

CUTTING THROUGH THE HYPE OF DECENTRALIZED FINANCE

From Data to Insights



BLOCKCHAIN
VALLEY
VENTURES

Asset Management

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FOREWORD FROM BVV

Cryptocurrencies are back and make headlines every day. Bitcoin has seen explosive growth from March 2020 lows of less than USD4,000 and is now trading in the USD30,000-40,000 range, becoming increasingly recognized as a new asset class.

2021 has been and will continue to be an exciting year with developments like the NFT boom, sky-rocketing volumes on crypto exchanges and IPOs from the likes of Coinbase. Market cap of crypto players may reach several hundreds of billions, potentially valuing the overall space in the trillions. All developments guide towards one direction – UP.

A lot of uncertainty is created around the asset class, but the narrative of banks and media outlets should not deter people from engaging in the space. It is a jungle and rules are established on the go. This requires a trusted Sherpa to climb the crypto Olympus. It is the best time to research the future because the magnitude of impact will be pivotal and the future has never been closer. It will not take even 10 years to unfold.

What we are seeing is likely to be the most transformational paradigm shift of the past 100 years. The biggest transformation is happening in fintech, enabled by cryptocurrencies, blockchain technology and distributed ledgers.

Today 10 million people are managing a wealth pool of around USD 1 trillion via the internet. This is not going away and has passed the point of no return. The DeFi community has been building for the last 3 years through a long and tough crypto-winter.

External effects are further accelerating the shift: a global pandemic keeping the world trapped with catastrophic effects on the economy and liberal money printing. General distrust in institutions climaxed, with limited signs of slowing down.

We expect to see further productivity jumps, translating into growth that will amplify supply of capital and chase scarce assets and attractive yields.

Further to that, de-platforming is giving birth to a new sense of censorship resistance. GameStop fuelled frustrations even further, with mediocre decision making and potential collusion on higher levels. This made evident rules are not necessarily aimed at protecting retail investors but returns.

Regulation is becoming close to impossible to enforce but will nevertheless play a lasting role, not only when it comes to KYC and AML in order to prevent nefarious activities. Users and investors may be the regulators' targets of last resort, as it may be impossible to regulate DeFi protocols themselves.

Technological progress is driving change. A new generation of decentralized entities, known as Decentralized Autonomous Organisations (DAOs), immune from credible attack vectors, and new decentralized protocol, like Uniswap, represent the

emergence of new forms of digital legal entities.

2020 showed that many blue-chip ICOs from 2016 and 2017 finally delivered on their promise and created extreme returns for their stakeholders and token investors. Ethereum KPIs are almost at an all-time-high. Polkadot, an interoperability protocol founded in 2016, has evolved into a very vivid ecosystem.

MakerDAO is now the lifeline of the Ethereum and DeFi ecosystem. Nonetheless, competitors are waiting at the gates and the battle for liquidity has just begun. Adoption, network performance, security and gas cost are the KPIs that will decide the winner.

DeFi is the next frontier and has already created several explosive growth stories. Total value locked is over USD100b. Uniswap, a decentralized exchange, raised just USD11m. After its token sale, Uniswap reached a fully diluted market cap of USD36bn, delivering returns in excess of 26,000% in

less than 12 months to its backers.

More entrepreneurs understand tokens can be used to fasten growth, create network effects and drive real utility. Blue-Chip DeFi projects will deliver again and misjudging DeFi for the ICO craze of 2017 will likely be a mistake. **The future of finance is at our doorstep and it is about time to take a very close look.**

We joined forces with many entrepreneurs that are already transforming the centralized world with decentralized solutions. We are excited about decentralized finance. Digital assets are here to stay.

We need to build infrastructure and rails on which the future of finance can unfold, and work side-by-side with what we believe will be among the most impressive and impactful cohort of entrepreneurs the world has seen to date.



“DeFi will leapfrog financial services moving directly from a monolithic architecture to decentralized, autonomous and self-governed structures”

BVV Asset Management Team

01 EXECUTIVE SUMMARY

An Introduction to DeFi

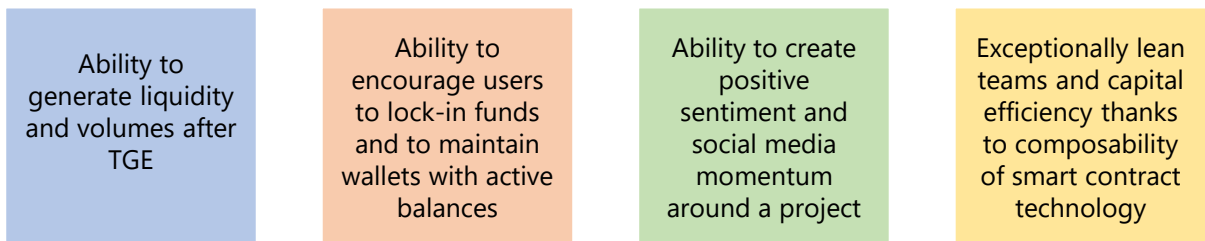
EXECUTIVE SUMMARY

An in-depth analysis of DeFi – turn data into insights

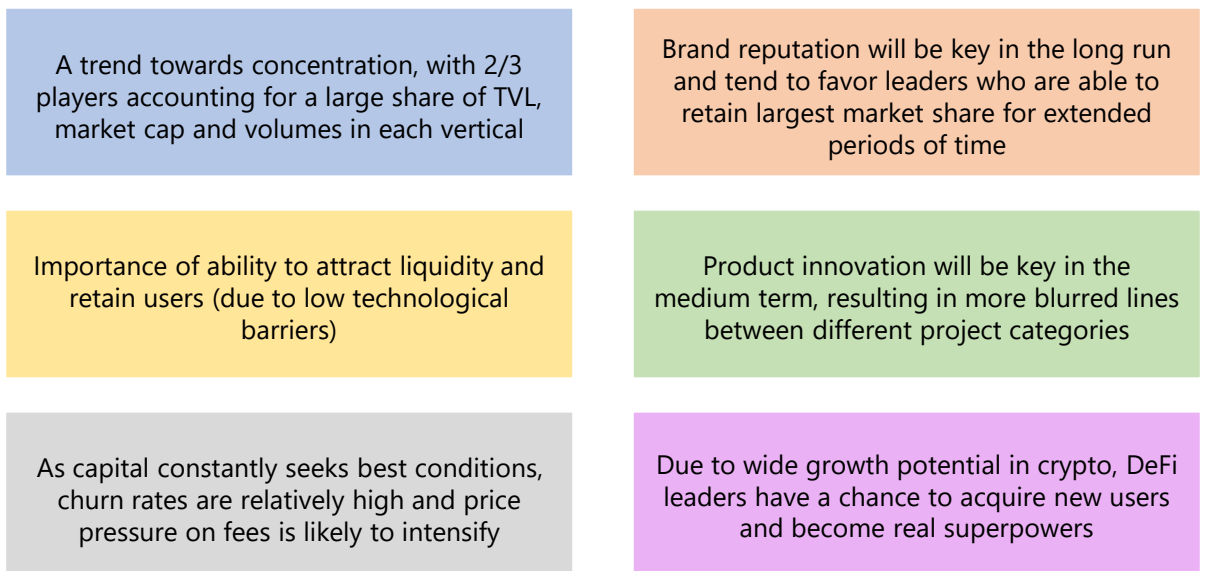
The picture that results from this research comprising of approximately 100 DeFi companies, net of market swings which can be very wild over time, is the tale of a new, thriving asset class that is here to stay

- DeFi has attracted more than USD1b in funding since 2017 – at the beginning mostly via tokens, subsequently mostly from institutional investors
- A staggering 60% of projects delivered at least 3x (i.e. beating the top quartile of traditional VC returns), with close to 30% returning 10x or more, with the additional benefit of a super-fast path to liquidity
- Decentralized exchanges and liquidity aggregators delivered the best returns (46x and 22x respectively), with individual projects returning as much as 762x (by simply comparing current token price with token price at TGE), easily beating the market
- DeFi reached a Market Capitalization of USD90b in less 18 months and with wide room to grow further as it represents just 5-7% of total crypto industry according to some metrics

Main Drivers of Success



Most Relevant Trends in the Industry





02 INDUSTRY OUTLOOK

What we expect from DeFi

OUTLOOK AND PREDICTIONS

Summary of key observations

Disruption

With the crypto market reaching USD1.5t there is substantial crypto wealth that is chasing yield, in addition to the traditional world being desperate for it. This will dovetail in code ruled, democratized asset management solutions run on decentralized systems

Regulation

Regulation is yet to fully enter the DeFi space. A very clear area where some intervention sooner or later is expected are stable-coins. Another area of attention may be regulators' plans to extend scope of liability towards shareholders and stakeholders.

Incentives

Ensuring users are truly involved in the the project and transformed in a real community is key. Sound token, economic models but also issuance of incentives will be important to ensure users care and remain loyal to the cause.

Investors

As in traditional tech, not all money is equal. Signaling effect from reputable investors is important. High capital efficiency and small fundraises make access to the best projects the key advantage. Value add is needed for investors more than ever to be allowed into the best deals.

Our Predictions

Overall crypto market will likely appreciate by a factor of 5-10x in the upcoming bull run bringing the total market cap to over USD 10 trillion. Bear markets will unfold very differently to what people think.



Still no Ethereum killer in sight. Ethereum continues to lead the pack with regards to assets, developer activity and users. Superior performance is not going to change that. Layer 2 will finally create the change that Ethereum needs to sustain. Nevertheless Solana and Polkadot are showing vibrant and growing ecosystems.



Bitcoin will build on its dominant position and outperform crypto overall. Bitcoin dominance may be reduced but this is due to new projects adding market cap rather than existing crypto outgrowing Bitcoin performance.



DeFi will become the battleground for the leading exchanges, thanks to their ability to attract new capital. As yields in traditional finance remain close to zero, crypto will prosper on the ability to generate attractive yield for liquidity providers.



THE FUTURE OF DEFI

Ian Lee

Partner, IDEO CoLab Ventures & Co-Founder, Syndicate



"Pretty much every area of financial services we believe will eventually be decentralized."

I entered crypto seven years ago and we worked with teams since then. We saw early on that crypto was going to make a big impact on financial services and the only question was how that would happen.

Even before DeFi was the thing, we were looking at what we called "open financial systems". We were convinced about the utility of this sector, hence we started investing in early 2019, supporting teams in protocol and product innovation. We were excited by bonding curves and automated market making models allowing to match liquidity outside of centralized coordination of markets.

DeFi felt special to us because it offers things to the world that were very difficult, or impossible to replicate using traditional tools and technologies. At the beginning people thought we were crazy and told us that DeFi would not scale and timing was not right. We took the risk and continued with what we believed in. Our portfolio today includes everything from exchanges, auctions, lending, to derivatives. **We believe that pretty much every area of financial services will eventually be decentralized.**

This space is so new and is moving so fast that the best investors are the ones closest to the technical, product level innovations and developments. This is important because, in the same way we

identified the bonding curve primitive as a strategic, unfair advantage over centralized and traditional finance.

Spending time improving, modifying and iterating, building and deploying and testing, makes people with those capabilities and expertise able to see the future faster and clearer. Good teams can pick and chose their investors. **DeFi founders are choosing partners that can help them build as co-founders.**

A new project that we co-founded and funded together with other players in the crypto and traditional VC space, like Electric Capital and Kleiner Perkins, is called SyndicateDAO. It is a decentralized investing protocol crossed with social network functionality, so maybe best described as a decentralized version of AngelList. It aims to democratize investing and leverages on the same primitives from DeFi that can also be applied to the investment world. It did not make sense to me that crypto projects are decentralized and capital behind them remains highly centralized.

We are further looking to solve a core problem in the world in terms of who can access and participate in development and prosperity associated with some of the world's most important technology creations and industries. This will also address the problem of wealth

inequality over time.

We believe the way people interact with the internet, will be materially different. We expect platforms to decentralize governance. Mixed with the "social everything", this will have a sharp impact on finance and shape new DeFi applications and allows us to look through the hype and see the ginormous value creation potential in the long-run.

Currently, we see a lot of potential outside the US, and we are also looking at cross-chain opportunities, on for example Cosmos, Terra and Thorchain. We are excited about the crossroads of DeFi and NFTs, DeFi and DAOs and have the general belief that value and investing is about to move further up the stack to the social networking layer. DeFi and Social is therefore an area we focus on.

Next big battleground is not linked to liquidity but social networks enabled on top of DeFi. Like crypto, DeFi will continue to have boom and bust cycles but I really think we are really in the second inning of a nine inning ballgame for DeFi.

It is inevitable that decentralized finance is going to eat traditional finance at scale. Whether this happens now or in a few years is secondary.

03 THE BIRTH OF DEFI

How we got here

The background features a dark, starry space with numerous thin, orange and red light trails. A prominent, thick, curved trail of these colors forms a large, glowing arch in the lower half of the image, suggesting a path or trajectory.

HOW CRYPTO STAGED A POWERFUL COME-BACK

Driven by explosion of BTC and ETH, crypto reached USD1.3t in value

2020/21 was a turning point for the industry, which finally became mainstream

March 2020 Bitcoin plunges by more than 50% following Dow Jones' biggest one day drop in recent history

May 2020 Billionaire Paul Tudor Jones (Tudor Investments) claims he will invest 2% of his wealth into Bitcoin

October 2020 Microstrategy announces it built a Bitcoin treasury position of USD500m and continued to issue convertibles. As of today MicroStrategy holds USD2.2b of Bitcoin on the balance sheet

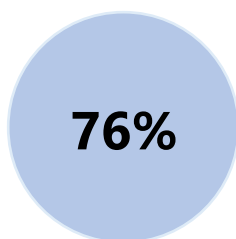
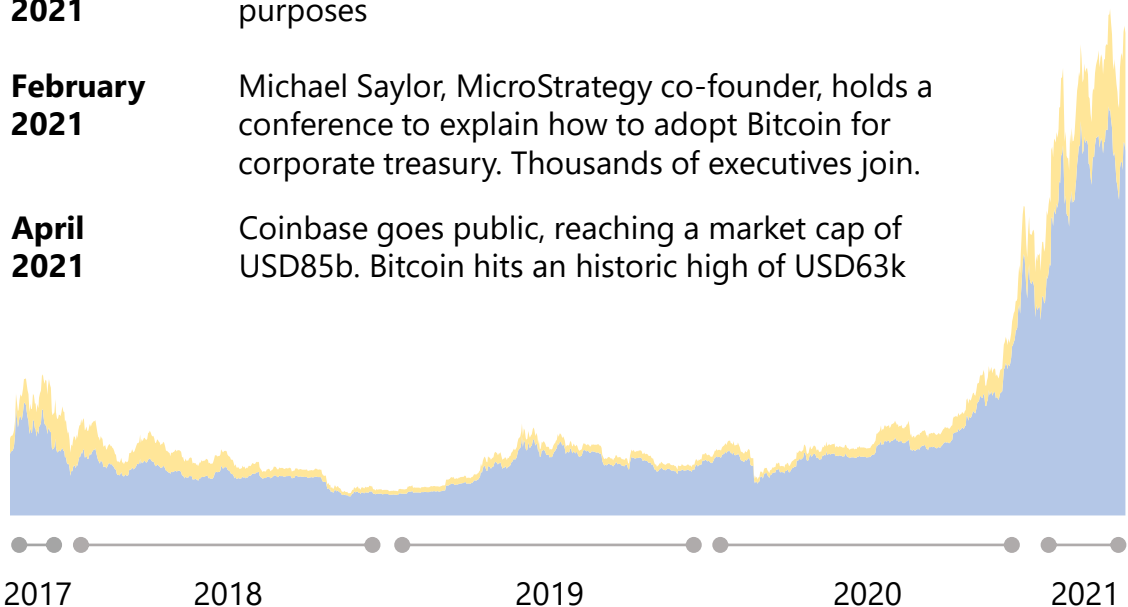
December 2020 MassMutual, one of the top 10 US insurance companies, purchases Bitcoin for USD100m

January 2021 Tesla purchases USD1.5b Bitcoins for treasury purposes

February 2021 Michael Saylor, MicroStrategy co-founder, holds a conference to explain how to adopt Bitcoin for corporate treasury. Thousands of executives join.

April 2021 Coinbase goes public, reaching a market cap of USD85b. Bitcoin hits an historic high of USD63k

April 30,
2021
USD1.3t



Bitcoin



Ethereum

**RELATIVE PERCENTAGE
MARKET SHARE**

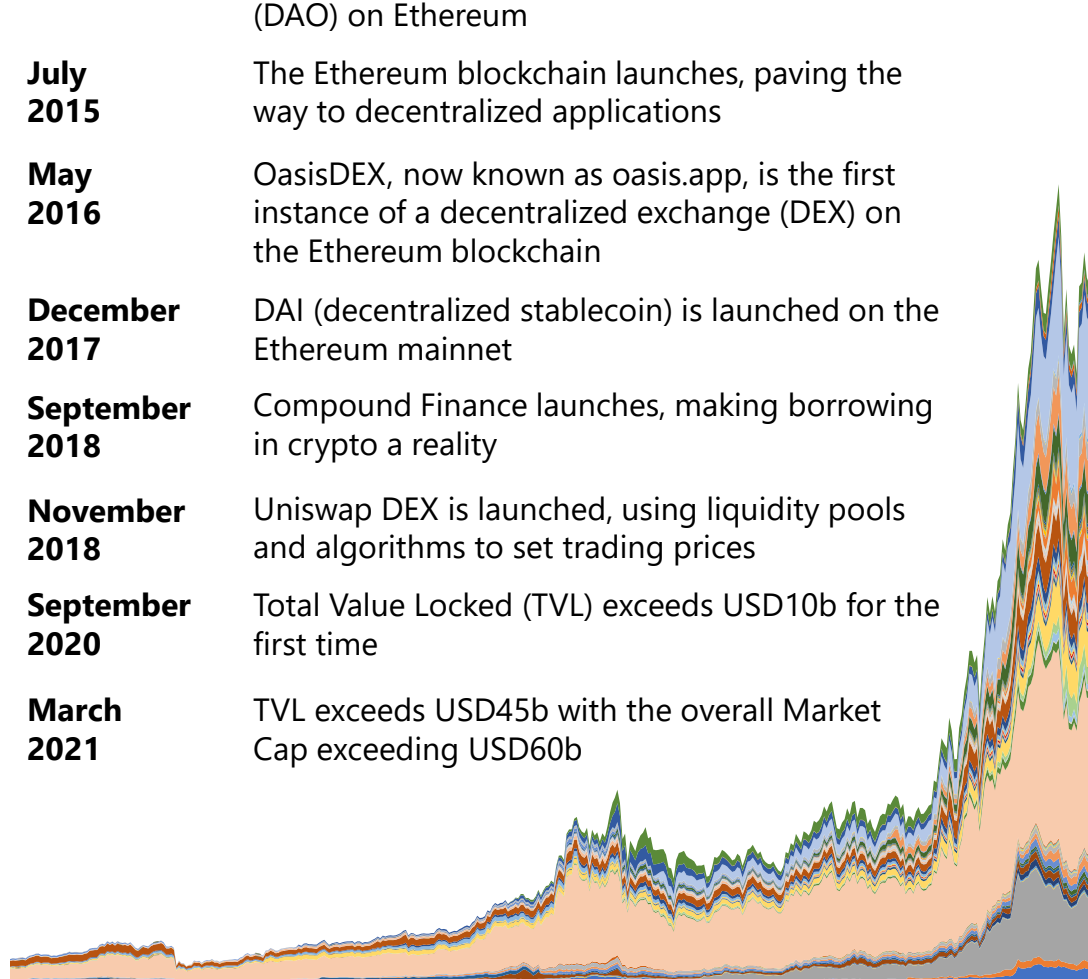
PACE OF INNOVATION ACCELERATED FURTHER

In just one year, DeFi went from zero to the driving force of growth for crypto

DeFi Index Market Capitalization and Major Milestones

April 30,
2021
USD90b

- December 2014** MakerDao is founded, to later become one of the first decentralized autonomous organizations (DAO) on Ethereum
- July 2015** The Ethereum blockchain launches, paving the way to decentralized applications
- May 2016** OasisDEX, now known as oasis.app, is the first instance of a decentralized exchange (DEX) on the Ethereum blockchain
- December 2017** DAI (decentralized stablecoin) is launched on the Ethereum mainnet
- September 2018** Compound Finance launches, making borrowing in crypto a reality
- November 2018** Uniswap DEX is launched, using liquidity pools and algorithms to set trading prices
- September 2020** Total Value Locked (TVL) exceeds USD10b for the first time
- March 2021** TVL exceeds USD45b with the overall Market Cap exceeding USD60b

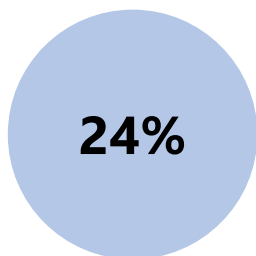


Q1 2020

Q2 2020

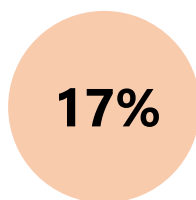
Q3 2020

Q1 2021



24%

Uniswap



17%

Chainlink

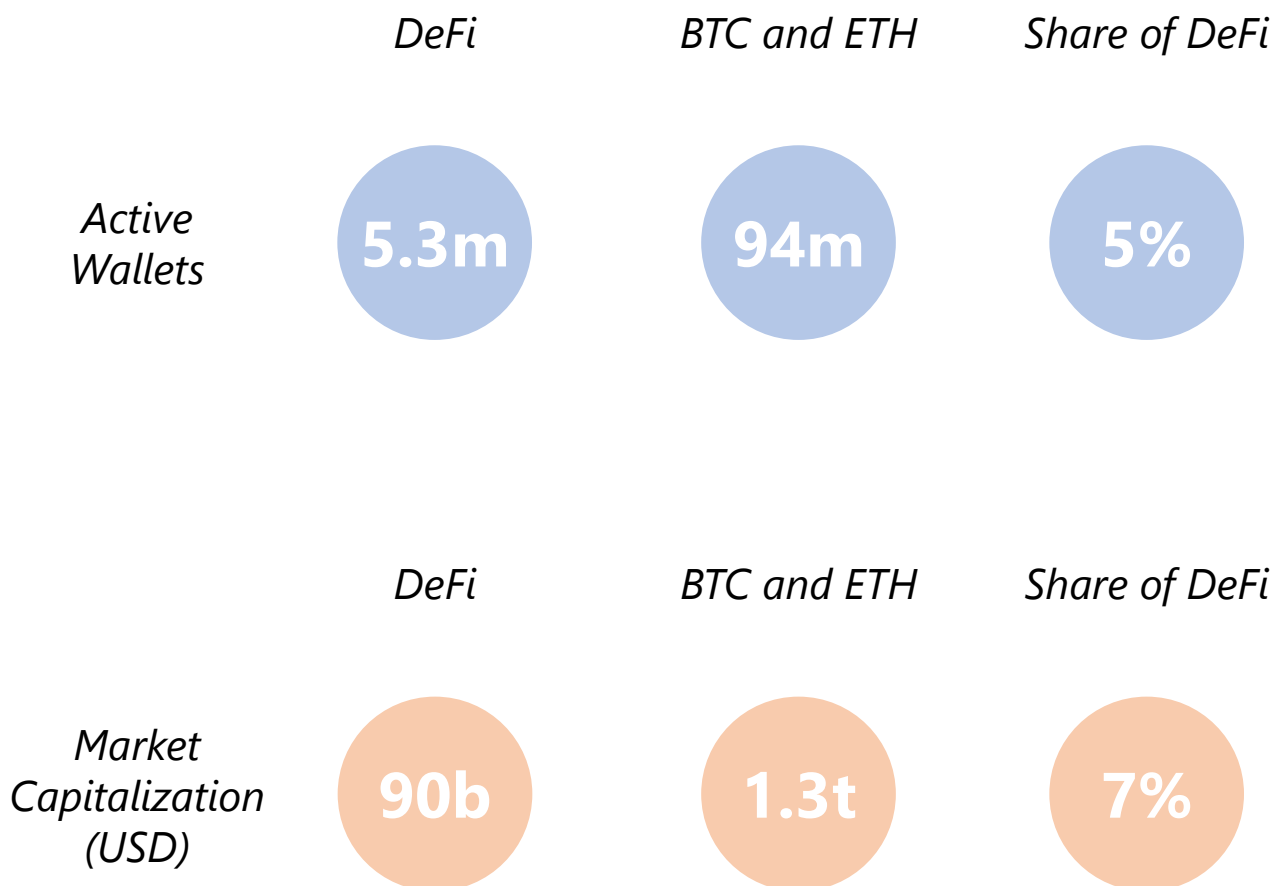
**PERCENTAGE SHARE OF
TOTAL DEFI INDEX
MARKET
CAPITALIZATION**

DESPITE EXPLOSIVE GROWTH, DEFI JUST STARTED

A comparison with BTC, ETH clearly indicates DeFi is still an infant industry

Despite a dramatic growth in DeFi companies since 2020, data clearly shows how much room for growth DeFi still has:

- DeFi Active Wallets, i.e. one of the most important drivers of appreciation of tokens, represent only 5% of BTC and ETH
- DeFi Market Capitalization, despite climbing to a noteworthy USD90bn, corresponds to just 7% of the total Market Cap for BTC and ETH.





04 WHAT IS DEFI?

Main Features and Applications

DEFINING DEFI AND ITS CORE APPLICATIONS

Crypto is embracing the full potential of decentralization

DeFi spans a variety of segments aimed at improving availability of and efficiency in financial services through disintermediation. The idea is to use technology, incentives and market design to replace banks, brokers and other financial intermediaries.

CREDIT INTERMEDIATION

Allows holders of cryptocurrencies to lend anonymously to borrowers, generating interest returns in an automated fashion through smart contracts

DERIVATIVES TRADING & SYNTHETIC PRODUCTS

Create markets for synthetic instruments, where users can hold derivative positions in cryptocurrencies while posting collateral to support those positions

DECENTRALIZED EXCHANGES

Matches buyers and sellers of digital assets, letting them "swap" one cryptocurrency for another

LIQUIDITY AGGREGATORS

Allows users to fund liquidity pools with owned crypto assets in order to facilitate trading on platforms, while earning passive income on deposits

OTHERS

Includes various functionalities such as insurance, oracles and asset management

CENTRALIZED VS DECENTRALIZED FINANCE

The crypto world is witnessing two radically different approaches

The main distinction between Centralized Finance (CeFi) and Decentralized Finance (DeFi) revolves around the role of intermediaries and how the technology is used.

CeFi tends to replicate in cryptos what regulated intermediaries do in more traditional financial services. Companies like Coinbase are the gatekeepers' between the "real world" and crypto; are obliged to performed KYC on new clients and hold assets on behalf of their clients. Intermediaries are responsible for safely storing funds, providing customer support and building a strong, trustable brand.






In DeFi, users cut out the middleman and interact directly, peer to peer. Transaction safety is ensured by smart contract technology and flows of funds are fully auditable on chain. Transactions remain anonymous and no KYC is needed or performed.

	Centralized Finance (CeFi)	Decentralized Finance (DeFi)
Fund Custody	Outside of user's custody	User has complete authority over custody
Source of Trust	Focused on business	Focused on technology and process
Security	Intermediaries are responsible for security.	Security relies solely on the technology
Risk Factor	Vulnerable in case of breaches, but assumes responsibility	No party to be held accountable for loss of funds
KYC Requirements	Mandatory requirement for accessing CeFi	No need for KYC to access DeFi services; only unique identification number is required
Customer Service	Provided by major intermediaries	Not available
Transparency of Transactions	A centralized entity takes away transparency	Open-source, fully auditable on chain
Services Available	Borrowing, Lending, Payments, Trading Fiat-to-crypto	Borrowing, Lending, Payments, Trading No Fiat-to-crypto

DEFI SPANS A WIDE UNIVERSE

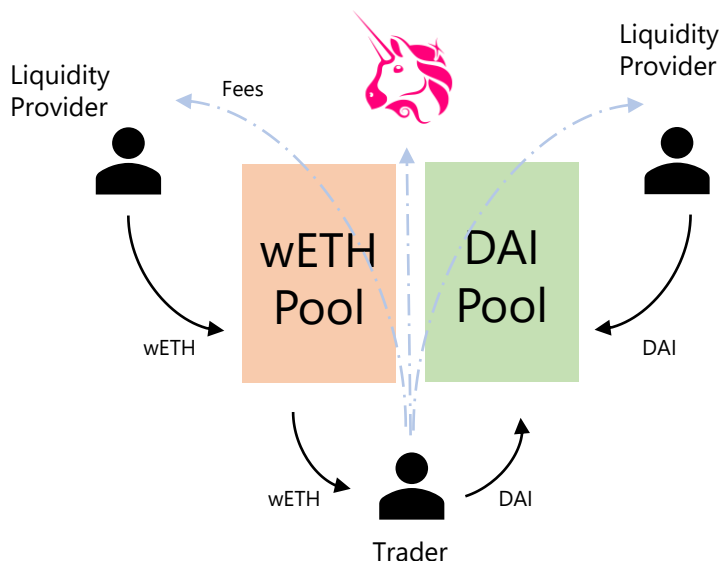
We performed a thorough review of all the main DeFi projects across various chains

 **ethereum**
  **Polkadot.**
  **SOLANA**
  **BINANCE CHAIN**

Credit Markets	 0x  AAVE  Compound  MAKER  opium	 Acala Network  AKROPOLIS  Equilibrium	 ANCHOR	 7up  C.R.E.A.M. ForTube venus Kava	OWN BASE PROTOCOL
Asset Management	 yearn.finance  ZERION  Zapper.fi  Set Protocol	 AKROPOLIS  Centrifuge  Reef	 RAMP DEFI  Popsicle finance	 beefy.finance  unifi  Dego Finance  OPENOCEAN	 bitcoin
Synthetic Products	 LUMA  augur  AIRSWAP  Gnosis  SYNTHETIX  LOOPRING	 Laminar	 OXYGEN  SOLEON		 TRON
Stablecoins	 WBTC  USD Coin  DAI  tether	 Acala Network  Bandot  Equilibrium	 Terra	 BUSD  PAXOS  QIAN PROTOCOL	 Algorand™
Decentralized Exchanges	 Balancer  sushiswap  Uniswap  kyber network  Curve  Bancor	 HYDRADx  Polkaswap	 SERUM  RAYDIUM  DEXLAB	 DODO  PancakeSwap  BurgerSwap  BakerySwap	 EOS™
DAOs	 ARAGONDAC  DAOstack				 polygon
Oracles	 Chainlink  augur	 Kylin	 Gravity  Band Protocol  Chainlink	 Chainlink  Band Protocol  Ankr	

HOW DOES DEFI WORK?

Two examples in DEXs and Lending

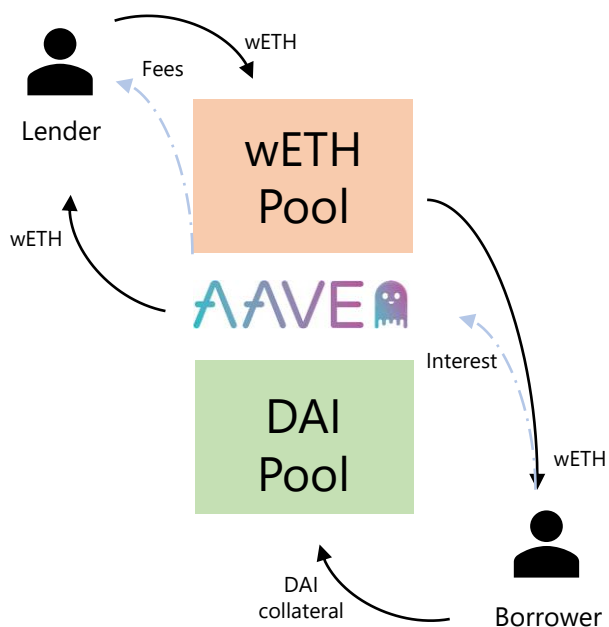


Decentralized Exchanges with Automated Market Maker Pools

1. Liquidity Providers lock their tokens into the liquidity pools of the respective asset
2. Traders pay the base asset into the respective pool and get out a corresponding amount of the quote asset
3. A fee is deducted from the pay-out and split proportionally between all liquidity providers in both base and quote pool

Decentralized Lending

1. Lenders lock up their tokens in the liquidity pool and get a "receipt token" in exchange
2. Borrowers lock a collateral and can then borrow a corresponding amount out of the pool
3. Lenders get paid interest proportional to the amount of receipt tokens they have; borrowers pay the interest and repayment of the loan





05 SECTOR VIEW

*An Overview of the Most Relevant
Verticals in DeFi*

SIX KEY CONSIDERATIONS ON MARKET DYNAMICS

Dovetailing VC best-practice with deep DeFi domain expertise is a secret to succeed

At first sight, many key focus areas for DeFi seem to rhyme with traditional tech VC investing process. A closer look immediately highlights importance of specialized sector knowledge.

Furthermore, DeFi needs very limited capital given its high operational leverage. Funding rounds are small, it is hard to get an allocation, and hence deployable funds are limited.

CONCENTRATION

An analysis by sector already clearly indicates a trend towards concentration, with 2/3 players accounting for a large share of TVL, market cap and volumes

COMPETITION

As technology is open source, copycat projects are relatively easy to launch. Ability to attract liquidity and retain users are therefore vital

PRICE WARS

With capital constantly seeking best conditions, churn rates are relatively high. Pressure on fees is likely to intensify. Time based promotions are here to stay.

BRAND REPUTATION

The longer leaders are central in the ecosystem, the harder it will be for new entrants to dislodge them. Brand reputation will be key in the long run.

PRODUCT INNOVATION

Teams will try to beat competition by introducing new functionalities. In the medium term distinctions among different categories will become more blurred.

VALUE CREATION POTENTIAL

Given wide room to become mainstream in crypto, DeFi leaders likely have a real opportunity to acquire new users and become market superpowers

DECENTRALIZED EXCHANGES

The New Frontier of Exchanges

MAIN BENEFITS

LOWER COUNTERPARTY RISK

Cryptocurrency trades are P2P, directly between parties



PRIVACY

No registration requirements for using the exchange



LOWER TRANSACTION FEES

Trading on DEXs has lower fees than centralized exchanges



FINANCIAL INCLUSIVENESS

Anyone from anywhere in the world can utilize them



MAIN CHALLENGES

High Latency and Network Costs

DEXs conduct every transaction and interaction between orders, entirely on chain. As a result, transactions can be expensive and slow. Decentralized exchanges are also vulnerable to the issues of front running attacks.

Fiat Currency Exchange

Fiat currency exchange is not offered by most decentralized exchanges even today and centralized exchanges still represent the majority of the market.

Cross Chain Transactions

When two different blockchains are combined the resulting decentralized system will have the lowest level security among the two chains.

Trade Collisions

When two similar orders are received within 5 to 10 seconds of each other, both transactions enter the same block and transaction fees are collected from both the users. However, only one transaction will be executed.

PROTOCOLS

COSMOS

Polkadot.

ethereum

Algorand™

DEX

Polkaswap

PancakeSwap

Uniswap

linch EXCHANGE

FTX

kyber network

IDEX
Decentralized Exchange

flexa

MDEX

sushiswap

0x

HYDRAPX

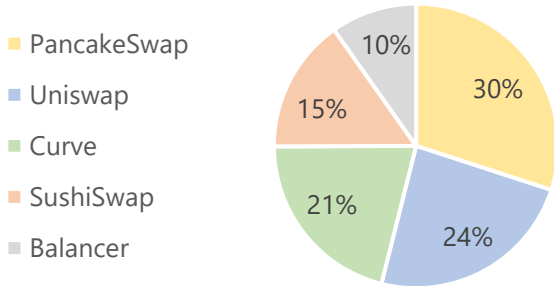
Balancer

THORCHAIN

KEY STATS

Decentralized Exchanges

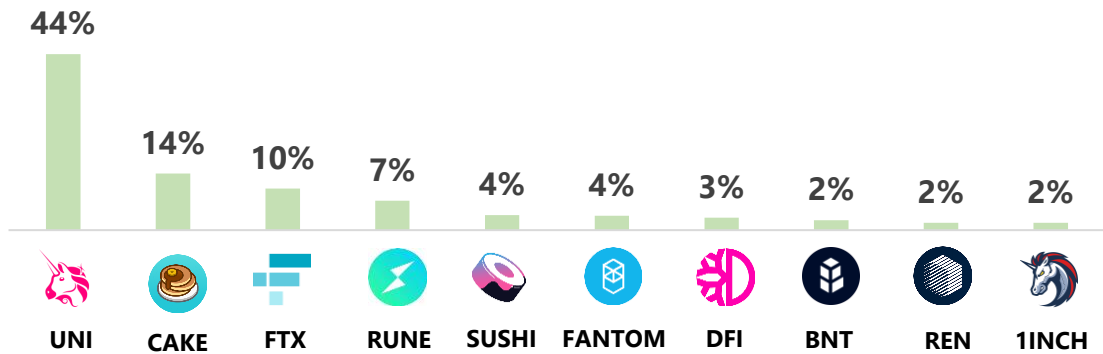
Share of TVL
Top 5 Projects



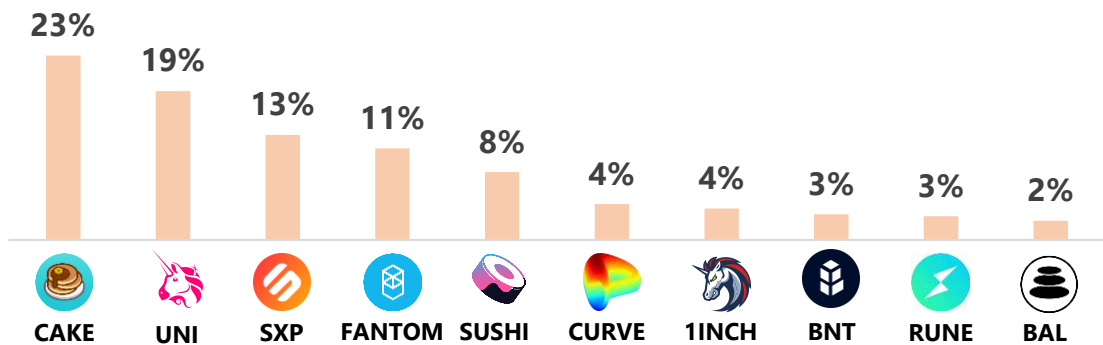
Total Funding
(USD336m)



Share of the Market Cap of DeFi Companies



Share of the Volumes of DeFi Companies



Sources: Defi Pulse, Defillama, BVV estimates, Pitchbook, Crunchbase
 Note: All the data have been collected on 30/4/2021

LENDING AND BORROWING

How Blockchain plans to revolutionize the Credit Markets

HOW DECENTRALIZED LENDING / BORROWING WORKS

CONCEPT

Investors and lenders issue a loan or deposit for interest through a distributed system and a decentralized application. Individuals or businesses can borrow money paying an interest through a decentralized network.

HOW IT WORKS

1. Lenders lock up their tokens in the liquidity pool and get a "receipt token"
2. Borrowers lock a collateral and borrow a corresponding amount out of the pool
3. Lenders get an interest proportional to amount of receipt tokens they have

Types of supported loans

FLASH/ TERM
LOANS

SECURED /
UNSECURED

FIXED RATE /
FLOATING

IN CRYPTO /
STABLECOIN

BENEFITS AND CHALLENGES

PERMISSIONLESS

TRANSPARENT

IMMUTABLE

SAFE

KYC / AML

FLUCTUATING INTEREST RATES

LIMITED SCALABILITY

OVERCOLLATERALIZATION

PROTOCOLS

COSMOS

Polkadot.

ethereum

Algorand™

LENDING PLATFORMS

Aave

Compound

MAKER

Kava

bZx

ANCHOR

Reflexer

opium

Acala Network

AKROPOLIS

Equilibrium

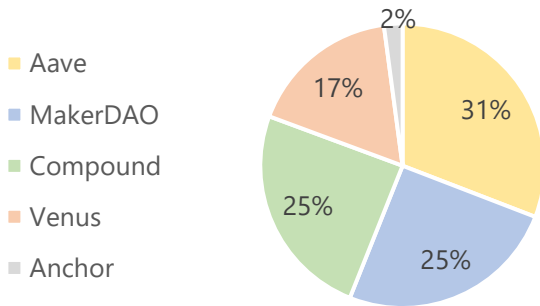
AtomicLoans

R.E.A.M.

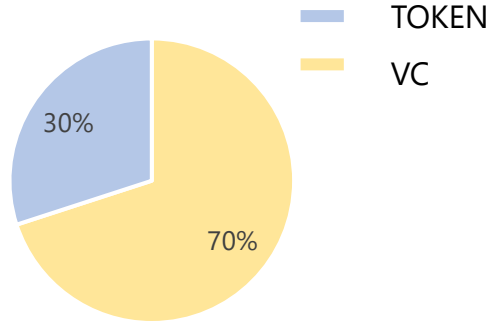
KEY STATS

Lending and Borrowing

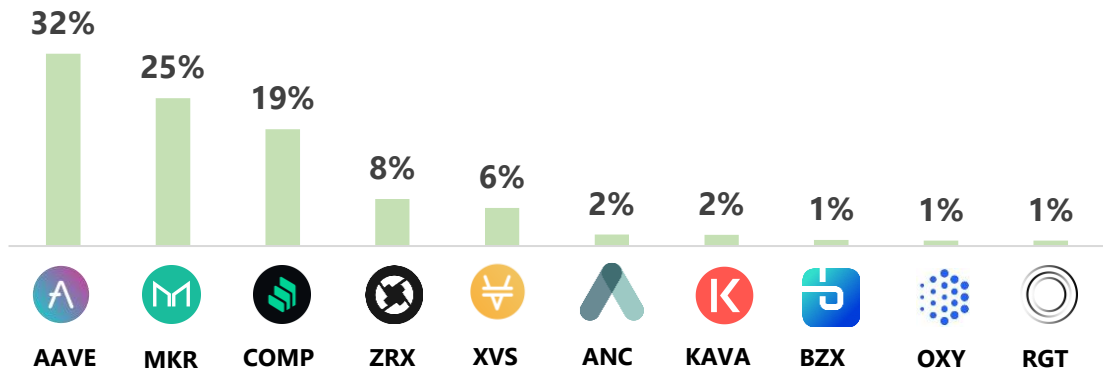
Share of TVL
Top 5 Projects



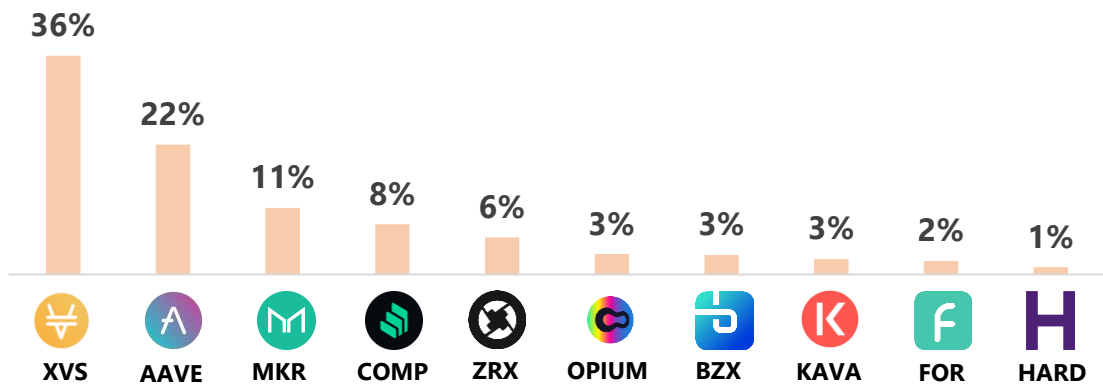
Total Funding
(USD196m)



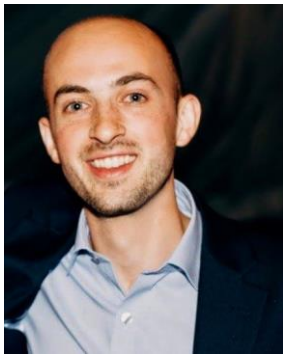
Share of the Market Cap of DeFi Companies



Share of the Volumes of DeFi Companies



Sources: Defi Pulse, Defillama, BVV estimates, Pitchbook, Crunchbase
 Note: All the data have been collected on 30/4/2021



LENDING AND BORROWING

Teddy Woodward

Founder and CEO, Notional.Finance

"To attract the wider audience of investors ability to offer fixed rates is key"

I started my career as an interest rate swap trader at Barclays in London, and then left to go all in on crypto trading. We founded Notional Finance in early 2020 in San Francisco.

We did a seed round in May 2020 and went to Ethereum public mainnet in January 2021. We have USD20m in assets and are working on a second release of our product.

We want DeFi to go mainstream and enable use cases beyond speculation. To attract a wider audience of investors seeking reliable returns and for companies looking for certainty about the long-term cost of funds, the ability to offer fixed rates is key.

The most critical aspect is to ensure we get security right. The best auditors review our smart contracts to ensure code and architecture follow best practices. We're also paying close attention to getting the economic design of the protocol right. Our users / investors are very helpful here.

We are aware that very extreme circumstances pose the potential risk that the protocol becomes insolvent. To protect against that we have created robust liquidation infrastructure to ensure we can collect debtor's collateral and close out their debts before they become insolvent.

Decentralization helps to bring in a broader community of stakeholders, but the downside of decentralization is that you can lose

the ability to immediately fix things and your rate of iteration slows down. Given that we are at such an early stage, we want to manage this decentralization process to make sure it goes as smoothly as possible and doesn't jeopardize what we've built to date.

Our typical users are DeFi native, so they're comfortable locking money in DeFi protocols. We are targeting crypto natives who have accumulated more wealth and believe in the benefits of decentralization. They may wish to use their wealth to generate a reliable yield. We aren't talking about BlackRock and Goldman Sachs, but we are optimistic that larger players will be interested in our offering as the protocol matures and proves itself in the wild.

A lot of our current users have very low tolerance for counterparty risk, particularly with implosions that have happened in the past with centralized exchanges. With Notional, you can see where your assets are and how they are being used.

We will continue to see high yields in DeFi. This is driven by a high number of new projects that are delivering returns of 40-50%. Returns will come down, converging towards the cost of capital on centralized crypto exchanges, which is likely to be closer to 20%.

Alternative blockchains may offer better scaling, but they lack the users, assets, developers, and

security of Ethereum. Ethereum is definitely the place to be – it's where the liquidity is. But to ensure users get the same returns when investing USD100 or USD1m, i.e. democratizing finance, transaction costs must be bearable. Gas costs are high and will go even higher. **Integrating a layer 2 solution will be key to scaling our product.** We can only conceptualize exactly how this will evolve, but it will reduce transaction costs to cents on the dollar, removing a big, big, big hurdle.

We are only four people and may go up to just about 10 FTEs by year-end. We can do this and need relatively little capital accordingly, because DeFi blockchain projects offer incredibly high leverage. We can leverage and build upon open source code that was developed for other projects. We fully leverage smart contract "composability".

Externalization of resources, development work and network effects are further elements that contribute to the capital efficiency. Ethereum has developed the playbook going from zero to 100 billion market cap in less than three years.

I think we are very, very early. Consider when the Internet started - it was really hard to use, but became much easier over time. When users can interact with DeFi the same way they use their banking app today, I'm confident we'll achieve mass adoption.

SYNTHETICS AND DERIVATIVES

New Perspectives in a Growing Industry

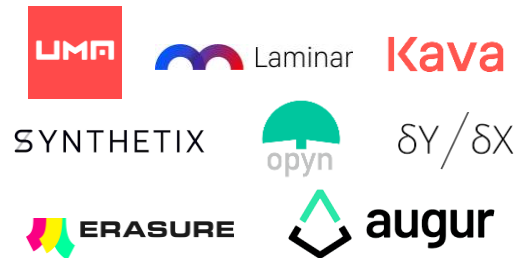
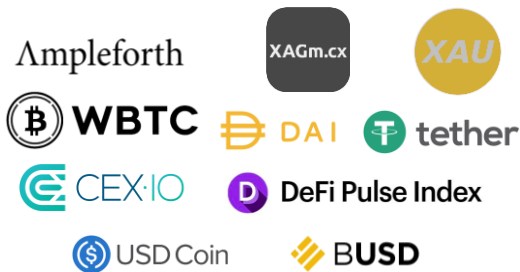
RELATIONSHIP BETWEEN SYNTHETIC ASSETS AND DERIVATIVES

SYNTHETIC ASSETS

DeFi Synthetic Products are built on smart contracts that derive value from the performance of an underlying entity such as bonds, currencies, or interest rates. Tokenized derivatives can be created without third parties and by design prevent malicious influence.

DERIVATIVE PLATFORMS

Derivative Platforms are protocols for creating global liquidity for synthetic assets on different blockchains. They facilitate the creation and trading of numerous asset classes including crypto, equities, and commodities, all on-chain.



MAIN CHALLENGES

SMART CONTRACT RISK

Derivative platforms depend mostly on well-functioning of smart contracts governing the transaction. For this reason, they must be frequently audited.



REGULATION

There is no regulation governing these products, including AML and KYC requirements. As volumes gain momentum, regulation is likely to follow.



ORACLES

For transactions on Derivative Exchanges it is necessary to rely on external Oracles, which are potential targets of hackers' attacks.



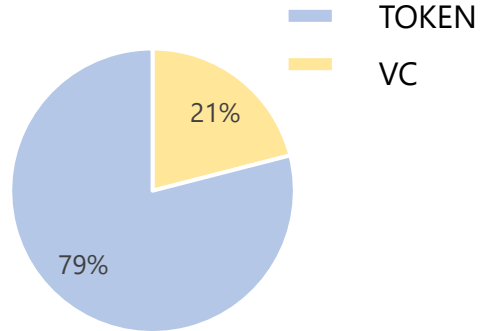
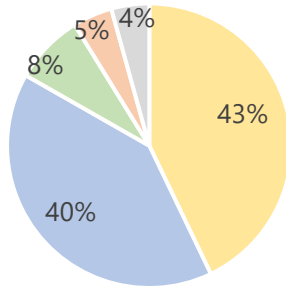
KEY STATS

Synthetics and Derivatives

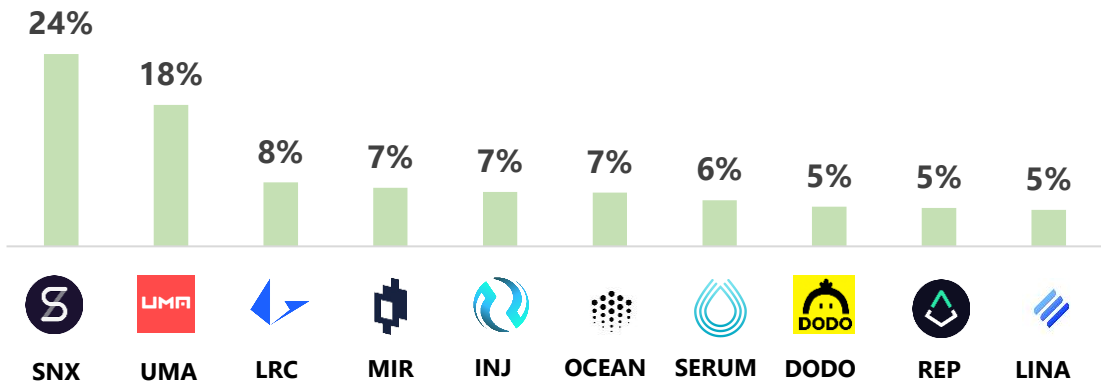
Share of TVL
Top 5 Projects

Total Funding
(USD191m)

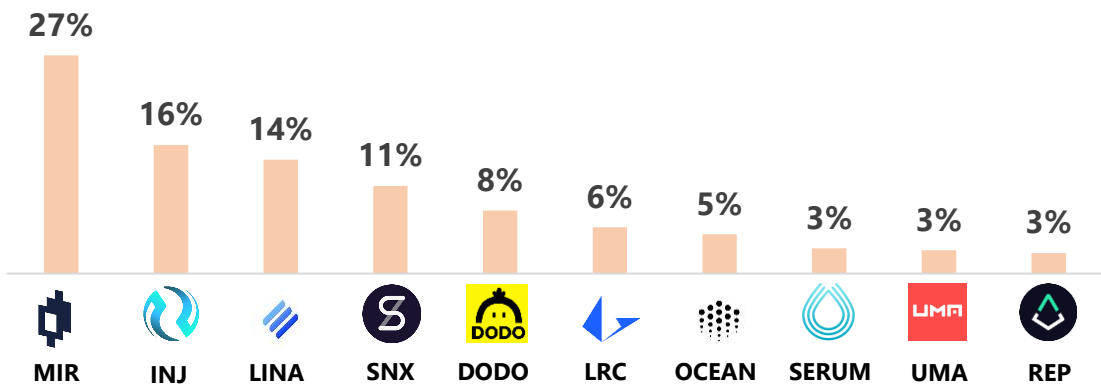
- Synthetix
- Mirror
- Serum
- Loopring
- dydx



Share of the Market Cap of DeFi Companies



Share of the Volumes of DeFi Companies



Sources: Defi Pulse, Defillama, BVV estimates, Pitchbook, Crunchbase
 Note: All the data have been collected on 30/4/2021

LIQUIDITY AGGREGATORS

A Transparent and Profitable Solution to Asset Management

MAIN FEATURES

Non-Custodial

Ownership of the underlying assets is never revoked and tends to live in the wallet being used.

Composable

Composability is the interoperability of DeFi protocols resulting in efficient, financial services for DeFi end-users. Protocols can mesh together to deliver financial products only possible in DeFi.

Automated

Growing number of Asset Management tools are automated, meaning rebalances, collateralization, and liquidations can occur seamlessly without user interaction

Pseudo-Anonymous

Asset Management products often connect through a wallet address, meaning that identity is optional to those who wish to share it.



yearn.finance



Set Protocol



Zapper.fi

ZERION

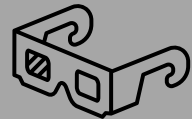


DeFi Saver

MAIN CHALLENGES

POOR USER EXPERIENCE

Use of DeFi applications currently requires additional efforts on behalf of the user. Unfriendly and complex user experience of DeFi protocols remains an important limiting factor to wider user adoption.



PARTICIPATION IN COMMUNITY GOVERNANCE MAY REMAIN WEAK

Governance tokens are providing power to users to influence decisions concerning the core protocol, product or feature roadmap. But only a fraction of DeFi users really invests time and efforts to participate in key decisions.



REGULATION

Decentralized projects are mostly operated without a license in most jurisdictions, regardless of where the end-user is based. With regard to taxation, handling of DeFi assets remains not clearly outlined in most jurisdictions.



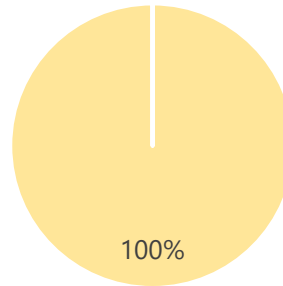
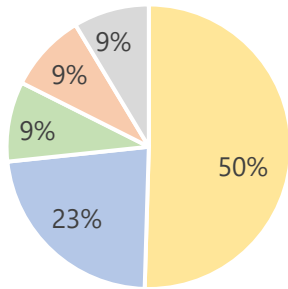
KEY STATS

Liquidity Aggregators

Share of TVL
Top 5 Projects

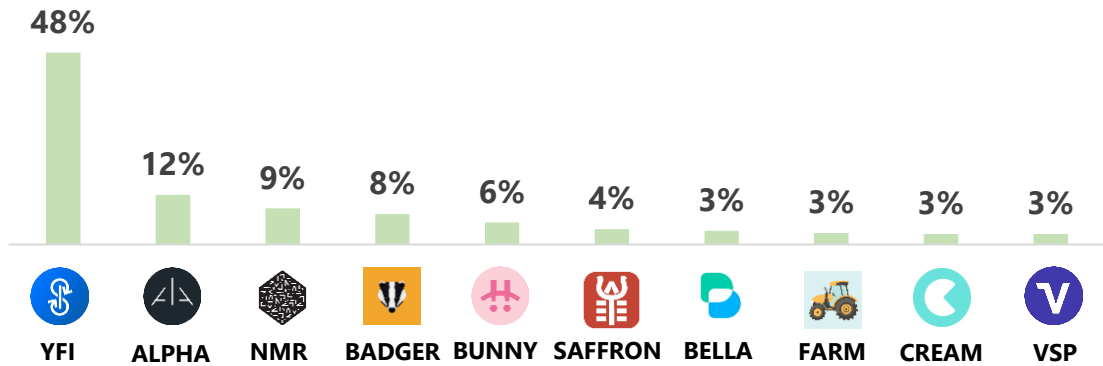
Total Funding
(USD11m)

- Bunny
- YFI
- Vesper
- Badger DAO
- Alchemix

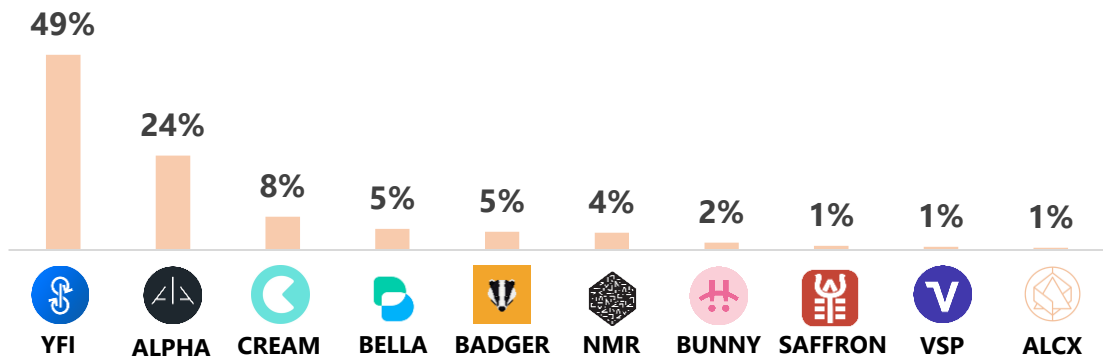


- TOKEN
- VC

Share of the Market Cap of DeFi Companies



Share of the Volumes of DeFi Companies



Sources: Defi Pulse, Defillama, BVV estimates, Pitchbook, Crunchbase
 Note: All the data have been collected on 30/4/2021



CROSS CHAIN LIQUIDITY AND AGGREGATION

Brian Kerr

Founder and CEO, Kava

"The main issue was to make crypto interoperable"

Prior to founding Kava Labs I was in the gaming space. I helped to build Fnatic, one of the largest eSports organizations in Europe.

I joined crypto and started a project called Dmarket.io, which was among the first NFT marketplaces long before NFTs became fashionable.

I was very bullish on crypto payments though the main issue was to make crypto networks interoperable. We did a lot of integrations with Lightning Network and built a non-custodial wallet that connected Lightning, securing payment channels similar to what Shapeshift does, but without a centralized counterparty.

We noticed crypto payments were not growing to the degree people originally expected. We were requested by Ripple to architect a stablecoin solution using XRP as collateral for MSBs so that they could avoid cryptocurrency risk. Once we designed it, it was a very logical step to make this into a generalized platform that can handle different assets in the same way. This is how Kava started. So we raised capital and ended finding our initial partner to launch with, Binance.

We first launched just covering governance and transactions. Then we completed the lending functionality providing on-par services with MakerDAO. At this point we had a governance token called KAVA and USDX the stable coin, and then used the BNB as collateral. Since then we expanded the number of assets that are usable on the public platform. We

had to develop price feeds, liquidation engines, cross chain bridges, all things that are effectively infrastructure and that we are reusing to quickly launch a series of new cross-chain DeFi applications. So **Kava is developing from a single application blockchain to now being a platform where portfolio financial services can run.**

What is unique is that everything has to be approved by governance on Kava. New code has to go through a thorough auditing and review process, run on testnet and then be voted before being released on the mainnet. This is very different than Ethereum's open ecosystem where forks, hacks, and rug pools are common.

We see Kava as an Apple store for DeFi products, where users can be sure that the integrations meet reliability and security requirements. We have built an open DeFi network, which leverages APIs and can be integrated in an open way with third party platforms, exchanges and financial institutions.

We think that with interoperability comes specialization: blockchains should do only one thing, and do it very well. If you offer only mediocre services because you tried to do everything, there will be no place for you in the market in the long term.

The thing that made us reasonably successful is that we were listed on the largest distributor in the space. We added the most traders, including people who are just speculating, increasing the number

of total asset holders.

The other thing is, we built a very strong base of token holders from the start. We don't do private sales anymore on our tokens. We try to ensure fair distribution. We gave discounts to people that were participating, in return for them guaranteeing to run validators in node infrastructure on our network.

We had some of the strongest token economics of all the Binance Launchpad projects. We had to serve the tightest liquidity risk compared to other projects. By the time we had built up liquidity and depth in the market, sales did not hurt the price any more.

We see ourselves as the plumbing on the back end. This gives us a very unique overview and allows us to collect data that no one else has. We are exploring strategic options currently to bring Kava Labs to the next level.

The organization is structured in a very innovative way: there is Kava Labs, a for profit tech company and there is Kava DAO, a decentralized autonomous organization that governs the tokens and the blockchain protocol.

We are very bullish on crypto. We think the ecosystem will expand thanks to the likes of PayPal and Fidelity, who will let anyone buy and sell Bitcoin and other digital assets. The Kava DAO and financial platform is uniquely positioned to collaborate with these new entrants to bring DeFi services to the masses.

AREAS TO WATCH

The next big things in DeFi

INSURANCE

Decentralized insurance acts as a safety net for the DeFi ecosystem. Paying a premium to offer protection against different sorts of smart contract risks, exploits and frauds creates peace of mind for crypto investors.

Overriding of
Community Vote

Community-wide
Vote Fatigue

NON-FUNGIBLE TOKENS (NFTs)

NFTs are cryptographic assets on blockchain with unique identification codes and metadata that distinguish them from each other. Unlike cryptos, they cannot be traded or exchanged at equivalency. They are expected to become the foundation for how IP is created and protected in a digital world. Leveraging DeFi liquidity also for NFTs is going to be an important field with massive potential.

IP Rights are
Difficult to Enforce

Hackability

DECENTRALIZED ORACLES

Oracles act as a data source that can be fed into a smart contract, which enables them to access real-time data that isn't on the blockchain, which is most often the real-time price and other characteristics of assets. Oracles are layers that verify on-chain data related to real-world events, ie a gate keeper between the traditional and the digital world, and hence are a key element governing money flows in and out.

Reliance on Third
Party Data

Latency

STAKING or PROOF-OF-STAKE

Proof of stake is a type of consensus mechanism used by blockchain networks to achieve distributed consensus. Users need to stake assets to become a validator, back a transaction or event in the network. Validators and stakers are a key benefit from a decentralized world. The development of further and robust incentives through staking in form of derivatives is going to be a dynamic space in DeFi.

Impossibility to use
Staked Coins

Disincentivizes
Ecosystem
Development

INSURANCE IN DEFI

Hugh Karp

Founder, Nexus Mutual



"If we are moving from early adopters to potentially larger institutions, insurance becomes the key element for their involvement."

This is a great moment for DeFi as the industry is building on the huge momentum behind it. The largest ecosystem is obviously on Ethereum. It is starting to disperse and go multi-chain due to the different issues Ethereum is facing (gas fees, congestion, etc), but it will take a bit of time before people adopt layer 2 infrastructures.

It seems clear that we are moving from fundamentally innovative protocols to incremental ones that propose more minor changes. Another relevant shift is relative to the type of investors, as institutional investors are starting to look at the space with increased interest.

In this sense, insurance is becoming an attractive vertical in the DeFi space. If we look at the different projects in the space, insurance is substantially underweighted. This is primarily due to the hurdles you must face mechanics-wise.

So, despite the huge demand for insurance products in DeFi, insurance still shows some lags when compared to other verticals, but I expect the competition to heat up in the future.

Indeed, in my view DeFi is building a new economy and insurance is basic financial infrastructure for any economy to develop and grow while taking risks. If we are moving from early adopters to potentially larger institutions and investors, who generally are more risk aware, insurance becomes the key element for their involvement.

For this reason, we have developed Protocol Cover, which is a big step up from the previous product Smart Contract Cover. While smart contract cover just protects against bugs in smart contracts themselves, protocol cover comprises a much wider set of risks, like oracle failures, economic incentive type attacks, or even governance attacks.

This is what we are doing right now: we are pushing the complexity to our risk assessors and taking it away from the end-user. By doing this we really can arrive at a "risk free rate" for investing in DeFi, that is far beyond traditional markets and highly attractive to many investors.

Another important technical development will be our upcoming Yield Token Cover. It is designed for vaults, as vaults are built on a whole bunch of stacked protocols.

Our current product covers protocol by protocol, while Yield Token Cover will protect vaults against all risks. It will allow you to swap at any time the underlying yield token for 90 cents worth of DAI against the dollar. This will be a very elegant and automatic solution to cover against a whole bunch of risks.

To expand capacity, reinsurance might be a natural consequence of the insurance development in DeFi. As different business lines will never grow in a diversified flat way reinsurance will likely be needed to meet demand. Also, it will probably work in a different way from

traditional finance, as it will be more automated than it is right now. For example, the moment an asset goes beyond a certain risk level, it will get automatically shipped to others.

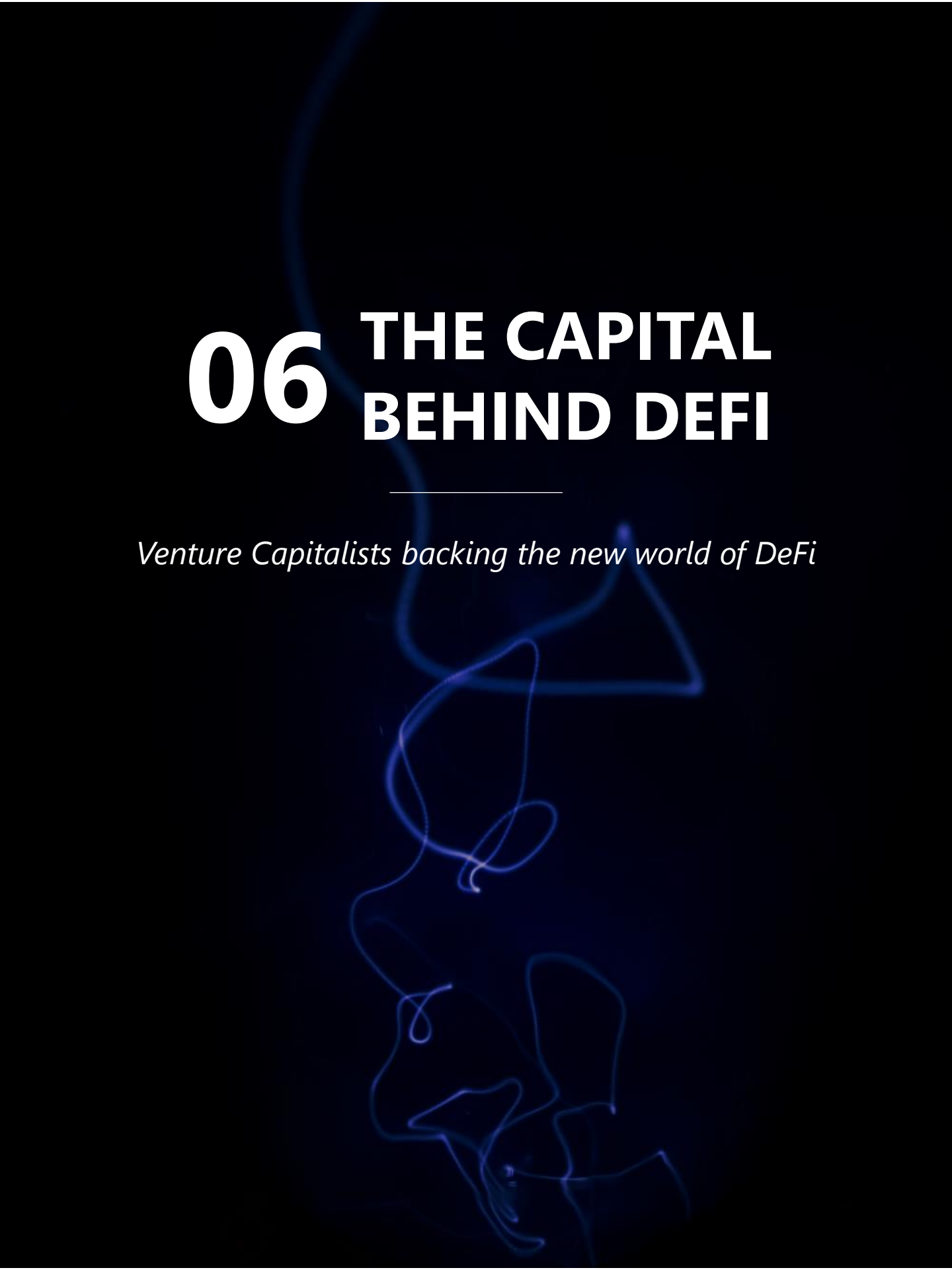
The rising demand of the market for these products suggests that in a few years the market will be 10 times larger. Then, Nexus is confident that it will be more than 10 times larger. Indeed, only by reaching that size it will be possible to become credible for the big institutional players that are onboarding.

So, we will need to get to a point where we will be at least comparable to the big insurance institutions, and we have the skills and the community base to reach that point.

In terms of crypto market cycles, even if we are expecting a correction to happen in the future, we are prepared for that outcome. I am not overly worried about that, as in terms of business impact our products are denominated in base currencies and therefore not really exposed to price fluctuations.

06 THE CAPITAL BEHIND DEFI

Venture Capitalists backing the new world of DeFi

The background of the page is a solid black color. Overlaid on this background are several thin, glowing blue lines that form abstract, organic shapes. These lines are scattered across the page, with some forming larger, more defined shapes like a triangle and a complex, multi-lobed figure, while others are more chaotic and scribbled. The overall effect is that of a digital or network-like structure.

DEFI HAS BEEN FUNDED BY MIX OF TOKENS AND EQUITY

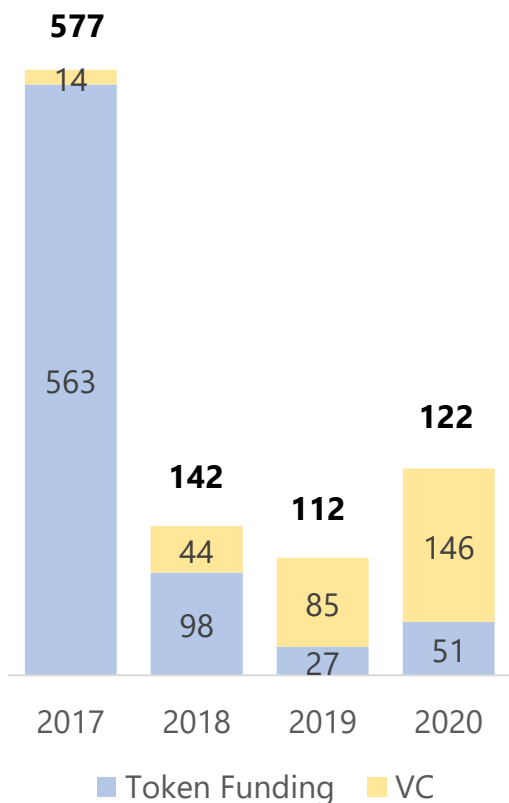
While tokens were pivotal in 2017, hybrid has been more balanced afterwards

Since 2017, DeFi projects raised USD1b+ in funding, via token issuance, VCs, seeds and grants. Despite 2018-2019 crypto-winter, investment activity did not stop.

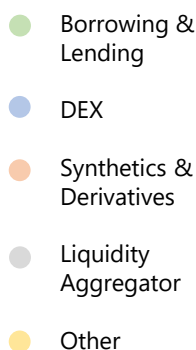
After the bursting of the 2017 ICO craze, VC has become the prominent source of funding, contributing USD294m as of December 2020, or 61% of total funds raised. While decentralized exchanges raised mostly via tokens, VCs preferred to invest into applications around borrowing and lending, synthetics and derivatives.

As the industry matures and more projects are launched, investment is expected to further accelerate in 2021, with a more balanced mix of VC funding and tokens.

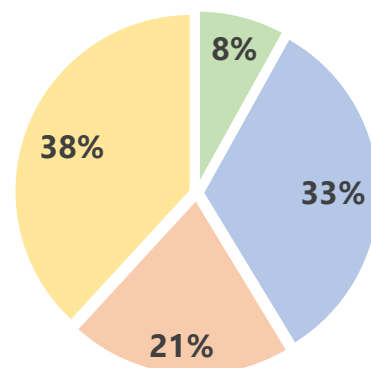
Total Funding by Year (USDm)



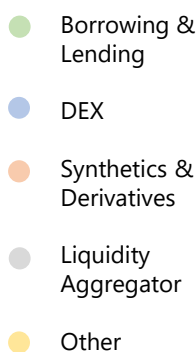
TOTAL TOKEN FUNDING USD740m



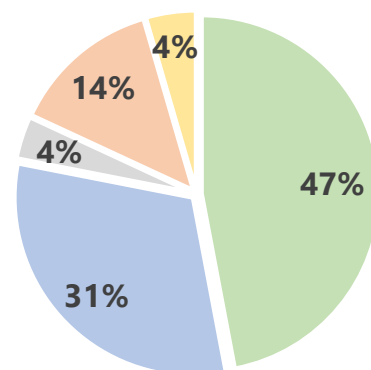
Token Funding by Category



TOTAL VC FUNDING USD294m



VC Funding by Category



Sources: Crunchbase, Pitchbook

Notes: Data comprises all capital transactions from 2017 to 2020

VC FUNDING GATHERED PACE IN ASIA AND EUROPE

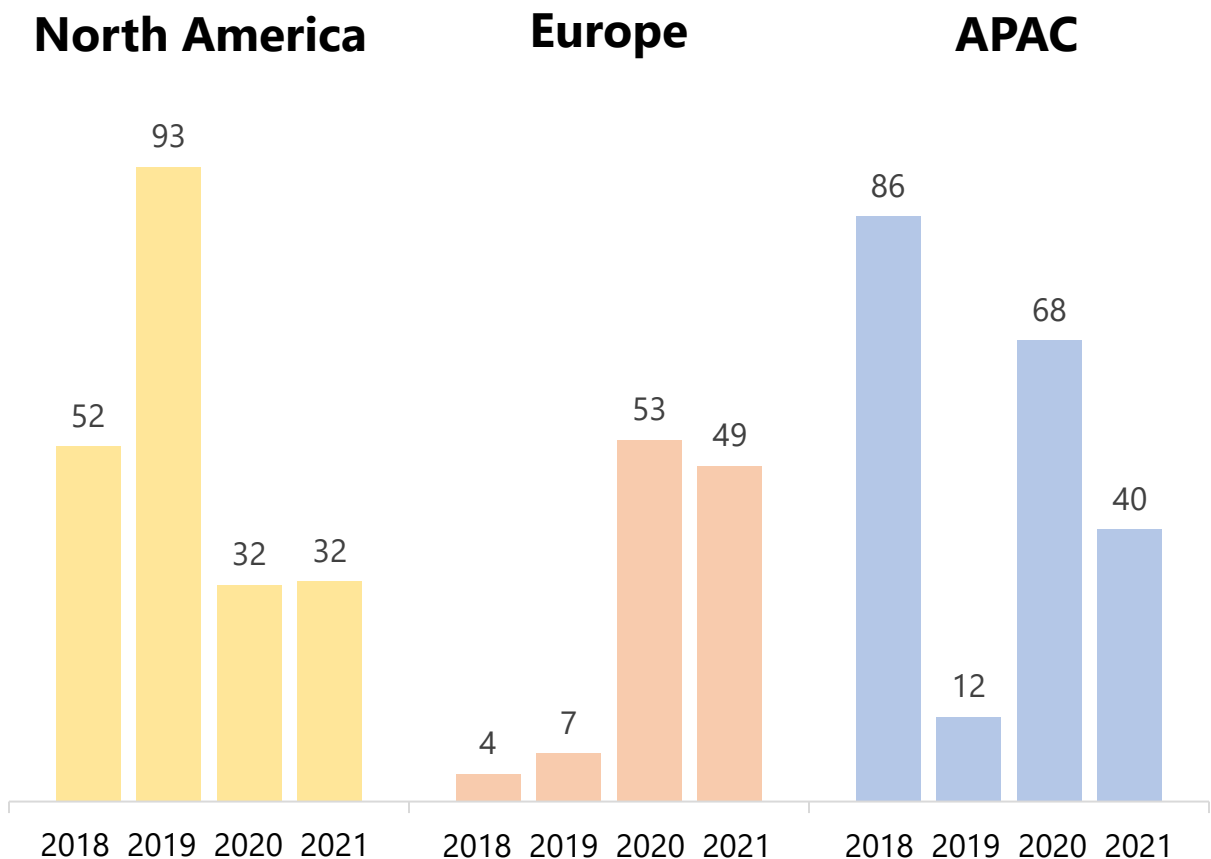
Asia and Europe surpassed US in 2020 in terms of volumes

In the period 2018 – Q1 2021, North America and APAC led the funding of DeFi projects with around 40% each, while Europe followed with just above 20%.

EU and Asia were notably strong in 2020 and Q1 2021, outpacing North America. Q1 2021 has seen a boom, with volumes that are on pace to triple across all geographies compared to 2020.

As new projects typically raise from VCs first and only later issue tokens, we anticipate several token generation events (TGE) in the coming months across the globe.

Aggregated DeFi Funding (in USD millions) by Project Location



A NEW GENERATION OF VC IS DRIVING DEFI FUNDING

Besides the usual suspects, ranking is dominated by new, specialized players

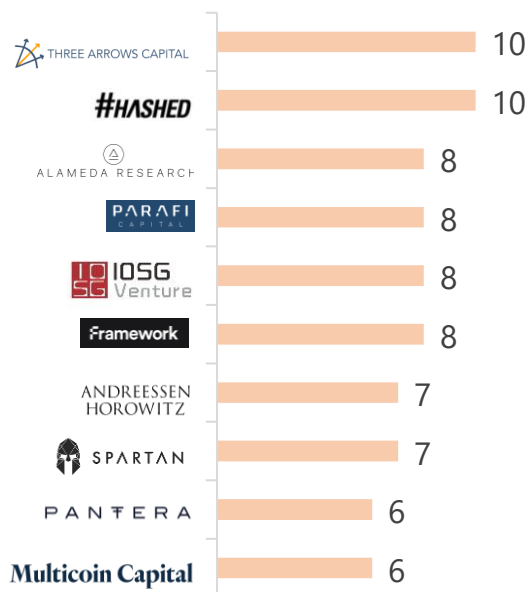
While US-based investors, spearheaded by Andreessen Horowitz and Pantera, have been a driving force in Western markets, a new generation of Asia-based, specialized VCs are behind many of the success stories in DeFi space.

Blockchain and DeFi remain inspired by cooperation, hence VCs tend to jointly show up in many projects and collaborate on the most promising deals.

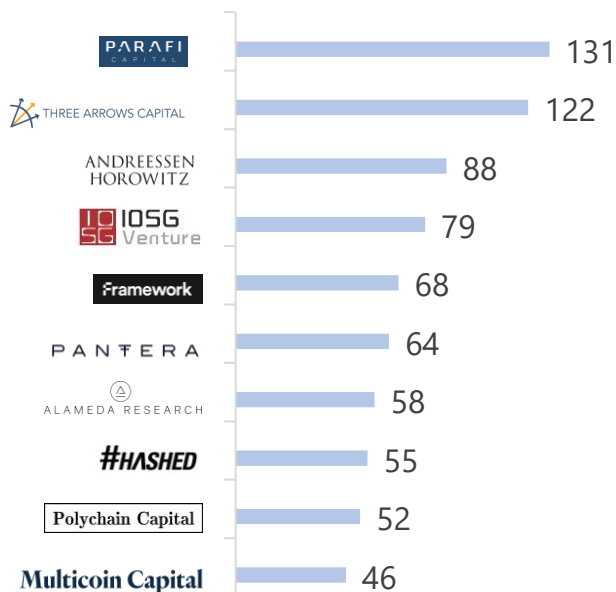
Explosive performance of DeFi tokens is likely to have generated outsized returns for several of these funds, which are now well positioned to scale further AUMs.

Usual suspects aside, other relevant investors tend to be recurrent names in DeFi.

Most Active Investors by Number of Projects



Most Active Investors by Capital Invested (in USDm)



Other Relevant Investors



Sources: Crunchbase, Pitchbook on dataset from DeFi Pulse

TOP FUNDED DEFI PROJECTS

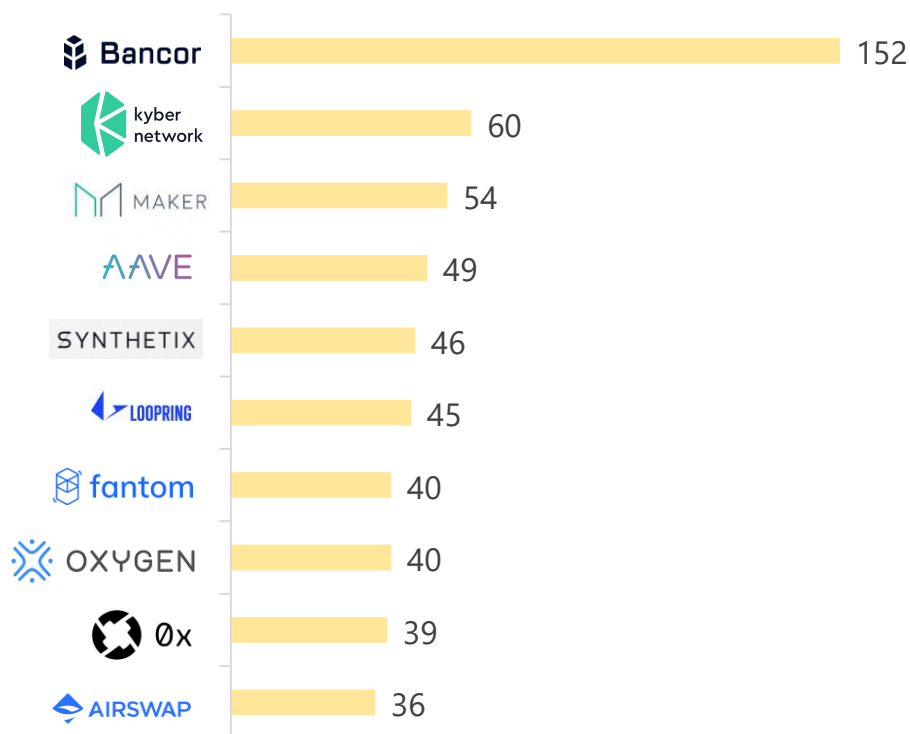
Which projects attracted most capital

Differently from traditional tech companies, which need multiple rounds of financing in order to reach Unicorn status, data clearly show that DeFi projects tend to raise relatively few dozens millions (or even less) in VC rounds. Hence some of the most successful projects are not necessarily those which raised the most.

Several projects raised more than USD30m and currently represent some of the known success stories in the space.

The top 10 projects raised only USD561m but generated a total market cap of USD17b as of 30 April 2021, equivalent to an astonishing 30x cash on cash multiple.

Top 10 Projects by Capital Raised (in USDm)



Sources: Crunchbase, Pitchbook

Note: Polkadot was removed from this analysis as it was classified as a protocol

07 DEFI PERFORMANCE AND VALUE DRIVERS

Overview of Returns and of Key Value Drivers

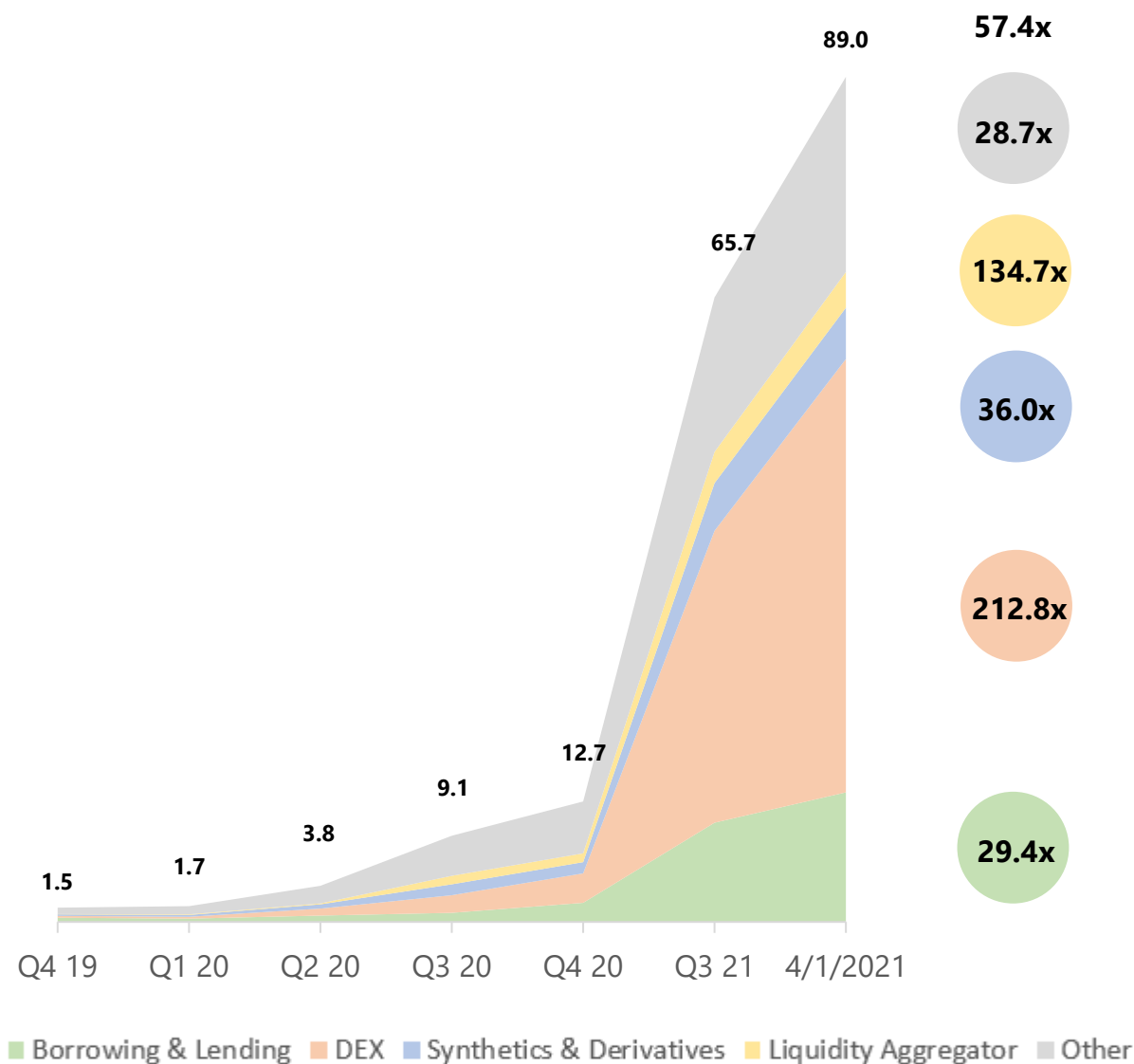
DEFI MARKET CAP HAS EXPLODED TO USD90B

USD100 held in a DeFi index would have returned 57x+ in less than 16 months

Since H2 2020 DeFi saw an explosion in terms of volumes, sizes and value locked. This has been reflected in market caps growing 57x, with Decentralized Exchanges and Liquidity Aggregators doing better than other sectors, growing 100x or more.

Independent of any future volatility, there is no doubt DeFi is just at the very beginning of a structural growth that will further consolidate in the coming years.

DeFi Evolution of Market Caps (in USD billions) – Growth Rate

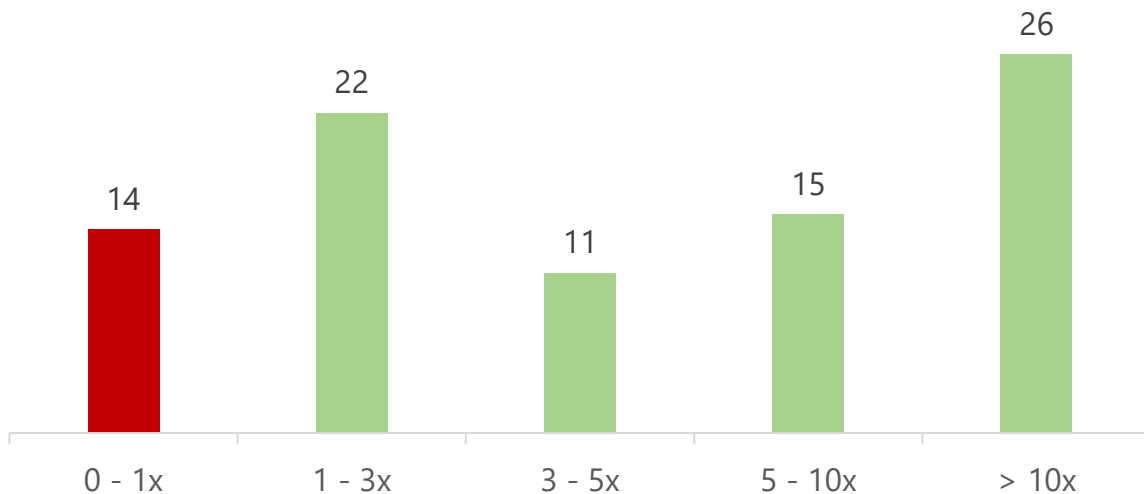


Sources: CoinGecko, BVV estimates

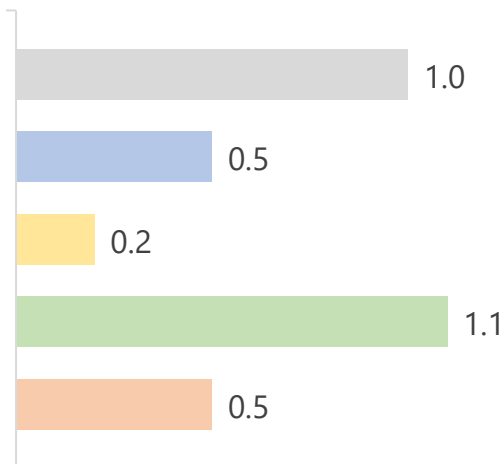
DEFI LOOKS LIKE THE PROMISED LAND FOR INVESTORS

60% of projects delivered >3x from TGE with a path to liquidity of less than 1 year

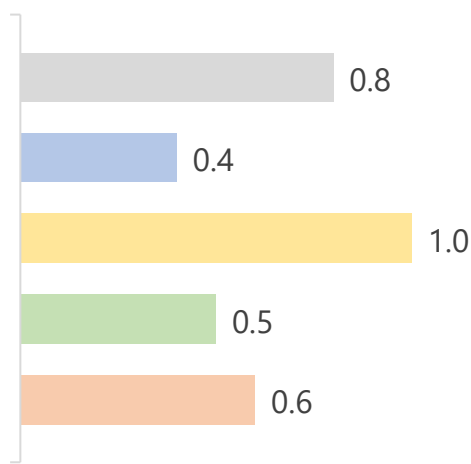
Token Distribution by Multiple Generated from TGE



Average Time between Founding and TGE (in Years)



Average Time between Founding and First VC Round (in Years)



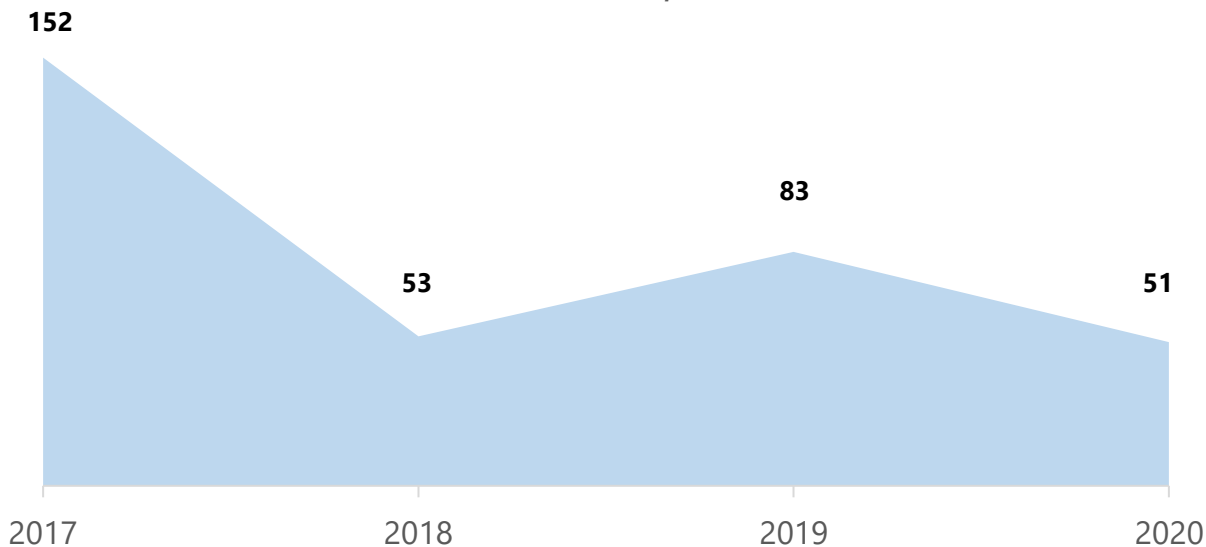
■ Borrowing & Lending ■ DEX ■ Synthetics & Derivatives ■ Liquidity Aggregator ■ Other

Sources: Defi Pulse, Defillama, BVV estimates, Pitchbook, Crunchbase
Note: All the data have been collected on 30/4/2021

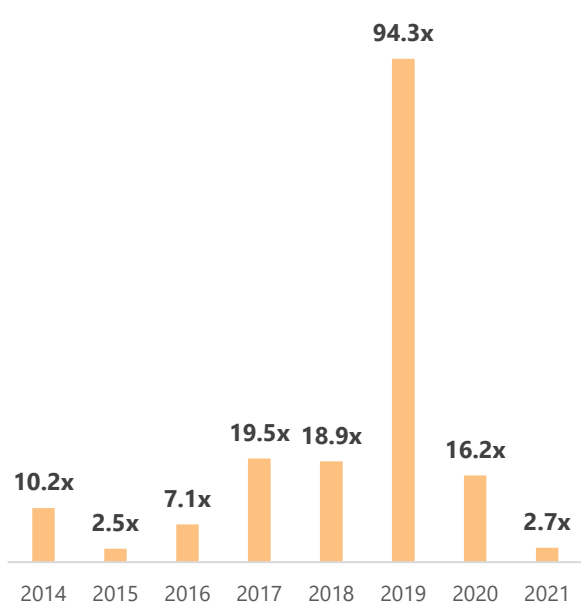
MOST DEFI PROJECTS DELIVERED STRONG RETURNS

Median TGE value has swung, but returns post TGE have been phenomenal

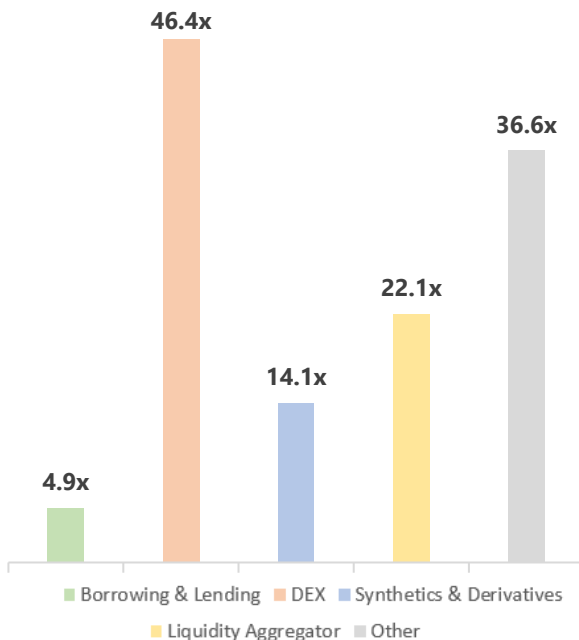
Evolution of Median Market Cap at TGE in USD millions



Multiples by Foundation (Vintage) Year



Multiples by Category



Sources: CoinGecko, BVV estimates

TOP PERFORMING TOKENS RETURNED 30X OR MORE

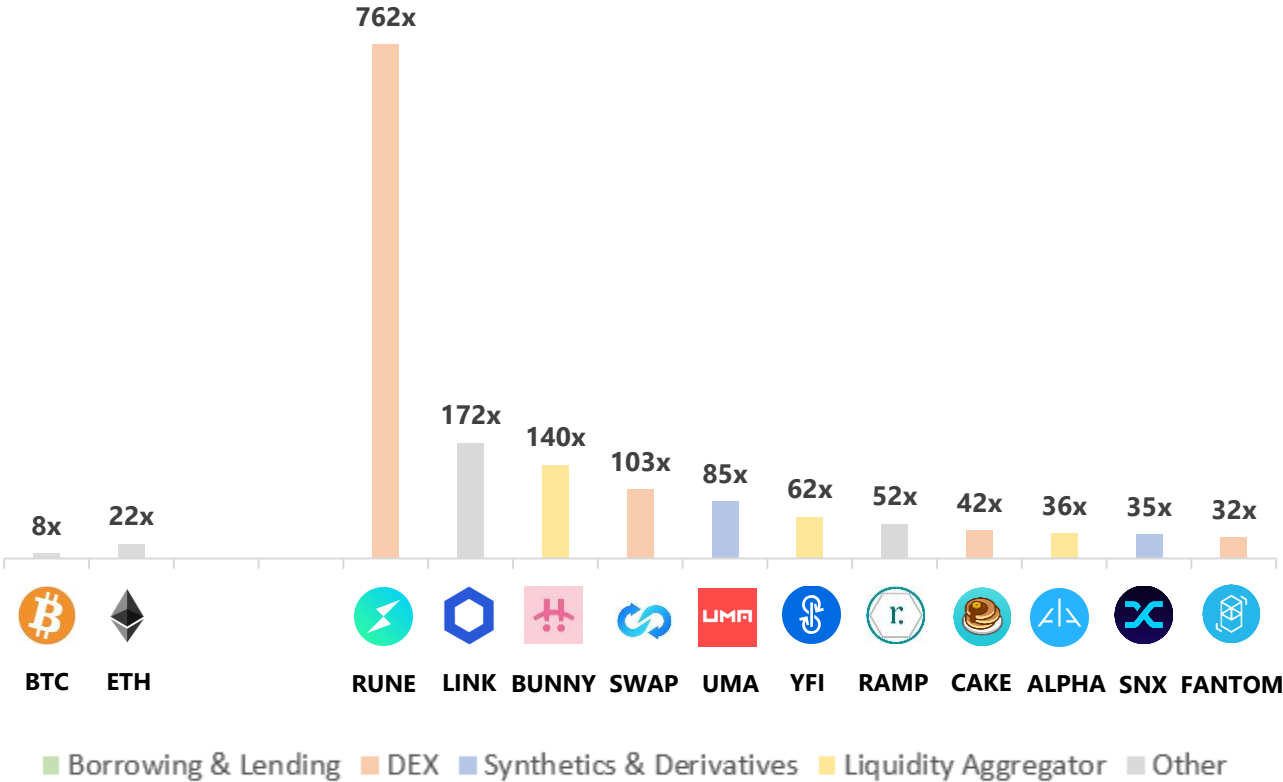
Returns for early stage investors are likely to have been even higher

Strong DeFi performance shall be analyzed not only in absolute, but also in relative terms, i.e. against market benchmarks such as ETH and BTC, which are easy to hold and do not require extra-knowledge and in depth research.

BTC and ETH were very much in demand since the beginning of 2020, with an appreciation of 8x and 22x respectively. Out of the entire DeFi universe we analyzed, several tokens have beaten BTC and ETH, simply by taking into consideration appreciation from TGE.

Considering private sales usually happen at a discount of at least 50% compared to TGE, DeFi tokens are likely to have generated returns at least double compared to what showed in the chart below for early stage investors.

Multiples for the Highest Growing Tokens since TGE



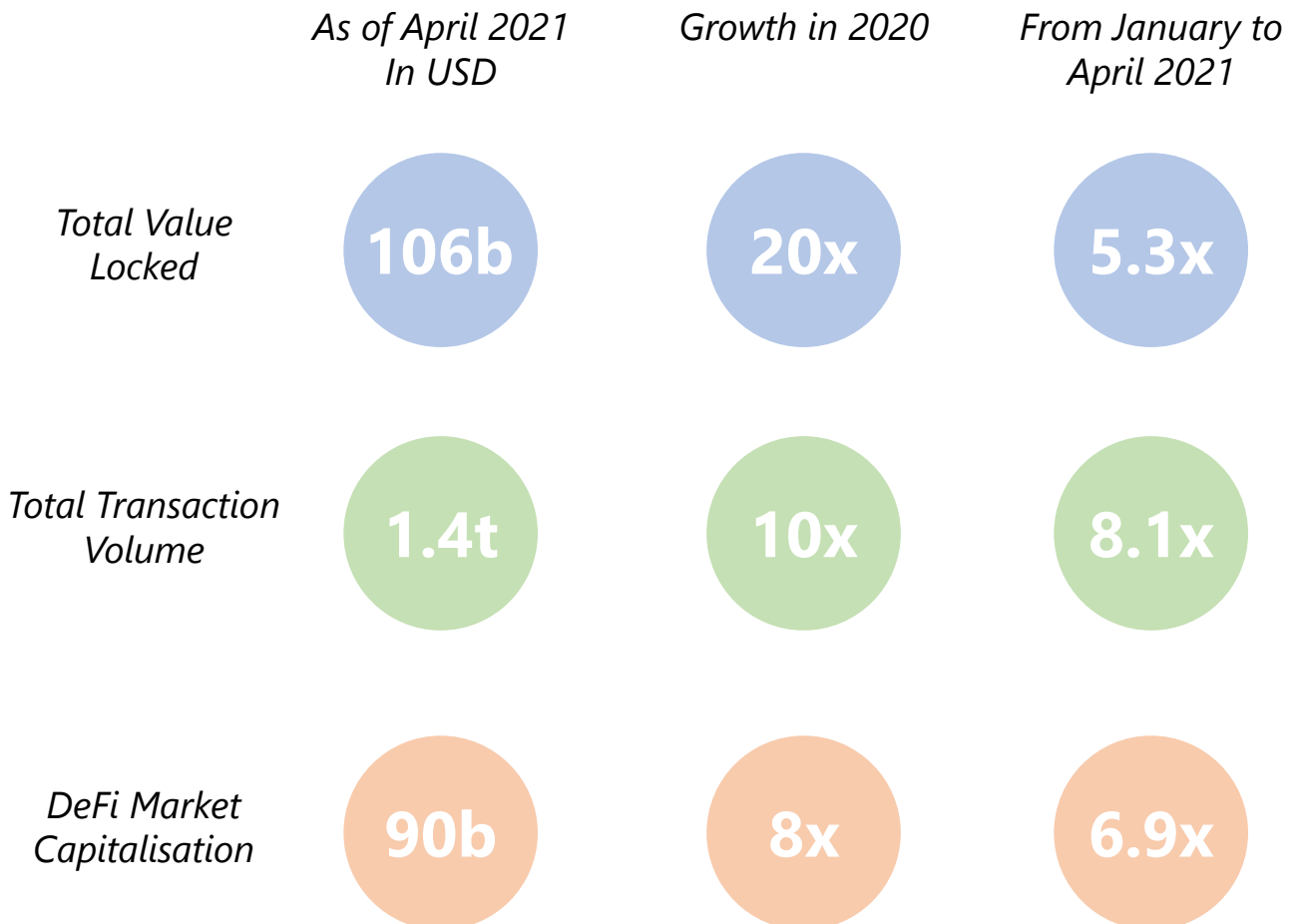
Sources: CoinGecko, BVV estimates
 Notes: BTC and ETH appreciation goes from 1/1/2020 to 30/4/2021, while for the other tokens the appreciation goes from TGE to 30/4/2021

LIQUIDITY IS A KEY DRIVER OF TOKEN SUCCESS

Ability to generate liquidity and stimulate usage are core KPIs

Strong performance of DeFi tokens can be widely explained driven by two types of adoption metrics:

- **Transaction volumes**, which are highly correlated with trading activity and price appreciation (and more broadly with BTC and ETH)
- **Total value locked**, which is more closely correlated with the real usage of the token and its core functionalities.



IMPORTANCE OF COMMUNITY AND SOCIAL MEDIA

Attracting and retaining engaged users is strongly correlated to price appreciation

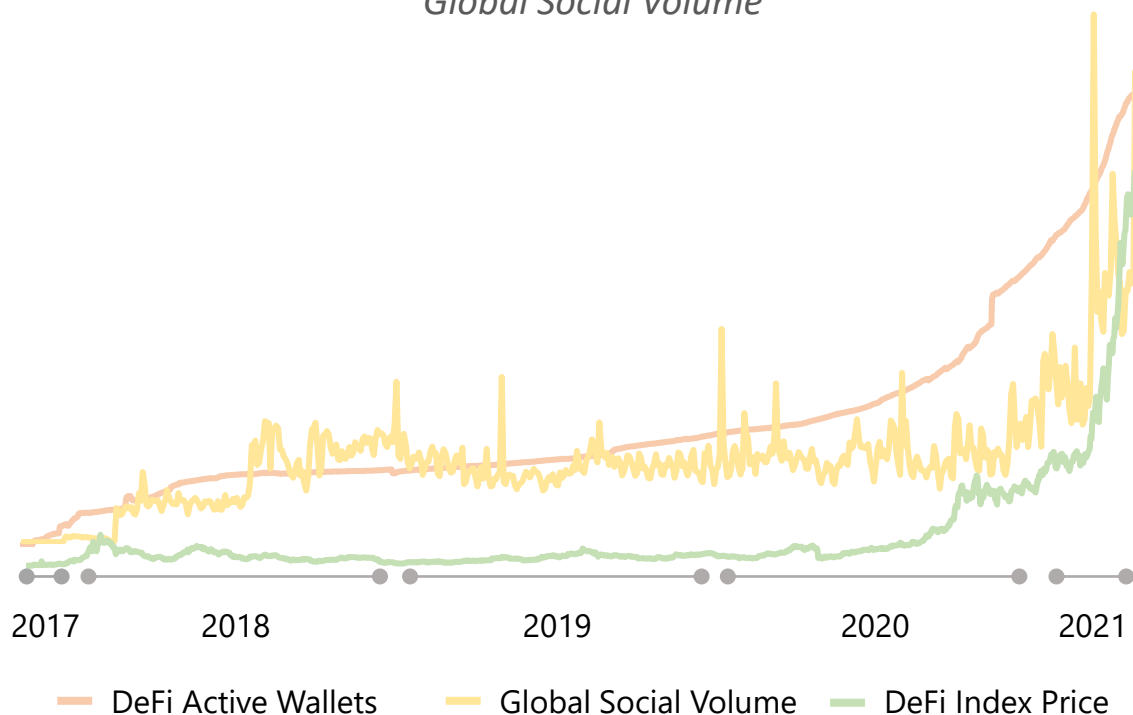
We have explored available data to identify possible drivers of token performance. While the data time series is very recent, with limited reference points, we think it's increasingly clear that token community plays a key role.

Number of DeFi Active Wallets, i.e. wallets with a positive token balance account, is a close proxy for number of users that are engaged in the community and governance of the token. The wider and more engaged the community, the better the price performance.

Global Social Volume (GSV) is a valuable indicator of sentiment and social media activity for different token projects across multiple social media platforms.

After an initial stagnation, at end of 2020, some of the most successful DeFi platforms started gaining traction. As of 2021, price index, number of active wallets and GSV started to move in sync, probably with a self-reinforcing feedback loop.

Trend of Wallets with Active Balance, DeFi Price Index, Global Social Volume



DEFI SHOWS EXECPTIONALLY SOUND OPERATING KPIs

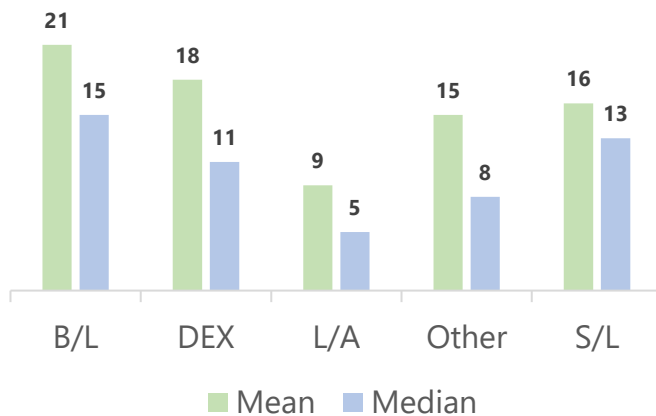
Lean teams and high capital productivity are key for value creation

A common pattern among all DeFi tokens is the extremely low number of full time equivalent (FTEs) involved: the median project reaches TGE with less than 10 employees (although mean values are more heavily affected by outliers).

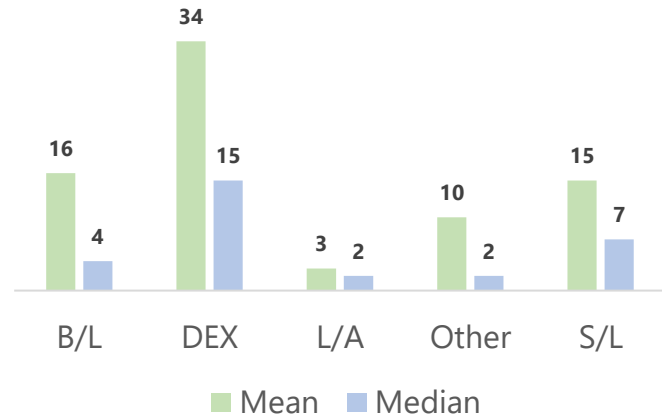
Same holds true also for efficient use of capital. The median project has raised around USD10m (or less), avoiding typical multiple round of financing that are common in traditional tech projects.

These metrics, once combined, explain token outsized market cap performance.

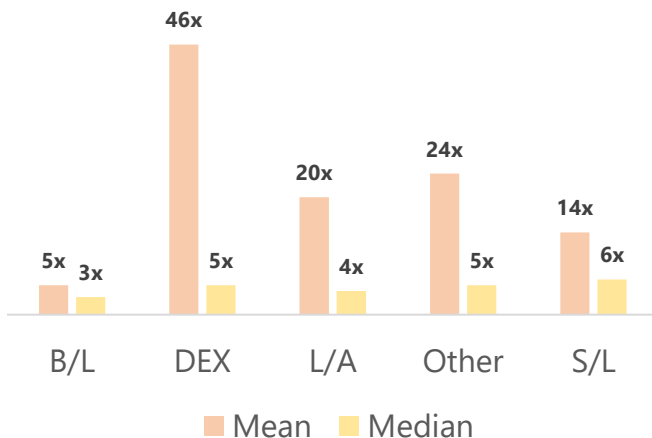
Team Members



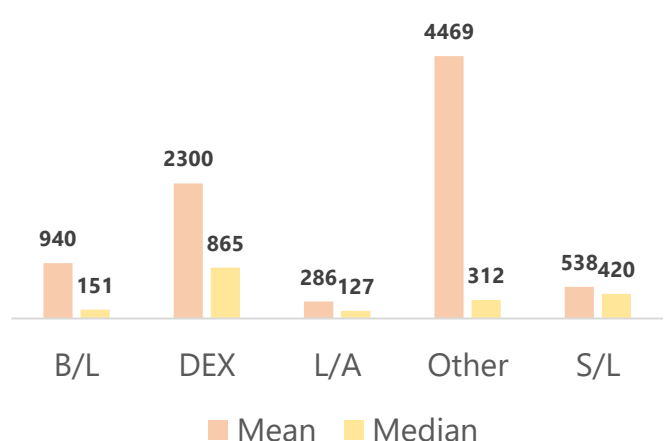
Capital Invested (USDm)



Token Appreciation



Market Capitalization (USDm)

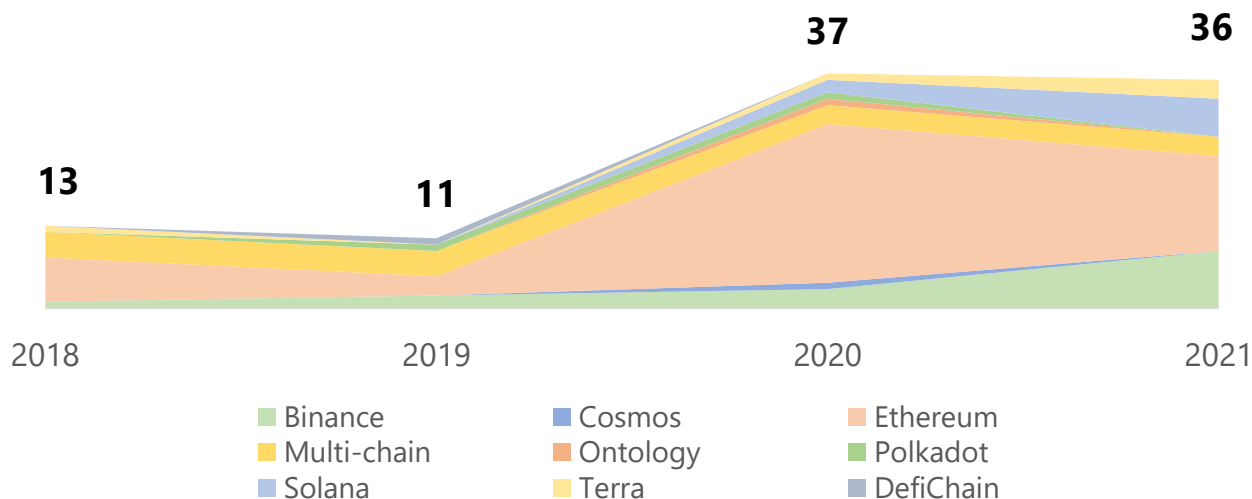


Sources: CoinGecko, Crunchbase, Pitchbook, LinkedIn BVV estimates

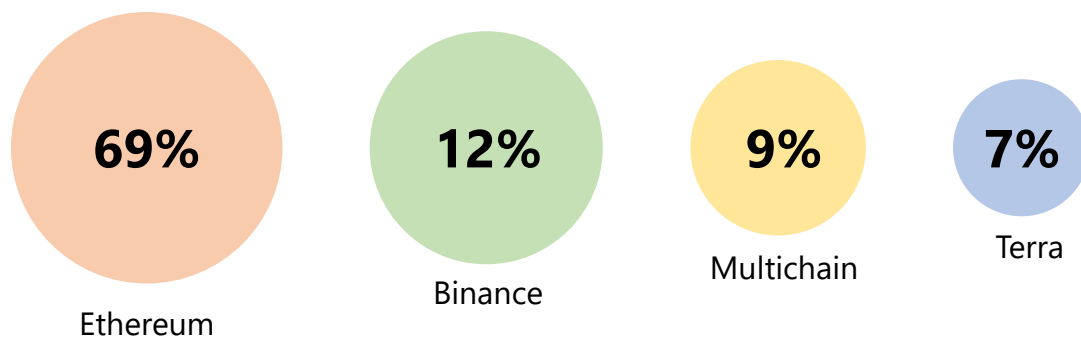
ETHEREUM REMAINS THE DOMINANT DEFI PROTOCOL

Ethereum widely beats competition in new projects, VC funding and value creation

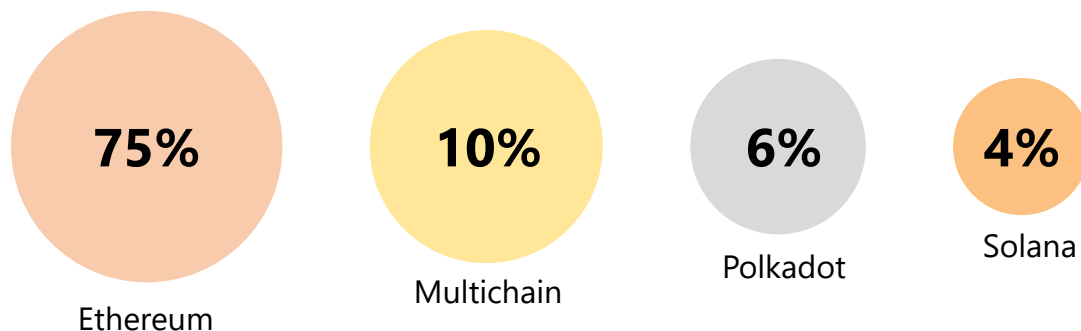
Number of DeFi Projects by Blockchain Protocol Launched



Share of Market Capitalization by Blockchain Protocol



Share of Total VC Investments by Blockchain Protocol



Sources: Crunchbase, Pitchbook on dataset from DeFi Pulse, DefiLlama, BVV analysis
 Note: Data have been collected on 30/4/2021

08 TEAM AND METHODOLOGY

*The People and the Companies
behind this Report*

TEAM

AUTHORS



Heinrich Zetlmayer
CEO



Sebastian Markowsky
Head of Corporate Finance



Paolo Guida
Head of Investments



Leeor Groen
Principal



Luca Burlando
Director



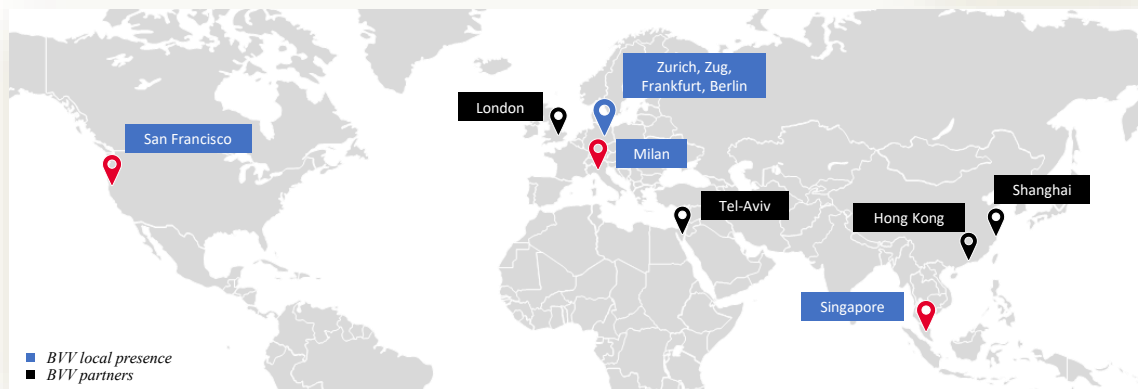
Giovanni Meggiolaro
Data Analyst

ABOUT BVV

With **local presence in core markets** and access to thriving ecosystem, BVV is the ideal venture partner to support scale-up projects and support investors navigating through risks and opportunities provided by DeFi.



Member



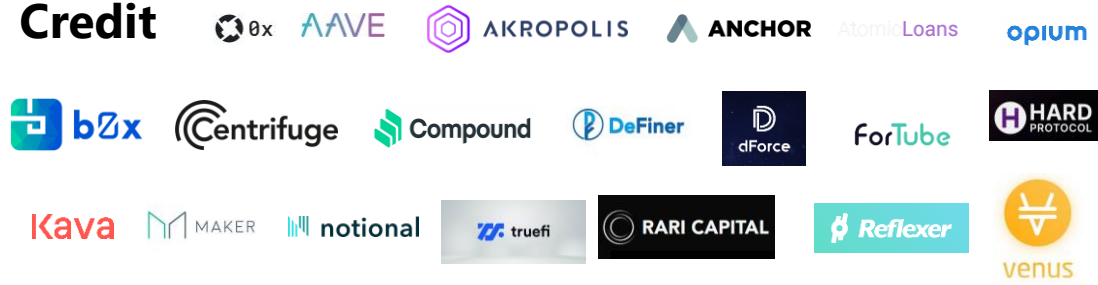
Geographic Reach

DEFI PROJECTS COVERED IN THE REPORT

DEX



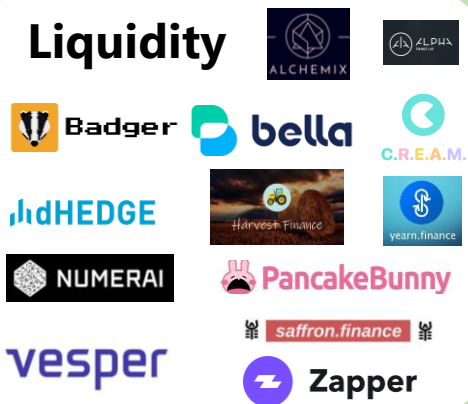
Credit



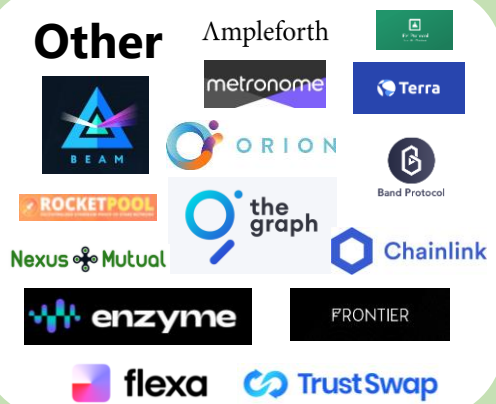
Derivatives



Liquidity



Other



METHODOLOGY

We conducted a comprehensive and in-depth analysis of the state of DeFi to date, deriving a dataset of almost 100 projects with a market cap of at least USD50m from defipulse.com and defilama.com.

We collected and analyzed multiple market data (pricing, volumes, total value locked, cross correlations, number of wallets with / without outstanding token balance) from various sources such as CoinGecko, CoinMarketCap, Etherscan and many others.

From most of the analyses we excluded Polkadot and Tether: the former because it's mostly a protocol, while the latter is so large that it's outlier status negatively affected the analysis of the remainder of the dataset.

We researched token and VC funding rounds using widely known datasets such as Pitchbook and Crunchbase, further integrated with specific research from companies and investors websites.

We reviewed several social data sources spanning number of interactions, sentiment analysis and many others.

We further looked at Google Search Trends for keyword correlations and LinkedIn data regarding composition of teams and founders' background.

We adopted statistical, machine learning and big data approaches to analyze dataset and extract only the most relevant insights.

Limitations

Findings presented in this report are the result of analysis performed by BVV team and does not constitute and shall not be intended as an offer, advice or invitation to invest.

Acknowledgements

We would like to thank all the experts and data providers who took part in this research process. Special thanks to David Hasani, Sachin Jain and Raneem Khan from University of Virginia.

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