history of money is a story of progressive abstraction for the sake of convenience (barter economy to metal coins to paper money etc.) Today, most of the money flying around the world is already digital, and we true up the paper as an afterthought as we once did with gold. But we pay a great cost for the inefficiencies of this analog system with its fragmented jurisdictions, myriad intermediaries, and long settlement delays. Why wouldn't we move to internet-native money movement rails? Isn't this the next step in a journey arguably started by PayPal, Stripe, Square and others?

While it seems Bitcoin was intended to solve a payments problem, inventions rarely go as their inventors planned. As demand for Bitcoin grew, its price and transaction fees increased, making it more useful for many as an investment vehicle (or store of value) than a payment mechanism (medium of exchange). Most interestingly, new inventors built on the concepts of Bitcoin in new ways. Ethereum's contribution was using a distributed ledger not just for currency but for computation.

Blockchains as decentralized computing platforms captured developers' imaginations. Their aims are wide-ranging but can be roughly characterized as trying to bring about better money and a better internet.

Better money: money free from arbitrary monetary policy, censorship and surveillance, and financial systems that are more trustworthy, accessible, efficient and cheaper

Better internet: applications in which users own their data, rather than rent access from a given platform, creators are better rewarded, and communities govern them; digital goods (NFTs) that are more liquid, portable across platforms, better suited to manage digital rights

While these are the goals, we still have a long way to go. Some point to crypto's shortcomings as evidence the entire effort is a scam, but this misses the point. Historically, when technological innovation has led to financial innovation ahead of regulation, we have seen world-changing innovation, then mania, fraud, a crash, a regulatory framework and then a slow build toward lasting value (see: early stock markets of 1600s Amsterdam). Crypto appears no different. There are tokens of dubious quality. There are pockets of over-hype. But as with all other technology revolutions, there will also be enduring companies created in this time.

The Great Transformation

Crypto will transform value on the Internet, and in doing so, the Internet itself. Blockchains will rewrite the way we own, sell, buy, trade, exchange and reward. As software saturates our world, crypto (software money) will saturate money—and everything we do with it. Blockchain's inherent properties—instant value transfer, verifiable scarcity, and user-ownership—could restructure trillions of market cap across payments, finance, gaming, content, social networks and more.

Digital currencies are fundamentally useful to 220M people and counting, whether as capped-supply inflation hedges, censorship-resistant stores of value, borderless mediums of exchange and/or investment vehicles. This has created a new asset class.

This new asset class is creating a market for financial services, both centralized and decentralized (DeFi). As with any asset class, owners want to be able to buy, hold, sell, trade, lend, hedge, swap, fractionalize, insure and more. With crypto, they also want to do it freely across borders and time zones, 24/7. This is likely to be expansionary to current financial systems, creating more consumer choice.

The rise of crypto necessitates a new crypto stack. From core infrastructure to developer tools, some of the traditional stack will translate and some won't. Custody, nodes, fiat<>crypto on/off ramps and both on and off-chain data are just a few areas of the emerging crypto stack. In this era, value may accrue to new layers. In traditional software, more value accrued to the application layer (Google ~$2T market cap, TCP/IP/SMTP arguably $0) whereas in crypto, core protocols are monetizable via tokens (BTC+ETH ~$2T market cap vs. crypto apps ~$200B so far).

Blockchains enable more than digital assets—they also enable digital goods (NFTs) and decentralized applications (web3). While these areas are exploding in trading volumes, user interest and developer energy, they are still in their earliest innings. Web3 holds tremendous potential to use blockchains to reshape internet services around principles of user ownership, creator rewards, and community governance (e.g., DAOs).

However, regulatory frameworks are still being clarified, so founders will need to thoughtfully navigate uncharted waters.

Mental Model for Crypto

It can be helpful to organize crypto along two dimensions: space and time.

Space: Below is a map of the crypto ecosystem. It's organized like a typical stack from hardware at the bottom to applications at the top, with the infrastructure to build and access it on the right. Before you get out your pitchforks, we know this is imperfect. Crypto doesn't fit neatly into little boxes. Many of these categories overlap and crypto is constantly changing. But, it's not a terrible starting point. We welcome input from the community.

| | MONEY/FINANCE | | | NFTs & WEB3 | | INFRA/STACK |
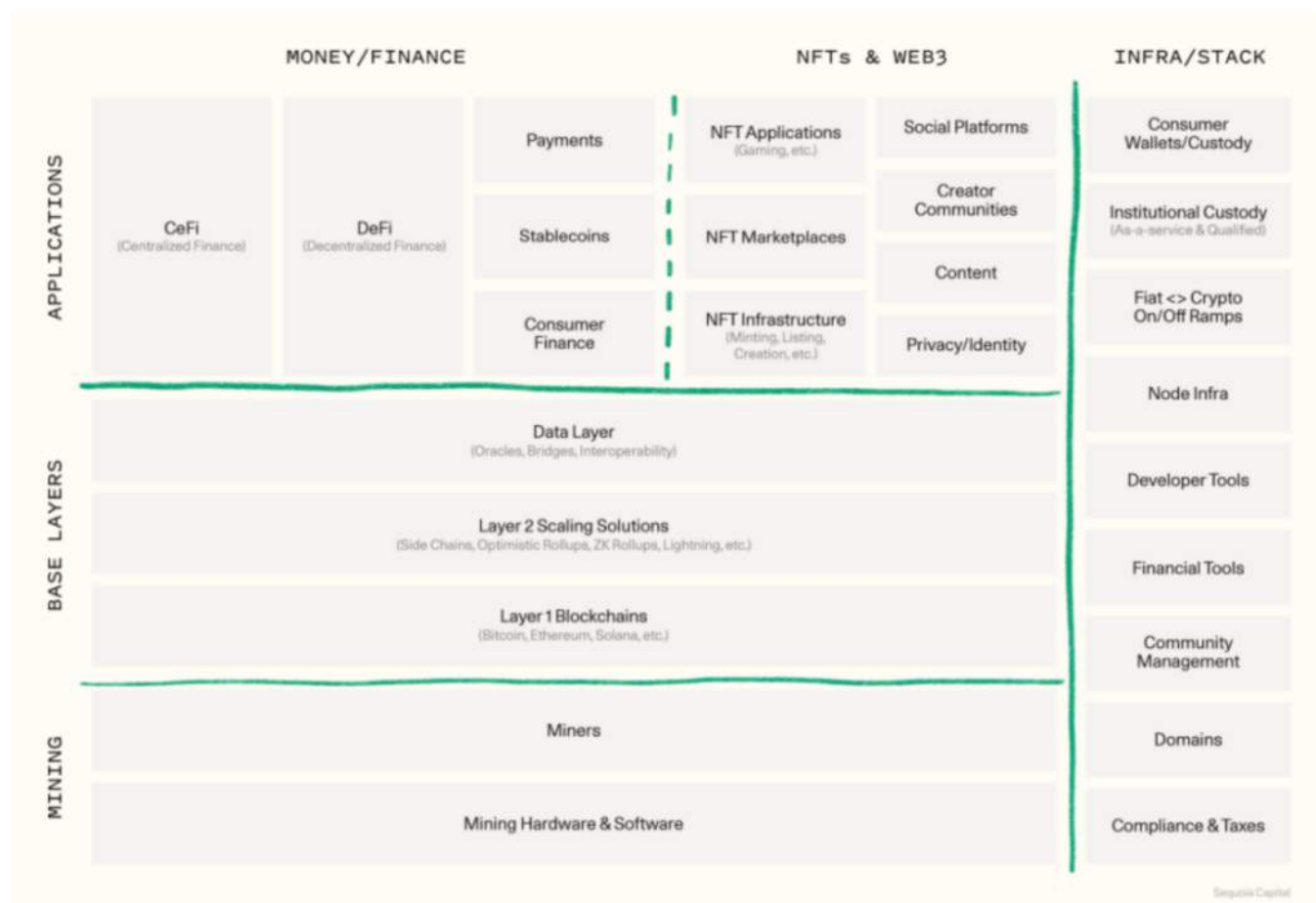
We'll share our deep dives into each of these areas in future posts.

Time: Here is a framework for when certain areas of opportunity may mature, inspired by a typical new technology adoption S-curve. This is again imperfect—building is happening simultaneously, phases are overlapping and interact in feedback loops. This is also not a replay of every local maxima and minima over the past decade. Instead, this is an attempt to zoom way out and imagine how we might move from millions to billions of crypto users.

Phase 1: Isolation. Crypto as an island, disconnected from the non-crypto world. Core protocols are built out (think TCP/IP for internet, and layer 1 blockchains like Bitcoin, Ethereum and Solana for crypto). Protocols are inextricable from their native coins. A variety of coins creates demand for exchanges and additional financial services. Most incumbents lack the tech and regulatory appetite to serve this demand, allowing crypto-natives to fill the void. Crypto-native analogs of every financial service arise roughly in their historical order: currency, foreign exchange, lending, derivatives, insurance, options, ETFs, etc.

Phase 2: Connectivity. Bridging the crypto and non-crypto worlds. The non-crypto world sees value in crypto and builds/buys the infrastructure to access it. Custody/wallets, crypto<>fiat on/off ramps, data feeds, blockchain-specific infrastructure and developer tools grow exponentially in this time. New use cases from NFT art communities to gaming to web3 social networks draw in new users. As the mass-market starts to engage in crypto, competitive pressure dramatically simplifies the user experience and lowers barriers to access. The number of users and developers with access to crypto increases by 10-100x over this next decade. We'd argue we are just starting Phase 2.

Phase 3: Maturation. Fusion of crypto and non-crypto worlds so they are no longer distinct. Like mobile, once crypto access is sufficiently ubiquitous, applications will have the foundation they need to reach their full potential. They will cross the chasm from crypto-niche to commonplace. To be clear, founders are already building across consumer finance, DeFi, NFT, web3 and more, but only a few hundred million people and institutions have the tools to access them. As access spreads, applications will see an order of magnitude increase in user engagement.

Right-Click Save #2: Culture is a meme. So are NFTs

initial public publication time: December 2, 2021

Original link:

https://0xprismatic.substack.com/p/right-click-save-2-culture-is-a-meme?utm_source=url

@0xPrismatic

Researcher of Delphi Digital

CR Recommendation:

NFT represents digital culture, but the cultural values behind it are different and difficult to measure. The author creatively puts forward the quantitative standard of NFT cultural value, including brand value index, historical value index, imitation value index and wealth display value index. This provides a very good operational idea for the financialization of NFT, which will lead to more NFT market opportunities.

Full Text

Appraising NFTs sounds a like simple task but it is in fact one of the most challenging things to do - it encompasses many intangible aspects like culture and aesthetics. Doing this well requires a combination of deep vertical knowledge, experience and a keen intuition. I personally believe that NFT appraisal is going to be a powerful new job in the future metaverse (where everything is a NFT). They will be the digital counterparts to the real-estate appraisers or art appraisers of today. I admire teams like Upshot who have dedicated their time to solve the pricing problem with unique approaches, even though my view is that a purely data-driven approach is insufficient.

We know all valuation metrics are a meme. Monetary value is not physics: and so it cannot be quantified with certainty in a truly objective way, unlike the temperature of the air today (32 degrees celsius, it's sweltering hot in Singapore) or the speed of the car. As humans, we ascribe value to things we perceive as important, or that we believe others perceive as important. If enough people believe it, it becomes real.

Think about it:

· Bitcoin Stock-to-Flow? Meme

· Stocks P/E ratio? Meme

· Gold? Meme

Interestingly, memes are also the means by which we propagate culture. NFTs represent digital culture. Pushing along that line of reasoning, I believe that NFTs are the bridge between culture and monetary value.

Culture is the most important thing to understand when thinking about NFTs. We as a community determine what is culturally valuable and what is not, voting with our Metamasks and 24/7 twitter shills. But what is culture? I'm not a sociologist, so in a very simplistic way:

Culture is broad and encompasses the shared experiences, perceptions and beliefs of a society. Culture is powerful, because it imbues us with a sense of purpose and collective identity. Some sociologists classify culture into material and non-material culture. Material culture are tangible items that emerges from and is shaped by non-material culture (eg. beliefs and values).

In this way, we can think of NFTs as digital, material representations of a set of values and beliefs, which can drive powerful cultural narratives. Narratives attract people who vibe with it.

Some quick examples of cultural narratives represented by NFTs (in my personal opinion):

· CryptoPunks: wealthy intellectual early adopters

· XCOPY art: underground, OG crypto culture

· Art Blocks Curated: sophisticated contemporary art appreciators

There are 4 major factors in play around culture:

1.Brand Value

2.Historical Value

3.Mimetic Value

4.Flex Value

These are not the only factors impacting culture. However these are important ones that can drive strong fundamental narratives and are worth reflecting upon in depth.

1. Brand Value

What brand does the NFT represent? Usually, it's inexorably linked to the creator's brand - an artist or organisation. So let's first look at that and draw our conclusions.

The cultural value of a work by a renowned artist (eg. Damien Hirst, Tyler Hobbs) is far greater than that of a new artist - because the artist brand is conferred upon the artwork. Hence it is natural for their works to be priced much higher.

A great artist's brand is so powerful that even just being 'lightly' associated with the artwork is enough to increase its value tremendously. Damien Hirst is famous for his 'hands-off approach' and has a team of studio assistants who paint/produce his actual art works while following his artistic vision. He might add a few dots or his signature at the end. A signed work is considered a 'Hirst' and fetches significant multiples over an unsigned one. The equivalent in the web3 world could be that any NFT smart contract created by a 'Hirst deployer' in the future would automatically represent his brand and be immediately sought after.


Damien Hirst's "The Currency" - a series of 10,000 NFTs worth $20,000 each at today's prices. Spoiler: He did not paint all the dots personally.

The reflexivity here is that contemporary digital artists that continue to produce great works and infuse the right dose of showmanship will organically grow their personal brands. This in turn leads to a higher cultural value for all their works as a whole and increase demand. Collecting works of a talented growing artist and holding on for a long time as cultural value accrues can be a wonderful investment thesis. Just ask the people who bought and collected XCOPY and Hackatao works from 2017 - they are worth millions today. We're all searching for the Picasso of the crypto art era, yet this will only come to light retrospectively.

At one end of the spectrum, well-established commercial brands & organisations (eg. Disney, McDonalds, Budweiser) have started dipping their toes into NFTs. This is easier to pontificate on, because the NFTs feed off their existing brands. Disney is fun & dreamy, McDonalds is fast/cheap and these will reflect in their NFTs as well.

On the other side, brand value can start from zero and grow/evolve organically. This is especially common in crypto-native projects. In this case, the emerging brand is very closely tied to the community and what they stand for.

Six months ago, 4 pseudo-anonymous folks started the Bored Ape Yacht Club. Today, it has grown to be the web3 representative for street culture and is already drawing close comparisons to Supreme, a 27-year old billion dollar brand. They have limited-edition merchandise drops for members only, which are highly sought after and proudly worn. In fact, the big news this week is that they just teased a partnership with Adidas.
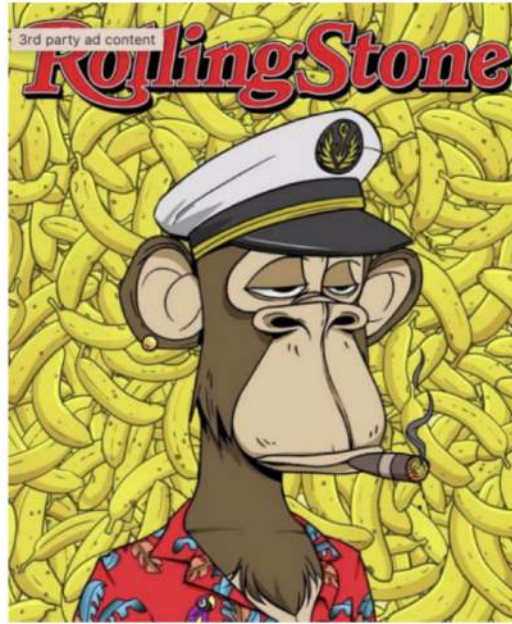
Bored Ape on the digital cover of Rolling Stones magazine

BAYC hoodie so you can easily recognise others apes outside of the metaverse

2. Historical Value

There are 2 components to history, in the context of NFTs:

1)Timestamp: How long ago was the NFT minted/created?

Today, it is obvious that the market places a premium on NFTs that are older in block age. This is in part due to the Lindy effect, and partly due to scarcity. NFTs from 2017 are considered more valuable because there were so few of them back then. There are NFT 'archeologists' (e.g. Adam McBride) who scour thousands of smart contracts from years ago to unearth forgotten projects. Not a bad job to do, at least you don't get sand in your pants like real archeologists do.

A wonderful example of this is the CryptoArte project, a series of 9,895 generative artworks based on the Ethereum blockchain. It was first minted in 2018 and minted out fully only in 2021. CryptoArte NFTs that were minted in 2018 have a floor price of 3E each today, which is 20x more compared to those that were minted recently in 2021 (0.14E), when adjusted for comparable rarity.
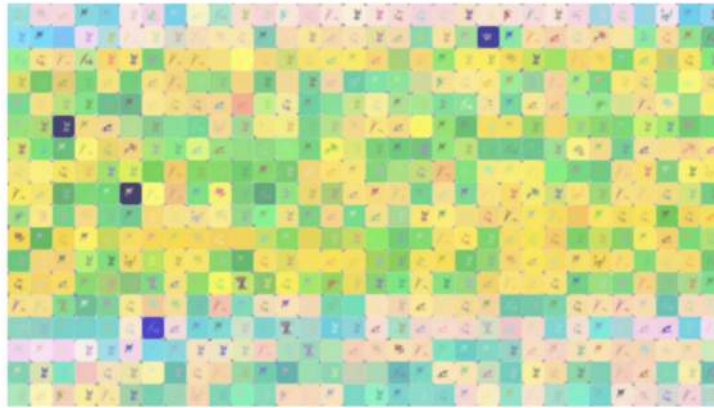
CryptoArte #9252: Each square represents a block on the Ethereum blockchain from block numbers 5329152 through 532972

2)Is the NFT the first of its kind, or represents a historically significant event?

Crypto is a young, hyper-growth sector with just over 10 years of history. We are still in its early days. Many of the things today and in the near future that contribute to the evolution of crypto will be seen as important and scarce historical artefacts 5, 10, 20 years down the road. Similar to museum artefacts, they are sought after by wealthy, sophisticated collectors. Prominent collector Vincent Van Dough aptly puts it when tweeting about one of his purchases:

VincentVanDough
@Vince_Van_Dough

Replying to @Vince_Van_Dough @andy8052 and @fractional_art

This is a land grab, not a swing trade

7:48 AM · Aug 17, 2021 · Twitter for Android

Example 1:

At risk of irking many collectors, I would say that Autoglyphs look quite basic. If you tell your normie friend that he would have to pay 6 figures to buy this JPEG, he would think you've gone mad. Their high value (225E / $1,000,000 at time of writing) comes entirely from the fact that they are regarded as the 1st fully on-chain generative art NFT and so a prized piece for rich collectors of crypto history to own.
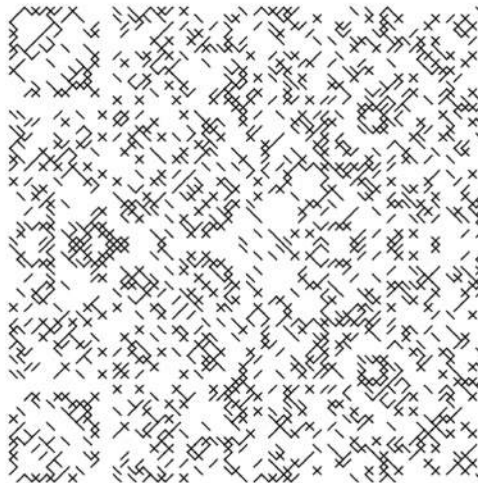
Autoglyph #403

Example 2:

Kabosu is the Shiba dog that accidentally became the face of arguably the world's most famous meme - the story of Doge is pretty fascinating and worth a read on how it come to be. She represents 10 years of meme culture - nonsensical, illogical and hilarious. The original NFT minted by her Japanese owner is now worth hundreds of millions of dollars. It was bought by PleasrDAO and fractionalised as $DOG tokens so that thousands of people can own part of this cultural icon.

Interesting fact about Doge!

She was freed from a puppy mill and was slated to be euthanized, before she was adopted by Mrs. Sato, a Japanese kindergarten teacher. They named her "Kabosu" after the Japanese citrus fruit, because her face is very round, like kabosu.

3. Mimetic Value

Mimetic desire is a fundamental part of human nature. Our desires do not come intrinsically, it comes from seeing what other people want. This feeds into our own desires. My friends all own Rolexes, so I want a Rolex too. As Arthur Hayes so aptly puts it, the process is reflexive. Once we own something, our insecurities lead us to proclaim to the world how wonderful it is, leading to a self-fulfilling prophesy.

CGV FoF

A lot of traditional advertising plays upon this instinct (which we unfortunately cannot turn off) and thus feature celebrities or influencers hawking products. One of the most successful examples is the legendary partnership between Michael Jordan and Nike. Billions of dollars worth of Air Jordans have been sold to MJ fans.

Since early this year, more mainstream celebrities are jumping on the NFT bandwagon and publicly adopting NFTs as their social media profile pics. Rappers seem to gravitate towards CryptoPunks (Jay-Z, Snoop Dogg) while sports stars go for edgier choices (Stephen Curry -> Bored Ape, Shaq -> Creatures). A flurry of NFT sales follow every 'celeb initiation', probably from both from speculators and fans.

It is often insightful to look at who the prominent owners of the NFTs are (ENS with human-readable wallet address has made it easier to deduce this) and whether they have a sizeable group of downstream wannabes. Monkey see, Monkey do.

Left: Bored Ape. Right: Stephen Curry, NBA legend. Source: Hypebeast

4. Flex Value

I was considering whether to include this under 'culture' but I think it deserves a place here.
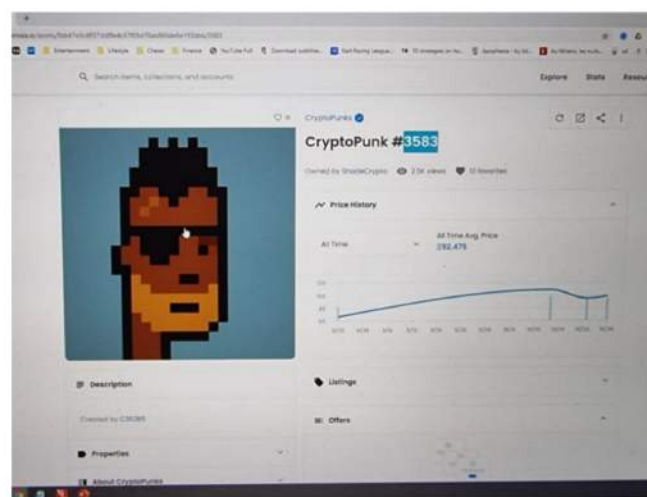
This week a good friend and ex-schoolmate of mine in the banking industry texted me a screenshot of a black eye-patch CryptoPunk #3583, saying: "400k for this.. I dun understand" . I explained to him that this is the new digital flex and that owning one is a sign you have made it. Also, that Chinese billionaires are buying them. He got it immediately.

Flexing is our means of social signalling as human beings - similar to peacocks with their fancy feathers and cats with their mating calls. It is the reason we splurge 50 grand on a Rolex only to squint at the clock face when we could tell the time more easily with a $50 Casio watch. Outside of the metaverse, owning a Rolex is akin to telling the world that you've made it (somewhat) and have excess energy and wealth to spare.

Arthur Hayes (again) defines flex goods as :

·   Intrinsically worthless

·   Scarce

·   Confers membership into an exclusive club

NFTs have the potential to be the ultimate flex symbol as we head into a post-pandemic world where we spend a large and growing part of our lives online. If I wear my Rolex everywhere I go for a month, perhaps 100s of people might have the 'privilege' to see this work of chronographic art. That's not very efficient.

Let's say instead I own a CryptoPunk. I can now flex to 1,000s of people, including faraway friends and long-lost relatives who come across my social profiles but to whom I never talk to directly with. Now I can even flex in my sleep. It's a socially acceptable, non-obnoxious way of showing how wealthy I am, that I can afford to throw half a million dollars on a pixelated image (comes up to approx $1,000 per pixel). It's an even better flex because anyone can check the prices of punks online and know how much they're worth immediately, whereas its much more difficult to find the price of a particular Rolex.

Today, CryptoPunks, Bored Apes and Fidenzas have some of the highest flex values in the NFT world. Owners are signalling that their net worth is at least 7-8 figures, depending on how many they own. It often goes beyond wealth too - with Fidenzas, you're also flexing good taste and appreciation in the arts.

Putting it all together

Cultural narratives are very powerful. I've presented one way to think about culture in more tangibly, so we can better identify NFTs with high or growing cultural value.

Simplistically:

Cultural value = Brand value + Historical significance + Mimetic Desire + Flex value (+ others)

But remember, at the end of the day all valuation is just a meme.

Summary pointers for the astute investor/collector/creator to consider

Proxies for Brand value

·   Number and quality of twitter followers for the main brand account

·   Affirmation from experts and elites in the space (e.g. Twitter mentions)

·   Strength of the pre-existing brand (if mainstream brand)

·   Sum of brand partnerships

- News mentions

- Google Trends: interest over time

Proxies for Historical value

- Length of existence since the mint date

- Is this a first of its kind or tied to a significant event/milestone?

Proxies for Mimetic value

- How many celebrities/influencers are active owners of the NFT? What is their estimated reach?

- Do we anticipate other celebrities to buy these in the near future?

- Number of unique owners (the more 'real' people, the greater the reach of mimetic desire)

Proxies for Flex value

- Is the item scarce?

- Does holding the item give me access to an exclusive community?

- Is the item otherwise useless? (like Ether rocks)

One final note: there's been a lot of debate about whether it is ethical to right-click save NFTs. Some people question how NFTs can hold value if they are so easy to 'steal' and that we should prevent this. My view is that this is in fact good for NFTs - the more people who are able to see, admire and be inspired by the art, the greater the cultural value it accrues to its cryptographically-proven owner

Let me know what you think - I love DMs! In the next articles, I will be exploring more on aesthetics, community, utility and assets that are all integral to understanding NFTs.

DeFi Gives Financial Privacy—Will Regulation Take It Away?

initial public publication time: January 13, 2022

Original link:

https://future.a16z.com/defi-gives-financial-privacy-will-regulation-take-it-away/

Eugene Volokh

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CR Recommendation:

Can the government restrict the use of DeFi and force people to use third-party intermediaries? In the context of emerging Web3 technologies, this problem has become more and more important. The author reviews the solutions to historical problems such as the use of contraceptives, the setting of separate car trunk and the video recording of government employees (such as police) in public places, and gives us a hint: some technologies are necessary to protect constitutional rights, so banning the use of these technologies will violate these rights.

Full Text

The Fourth Amendment protects our privacy rights in material that we keep private. The government can't search our homes or computers, for instance, unless it has a warrant based on specific probable cause to believe that the searches will uncover evidence of crime.

Amendment IV of the U.S. Constitution
Ratified December 15, 1791

" The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized. "

Nor can the government just summon us to court to provide testimony that will yield such evidence of crime: The Fifth Amendment's privilege against self-incrimination protects against that.

On the other hand, the Fourth Amendment has been read as providing little protection for material that we turn over to third parties — even to one trusted third party, such as a bank. This "third-party doctrine," which is the key to the government's power to gather information from financial intermediaries, lets the government easily get transaction information from businesses, without a search warrant or probable cause. (This is supplemented by requirements, which the Court has upheld, that banks keep records of financial transactions.[1])

The third-party doctrine, for better or worse, is well-established. But when technological innovation — such as DeFi (decentralized finance) — cuts out the third party, the government can no longer use the third-party doctrine to monitor such transactions.

The question then becomes: May the government restrict such DeFi tools, and force people to use third-party intermediaries, precisely to take advantage of the extra surveillance power that the third-party doctrine would provide?

This question has taken on added importance in the context of emerging web3 technologies, with implications for coders, customers, and entrepreneurs.

The relationships between coders and users

Consider one of the proposals that has been floating around in recent years: Requiring developers of DeFi products (whom we'll call "coders" for short) to adhere to "know your customer" rules for users of those products. Right now, the developers lack any existing business relationship — and thus any information-gathering capabilities — with regard to their end users.

But say the government mandates that coders track their users' behavior. Such a mandate would essentially outlaw creating intermediary-free, off-the-shelf DeFi protocols and code that any third party can use. Some say that portions of the Infrastructure Investment and Jobs Act (HR 3684), signed into law in mid-November, could be read by the government as imposing such an obligation on coders.[2]

"Say the government mandates that coders track their users' behavior. Such a mandate would essentially outlaw creating intermediary-free, off-the-shelf DeFi protocols and code that any third party can use."

I think this is the wrong way of reading the statute, but say that the statute is indeed so read, precisely to block the development of technologies that the government sees as too effective at protecting financial privacy. DeFi platforms, a government enforcement agency might believe, are facilitating tax evasion; by compelling DeFi coders to produce tax returns for transfers occurring pursuant to the protocol, the agency would force the coders to abandon their plans of providing hands-off, off-the-shelf DeFi technology. Instead, the coders would have to become exchanges, which would have to deal directly with their users and collect their users' information.

Such a potential reading of the statute would deliberately force people to shift away from conduct protected by strong Fourth Amendment protections (transactions that don't involve third parties) to conduct protected by weaker Fourth Amendment protections (transactions that do involve third parties). In what follows, I'll explain why I think this sort of restriction of privacy-protecting technologies might itself violate the Fourth Amendment.
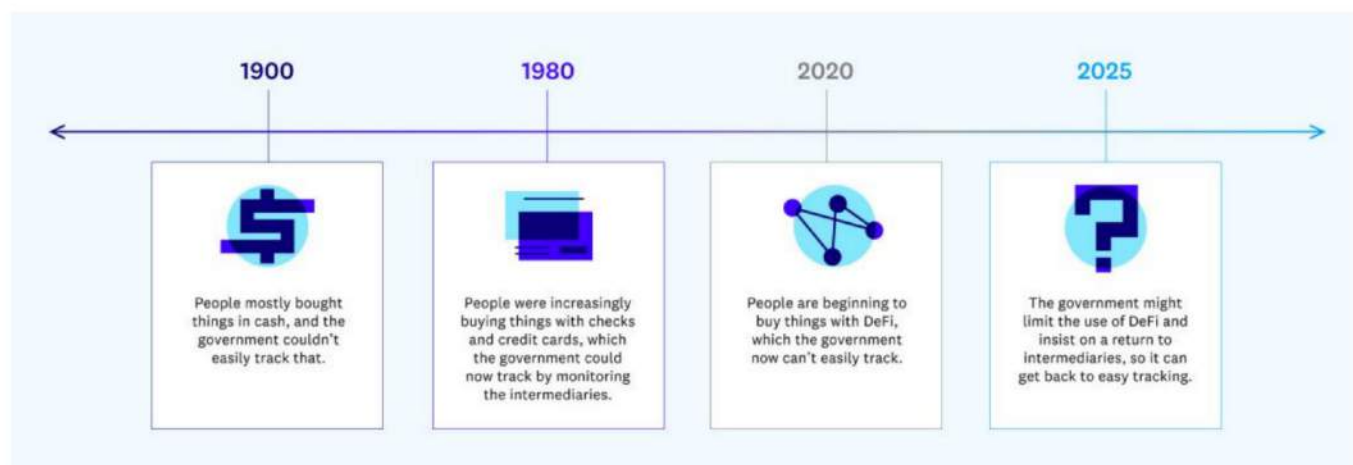
Evolving technology, lagging law

The premise of the third-party doctrine is that "the issuance of a subpoena to a third party to obtain the records of that party does not violate the [Fourth Amendment] rights" of the person about whom the records are kept.[3] The legal system "has a right to every man's evidence," [4] including evidence from businesses that have learned something about you in the course of their business. If you bring such financial intermediaries into your financial transactions, your privacy becomes vulnerable.

And technology has exacerbated this vulnerability. When our transactions were mostly in-person cash transactions, there were no financial intermediaries for the government to subpoena. The government could theoretically subpoena the people with whom we transacted, but those people would often be hard to find, or they might not remember who paid cash for something three months before. Technology has immeasurably extended our commercial opportunities, by letting us deal with people remotely; but since that has required checks, credit cards, and similar mechanisms, it has brought in intermediaries. The result: Much more convenience but much less privacy.

"The balance of power is shifting back from the government to individuals. And, unsurprisingly, the government is thinking about how to shift that balance back to itself."

Now comes modern financial technology: By letting us cut out the intermediary, it lets us enjoy the ancient benefits of cash, together with the modern benefits of electronic transactions. The balance of power is shifting back from the government to individuals. And, unsurprisingly, the government is thinking about how to shift that balance back to itself. To offer a stylized timeline:

Now comes modern financial technology: By letting us cut out the intermediary, it lets us enjoy the ancient benefits of cash, together with the modern benefits of electronic transactions. The balance of power is shifting back from the government to individuals. And, unsurprisingly, the government is thinking about how to shift that balance back to itself. To offer a stylized timeline:

1900	1980	2020	2025
People mostly bought things in cash, and the government couldn't easily track that.	People were increasingly buying things with checks and credit cards, which the government could now track by monitoring the intermediaries.	People are beginning to buy things with DeFi, which the government now can't easily track.	The government might limit the use of DeFi and insist on a return to intermediaries, so it can get back to easy tracking.

A right to use rights-protecting technologies?

Yet a mandate that coders monitor who is using their code — essentially a prohibition on privacy-protection financial technologies — may well violate the Fourth Amendment. That conclusion is itself a reason to avoid misreading HR 3684 as covering coders: When there are "competing plausible interpretations of a statutory text," "the canon of constitutional avoidance" adopts "the reasonable presumption that Congress did not intend the alternative which raises serious constitutional doubts." [5] And that conclusion may also offer a basis for invalidating any statutory provisions that are indeed read this broadly.

Injecting third parties precisely to facilitate surveillance

To begin with, if the government seeks to stop the creation and distribution of intermediary-less DeFi code, [6] the government would be doing so precisely to bring back the third party — not for the sake of financial necessity (the way that a third party had historically been necessary for electronic transactions), but for ease of surveillance.[7] The premise of the third-party doctrine is that "a person has no legitimate expectation of privacy in information he voluntarily turns over to third parties," because he "assume[s] the risk that the [third party] would reveal to police the [information]." [8] If the government takes away the option of a private transaction, and requires that information be turned over to third parties, then the turning over of the information is no longer truly voluntary. Nor are such people assuming the risk of disclosure: the risk is being thrust upon them by government mandate.[9]

"If the government seeks to stop the creation and distribution of intermediary-less DeFi code, it would be doing so precisely to bring back the third party — not for the sake of financial necessity but for ease of surveillance."

Likewise, the third-party doctrine rests on the theory that, by handing over information to a third party, a person "is deemed to surrender any privacy interest he may have had" in that information.[10] Thus, by banning privacy-protecting technologies, precisely to bring third parties back into the transactions, the government would be requiring people to "surrender" their "privacy interest[s]" that would otherwise be protected by the Fourth Amendment — something the government may not require.

Prohibitions on privacy-protecting tools

To offer an analogy: The Court has held that, when a driver of a car is arrested, (1) the police may search the car's passenger compartment for weapons that might be within the driver's reach without needing to show probable cause, but (2) they may not search any separately locked trunk. Imagine that a state required that all cars on the roads lack a separate trunk (i.e., that they be SUVs, hatchbacks, or station wagons), precisely so drivers have fewer Fourth Amendment protections.[11] Perhaps, by following the analogy to the broad reading of HR 3684, imagine that a state required unworkable record-keeping obligations of car manufacturers who make cars with separate trunks: Say that manufacturers were ordered to report the names and addresses of everyone who drives such a trunk-less car, even though the manufacturers lack any business relationship with many drivers (who might buy or borrow a car from a third party).

"Imagine that a state required that all cars on the roads lack a separate trunk, precisely so drivers have fewer Fourth Amendment protections."

Though there is no precedent squarely on point, this would likely be unconstitutional, as a circumvention of the normal Fourth Amendment rules. Just as the government can't, for instance, circumvent the Fifth Amendment's prohibition on "be[ing] compelled in any criminal case to be a witness against [your]self" by coercing you to testify in a civil case and then using the information in a criminal case,[12] so it shouldn't be able to circumvent the Fourth Amendment's protection of privacy by denying you privacy-protecting tools.

Constitutional rights to technologies that protect other constitutional rights

Indeed, courts have long recognized that certain technologies are necessary to protect constitutional rights, and that banning the use of the technologies would therefore violate those rights. For instance, lower courts have held that the First Amendment includes the right to video-record government employees (such as police officers) in public places.[13] The courts began with the premise that the public has a First Amendment right to "access ... information about their officials' public activities." [14] And they therefore held that the First Amendment must likewise protect the technology necessary to effectively gather that information — technology that lets one "record what there is the right for the eye to see or the ear to hear," "corroborat[ing] or lay[ing] aside subjective impressions for objective facts." [15]

Of course, through much of the nation's history, such spontaneous video-recording was simply technologically unavailable, at least to ordinary laypeople. But once the technology has been invented, the government may not forbid it and thereby force people to rely on technologically unaided perception.

 "Courts have long recognized that certain technologies are necessary to protect constitutional rights, and that banning the use of the technologies would therefore violate those rights."

Similarly, the right to use contraceptives is actually based on a right to make   "decision whether or not to beget or bear a child." [16] But effectively exercising that right requires technological help — whether from centuries-old technologies like condoms, or from much more recently invented and sophisticated pharmaceuticals — and therefore such technology is also protected by the underlying right. The use of a latex device or a pill is not itself a   "decision ... not to beget ... a child" : the decision precedes the use of the device. Yet the use of such technologies facilitates reproductive autonomy, and restricting the use of such devices or pills substantially burdens people's right to turn their decisions about family and parenthood into reality.

Constitutional rights to technologies that protect constitutional privacy rights

The same logic applies to informational privacy, and not just the   "right of privacy"   protected by the Court's decisions about contraceptives. The Fourth Amendment secures the privacy of people's communications, so long as the people actually do keep the communications private and don't turn over information to third parties whom the government could subpoena. To effectively exercise this right, and to avoid forfeiting it by introducing a third party, people may use Fourth-Amendment-protecting technologies, such as cryptographic tools that coders develop to cut out the middleman. Banning such technologies (or requiring that they be set up in a way that does forfeit the Fourth Amendment right) would violate the Fourth Amendment privacy right.

These matters are not settled. Courts might be reluctant to reject the government's arguments, especially when they are couched in terms of perceived public safety and law enforcement need.

For example, some states have antimask laws, which ban people from appearing in public wearing masks; the laws were largely created to stop terrorist groups like the Ku Klux Klan, but apply equally to all masked protesters. Some courts have struck down such laws, concluding that masks are important devices for protecting privacy even in public places, and for encouraging people to speak without fear of governmental or private-sector retaliation for their unpopular opinions.[17] But other courts have upheld antimask laws.[18] It's thus impossible to predict with confidence how courts would react to constitutional challenges to a hypothetical law that bans use of other privacy-protecting technologies, such as various DeFi tools.

My point here is simply that the argument in favor of such constitutional challenges is strong, and may prevail. Courts should at least avoid interpreting laws to create such a constitutional problem.[19] And Congress should avoid creating laws that pose the problem.

Footnotes

[1] E.g., California Bankers Ass'n v. Shultz, 416 U.S. 21 (1974).

[2] See § 80603 (amending 26 U.S.C. § 6045(a)).

[3] United States v. Miller, 425 U.S. 435, 444 (1976).

[4] Branzburg v. Hayes, 408 U.S. 665, 688 (1972).

[5] Clark v. Martinez, 543 U.S. 371, 381 (2005).

[6] Cf. Peter Van Valkenburgh, Electronic Cash, Decentralized Exchange, and the Constitution ("In effect, the regulator would be ordering these developers to alter the protocols and smart contract software they publish such that users must supply identifying information to some third party on the network in order to participate . . . .").

[7] This would be analogous to the government's periodic attempts to limit the use of encryption. In the 1990s, the government sought to implement (and perhaps eventually mandate) the "Clipper chip" : a device that allowed encrypted communication, but required the encryption keys to be "escrowed" in some place where the government could then access them. More recently, in the late 2010s, federal law enforcement officials called for technology companies to implement similar key escrow facilities, so that (for instance) the government would always be able to unlock the data in your cell phone (assuming law enforcement got a warrant or a similar judicial authorization). This was referred to as the "going dark" debate: law enforcement was concerned that encryption could allow criminals and terrorists to entirely defeat the government's surveillance and search techniques. See Rianna Pfefferkorn, The Risks of "Responsible Encryption" , Ctr. for Internet & Soc'y paper (Feb. 2018)

But at least the Clipper chip and key escrow facilities appeared to contemplate that the government could use escrowed information only with a warrant based on probable cause — trying to ban DeFi in order to make sure that financial transactions are routinely reported to the government would be a means to avoid the warrant and probable cause requirement.

[8] Smith v. Maryland, 422 U.S. 735, 744 (1979) (emphasis added); see also United States v. Miller, 425 U.S. 435, 442 (1976) (holding that people "lack . . . any legitimate expectation of privacy concerning the information kept in bank records" because they "contain only information voluntarily conveyed to the banks"); id. (stressing that "[t]he depositor takes the risk, in revealing his affairs to another, that the information will be conveyed by that person to the Government").

[9] Cf. Peter Van Valkenburgh, Electronic Cash, Decentralized Exchange, and the Constitution ("If users do not voluntarily hand this information to a third party because no third party is necessary to accomplish their transactions or exchanges, then they logically retain a reasonable expectation of privacy over their personal records and a warrant would be required for law enforcement to obtain those records.").

[10] United States v. Flores-Lopez, 670 F.3d 803, 807 (7th Cir. 2012); United States v. Wurie, 728 F.3d 1, 16 (1st Cir. 2013).

[11] Restrictions on overly tinted windows may be constitutional, but they are justified by the need "to ensure a necessary degree of transparency in motor vehicle windows for driver visibility," Klarfeld v. State, 142 Cal. App. 3d 541, 545 (1983) (quoting 49 C.F.R. § 571.205 S2 (1982)); People v. Niebauer, 214 Cal. App. 3d 1278, 1290 (1989) (noting that certain levels of tinting are "permitted on certain windows not required for driver visibility").

[12] McCarthy v. Arnstein, 266 U.S. 34, 40 (1924); cf. Guinn v. United States, 238 U.S. 347, 360, 364-65 (1915) (striking down a grandfather clause that was a clear attempt to evade the Fifteenth Amendment's ban on discrimination based on race in voting qualifications); State v. Morris, 42 Ohio St. 2d 307, 322 (1975) (holding that private searches are not covered by the Fourth Amendment, unless they are orchestrated by the government "with[] intent to evade constitutional protections").

[13] Fields v. City of Philadelphia, 862 F.3d 353 (3d Cir. 2017); Turner v. Lieutenant Driver, 848 F.3d 678 (5th Cir. 2017); ACLU of Illinois v. Alvarez, 679 F.3d 583 (7th Cir. 2012); Glik v. Cunniffe, 655 F.3d 78, 82 (1st Cir. 2011); Smith v. City of Cumming, 212 F.3d 1332 (11th Cir. 2000); Fordyce v. City of Seattle, 55 F.3d 436 (9th Cir. 1995).

[14] Fields, 862 F.3d at 359.

[15] Id.

[16] Carey v. Population Servs. Int'l, 431 U.S. 678, 685 (1977).

[17] See American Knights of the KKK v. City of Goshen, 50 F. Supp. 2d 835, 839 (N.D. Ind. 1999); Ghafari v. Municipal Court, 87 Cal. App. 3d 255, 261 (1979) (challenge brought by protesters who opposed the Iranian government); Aryan v. Mackey, 462 F. Supp. 90, 92 (N.D. Text. 1979) (likewise).

[18] See Church of American Knights of the KKK v. Kerik, 356 F.3d 197, 208-09 (2d Cir. 2004); State v. Berrill, 474 S.E.2d 508, 515 (W. Va. 1996); State v. Miller, 398 S.E.2d 547, 553 (Ga. 1990).

[19] See supra note 5 and accompanying text.

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Gaming and its coming Web3 emancipation :
10 ideas on how to develop a robust Play-to-Earn economy that is empowered by property rights, income distribution, and capital mobility（excerpt）

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CR Recommendation：

In this report, Folius ventures tries to give 10 design ideas for the economic design of P2E games. Through the in-depth design of multi factor ROI model, foreign exchange reserves and exchange rate regulation, infrastructure and governance tokens, it aims to make the exchange rate more stable, the economic model more sustainable and the game can develop in the long term. These ideas may become the design inspiration of any project interested in the field of GameFi.

Full Text

We believe that players would feel emancipated as they partake in Web3-enabled games - digital kingdoms where FX controls crumble and where they are treated as 1st class citizens with the following rights:

, Establishment of property right (the right to own in-game items as NFTs), Establishment of human rights (the right to legally earn / extract value and not be taxed at 100%)
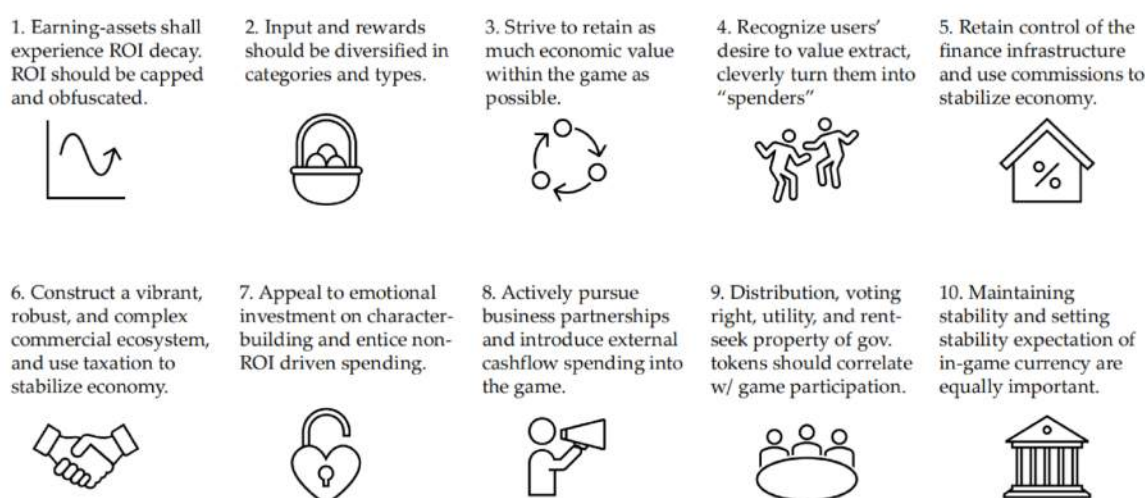
, The freedom of capital movement and freedom to exchange value

We trust the gaming industry's migration towards such new paradigms to be irreversible. We also feel that the current P2E model (pioneered by AXS) still needs work, especially that in-game currency and yield-bearing assets are subject to substantial and continuous depreciation risk as user growth slows alongside the existence of highly rent-seeking governance tokens. In this report, we proposed 10 ideas that may help stabilize a Web3 game's exchange rate and economy, and hope that this non-technical guide can inspire designers who are pushing the boundary of Web3 gaming.

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On the supply side, one may consider furtively capping the ROI of assets, diversifying earned reward types, and bolstering non-investment sinks - all to make simple calculations and rent-seeking more challenging.

On the demand side, one may consider ways to maximize retention of economic value in-game, such as increasing the barrier to capital outflow, creating game-native store of value, and/or enabling native yield-bearing opportunities. Additionally, in-game taxation on business activities and infrastructure use can be used to stabilize the economy as well. Lastly, one should actively form business partnerships to funnel outside cashflow into the game.

We believe that governance token holders should only deserve the right to vote and rent-seek after they have actively contributed to the game. It may also be necessary for the project to actively partake in stabilizing the FX rate, both in setting expectations as well as in monetary intervention.

1. Earning-assets shall experience ROI decay. ROI should be capped and obfuscated.

2. Input and rewards should be diversified in categories and types.

3. Strive to retain as much economic value within the game as possible.

4. Recognize users' desire to value extract, cleverly turn them into "spenders"

5. Retain control of the finance infrastructure and use commissions to stabilize economy.

6. Construct a vibrant, robust, and complex commercial ecosystem, and use taxation to stabilize economy.

7. Appeal to emotional investment on character-building and entice non-ROI driven spending.

8. Actively pursue business partnerships and introduce external cashflow spending into the game.

9. Distribution, voting right, utility, and rent-seek property of gov. tokens should correlate w/ game participation.

10. Maintaining stability and setting stability expectation of in-game currency are equally important.

1.Earning-assets shall experience ROI decay. ROI should be capped and obfuscated.

We hold tremendous respect to Axie Infinity for pioneering the P2E category, and we also feel that it is currently mired by the overproduction and insufficient demand of its currency SLP. The uncapped SLP production capability of earning asset (Axie) coupled with lack of SLP consumption outside of investment demand means that an SLP supply glut will inevitably occur. Once the depreciation expectation for SLP sets in, farm-and-dump (to USDC) will become the de-facto strategy for players.

We believe it is necessary to design a careful mechanism for ROI-decay and cap an asset's earning duration:

. The ROI-decay of earning assets should naturally exist, and such decay should be latent and not explicit.

. The repair, recycling, reuse, and recplacement of earning assets should consume in-game currency.

. The lifetime earning potential of assets should be implicitly capped and should be based on complex, multi-variant, somewhat unpredictable models, making crude rent-seeking behaviors challenging.

By monitoring asset utilization and the output / spending ratio, the project teams should be able to some-what comfortably predict pending currency trends — and thereby accelerate / decelerate issuance of assets based on economic cycles. A ROI-capped ecosystem will put old and new players on more equal footing. Ad-ditionally, "capping the ROI〃 does not mean the assets will be destroyed at the end of their earning lifespan — while an aged asset may not earn in-game currencies as its "ROI〃, it may be able to earn other in-game items as well as unlock higher-end experiences within the game, thereby retaining significant utility, game-play, and collectible value still.
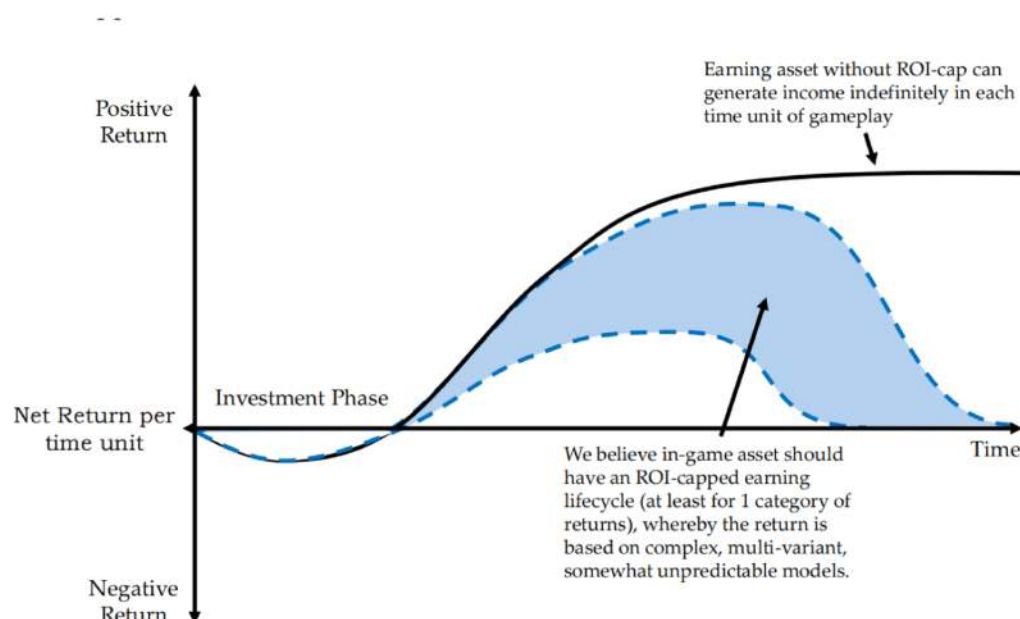
2.Input and reward for earning-assets should be diversified in asset categories and types. The reward structure should be tiered.

The singular resource system for both input and rewards is common today: players bum 1 type of resource (time or energy) and earn 1 type of rewards (usually in-game currency). Couple such monotonicity with the simple, predictable production formula, the reward system can usually be summarized in an APY figure easily today.

We believe that aside from making earning formulas more complex, the input and output components for earning-assets should also be multi-dimensional + complex to the extent appropriate and tiered in structure — meaning that the higher the potential quality of rewards, the more complex both the input and the output should be. Games are not simple financial products, they shouldn't be easily quantifiable in APY.

- Casual use: necessity — commodities subject to heavy consumption, simple input/output structure

- Medium use: loots — consumables and common loots, somewhat simple input/output structure

- Heavy use: high-end, luxury, and vanity goods, complex input/ output structure

- Circumstantially introducing earning assets, store of value assets, and external assets.

When a diverse, tiered earning structure is paired with an ROI-capped asset, the benefits are multifold:

- Earning an optimal return requires domain expertise, which makes crude rent-seeking harder.

- Multivariate reward structure promotes a vibrant ecosystem and higher taxation revenue.

A more granular, complex resource system allows for more fine-tunning of in-game economics.
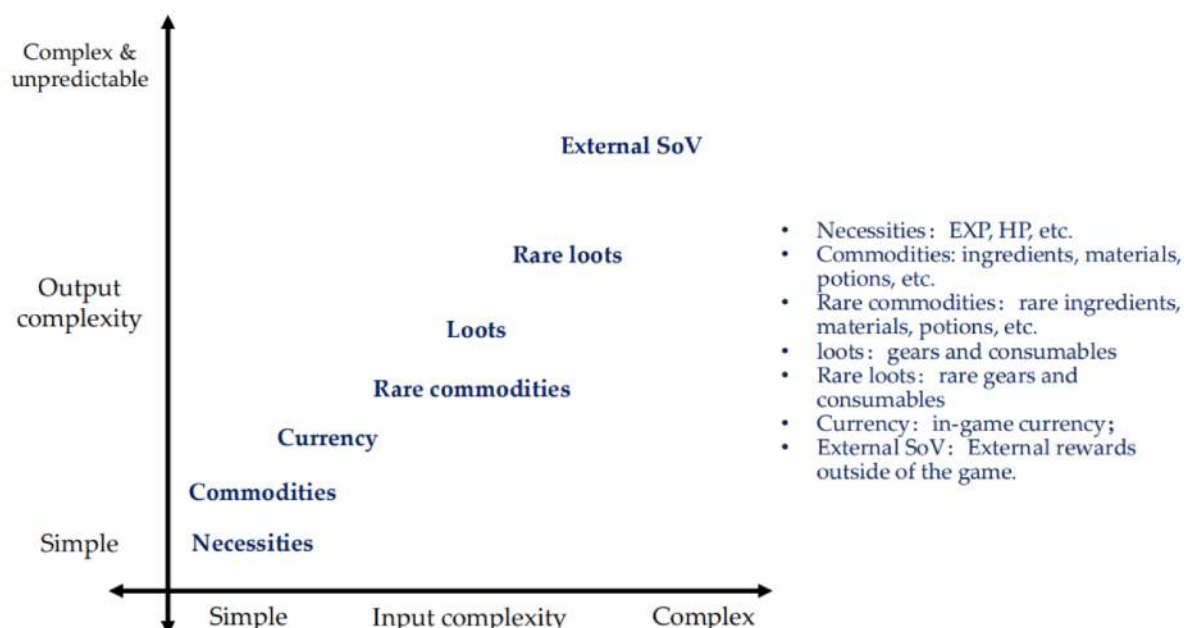
3.Strive to retain as much economic value within the game as possible by increasing barrier of outflow, creating store-of-value, and/or enabling native yield-bearing opportunities.

Prior to Web3, in-game economies were subject to heavy FX control — i.e. there is usually no "legal" way to convert in-game currencies to fiat. The only way players can combat in-game inflation is by purchasing the consensus store-of-value. In World of Warcraft, for instance, Black Lotus became the store-of-value of choice during earlier version upgrades — much thanks to its low drop rate (rarity), wide range of applications as the key ingredient for Epics (utility) as well as loots that tangibly improve the PvP / in game experience (vanity).

We believe that while Web3 economies today have much freer capital flow and loose FX control policies, game designers should consider the 3 following guidelines to maximally retain economic value within the game, thereby buying time for future business partnerships, in-game taxation / commission, organic growth, and the building emotional connections with the users:

(1) esigning appropriate thresholds of capital outflow

•While users have the right of free capital flow, game designers can still introduce various types of friction and leverage user habits / incremental cost to gate the outflow. We would recommend prudence and restraint when implementing these policies to minimize sense of irritation. Here are a few ideas:

•Limiting types of outbound assets: items must be converted to certain SKUs of FT / NFT to be transferred out.

•Threshold requirement to initiate: Prompt the users to do a little extra for the ecosystem before exiting.

Exit tax: the tax can be furtive but must be with rightful reasons – such as forging unvested rewards.

(2) Providing ecosystem-native store-of-value (SoV)

Game developers should provide the optimists and supporters a good way to store their wealth (instead of

pushing them to store it in USDC / fiat). We believe a good SoV should satisfy the 3 following criteria:

• Benefits from ecosystem growth: the SoV should appreciate in-line with how the game performs. There

could be many types of such assets – whether it be rare loots or governance tokens.

•   Liquid and convertible: the SoV should be liquid, so as to lower the mental barrier to swap value into.

•   Experience-enhancing: the SoV should have noticeable utility that's investment-related or power

enhancing in a PvP/stoyline context.

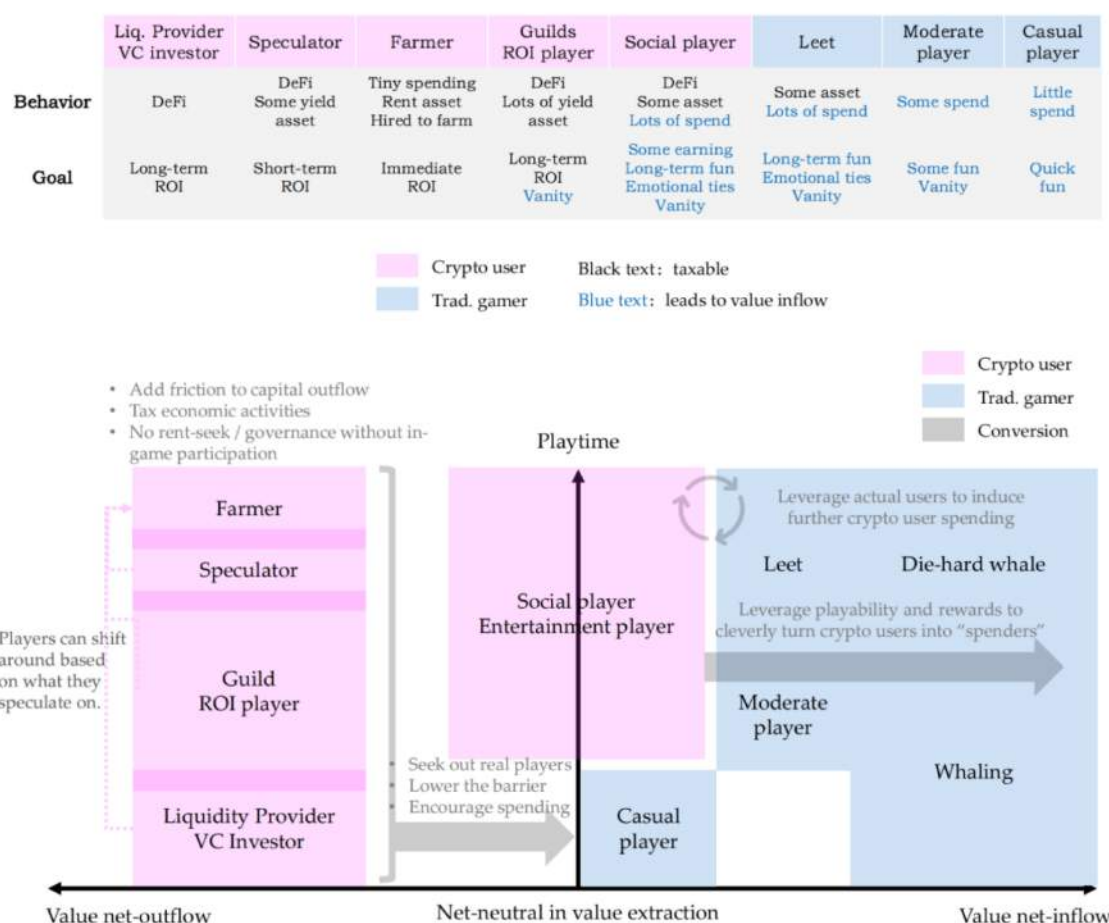**(3) Enabling ecosystem-native yield-bearing opportunities**

•   Aside from SoV assets, games can also have staking pools that benefits the ecosystem while acting as a

sink for in-game capital. In other words, the source of in-game liquidity for any ecosystem-building

activities should come from player themselves.

•   Rental: for example, earning assets can be collateralized to obtain leverage, provided for with the native

in-game currency. Players can lend out their currency to directly earn native-currency denominated

yield as well.

•   Exchange: users holding any fungible token should be able to provide liquidity into in-game native

AMMs via native currency pairs. Such an action would certainly be yield-bearing

4. Developers should recognize users' desire to extract value. Leverage playability and rewards to cleverly turn them into "spenders"

Unlike traditional games where users purely "spends value〃, the right to property and earning attracts much more ROI-driven users to a game. Given that most P2E games today lack playability (and thereby makes it difficult to induce "non-investment〃 demand), most games suffer significant more value outflow vs. inflow / spending, thereby requiring new user investments to offset the gap. One may call this phenomenon a clear Ponzi.

We believe that teams must recognize that the crypto users follow a different utility curve — and accordingly find ways to minimize their value outflow, maximize the positive economic impact if they do so, and leverage all means (emotion, experience, playability) to nudge them into "spending〃 .

Additionally, we also believe teams should broaden their reach to really bring traditional gamers in. Teaching them crypto-native finances can help them further convert more users and contribute positively to the economy.

	Liq. Provider VC investor	Speculator	Farmer	Guilds ROI player	Social player	Leet	Moderate player	Casual player
Behavior	DeFi	DeFi Some yield asset	Tiny spending Rent asset Hired to farm	DeFi Lots of yield asset	DeFi Some asset Lots of spend	Some asset Lots of spend	Some spend	Little spend
Goal	Long-term ROI	Short-term ROI	Immediate ROI	Long-term ROI Vanity	Some earning Long-term fun Emotional ties Vanity	Long-term fun Emotional ties Vanity	Some fun Vanity	Quick fun

Crypto user   Black text: taxable
Trad. gamer   Blue text: leads to value inflow

- Add friction to capital outflow
- Tax economic activities
- No rent-seek / governance without in-game participation

Crypto user
Trad. gamer
Conversion

Playtime

Farmer

Speculator

Players can shift around based on what they speculate on.

Guild ROI player

Liquidity Provider VC Investor

Seek out real players
Lower the barrier
Encourage spending

Social player
Entertainment player

Leverage actual users to induce further crypto user spending

Leet   Die-hard whale

Leverage playability and rewards to cleverly turn crypto users into "spenders"

Moderate player

Casual player

Whaling

Value net-outflow   Net-neutral in value extraction   Value net-inflow

5.Retain control of the finance infra and use commissions to stabilize economy.

We believe that foundational DeFi functions are simple and important enough to be natively set-up, and the income / tax generated can be used to stabilize and grow the in-game economy.

These foundational DeFi components include the following:

Fungible Token Exchange (AMM DEX, like Uniswap)

- Typically 1-30 bps commission, but we think games can charge 5-100 bps. Part of fees go to treasury.

- Routing and obtaining USDC liquidity could be difficult, thus pools should be integrated with DEX aggregators.

Fungible Token Lending (like Compound)

- Typical net interest margin of 100-500 bps. Can split the margin with protocols and send to treasury.

- USDC liquidity may be hard to get, can raise capital or ask investors to provide liquidity.

NFT marketplace (like OpenSea)

- Typically 200-600 bps commission. Can direct all the fees to treasury.

- NFT marketplace should be in-house given that the complexity of NFT metadata and utility will exceed that of JPEGs, and that it is specific to the game itself.

NFT lending (still emerging)

Borrowing of NFTs and using them as collateral (mortgage) should be seriously considered by the game developers as an inhouse primitive — it will give another stream of income to treasury as well as providing developers with more tools to influence / stabilize the in-game economy.

Why we are bullish on crypto in India（excerpt）

initial public publication time: February 10, 2022

Original link：

https://github.com/sinoglobalcap/reports/blob/main/india_report.md#regulatory-landscape--a-timeline

Sino Global Capital

It provide strategic investment to best-in-class companies that are moving the blockchain and digital assets ecosystems forward and then help them to thrive in the Asia market.

CR Recommendation：

For the Crypto market, India's huge population development potential is well known, but in addition, India has advantages in accepting digital consumer groups, digital infrastructure, strong skilled labor force, local and state support for cryptocurrency and low-cost data rate, It is an important factor to help India take the initiative in the cryptocurrency field in the future. The report comprehensively analyzes the progress of India's digital technology, Internet and mobile phone hardware, and provides a good perspective for us to understand the overall picture of India's crypto ecology.

Full Text

Preface

India enters 2022 with a large, rapidly growing economy that the Indian government projects will grow by 9.2% to reach $3.1 trillion this year. According to the IMF (which estimates growth at a more conservative 8.5%), India will retain the title of the fastest growing economy in the world in 2022, beating out China's growth estimated at 5.6%.
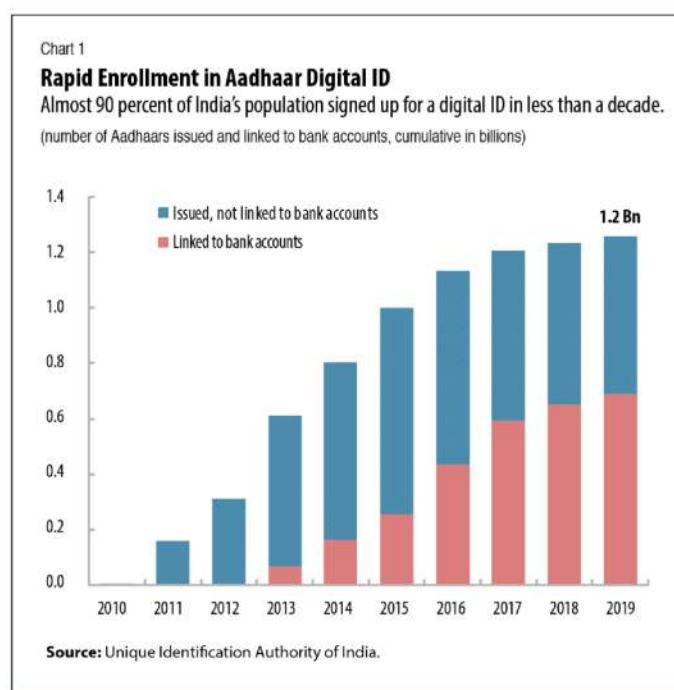

2022(E) Economic Growth Rate of Various Countries / Regions
Source: IMF
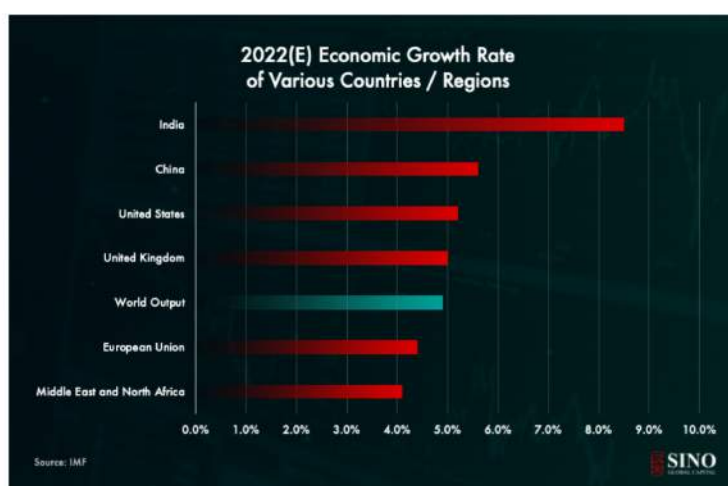
This growth is expected to continue in the near future with "India's nominal GDP measured in USD terms is forecast to rise from $2.7 trillion in 2021 to $8.4 trillion by 2030", according to information provider IHS Markit. This means that within a decade, India will overtake Japan to become the second largest economy in Asia-Pacific, and Germany and the UK to rank third in the world.

While Sino Global Capital is generally optimistic about growth in India, broad based economic growth alone is not sufficient cause to present a compelling thesis for crypto in India.

Quick India fact sheet:

• According to the World Bank, India's population is 1.35 billion and is growing on average by 1% YoY, making it the world's largest democracy by population.

• The median age in India in 2020 was 28.4 years, with China at 38.4 years and the US at 38.3 years according to UN figures.

• Though India is an old civilization with a rich cultural history, it has only existed as a modern independent state since 1947.

• India has 1.18 billion mobile connections, 700 million internet users and 600 million smartphones according to the NHA.

• 80% of Indians over 15 years old have a bank account (World Bank Global Findex Report 2017).

• The "India Stack", the moniker for a set of open APIs and digital public goods that aim to unlock the economic primitives of identity, data and payments at population scale, has brought substantial gains in financial inclusion (IMF):

• The Aadhaar [Digital ID] is a unique 12 digit number given to every Indian citizen using biometric inputs, and is a primary identifier that can be used to roll out several Government welfare schemes and programmes. 1.2 billion people — almost 90% of India's population — signed up for a digital ID in less than a decade.

Chart 1

Rapid Enrollment in Aadhaar Digital ID
Almost 90 percent of India's population signed up for a digital ID in less than a decade.
(number of Aadhaars issued and linked to bank accounts, cumulative in billions)

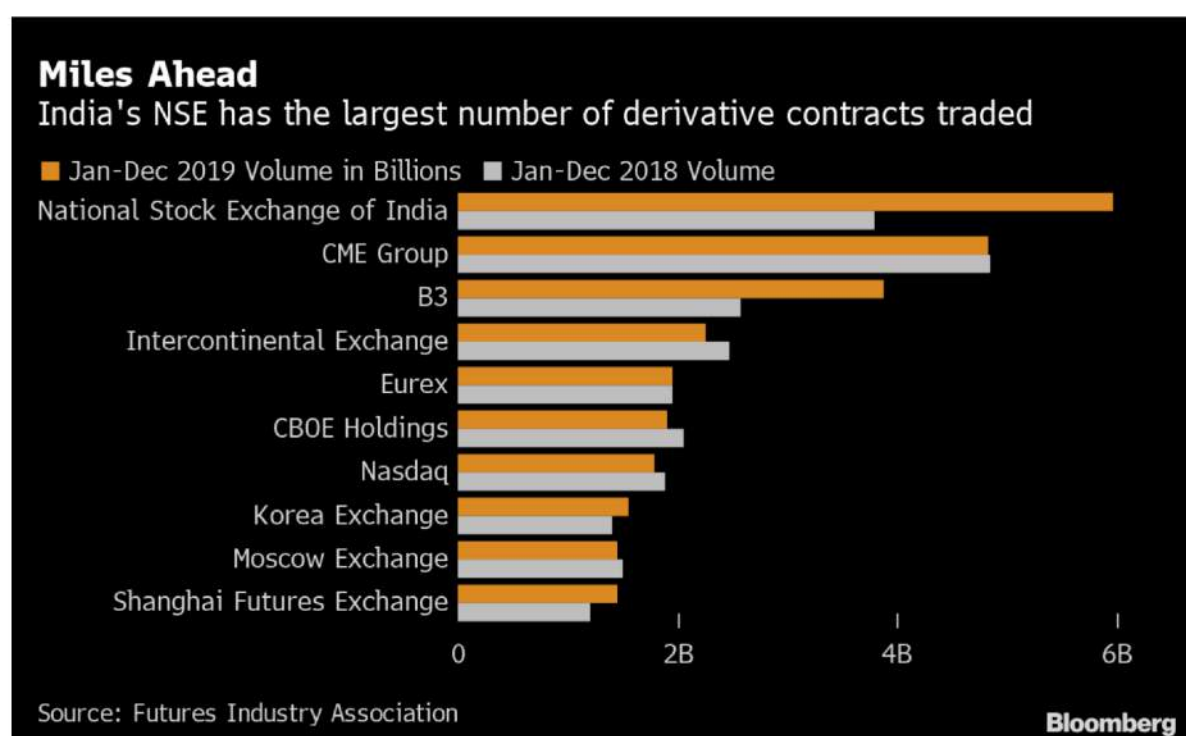**Source:** Unique Identification Authority of India.

- The Unified Payments Interface (UPI) is a new layer to India's retail payment system that provides near real time fund transfers for bank customers. The UPI is the dominant payment mechanism in India, with 4.6 billion transactions worth Rs 8.26 lakh crore (~US$101.8 billion) taking place in December 2021.

- A third paperless layer of the stack allows for digitization of official documents and information, reducing the paper-based bureaucracy and increasing efficiency and integrity.

- No single aspect of the India Stack is entirely unique. However, its comprehensiveness has succeeded in building a more inclusive digital economy from the bottom up.

In 2020, India's National Stock Exchange surpassed America's CME Group Inc. to become the world's largest derivatives bourse by volume of contracts traded. Volume on the Indian exchange grew 58% to approximately 6 billion derivative contracts in 2019.

Miles Ahead
India's NSE has the largest number of derivative contracts traded

■ Jan-Dec 2019 Volume in Billions   ■ Jan-Dec 2018 Volume

National Stock Exchange of India
CME Group
B3
Intercontinental Exchange
Eurex
CBOE Holdings
Nasdaq
Korea Exchange
Moscow Exchange
Shanghai Futures Exchange

0   2B   4B   6B

Source: Futures Industry Association

Bloomberg

India is excelling in multiple strategic areas and there are many reasons to be bullish on India's future. In this report, we will outline why these and other factors combine to create an environment that we believe makes India one of the most important crypto markets in the world.

Background

While many Asian countries experienced rapid economic development over the course of the latter half of the twentieth century, India lagged behind. This was in no small part due to the country's protectionism, over-regulation and socialist policies, enforced by the License Raj. The License Raj was a complex system of licenses and rules that were necessary to start and run an Indian company, restrictions included the need for certain licenses to start a new business and increase production capacity, or specific permission to hire and fire workers. With high tariffs, limited import restrictions and outright bans on specific items, imports were effectively shut off. By the 1980s, India had among the highest tariffs in the world.

Average Unweighted Nominal Tariff rate
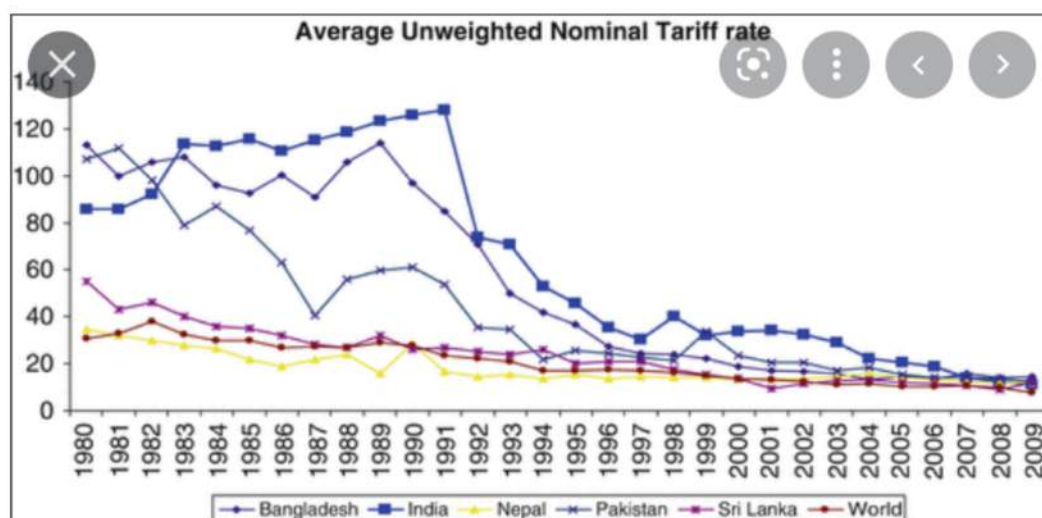
These tariffs, among other restrictions, caused one of the world's largest nations to remain a globally excluded market, deprived of meaningful growth, natural competition and foreign investment.

The repercussions of the License Raj plagued India well into the twenty-first century. Due to the high cost of providing banking and financial services, the high cost of compliance, KYC and the fact that nearly four hundred million Indians lacked any sort of individual identity document, only approximately 35% of adults held a bank account in 2011 according to World Bank estimates. Hundreds of millions of people were disconnected from the formal financial system, resulting in significant losses in productivity, tax income, and socioeconomic development. As you will see, the situation has changed dramatically over the past three decades, particularly since the LPG (Liberalization, Privatization and Globalization) reforms.

Conclusion

India is brimming with opportunities and becoming a major international hub for blockchain development is only a matter of time.

Owing to its digital ready consumer base, digital infrastructure, robust tech workforce, local and state level support for crypto and cheap data rates, India will command its position in the crypto space, displaying a level of growth and innovation not seen since the late 1990s and the rise of the internet.

By providing adequate incentive to firms and companies to expand their operations, the Indian market is open for business. Indian crypto startups and businesses are riding massive waves of funding and investment driven by their innovation, quality and talent, adding value to the ecosystem each year.

As the decade drives on, Indian startups will be a major source of development and upheaval in the crypto space, in some cases eclipsing some current hegemonies. Owing to these factors and the government's changing attitude towards space, Sino Global Capital is extremely bullish on crypto in India.

A mental primer to optimize for decision making efficiency

initial public publication time: February 3, 2022

Original link:

https://wangarian.substack.com/p/sharpening-the-knife?utm_source=url

Wangarian

Partner of DeFiance Capital

CR Recommendation:

Investment is a long-term practice. The investment myth of 1000 times To Da moon in the cryptocurrency market is everywhere, but is this really the case? If true, can these myths last? Based on his own investment practice, the author gives sincere and constructive suggestions: "Lucky market participants will come and go, but the ones who focus on the methodology, consistently iterating frameworks and perfecting the process will stand out over time. The seeds you sow today will be reaped multifold in the future."

Full Text

It is no secret that crypto currently represents the frontier of technological innovation. With the onslaught of both human and financial capital making its way into the industry, it would be overly optimistic to assume that one person alone would be able to keep up with the developments of the entire industry.

12 months ago, the game was relatively simple. Find underfollowed DeFi tokens on Ethereum before the majority of the market did and profit when the capital eventually rotated. Returns were thicc and the opportunity set was identifiable. Today, we have a myriad of different verticals (DeFi / GameFi / NFTs) blossoming in multiple ecosystems (SOL / AVAX / ETH / LUNA etc).

Given the plethora of information present, identifying signal from noise is the single most important skillset in driving returns. Whilst that skill cannot be taught (one must experience the trials and tribulations of the market for themselves), I've often found it helpful to develop a process that eliminates unnecessary decisions. Below are a couple of mental hacks / lessons learnt from someone who has been studying the crypto markets for the past 18 months.

Simplification is key

For 99% of investors, annual performance can be attributed to 2-3 specific decisions. Long $SOL or $LUNA in January? Discover Axie at $1? Rotate away from DeFi 1.0 after the Q1 2020 pump? Each of those decisions could have easily been enough to make your year if you were a professional money manager, or 10x your net worth as a retail investor. Hindsight is 20/20 but the point remains - there are only a few crucial crossroads every investor faces that reflect the lion's share of their returns.

The tricky part then is to identify these crossroads in real time. Everyday we make countless decisions and thus, it is impossible to know for sure when one of these decisions is upon us. However, exceptional investors / traders eventually grasp some this in some form (be it conscious or subconsciously). I by no means have a crystal ball or a differentiated edge, but often I find that pruning decision trees will allow for a clearer mind-set - one that has a better chance at realizing opportunities that present themselves when they appear.

Thinking in bets

At it's core, open market investment positions reflect a contrarian commitment to a particular idea. They express the belief that the market is wrong, but that over time the market will reprice the asset in accordance to the investor's expectations. Each investment has 3 main stages, each with its own set of decisions.

Stage 1: Entry - Is this a good investment? How large do we size this position?

Stage 2: Monitoring - Is the thesis playing out? Should we be changing our position in light of new information?

Stage 3: Exit - Should I cut the position because I'm wrong? Should I cut the position because I'm right and the thesis has played out? Should we sell the entire position or only a portion?

The simplest way to reduce the # of decisions is to minimize the number of active positions within a portfolio. A good rule of thumb is to not have more than 10 active positions open. By doing so, you force concentration and conviction amongst your holdings via an element of scarcity.

Is Token A a better investment than my current top 10 positions?

This direct comparison provides a clearer risk / reward framework for evaluating new opportunities. Apart from # of bets, bet sizing is equally important. A good framework I fall back on is the 2/20 rule:

Exploratory - 2% of the portfolio

Imagine you first discovered a promising new token and believe it is the future of finance. You do a bit of DD, sum up what you know and what you need to find out, and in general feel pretty good about the bet.

2% is enough to keep you engaged (10x = 20% return), but small enough that if you're wrong, it's a bee sting to your overall pf.

Balls Deep - 20% of the portfolio

After getting more excited about your new position, you go down the rabbithole hard and cover all the due diligence bases. You've developed a clear thesis with actionable catalysts and are ready to make life changing wealth.

Whilst you can always go larger than 20%, a 10x results in doubling your pf. If you hit a homerun (50-100x), this one bet is enough to make your year.

In the off chance you're wrong, you lose a limb but live to fight another day - and that's what is most important. No single bet will take you out of the game.

The impulse to long

The cryptocurrency markets are a tricky thing. When every moment is spent in search for dopamine highs, we often blind ourselves to the bigger picture. Aside from continuously battling the PvP markets, you're also battling your inner demons, Greed & Fear. For me, being exposed 24/7 has left undesired side effects to both mental and physical health. I've found that in order run at peak capacity, mental breaks away from markets are necessary. Personal experience has shown me that a 2 - 3 day break yields the best results. Long enough for the mind to settle, but short enough such that you don't miss an entire crypto bull and bear cycle.

Our goal as investors is to maximize return over the long term. This does not mean that we need to maximize returns every waking moment. Mental breaks are key in resetting dopamine levels and emotional highs / lows, which allow clarity of mind & discipline for optimal decision making.

Discipline

One of the most underrated aspects of investing. You can have the most detailed plan or the most well thought out framework and it's worthless if you cannot stick to the plan. This is a topic I'm still grappling with and have paid the price for recently. Execution of the plan is almost as important as the plan itself. Long something and it's hit your stop loss? Cut the trade. Catalyst over and the price has not moved up? Kill the position. It's easy to construct bullish narratives and price targets. It's hard to develop and execute fallback plans if things go south. Funnily enough, this is also the most important process to have that will save you when markets turn against you.

In crypto, we are often trained to think 'What is the moonshot scenario?'. We fixate on the potential returns of an investment (10x? 50x? 100x?) because it's the most exciting thing to focus on. However we must also plan for undesirable outcomes. 'What if I'm wrong?' is a question I've noticed market participants don't ask nearly enough. Do you have a framework for processing what happens if prices move against you? Can you reliably cut positions when you need to? Nobody really likes to admit when they're wrong, but in this game even the best investors are wrong ~40% of the time. Failing to have a plan for 40% of outcomes is setting yourself up for eventual disaster.

The Journey, not the Outcome

At the end of the day, investing is a long term process. Crypto markets often skew this fact with remarkable 1000x moonshots that deceive the common man. Lucky market participants will come and go, but the ones who focus on the methodology, consistently iterating frameworks and perfecting the process will stand out over time. The seeds you sow today will be reaped multifold in the future.

Consensus Capital Markets

initial public publication time: January 28, 2022

Original link:

https://mirror.xyz/alkimiya-protocol.eth/PbTyQ3JnVtGq54fLjDr9toMLliWX_HMox9PQCFkZvsw

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CR Recommendation:

From rice to metal, to spices, to oil... Today is crypto. Why do different times create different popular goods? This article deeply discusses the historical context of commodities markets, the importance of decentralized consensus in the digital universe, the economics of consensus production, and what a crypto-native capital market for consensus will look like, and puts forward Alkimiya's vision: to create a more reliable income guarantee for block space producers and hedge the inherent volatility of block space production.

Full Text

"He who controls the spice controls the universe." - Frank Herbert, Dune

Introduction:

Commodities are basic raw materials that serve as the basis for the production of everyday goods and services. The history of commodities is a reflection of civilization itself. Humans waged wars against each other to seek control over the most important resources; from rice, to metals, to spices, to oil. As more aspects of the global economy and daily activities migrate to the cryptoeconomy, what will become the most sought-after commodity of the new era?

Blockspace.

All economic activities on public blockchains settle on blockspace. Consensus producers, such as miners and staking validators, supply blockspace, while every transaction demands blockspace. When on-chain activities increase, network fees increase, and when the value of the block subsidy and fees increase, more people are motivated to compete to append the next block to the blockchain.

Since blockspace is a commodity, it can be used as a basis for financial instruments—either to hedge against production or enhance returns. Such financialization ultimately leads to a comprehensive capital market, akin to the way all important commodities have evolved throughout history.

In this article, we will dive into the historical context of commodities markets, the importance of decentralized consensus in the digital universe, the economics of consensus production, and what a crypto-native capital market for consensus will look like.

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CGV FoF

Commodity Markets: A Historical Overview

As early as 4500 BC, denizens of ancient Sumer used clay tokens and tablets to denominate dates for future deliveries of goods and rules for settlement in what was essentially a futures contract. Nearly 3000 years later, one of Hammurabi's codes outlined payment rules for farmers that had mortgaged their properties. Farmers had to pay off their debt using the grain they produced but reserved the right to not pay in the event of a crop failure. These basic rules helped producers manage their risk and in turn, allowed for more stable agricultural production.

These financial arrangements would continue to evolve and standardize. One of the first formal commodity exchanges was the Dojima Rice Exchange in 1697. Instead of actual rice, merchants would trade "rice tickets" - claims to rice in their warehouses. Using rice tickets as a basis, the merchants developed many derivative contracts that are now commonly traded today, such as short sales, forwards, and options. Over a century later, the Chicago Board of Trade would be set up and grow to become the global leader in grain and agricultural futures and options markets, where the volume of these financial contracts is much larger than the volume of the physical commodities.

These developments showcase that financial abstractions in commodity markets let commodity producers and consumers better manage their risks, and therefore allow them to effectively scale their operations

As commodity markets matured and became more sophisticated, so did the types of financial instruments available to help manage related risks. Today, they cover almost every commodity, from sugar to coffee to gold, and energy markets.

And because commodity production is affected by a wide range of physical attributes, the stable consumption and production of commodities do not come naturally; Commodity production is always accompanied by robust commodity markets. Without these markets, the flow of commodities is prone to volatility.

The Metaversal Epoch

As more aspects of daily activities transition to digital, the value of related resources, like data and compute, has skyrocketed. While the underlying technology of the digital era is still relatively nascent, thanks to Moore's Law and the abstract nature of software development, its rate of acceleration is nothing short of astounding. For these reasons, phrases like "data is the new oil" have become relatively common.

As Dijkstra commented in 1972, "I do not know of any other technology covering a ratio of 10^{10} or more: the computer, by virtue of its fantastic speed, seems to be the first to provide us with an environment where highly hierarchical artifacts are both possible and necessary." At this point, it ceases to be useful to think of the digital universe as a physical phenomenon. Software is instead what Abelson and Sussman call "procedural epistemology". It has become an infinite medium for human expression.

This naturally makes people wonder—where does this path ultimately lead us to? Many works of science fiction have depicted various versions of the Metaverse, but all seem to settle on a baseline: a parallel digital reality to material reality, replete with its own worlds, economies, and digital assets. Matthew Ball describes it more specifically as "a massively scaled and interoperable network of real-time rendered 3D virtual worlds which can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence and with continuity of data, such as identity, history, entitlements, objects, communications, and payments." Ball further mentions that cryptonetworks will span and drive several categories critical to the realization of the Metaverse, mainly compute, interoperability tools and standards, and payments.

In reality, it's tenable that given enough time and technological advancement, distributed networks backed by cryptoeconomic schemes will govern everything: how Metaverse data is stored, rendered, accessed. It will also likely guide the development of Metaversal social structures; already we've seen how DeFi and crypto games have driven users to prefer user-owned protocols and sharing of concrete economic incentives for usage rather than rent extraction.

As the paradigm shifts toward users owning a stake in the platforms they use, it becomes less and less tenable that they're willing to cede control of their digital selves to a few centralized authorities such as Facebook and Microsoft (and this is already happening). The Metaverse is likely an inevitability rather than a possibility, and will accordingly rely on cryptonetworks to realize not only mass adoption but sustainable and user-aligned growth. Accordingly, blockspace will become the central commodity of the Metaverse.

Blockspace Commodities

We built massive markets at a global scale to ensure we have stable food and energy production to sustain the growth of our societies. So, what kind of market will emerge from blockspace, the foundational commodity of the Metaverse?

Fundamentally, blockspace is the representative unit of a shared layer of computation and state across multiple users; the blockchain exists as a record of changes and additions to this state and cryptonetworks serve as markets for the production and usage of blockspace.

Users issuing transactions with fees attached signal their demand to purchase blockspace to change the network's global state and node operators (miners, validators, etc.) participating in consensus provide security to the network by producing blockspace consisting of these state changes. While this sounds simple enough, the blockspace market dynamic is quite complex.

For one, blockspace has an implicit time value. In Ethereum Blockspace—Who Gets What and Why, we discussed why blockspace in the future is inherently less valuable than blockspace now. As a contrived example, a user trying to deposit currency in an on-chain money market would rather lock in current interest rates instead of some future interest rate that may or may not be lower. Similarly, a user trying to purchase an NFT would rather that the transaction goes through now before it gets snapped up by someone else.

Historically, this time value has been quantified by network fees and block producers have defaulted to including transactions based on those that included the highest fees. This also means that users are incentivized to pay larger fees for more urgent transactions, which can lead to phenomena like Miner Extractable Value.

Cumulative Extracted MEV

Even solutions that attempt to add global clocks to the blockchain, such as Solana's Proof-of-History which uses serial hashing to timestamp transactions entering the network, still have time-value implicit in their chains. Compared to the fee-based model, serial-based inclusion models are affected by latency more significantly; those who want their transactions included in record-time on clocked networks will optimize for favorable network topology and both physical and digital proximity to large node operators to ensure their transactions are prioritized. This is the same principle as the competition for proximity to exchanges in traditional high-frequency trading.

Similarly, for suppliers (consensus node operators), blockspace materialized now is more valuable than that in the future.

Consensus producers' profit is calculated as the difference between consensus incentivization and node operation costs. The rewards node operators receive are liable to volatility: the spot price, transaction fees, and the probability of finding that block all factor into the uncertainty of rewards. Different networks have varying incentivization mechanisms to pay node operators, which adds further complexity.

The cost of running a node also wildly differs, as different networks often have drastically different requirements to participate as a validator. Proof-of-Work networks are driven by the mining hardware market, access to cheap and reliable electricity, and more. In comparison, the considerations in running a Proof-of-Stake ETH2.0 node instead rely on minimal electricity consumption and the capital required to stake.

We can further break down the supply side into OpEx and CapEx costs. For networks that require higher levels of computation at the base layer, CapEx tends to be high. Besides Bitcoin and Ethereum mining, other examples include Arweave and Filecoin, where validators earn rewards from expanding storage capacity and RAM for quick processing, Solana Proof-of-History nodes for high compute requirements due to the serial hashing involved, and any zero-knowledge network where GPUs and other processing units capable of fast linear operations can significantly speed up proof computations.

However, it's important to note that the nodes for every network will incur some CapEx that is likely to eventually be recurring in nature, given factors such as state bloat. CapEx can tend to the higher side and is usually repaid over time.

As for OpEx, miners incur OpEx in the form of electricity and maintenance costs. Staking validators incur OpEx in the form of staking requirements and tokens. For other consensus algorithms, OpEx costs lie somewhere on the spectrum between being token-intensive and physical-resource intensive.

Almost every consensus algorithm treats the right to block production as a probabilistic function weighted by the node operator's share of validating power versus global validating power. This means that for an operator to maintain a certain probability of block production, they accordingly need to up their stake of the network's "validating power". For example, an ATOM validator that has 1,000 ATOM staked against a total of 10,000 ATOM staked across the network would need to buy 500 more ATOM if other validators decided to suddenly stake 5,000 more ATOM to maintain a 10% probability of block production. The same is true for other popular PoS networks, like Terra, Avalanche, and Near. There might be slight differences in the actual mechanics (i.e. Avalanche's cap on the total possible amount delegated to a node differs from other networks), but the fundamental principle never changes.

Such fluctuations cause additional volatility in validator rewards and can lead to unforeseen OpEx costs, and thus some network incentives favor an accelerated race to having a dominant share of the network stake (beyond the ability to majority attack networks) such as in Solana's distributive inflation system.

Component	Yearly Cost
Hardware Requirements (Minimum Upfront)	$5,000-$7,000
Fiber Connection (min. 300 Mbps)	~$700
Electricity Costs Yearly	~$1,500
Daily 1.1 SOL Requirement (1 SOL = $170.5)	~$68,500
Total	$75,000-$78,000

A rough breakdown of yearly costs of running a Solana node at minimum requirements.

As the network utility scales, the healthy growth of node operators increases the security budget of the network, fortifying it against attacks that destabilize consensus. Ideally, the costs of running a node should be offset by the revenue from producing consensus. However, as we explained in The Alchemy of Hashpower, consensus producers go through four archetypal market phases, and some of them can put the producers out of business.

The structural nature of blockspace production and consumption indicates a strong need for blockspace commodity markets to isolate the underlying risks. We will refer to these as consensus capital markets.

Consensus Capital Markets

Primitive forms of financial instruments for blockspace already exist today; hashrate indices, gas tokens, and staking derivatives are all variations of attempts at building consensus capital markets. However, hashrate indices/futures and gas tokens failed to attain significant liquidity. These markets were often opaque and onerous to both the seller and buyer..

In other cases, the demand was never realized as difficulties in pricing assets like gas tokens made it confusing to liquidity provision on-chain and on centralized exchanges.

Blockchain Trilemma 2.0: The GameFi Trilemma

initial public publication time: September 9, 2021

Original link:

https://stepnofficial.medium.com/blockchain-trilemma-2-0-the-game-fi-trilemma-c24f1621548c

STEPN official

STEPN is a Web3 lifestyle app with Social-Fi & Game-Fi elements.

CR Recommendation:

Since the beginning of 2022, a sports fitness application STEPN has attracted many people, especially sports lovers. It combines the classic elements of Social-Fi and Game-Fi and creatively proposes the Move-to-Earn model. Once the product was launched, it quickly came out of the circle and attracted extensive attention and discussion. Its good market reputation and viral promotion are inseparable from the product team's in-depth thinking on blockchain Trilemma and the business model. This article is a comprehensive research report before the project is approved. Looking back, we should have new thinking and harvest.

Full Text

The Blockchain Trilemma is a terminology coined by Vitalik Buterin. It is a list of issues that most blockchain developers are likely to encounter, namely decentralization, security and scalability. In Buterin's view, it is very hard to achieve all three aspects, and in most cases, blockchain developers can only achieve two out of the three. Selected permissionless chains have claimed that they had solved the Trilemma three years after Buterin's article. However, since the rise of De-Fi and Game-Fi, we are now facing a new Trilemma — The Game-Fi Trilemma. When the fine line between game and finance is blurring, we are in a whole new spectrum where gamification and financial incentive can be leveraged to achieve certain goals.

Undoubtedly, the Game-Fi concept changes how people perceive games, and this certainly draws attention from traditional game developers. What direction should the Game-Fi go? To answer this, we believe we must solve the Game-Fi trilemma before we can move forward.

The playability has two layers. The first layer is how smooth the game is running on the blockchain. If players are constantly facing the long network congestion, volatile gas fee and convoluted process of buying/selling game assets, then the game is not really playable. The second layer is how fun the game really is. It is interesting to see how people changed their perspective when it comes to Game-Fi — the gameplay seems less important than the play-to-earn component. It is true that the financial part is the driving force to keep people grinding in the game, but the game will face inevitable doom once its profitability drops — declining profitability makes player leave, and in turn creates less demand. This eventually leads to a downward spiral and pushes more players to leave. It is true players will eventually leave the game, but the playability acts as a retainer to keep them longer. In short, the playability determines how long a player stay in the game even the game's profitability drops.

The profitability is very straightforward, it is the financial return for the money, time and energy the player invests in the game. The one issue with profitability is, to make the game play-to-earn, the game must quantify player's in-game performance. For example, completing a set of daily tasks or winning a PvP battle must be result-orientated. In modern games, the game experience comes from both the game process and the end result. Since there is no "real" reward for the end result, the game process and the end result are more or less of equal importance. The Game-Fi concept breaks this balance, both game developers and players are tunnel visioned in the end result of the game, it is true higher profitability is the short-cut to success in Game-Fi, but it also limits the game to put repetitive grinding tasks for player to complete. In short, the profitability determines how long the players will put up with the game's grinding mechanics until they burnout.

The accessibility refers to the barrier prevent people to participate play2earn games, this sounds strange because for crypto players, they already know how to use a decentralized wallet or swap, deposit and withdraw fiat or crypto assets — we have taken all these for granted. The famous story of Abraham Wald and missing bullet holes raises the unasked question in crypto space — what happened to the non-crypto players that missed out on Game-Fi? Why is this demographic never taken into consideration when Game-Fi developers design its game? What will be the impact if there is a Game-Fi project which can accommodate both non-crypto and crypto players?

For many Game-Fi projects, it requires a prior investment to the games' asset, the player can then make money from play2earn mechanics, as much as this boosts the demands for game asset sales, it also prevents non-crypto people from participating the game, there are only a selected few Game-Fi projects break through the accessibility curse due to high profitability, but the game developers didn't address this curse from a game design level. In short, the accessibility determines the potential player repertoire of the game, the bigger the repertoire, the longer the game could last.

Currently the Game-Fi's potential player repertoire is the crypto community, however the size of crypto community is limited, a Game-Fi project can achieve rapid expansion in crypto community until it has the maximum market reach. It will soon find difficult to expand its market and the game will be forced to focus on player retention, which is an unwinnable battle base on empirical study by Harvard Business School.

For Game-Fi concept to really take off, we need to think forward of what the Game-Fi could be in the future. The first figure below shows the current status and the second figure below shows what could be in the future.
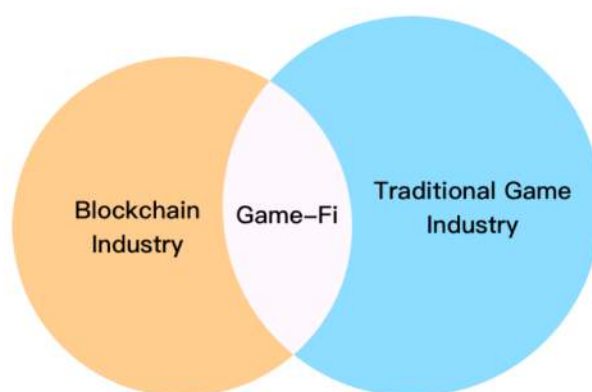
Status Quo of Game-Fi
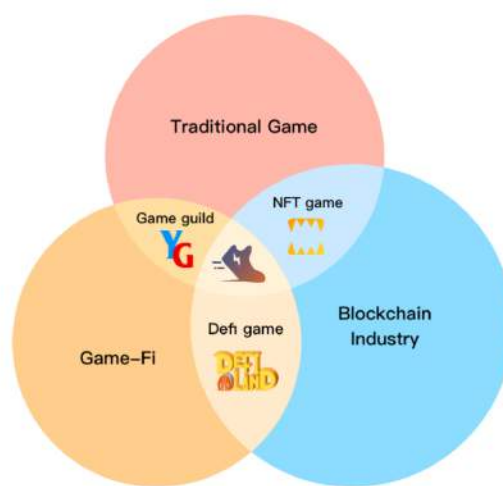
Lorem Future of Game-Fi

Once we change our outlook about Game-Fi, we can start to deal with the Game-Fi trilemma we are facing:

1. The playable and profitable game has poor accessibility (current Game-Fi projects)

2. The playable and accessible game has poor profitability (traditional games)

3. The profitable and accessible "game" has poor playability (traditional free earning apps such as Sweatcoin)

How to break the accessibility barrier becomes the key component for the crypto native Game-Fi projects to achieve mass adaption. To do so, the Game-Fi project must meet following criteria:

1. The target demographic must be big enough and are crypto curious/friendly.

2. The financial part of the game must be simple enough to non-crypto player to understand.

3. The play-to-earn mechanics must be exploitation resistance.

4. The game's core design must be built around a smooth game-asset-transfer capability.

Throughout our research of all the markets and communities, we believe we have found the answer to the Game-Fi trilemma. There is one niche market meets all these stringent criteria, and that is the runners' community. There are at least 400 million runners using a mobile app to track their health data and the runners' demographics are strikingly similar to crypto community. We believe a move-to-earn mechanics can make this work and the using NFT sneakers as a core game element will make the runners feel related to the game. Once they have made enough crypto earnings, it will be the main driving force for them to study how to cash out the crypto earnings to their local currency. After they cashed out their earnings, they would have possessed some basic knowledge to become an entry level crypto trader.

To accommodate this niche market, we have developed the first move-to-earn game called Find Satoshi on Solana and it is backed by Solana Capital. This game rewards players for their steps and we contribute portion of the game's profit to carbon offsetting. To make the game's assets easy to trade, we have included a decentralized wallet, a swap and a cross-chain convert to achieve a seamless game-asset transfer. We have also developed various of game elements and achievement system to keep it both mentally and physically challenging. To make the game profitable, we have developed the marketplace where NFT sneakers can be rented or traded. And to make the game accessible, new players entering the game requires zero spending and they can rent a NFT sneaker and start their play-to-earn journey.

Liquidity is Bandwidth

initial public publication time: January 13, 2022

Original link:

https://newsletter.banklesshq.com/p/liquidity-is-bandwidth

Liquidity Wizard

Founder of Tokemak

CR Recommendation:

This article shares the interesting innovative concept of "Liquidity is Bandwidth": in the Web2 era, exponential bandwidth upgrading has brought innovation and prosperity in the Internet era; In the Web3 era, the upgrading of Liquidity bandwidth will lead to more amazing innovation and prosperity. In addition, the project has a lot of experience in "how to make a wonderful narrative", that is, how to make good use of "narrative" to improve the value recognition and product adoption of their own Web3 products, which is worthy of reference for crypto entrepreneurs.

Full Text

The internet is changing at a tremendous pace.

The immense network of data exchange known as "the internet" is evolving into an increasingly intricate ecosystem where direct value can be exchanged, in the form of tokens. Web3 will revolutionize economies, transforming the way in which businesses function, individuals work and organize themselves, and products are delivered and consumed. This decentralized economy requires both electrical grid access and network access (as does the internet).

Furthermore, it requires blockchain access and most importantly, liquidity.

The goal of this article is to discuss how liquidity is the bandwidth of not just the future "internet", but the entire future decentralized economy. We follow this with a brief discussion regarding Tokemak's role in greatly increasing liquidity bandwidth.

Broadband liquidity is almost here.

ELECTRICITY → INTERNET → ETHEREUM → TOKEMAK

Electrical grids move energy   The internet moves data   Ethereum moves value   Tokemak moves liquidity

In order to better grasp the concept of liquidity as bandwidth, one should first comprehend the meaning of both terms. We will start with the definition of bandwidth, which is easier to define, followed by liquidity.

Bandwidth

Network bandwidth is the rate at which data can move across a network. Therefore, more bandwidth represents more data flow. In a world where users are interacting with each other across the internet, it's apparent that higher bandwidth means a better internet-based economy (just think about all the hype around 5G).

Bandwidth is measured in bits of information per second (bits/sec). At the genesis of the modern internet, consumers used dial-up modems that transferred data at 56 kbits/sec. This enabled early internet products like web pages and email.

When Ethernet arrived, the game changed quickly. Ethernet boosted bandwidths with a whopping 10 Mbits/sec. This meant that Ethernet could send roughly 180 times more data across the internet when compared to a dial-up modem. Broadband bandwidth and data transfer had arrived!

Things have only gotten faster since, with speeds commonly now in the 1-10 Gbits/sec range (18,000 – 180,000 times more data than dial-up). These speeds were required to unlock a slew of internet-based products that weren't fathomable with the low bandwidth of dial-up. Streaming services such as Netflix, cloud-based gaming, as well as always-on servers in the cloud are only possible due to the increased bandwidths of the current internet.

Of additional importance, however, is that reliable network bandwidth requires more than just strength and speed, but also sustainability. Users send and parse data asynchronously across the internet, which means reliable bandwidth needs to be accessible on demand. More on this later.

Liquidity

Liquidity is a trickier character to define. In DeFi/Web3, liquidity is used to define tokens (value) that is provided or parked almost anywhere. While there is nothing wrong with this general use of the term per se, here we will try to be a little more specific.

We define liquidity in a more targeted manner, as usable liquidity that can be used to exchange one token for another. In a sense, liquidity is the magic juice used to trade and transform tokens. For example, if I have ABC token and I want to trade or "transform" it into XYZ token, I need to interact with liquidity.

In trading speak, I need to interact with ABC/XYZ liquidity, by selling ABC/XYZ. Selling ABC/XYZ means I am selling my ABC tokens in exchange for XYZ tokens.

Next let's discuss good liquidity vs. bad liquidity, starting with bad.

Bad liquidity is any liquidity where you lose a significant amount of value when you interact with it. This means that "thin liquidity" is bad liquidity. Thin liquidity occurs when there aren't enough tokens available to trade into. For example, say you want to sell ABC into XYZ as discussed above, and let's say that every 1 ABC is currently worth 1 XYZ. If there aren't many XYZ available as liquidity, it means that the ones that are available will go at a premium. You want to sell 10 ABC to receive the 10 XYZ that you should get (at a price of 1 XYZ).

Instead, you walk away from the trade with only 8 XYZ due to thin liquidity. You lost significant value along the way (2 XYZ in this case), by interacting with thin liquidity and purchasing XYZ at a higher price than they were actually worth.

On the other hand, good liquidity is any liquidity where you retain most of your value when you interact with it. As you probably guessed, "deep liquidity" is good liquidity.

Let's return to the example above. Recall that you wanted to sell 10 ABC into XYZ and the price of 1 ABC is currently worth 1 XYZ. Now let's say that there is deep liquidity, in other words, lots of XYZ available to purchase. In this case, you could walk away from the trade with 9.9999 XYZ. You still got a tiny bit less than 10 XYZ, which is the cost of taking liquidity. But you preserved almost your entire amount of value that you started with.

"Deep liquidity" means preserved value when trading between tokens. "Thin liquidity" means loss of value when trading between tokens.

In other words, you can trade at the price of a market when there is deep liquidity. With thin liquidity, the price moves significantly as you interact with it.

Who needs liquidity?

Having elaborated on both bandwidth and liquidity, we need to next understand why this is important and who truly needs liquidity. In a word: everyone. Furthermore, this is not broad enough. It really is everyone and everything.

The above discussion may make it seem like only traders should care about liquidity. In Web3, this couldn't be further from the truth. All users interact with liquidity, as all users need to move in and out of the tokens required to interact with a token-based economy. Similarly, all protocols need to interact with liquidity as they buy/sell and lend/borrow tokens between themselves and the other protocols that they interact and interface with.

Here are a few examples.

Example 1

First, let's use the example of a user seeking out yield. A user wants the APR available from staking ABC token. They likely started with ETH or USDC (or another stable), so they need to interact with ABC/ETH liquidity to acquire the initial ABC tokens to stake in the first place.

Meanwhile, they start accruing yield in tokens. Once they claim these tokens, they might want to sell in order to pay bills, purchase items, or make other investments. Again, they will interact with liquidity to do this.

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A gamer user decides that they want to purchase real estate and an avatar in a new "play-to-earn" game. The game only takes the in-game currency ING. The user first needs to trade with ING liquidity to acquire ING. Next, the user uses the ING to purchase the real estate NFT and the avatar NFT, again interacting with liquidity (this time ING vs NFT liquidity).

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Plenty of protocols function by transforming some of their TVL into something else upon a specific trigger. For example, say that Protocol A interacts with Protocol B to hedge when a price reaches a certain point.

When the trigger occurs, Protocol A needs to take a certain amount of their token AAA and swap it into Protocol B's token BBB, so that it can interact with Protocol B. This means that both Protocol A and Protocol B need to interact with liquidity in this process. A specific case of this is the liquidation of a MakerDAO vault when the value of the collateral falls below the minimum collateralization ratio. When this happens, enough collateral is sold to cover the debt in addition to the existing liquidation penalties.

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A DEX protocol (decentralized exchange) relies on liquidity deposited from liquidity providers (LPs) for its entire business model to function. More liquidity deposited into the protocol means they can provide better pricing (less value loss for users). This, in turn, attracts users to trade there instead of other venues, which increases trading volume through that DEX. Increased trading volume of course means increased fee revenues generated at the DEX.

Having examined a few examples of how liquidity is used in Web3, we will move on to the topic of liquidity bandwidth.

Liquidity = Bandwidth

In this new "internet of value", liquidity is needed to do fundamentally anything. Therefore, in this world, liquidity serves the role of bandwidth.

Recall that with the internet of data, additional bandwidth is needed to do more things and move more data. Low data bandwidth meant participants could not move more data. You simply could not create Netflix until you had sufficient data bandwidth to reliably stream movies across the network.

In the internet of value, greater amounts of liquidity are necessary to do more things and move additional value. Thin liquidity means participants will not move greater value, because the value loss to them is too high. Imagine an economy where value cannot flow freely because every time it moves, exchanges, or transfers; it loses value. This is the current state of DeFi and Web3.

Value transfer has replaced data transfer, and liquidity is the new bandwidth of the Web3 network. The issue is that the liquidity bandwidth is currently thin and unreliable. Take a look at how many tokens are currently sidelined, rather than being used as liquidity. The answer is a majority.

Using ALCX as an example, less than 20% of its circulating supply is available as liquidity on Sushiswap (the incentivized exchange). There is also additional non-circulating supply, therefore a vast majority of ALCX tokens are not actively used as liquidity. Note that this is not specific to ALCX, rather this is an example of a phenomenon that is generally applicable across all tokens.

The underlying reason for thin liquidity is that the DeFi space has introduced far too much friction for users to be LPs. For a normal token holder to provide liquidity, there are three key reasons they don't provide liquidity:

1.UX challenge

2.Impermanent loss
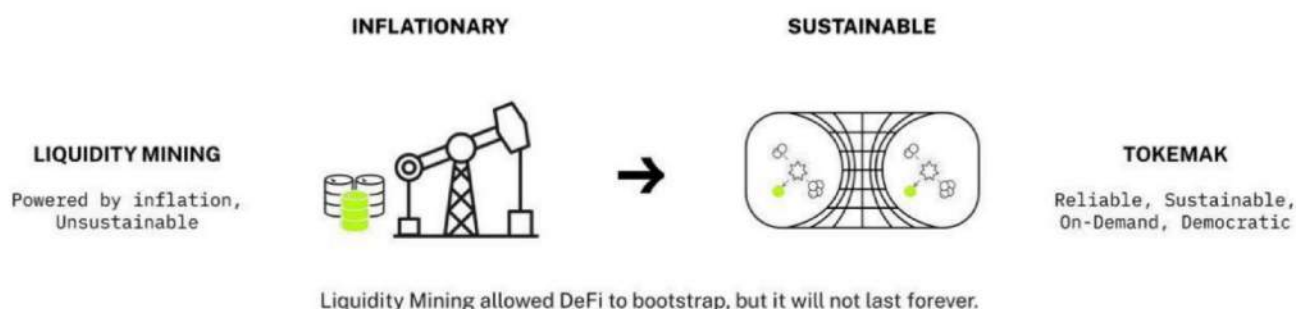
3.Capital inefficiency

The UX challenge arises because it takes a fairly advanced user to discover and provide liquidity into Uniswap, Sushiswap, or Balancer (as an example). Casual users will be deterred from the entire experience.

For those that are capable of facing the UX challenge, they still need to understand impermanent loss and be willing to take that risk. Additionally, they need to have the "other side" of the pair, making it very capital inefficient for them to provide liquidity. For example, if they want to provide ABC liquidity, they need to have and provide both ABC tokens and ETH tokens, in order to provide ABC/ETH liquidity.

The outcome is that liquidity in DeFi is currently in a dial-up state. There is just not enough liquidity to enable and encourage transfers with low value loss.

Additionally, the liquidity that exists is highly unreliable. Token projects generally incentivize their liquidity via inflationary rewards. This inflation-based liquidity is unsustainable and can turn off at a moment's notice. Stop the rewards? Lose the liquidity. Keep the rewards going? Inflate away the value of your token.

Neither are good outcomes.

INFLATIONARY   **SUSTAINABLE**

LIQUIDITY MINING   **TOKEMAK**
Powered by inflation,   Reliable, Sustainable,
Unsustainable   On-Demand, Democratic

Liquidity Mining allowed DeFi to bootstrap, but it will not last forever.

Diagram

Description automatically generated

Tokemak is one solution aiming to fix these problems by unlocking deep, reliable, and sustainable liquidity bandwidth.

How Tokemak Solves the Liquidity Issue

Tokemak is a utility that attempts to usher in the broadband moment of liquidity bandwidth. This bandwidth will unlock Web3/DeFi/GameFi applications that one can only dream about.

The liquidity engine of Tokemak will power it all.

So, what is Tokemak?

Tokemak is the unified liquidity layer of Web3, spanning across all DEXs, chains, and layers. It removes the friction for users to become Liquidity Providers, increasing liquidity bandwidth across the board. The diagram below shows how Tokemak functions.

Starting from the top of the diagram, any user or protocol can now provide liquidity simply by depositing their ABC tokens directly into Tokemak. They don't have to go through the UX challenge of LPing at the exchange level, and they don't bear the risk of impermanent loss.

They can deposit just the assets they have, without the requirement to pair it with another asset (ETH, USDC, etc). In this way, Tokemak translates one-sided liquidity supply into two-sided liquidity in the market, pulling from one-sided pools for both assets.

Users known as Liquidity Directors direct where the liquidity is routed across all of DeFi. This routes the economic bandwidth provided by Tokemak, securing liquidity for tokens and ensuring the success of DEXs, chains, L2s, and stablecoins by providing liquidity across the spectrum. Users and protocols are then able to go to the exchanges and interact with the deep liquidity that Tokemak provides (by buying and selling into it).

If you take a look again at the diagram of Tokemak, you'll notice something very interesting. The supply layer and the demand layer are the same: both are comprised of Users and Protocols as participants.

This is because with Tokemak, everyone (meaning all token holders everywhere) can now become passive liquidity providers. This unified liquidity layer becomes the most powerful for all users, with the lowest value loss for all, when all the base assets of the entire network sit in DEXs as liquidity that can flow freely based on the needs of the participants.
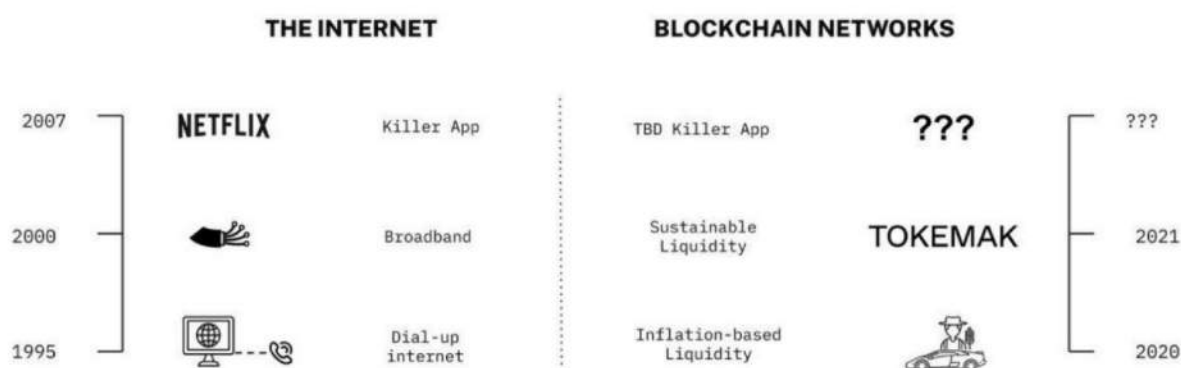
The Future

So, what happens when the maximum amount of liquidity bandwidth is made available? This is the final state of liquidity bandwidth, where Tokemak will fulfill its destiny as the liquidity engine powering the entire network.

The decentralized economy will truly be unleashed.

As we move towards a future with broadband liquidity, it becomes challenging to imagine what, exactly, that future looks like. While we know that deep liquidity will enable reliable pricing and less volatility, the implications are much more intriguing.

Trying to imagine what will be built upon the coming deep liquidity bandwidth is as difficult as someone in 1995 with dial-up internet trying to imagine Netflix streaming videos to a mobile phone. The future innovation that deep liquidity bandwidth will unlock will be even more significant.

That said, I'll try to postulate a few examples of innovation that I believe will be coming, built on the shoulders of broadband liquidity.

60

First, think about how challenging it is for an individual in a developing country to obtain a loan to make a major purchase, such as a house.
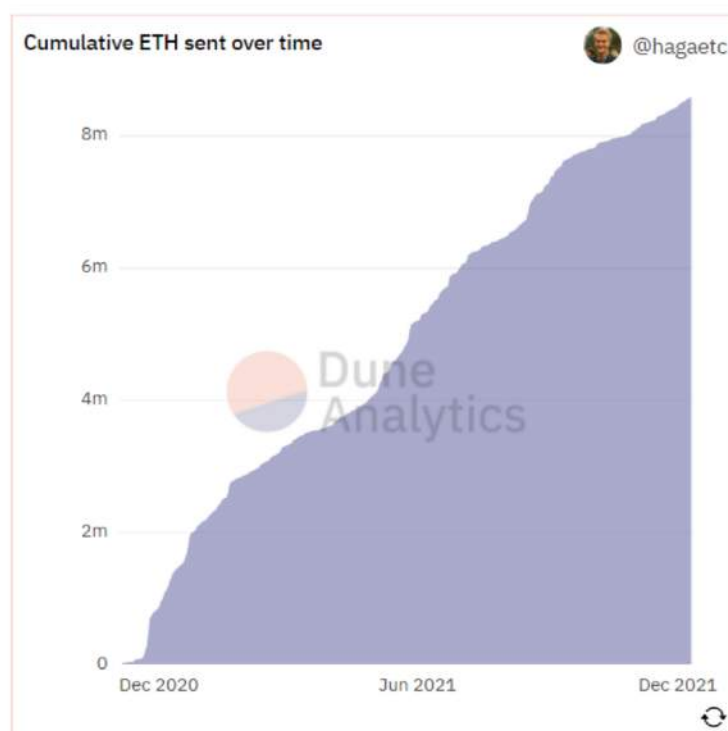
In most cases, the financial infrastructure (i.e. banks) either do not exist or the individual does not have access to the system. In the new world of democratized finance with deep liquidity bandwidth, the individual's cash flows could be verified on-chain, and lenders all over the world could offer a loan or mortgage to this individual, on demand. Smart contracts could check the capital flows and verify the individual's on-chain activity instantly, and flow capital to the person's wallet the very moment they ask for the loan.

Second, imagine an entrepreneur that has a great idea for a new on-chain business, but no capital to get things started. In the future, the user will put an overview up on the internet, and use a token template to launch to initial "idea investors". Individuals and protocols will see the materials, decide if the idea has merit, and fund the new venture at this seed stage (or pre-pre-seed stage). This collapses the entire capital raise process into something that can occur right after the idea and model are formed; every entrepreneur's dream.

Last, imagine the world we are heading towards with GameFi and the metaverse. All individuals will own their own identity, data, and cash-flows associated with that data and identity. No longer do the Web2 giants own the user. Built on deep liquidity, tokens to pay and incentivize users can flow to the individual in real-time on the blockchain. As users interact, purchase, contribute, and simply spend time in the virtual "always on" universe, all forms of entertainment and gaming can stream value and payments to participants as easy as racking up a high score in today's video games.

To summarize, the coming deep liquidity bandwidth will enable ANY flow of value to stream freely, without friction, middlemen, or rent seekers.

The future will be much more incredible and hard to imagine than those examples outlined above. The entire economy will soon be running on liquidity bandwidth, you heard it here first.

ETH sent to the ETH 2.0 Staking Contract

In the absence of full hedging solutions, validators are exposed to risk from the network asset (due to their stake) and the volatility risk involved with blockspace demand (fees). With staking derivatives, a validator on a PoS network would sell the token representation of their staked asset for whatever asset they'd like to denominate in (i.e. a PoS validator would sell their staked ETH for stablecoins) to hedge out risks associated with fees. The value of a staked asset is equal to the base network asset plus expectations of future network fee accrual. Holding a staked asset represents exposure to the volatility of future validation cash flows. Selling the asset at market prices "locks in" a fixed price for these future cash flows (represented by the price differential in the staked asset and the underlying). This allows the seller to decouple their position from network consensus cash flows.

Since the validator is subject to trading with the market to conduct this hedge, they invoke substantial price exposure, as they'd need to buy the staked asset at market prices when they want exposure to network activity again or to unlock their stake. Given that staked assets usually trade with tight parity to the underlying, the validator is ultimately unable to fully hedge out their risk with staking derivatives due to delta exposure. Additional tools are required for cost-conscious validators looking to minimize risk without needing to be active traders, especially in volatile markets.

Ideally, when constructing hedges for blockspace production, it should satisfy both of the following properties:

. Isolate network activity risk (demand for blockspace quantified through network fees).

. Isolate network asset price risk (a function of external markets).

These two requirements are satisfied in a swap-based arrangement.

A high-level diagram of Alkimiya's construction can be found below. It mirrors the energy swaps found in traditional commodity markets: a buyer pays a producer (in this case, miners/network validators) a fixed payment of stable coins that vests over the duration of the contract while the producer pays all rewards from validation according to a certain index (specific to the consensus algorithm) over the same time period.
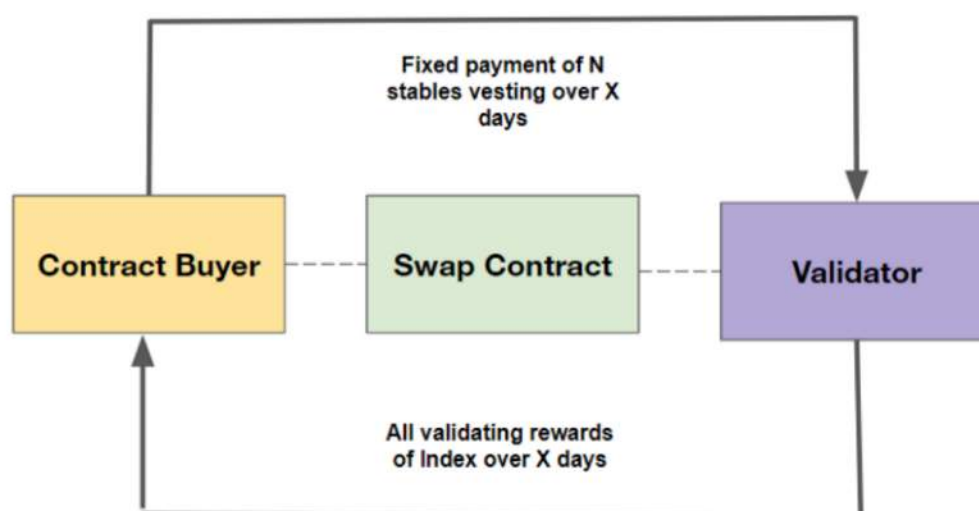
During this period, the contract buyer gains exposure to latent blockspace demand in the form of network fees streamed plus block subsidies, while the validator isolates themselves from both network activity and asset price risk.

We broadly categorize the index as a unit of validation power over a unit of indexed time. The most commonly discussed index in the context of Proof-of-Work mining is hashes per second. For Ethereum 2.0 Proof-of-Stake this might look like ETH staked per epoch (the time period for which the selected validator can propose a block).

The index is particularly important for verifying that a validator is delivering its promised share of rewards. Our design lets validators list contracts promising any index up to their maximum available resources i.e. a miner on Ethereum with 10 Th/s at their disposal can list contracts promising rewards indexed anywhere up to 10 TH/s (so long as the sum of indices across all their contracts equals to this amount). As a worked example, if the same ETH miner sells 1 Th/s worth of rewards to a 15-day contract, and the global hashrate stayed around 1,000 Th/s over the same period, we'd expect the validator to deliver roughly 0.1% of the block rewards over that time period (before factoring in randomness, pool fees, contract transaction fees, etc.).

You can read more about Alkimiya's design here.

The other vital component of these contracts is the fixed payment made for the contract. Fluctuations in any of its underlying factors (time, network asset price, global validation power, etc.) correspond to fluctuations in the value of blockspace production, and thus the fixed value of any swap contract paid at contract instantiation. Pricing these swap contracts is a more involved and intricate subject and thus we will explore pricing models in greater depth in future articles.

Further Applications

We've contextualized the demand for consensus capital markets through the lens of hedging the production costs of suppliers. However, a robust market does not exist without factoring in the needs of its buyers as well. While the demand for blockspace in its raw form is quite apparent, the demand for something like the swap-based construction above may appear less so. Yet, the usage of such swaps holds significant promises beyond simple speculation.

For one, swaps provide an interesting new primitive to factor into more complex DeFi constructions. With the success of platforms like Ribbon Finance and Friktion Labs, it's clear there is strong demand for simple, intuitive financial products that enable end-users to gain automated perpetual exposure to a set of varied financial strategies like covered calls. Until now, none of these strategies or structured products have enabled users to gain exposure to the value of blockspace directly. As a specific example, the value of blockspace often gets bid up heavily during token airdrops, NFT mints, or days where the market is volatile and on-chain activity is high in general. Investing in blockspace via swap-integrated products allows buyers to take a directional bet on event-driven network congestion and profit off these expected events. Generally, with these swaps, structured products will be able to access blockspace-related yields previously inaccessible to all but node operators.

Another exciting application of such swaps is the opportunity for fee stabilization. In the case of several platforms and services integrated with cryptonetworks, such as Coinbase or similar exchanges, the end-user must often pay network fees on top of platform fees when using the said platform to interact with the blockchain. For many services, this can hurt the UX and make the platform untenable to use at times. Instead, if such services know approximately how much blockspace they take on average, they can buy swaps equivalent to this percentage in validation power for fixed prices.

The service still pays the network fees for associated transactions, but because they have active swap contracts that ultimately redirect these network fees to themselves for their fixed payment, they can then simply quote fixed fees to their end-users to cover the payments they made for the swaps. For example, if Coinbase knows that it consistently is taking an average of 1% of blockspace on Ethereum, it could buy swaps equivalent to 1% of the global hashrate. Coinbase still pays the gas fees associated with their transactions but expects that 1% of network rewards (which include these fees plus some margin with the block subsidy) will come back to it, which should cover the costs of buying 1% of blockspace. The end-user then only covers the cost of buying the swaps, which is fixed.

Conclusion

As the usage of cryptonetworks- and by extension demand for blockspace- only becomes more ubiquitous, the attractiveness of engaging in the incentive schemes for becoming a producer of blockspace via consensus will grow. This means that there will almost certainly need to be a healthy and robust market for hedging blockspace production, and accordingly consensus capital markets will become as ubiquitous as networks they're built on.

By creating avenues for blockspace producers to more reliably secure their income and hedge the volatility inherent to blockspace production, consensus capital markets are poised to lower the barrier to entry as a network validator and, in the long run, help with the continued decentralization of these networks.

Every network has different economic considerations. What we have presented here is a general framework for consensus swaps; Alkimiya is working on developing these, as well as cash-flow generating products on top of them, across a wide variety of networks. We have also previously published our documentation and research on what consensus swaps look like for Proof-of-Work mining at Alkimiya. In future research and releases, we will dive into specific network constructions including but not limited to vanilla Proof-of-Stake (ETH 2.0, Cosmos), storage, ZK-validation, Solana, and more.

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Author's Note: Some exchanges can give better or worse pricing for the same level of token liquidity, but that's beyond the scope of this article!

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In this new "internet of value", liquidity is needed to do fundamentally anything. Therefore, in this world, liquidity serves the role of bandwidth.

Recall that with the internet of data, additional bandwidth is needed to do more things and move more data. Low data bandwidth meant participants could not move more data. You simply could not create Netflix until you had sufficient data bandwidth to reliably stream movies across the network.

In the internet of value, greater amounts of liquidity are necessary to do more things and move additional value. Thin liquidity means participants will not move greater value, because the value loss to them is too high. Imagine an economy where value cannot flow freely because every time it moves, exchanges, or transfers; it loses value. This is the current state of DeFi and Web3.

Value transfer has replaced data transfer, and liquidity is the new bandwidth of the Web3 network. The issue is that the liquidity bandwidth is currently thin and unreliable. Take a look at how many tokens are currently sidelined, rather than being used as liquidity. The answer is a majority.

Using ALCX as an example, less than 20% of its circulating supply is available as liquidity on Sushiswap (the incentivized exchange). There is also additional non-circulating supply, therefore a vast majority of ALCX tokens are not actively used as liquidity. Note that this is not specific to ALCX, rather this is an example of a phenomenon that is generally applicable across all tokens.

The underlying reason for thin liquidity is that the DeFi space has introduced far too much friction for users to be LPs. For a normal token holder to provide liquidity, there are three key reasons they don't provide liquidity:

UX challenge

Impermanent loss

Capital inefficiency

The UX challenge arises because it takes a fairly advanced user to discover and provide liquidity into Uniswap, Sushiswap, or Balancer (as an example). Casual users will be deterred from the entire experience

For those that are capable of facing the UX challenge, they still need to understand impermanent loss and be willing to take that risk. Additionally, they need to have the "other side" of the pair, making it very capital inefficient for them to provide liquidity. For example, if they want to provide ABC liquidity, they need to have and provide both ABC tokens and ETH tokens, in order to provide ABC/ETH liquidity.

The outcome is that liquidity in DeFi is currently in a dial-up state. There is just not enough liquidity to enable and encourage transfers with low value loss.

Additionally, the liquidity that exists is highly unreliable. Token projects generally incentivize their liquidity via inflationary rewards. This inflation-based liquidity is unsustainable and can turn off at a moment's notice. Stop the rewards? Lose the liquidity. Keep the rewards going? Inflate away the value of your token.

Neither are good outcomes.

Diagram

Description automatically generated

Tokemak is one solution aiming to fix these problems by unlocking deep, reliable, and sustainable liquidity bandwidth.

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How Tokemak Solves the Liquidity Issue

Tokemak is a utility that attempts to usher in the broadband moment of liquidity bandwidth. This bandwidth will unlock Web3/DeFi/GameFi applications that one can only dream about.

The liquidity engine of Tokemak will power it all.

So, what is Tokemak?

Tokemak is the unified liquidity layer of Web3, spanning across all DEXs, chains, and layers. It removes the friction for users to become Liquidity Providers, increasing liquidity bandwidth across the board. The diagram below shows how Tokemak functions.

Diagram, timeline

Description automatically generated

Starting from the top of the diagram, any user or protocol can now provide liquidity simply by depositing their ABC tokens directly into Tokemak. They don't have to go through the UX challenge of LPing at the exchange level, and they don't bear the risk of impermanent loss.

They can deposit just the assets they have, without the requirement to pair it with another asset (ETH, USDC, etc). In this way, Tokemak translates one-sided liquidity supply into two-sided liquidity in the market, pulling from one-sided pools for both assets.

Users known as Liquidity Directors direct where the liquidity is routed across all of DeFi. This routes the economic bandwidth provided by Tokemak, securing liquidity for tokens and ensuring the success of DEXs, chains, L2s, and stablecoins by providing liquidity across the spectrum. Users and protocols are then able to go to the exchanges and interact with the deep liquidity that Tokemak provides (by buying and selling into it).

If you take a look again at the diagram of Tokemak, you'll notice something very interesting. The supply

layer and the demand layer are the same: both are comprised of Users and Protocols as participants.

This is because with Tokemak, everyone (meaning all token holders everywhere) can now become passive liquidity providers. This unified liquidity layer becomes the most powerful for all users, with the lowest value loss for all, when all the base assets of the entire network sit in DEXs as liquidity that can flow freely based on the needs of the participants.

The Future

So, what happens when the maximum amount of liquidity bandwidth is made available? This is the final state of liquidity bandwidth, where Tokemak will fulfill its destiny as the liquidity engine powering the entire network.

The decentralized economy will truly be unleashed.

As we move towards a future with broadband liquidity, it becomes challenging to imagine what, exactly, that future looks like. While we know that deep liquidity will enable reliable pricing and less volatility, the implications are much more intriguing.

Trying to imagine what will be built upon the coming deep liquidity bandwidth is as difficult as someone in 1995 with dial-up internet trying to imagine Netflix streaming videos to a mobile phone. The future innovation that deep liquidity bandwidth will unlock will be even more significant.

That said, I'll try to postulate a few examples of innovation that I believe will be coming, built on the shoulders of broadband liquidity.

Picture 3

First, think about how challenging it is for an individual in a developing country to obtain a loan to make a major purchase, such as a house.

In most cases, the financial infrastructure (i.e. banks) either do not exist or the individual does not have access to the system. In the new world of democratized finance with deep liquidity bandwidth, the individual's cash flows could be verified on-chain, and lenders all over the world could offer a loan or mortgage to this individual, on demand. Smart contracts could check the capital flows and verify the individual's on-chain activity instantly, and flow capital to the person's wallet the very moment they ask for the loan.

Second, imagine an entrepreneur that has a great idea for a new on-chain business, but no capital to get things started. In the future, the user will put an overview up on the internet, and use a token template to launch to initial "idea investors" . Individuals and protocols will see the materials, decide if the idea has merit, and fund the new venture at this seed stage (or pre-pre-seed stage). This collapses the entire capital raise process into something that can occur right after the idea and model are formed; every entrepreneur's dream.

Last, imagine the world we are heading towards with GameFi and the metaverse. All individuals will own their own identity, data, and cash-flows associated with that data and identity. No longer do the Web2 giants own the user. Built on deep liquidity, tokens to pay and incentivize users can flow to the individual in real-time on the blockchain. As users interact, purchase, contribute, and simply spend time in the virtual "always on" universe, all forms of entertainment and gaming can stream value and payments to participants as easy as racking up a high score in today's video games.

To summarize, the coming deep liquidity bandwidth will enable ANY flow of value to stream freely, without friction, middlemen, or rent seekers.

The future will be much more incredible and hard to imagine than those examples outlined above. The entire economy will soon be running on liquidity bandwidth, you heard it here first.