Research x Labs:
DeFi on BNB Chain

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Jie Xuan Chua, CFA

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Key Takeaways

❖ Offering high throughput and relatively low transaction costs, BNB Chain provides an optimal environment for DeFi projects. As of end-August, BNB Chain has the third highest TVL in the DeFi ecosystem with a 9.1% market share, representing an increase of approximately 37% from the 6.6% market share it had at the start of the year.

❖ In this report, we cover Decentralized Exchanges (PancakeSwap), Lending (Venus), Asset Management (Tranchess), and Liquid Staking (pSTAKE).

❖ PancakeSwap is the largest DEX on the BNB Chain by TVL, accounting for over 55% of TVL on the chain. Over the past few months, the team has made several changes to its tokenomics model to cap the maximum supply of CAKE, and to improve the utility of CAKE. Looking ahead, the team has reaffirmed plans to go multichain.

❖ Venus is the leading lending protocol on BNB Chain. Compared to other lending protocols, Venus commands the lion's share of lending TVL, with approximately 84% market share. Venus is working to launch a Soulbound Token and is exploring isolated lending.

❖ Tranchess is a yield-enhancing asset-tracker that offers users an array of tokens to suit the needs of investors with different risk and return profiles. The team has recently introduced liquidity pools for the protocol's tokens and has also unveiled plans to expand multichain, starting with Ethereum.

❖ pSTAKE launched liquid staking services for BNB chain in August 2022, offering the BNB community an option to unlock liquidity for their staked BNB. The team has been actively partnering with different DeFi protocols to increase use cases of the liquid-staked BNB token and is looking to do even more on this front.

❖ Overall, our conversations with founders reveal that there is a general consensus that projects that have managed to withstand the downturn remain focused on improving their platform and are using this time to deliberate on how to grow in a more sustainable manner. While the bull market days of sky-high yields are gone, the current market environment is arguably a better set-up for a more sustainable future.

About the Research x Labs Series

This report marks the first of a series of reports that will be published as a collaboration between Binance Research and Binance Labs. Through this collaboration, we aim to provide valuable insights across different verticals of the crypto ecosystem by directly speaking with project founders and teams via a series of webinars and closed-door interviews. We hope that the conversations with founders will be thought-provoking and that readers will uncover insights on how the teams navigate the ever-changing crypto landscape.

As we continue to do more work on this front, do follow us on Twitter (@BinanceResearch, @BinanceLabs) to be notified of upcoming webinars and activities. Feel free to drop us a message if you have any general feedback or any suggestions.

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Binance Research is the research arm of Binance, the world's leading cryptocurrency exchange. The team is committed to delivering objective, independent, and comprehensive analysis and aims to be the thought leader in the crypto space. Our analysts publish insightful thought pieces regularly on topics related but not limited to, the crypto ecosystem, blockchain technologies, and the latest market themes.

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Binance Labs is the investment arm of Binance, that identifies, invests, and empowers viable blockchain entrepreneurs, startups, and communities, providing financing to industry projects that help grow the wider blockchain ecosystem. Binance Labs is committed to supporting fast-executing, technical teams who positively impact the crypto space and build the decentralized web.

A Deeper Look at Binance Labs

The post-investment (portfolio management) team at Binance Labs aims to support the growth of innovative projects through the provision of necessary resources and by connecting project teams with key industry partners. Most of our portfolio companies are early-stage projects, led by capable founders with the vision and drive to accelerate the growth of Web3. Many of the founders have benefited from Binance's extensive suite of value creation services.

Currently, the portfolio management team at Binance Labs covers over 200 portfolio companies across sectors such as DeFi, Gaming, Metaverse, NFT, Entertainment, Infrastructure, Media, Security, Wallet, Payment, Centralized Exchanges, Social and others.

Binance Labs runs infrastructure impact funds that aim to identify and invest in leading projects across different sectors. We work with project teams through the entire start-up lifecycle from incubation to exit, in a manner that is befitting of a top-notch, compliant, and global fund manager.

Working with Binance Labs

Portfolio companies of Binance Labs have unparalleled access to Binance's deep liquidity, diversified ecosystem, professional advisory services, and other resources. We provide a range of value creation services which consists of general listing advisory, fundraising, BNB Chain technology integration and support, institutional-grade custody solution, Exchange VIP account opening, OTC services, as well as co-branding and partnership opportunities.

By working with Binance's ecosystem partners, the portfolio management team aims to create synergies with our portfolio companies to drive innovation, and growth opportunities. Alongside our portfolio companies, we strive to help shape industry standards and uncover innovative technologies to spearhead the growth of the blockchain industry.

DeFi Landscape on BNB Chain

BNB Chain is a Layer 1 ("L1") smart contract platform that consists of the BNB Beacon Chain and BNB Smart Chain. **Offering high throughput and relatively low transaction costs, BNB Chain provides an optimal environment for decentralized finance ("DeFi")** projects, given that DeFi transactions generally involve more interactions with the blockchain.

In fact, **BNB Chain has one of the highest transaction activities across L1 blockchains**, and has been able to achieve this while keeping transaction costs low. Year-to-date, BNB Chain has recorded over 1.2B in total transactions, as compared to Ethereum at 301M total transactions. Average transaction fees of BNB Chain are over 97% lower at US$0.32 as compared to US$13.10 for Ethereum. The relatively low transaction fees offered by BNB Chain have contributed to the adoption of the L1 by DeFi projects and users.

Figures 1 and 2: Year-to-date, BNB Chain has higher transaction volume than Ethereum but lower average transaction fees
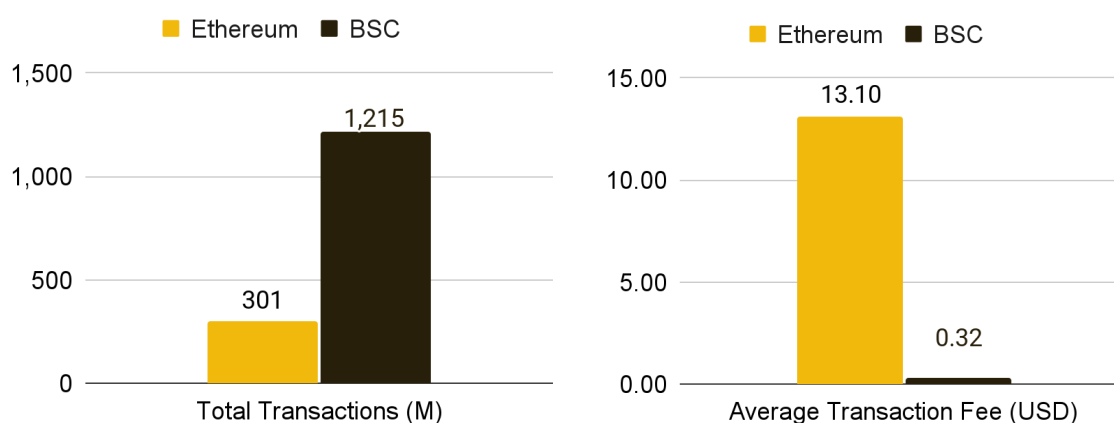
Source: Etherscan, BSCscan, Binance Research

BNB Chain was not immune to the crypto market rout. Total value locked ("TVL") in BNB Chain decreased by over 55%, from US$12.1B at the start of the year to US$5.3B at end-August. That said, **the fall in TVL on BNB Chain was of a smaller extent compared to the overall fall of 65% in total crypto TVL**.[1]
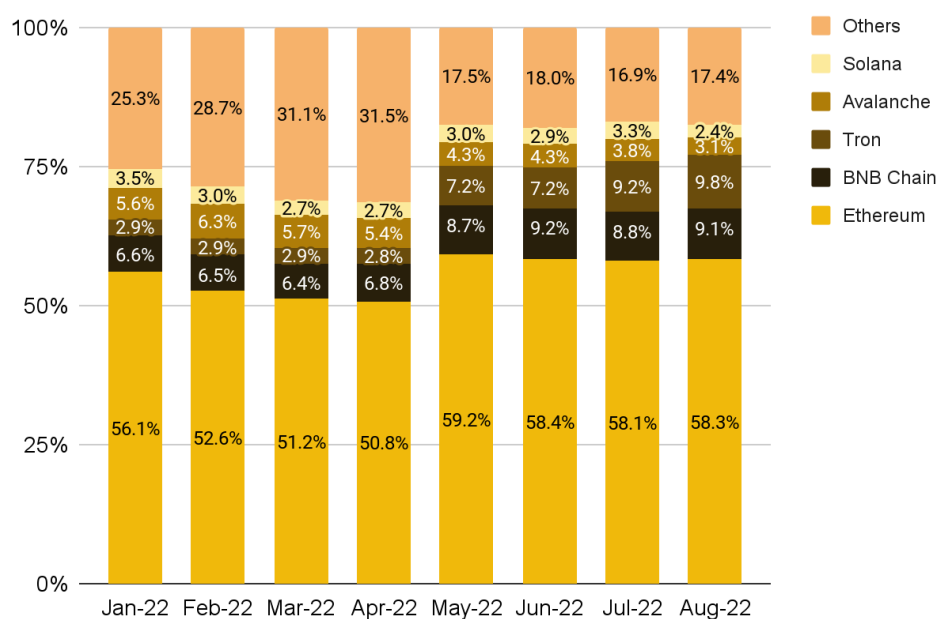
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Figure 3: TVL in BNB Chain has fallen since the start of the year but has stabilized since June

Despite a fall in TVL on an absolute basis, BNB Chain has managed to gain market share relative to other blockchains. **As of end-August, BNB Chain has the third highest TVL in the DeFi ecosystem with a 9.1% market share**, representing an increase of approximately 37% from 6.6% market share at the start of the year. The increase in dominance was partially contributed by the collapse of the Terra blockchain as TVL flowed to other L1s such as BNB Chain.

Figure 4: BNB Chain has the 3rd highest TVL

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BNB Chain has a burgeoning DeFi ecosystem with more than 300 DeFi decentralized applications ("dApps"). Currently, the DeFi ecosystem is relatively concentrated - **the top 5 DeFi dApps have a cumulative TVL share of over 85%,** and PancakeSwap is the largest DeFi dApp on BNB Chain with approximately 55% share of TVL. Notably, a US$1B ecosystem fund was launched in 2021 for talent development, liquidity mining, and investments. Such a large funding program has the potential to encourage the development of more dApps, promote healthy competition, and push for crypto adoption.

Figure 5: Top 5 dApps on BNB Chain have >85% share of TVL
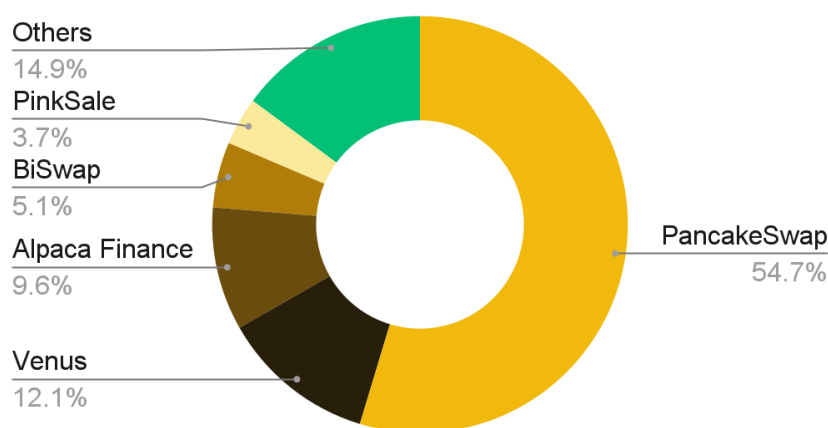
Source: DeFi Llama, Binance Research

In this report, we cover Decentralized Exchanges (PancakeSwap), Lending (Venus), Asset Management (Tranchess), and Liquid Staking (pSTAKE). For each section, we provide a brief write-up of each vertical, and share more about specific projects in each vertical.

Figure 6: This report covers PancakeSwap, Venus, Tranchess, and pSTAKE

|	🐰 **PancakeSwap**	**VENUS**	**TRANCHESS**	**PSTAKE**
Vertical	DEXes	Lending	Asset Management	Liquid Staking
TVL (US$M)	2,854.0	630.2	73.5	13.1
Native Token	$CAKE	$XVS	$CHESS	$PSTAKE
Token's Circulating Market Cap (US$M)	613.2	54.6	21.7	6.7

Source: DeFi Llama, Coinmarketcap, Binance Research, data as of 21 Sep 2022

Decentralized Exchanges ("DEXes")

DEXes facilitate the trading of crypto assets without the need for an intermediary by employing smart contracts to settle transactions. Given the role it plays in asset swaps, DEXes are pivotal in any healthy DeFi ecosystem.

DEXes recorded slightly over US$769B in trading volume year-to-date as of end-August 2022. **Monthly trading volume has generally been on a downtrend since the start of the year as crypto market activity fell.** The lowest monthly trading volume year-to-date was recorded in August 2022 at US$54.9B. This represents a decline of over 67% compared to trading volume at the start of the year in January 2022.

Figure 7: Trading volume of DEXes has been on a downtrend year-to-date
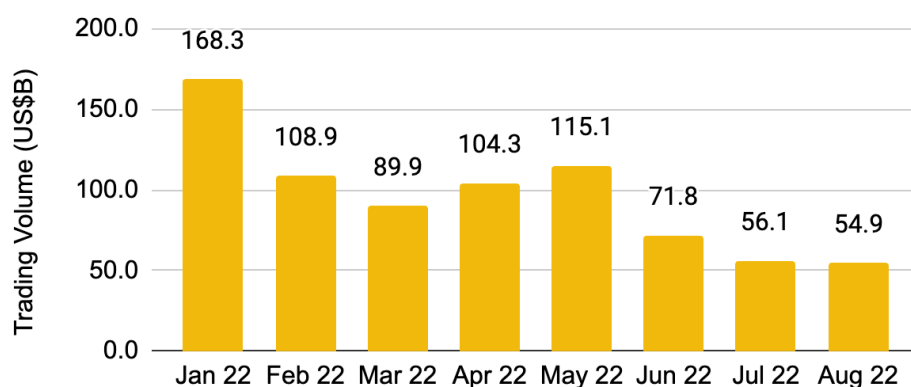
Source: Binance Central Data Analytics Team, Binance Research

There are several DEXes on the BNB Chain, and PancakeSwap is the leading DEX in terms of TVL by a large margin.

Figure 8: PancakeSwap is the leading DEX on BNB Chain by TVL
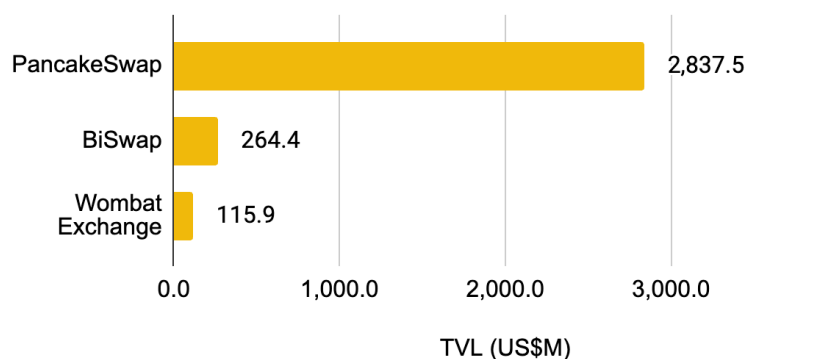
Source: DeFi Llama, Binance Research

For more details and a comprehensive analysis of DEXes, check out our prior report - Uncovering DeFi Fundamentals: Decentralized Exchanges.

Project Spotlight: PancakeSwap

🐰 PancakeSwap

PancakeSwap is a DEX built on the BNB Chain with an Automated Market Maker ("AMM") model for swapping BEP-20 tokens. Apart from offering swaps, the platform also has other features such as yield farming, perpetual trading, NFT marketplace, and others.

PancakeSwap is the largest DEX on the BNB Chain by TVL, accounting for over 55% of TVL on the chain. At the time of writing, PancakeSwap has over $2.8B in TVL and 1.9M active users in the past 30 days. [2, 3]
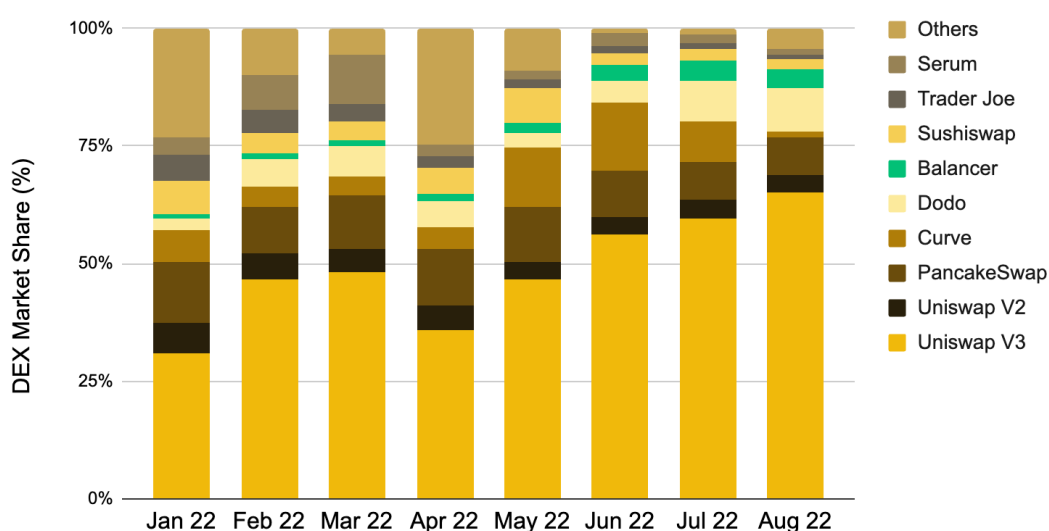
Figure 9: PancakeSwap is one of the largest DEXes in terms of trading volume

Source: Binance Central Data Analytics Team, Binance Research

Recent Developments and Views

Over the past few months, PancakeSwap has introduced several changes to its tokenomics model. Specifically, in V2 of its tokenomics model, PancakeSwap passed a proposal to cap the maximum supply of CAKE to 750M.[4] CAKE is currently inflationary, but the end goal is to make CAKE emission-neutral or deflationary. Assuming no changes to the current emission rate, there will be an approximate runway of 3 years before the maximum 750M CAKE supply is reached.

Figure 10: CAKE is inflationary, but a max supply of 750M was introduced recently
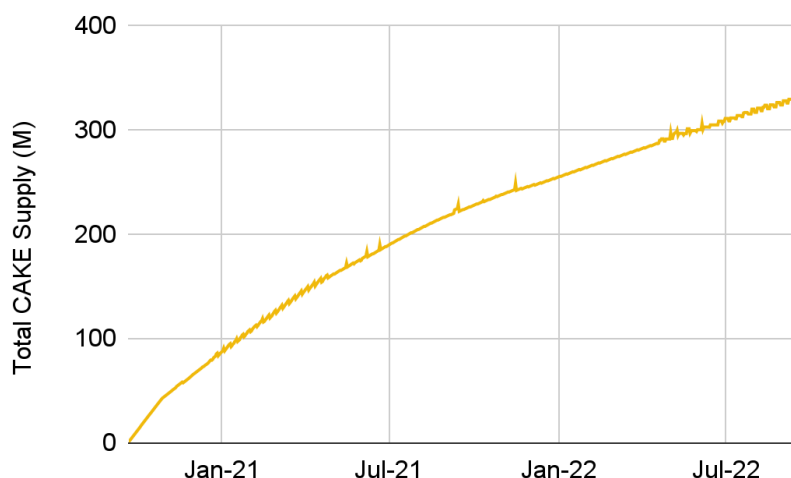
The DEX also improved the utility of its native 'CAKE' token by adding additional use cases for locked CAKE in the form of weighted voting, boosted farm yields, and boosted initial farm offerings ("IFO") allocation.[5]

In our view, **these revisions have a positive impact on both the supply and demand of the CAKE token, and contribute to a better tokenomics model for CAKE.**

- Firstly, the **introduction of a maximum CAKE token supply removes the possibility of unlimited token emissions** that would contribute to significant dilution and inflation. The capped supply also helps investors make better investment decisions by giving a sense of the fully diluted value of CAKE.
- Secondly, the locked CAKE derivatives and the **corresponding benefits that come with them increase the utility of the CAKE token**. Similar to the vote-escrowed CRV ("veCRV") model of Curve Finance, locking removes some selling pressure of the CAKE token, and contributes to a lower circulating supply of the token.
- Finally, rewarding holders who lock their CAKE for a longer period also **aligns the interests of token holders** with that of the protocol.

Looking ahead, the team has reaffirmed plans to go multichain. In preparation for this, the team has recently proposed the redirection of CAKE from Syrup Pool rewards to Multichain Farm emissions.[6] By preemptively securing the votes of the community, PancakeSwap would be able to execute the proposed changes as soon as the protocol goes multichain. While details are scarce at this point, this will undoubtedly be an exciting development to watch. We will be keen to find out which chain PancakeSwap launches on, and what their progress will look like.

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Research x Labs Exclusive: Interview Highlights

Interview with Chef Mochi (Product Manager); Chef Bun (Product Manager); Chef Fran (Community Manager)

Key Takeaways and High-level Thoughts:

Despite being the largest dApp on the BNB Chain, the PancakeSwap team has demonstrated that they will not be resting on their laurels. During the interview, users' interests were cited several times, exemplifying the team's commitment to improve user experience. Users seem to be the core of everything that the team does, and the team remains steadfastly focused on meeting the demands of their users as they continue on their path of growth.

Q: Could you share with us your view of DeFi today?

A: Despite the market turmoil we have seen in the past few months, **DeFi protocols have performed exactly as designed.** Most protocols with exposure to lending and borrowing were able to unwind positions without bad debts. This is as opposed to a few centralized finance entities that had to rely on traditional court systems to resolve their solvency issues. Overall, we remain positive on the state of DeFi. Going forward, we expect to see continued experimentation and building of DeFi protocols on different chains.

Q: What does the team think about liquidity and its importance in DeFi?

A: We view liquidity as the lifeblood of the DeFi ecosystem. Liquidity powers activities across DeFi. A lack of liquidity would result in a situation where market participants are unable to transact effectively. For example, if PancakeSwap is not liquid, protocols that launch on the platform cannot depend on PancakeSwap to manage tokens and users will not be able to trust that they are getting good execution. Essentially, a lack of liquidity erodes trust.

Q: Given recent market conditions, did the team observe any liquidity issues?

A: Pancakeswap did not encounter any large-scale liquidity issues. Across BNB Chain, a few smaller projects experienced a lack of liquidity, resulting in higher execution costs for traders of these projects. Overall, PancakeSwap performed as designed and did not witness any large-scale turmoil.

Q: Can you share about the recent developments on PancakeSwap? Going forward, are there any initiatives that the team is excited about?

In the first half of 2022, PancakeSwap launched several new products, including partnering with a third party to offer perpetual trading and limit orders. The most exciting development was the launch of Tokenomics V2, where we introduced a maximum supply cap for CAKE, our native token. Going forward, the team continues to be focused on bringing DeFi to everyone. We will continue to introduce easy-to-use products that will attract more users to the platform, and increase revenue for the protocol.

Q: DEXes like Uniswap V3 and Curve V2 have implemented concentrated liquidity for their liquidity pools. Is PancakeSwap exploring any other invariant curves or alternatives to increase capital efficiency/improve its product suite?

A: The team has been researching and has been kept up to date with the development of DEXes. While concentrated liquidity may be beneficial for tokens of more established projects and for experienced users, we are conscious of the relative difficulty that comes with using the feature. Given our goal of bringing DeFi to a broad audience, we are extremely user-focused, and ease-of-use is something that we highly value. We are currently **exploring different ways to achieve the benefits of concentrated liquidity while ensuring that the experience remains intuitive and engaging for our users.**

Q: What is the team's view on the competitive risk posed by centralized exchanges and DEX aggregators for DEXes such as PancakeSwap?

A: We believe that DEXes and centralized exchanges ("CEXes") can provide complementary services for users and can work together to harness synergies. An example is the collaboration between PancakeSwap and Binance for PancakeSwap's mini program that allows PancakeSwap users to use the DEX through the Binance app. This provides benefits to all parties involved - Binance, PancakeSwap, and users. We believe DEXes and CEXes should work together to fill up any product gaps and create more opportunities for users. As for competitive risks posed by aggregators to DEXes, PancakeSwap will continue improving capital efficiency, and ensure deep liquidity to remain competitive and have trades continue to be routed through PancakeSwap.

Q: What is the team's view on the outlook of DeFi?

A: We believe multichain is the future and are seeing several protocols making plans to expand their offerings across chains. It looks increasingly likely that users will not sit on specific chains and use products only on one chain. In the near term, PancakeSwap aims to build capabilities to go multichain. That said, we have strong roots in the BNB ecosystem,

and will continue to be focused on it. By expanding to other chains, we hope to bring users over to BNB Chain so they can enjoy the features of the chain.

Q: Any final thoughts for our readers?

The future of crypto and DeFi is bright. Setbacks are part and parcel of any developing technology. Crypto has endured several ups and downs, and has come back stronger each time. At PancakeSwap, we continue to focus on building. We welcome everyone to join us in utilizing the platform or to contribute to the development of the project.

Lending and Borrowing

DeFi lending platforms facilitate crypto loans in a trustless manner without intermediaries. Unlike traditional financial institutions that may have tedious and manual loan approval processes, DeFi lending platforms administer loans following pre-specified rules encoded in smart contracts. Loans are disbursed in a permissionless and almost instantaneous manner, **providing benefits to DeFi users in terms of efficiency, accessibility, and transparency.**

DeFi lending generally relies on crypto collateral, and over-collateralization is the norm in DeFi. Borrowers can only borrow up to a certain amount of the collateral posted and must maintain a certain level of collateralization ratio to avoid liquidation. Lenders are incentivized to supply assets as loans in return for earning a variable interest rate that typically adjusts based on the utilization of funds on the lending platform.

Today, **the crypto lending market is the second largest DeFi vertical, with a TVL of US$14.6B** at the time of writing.

Figure 11: Lending is the second largest DeFi vertical by TVL
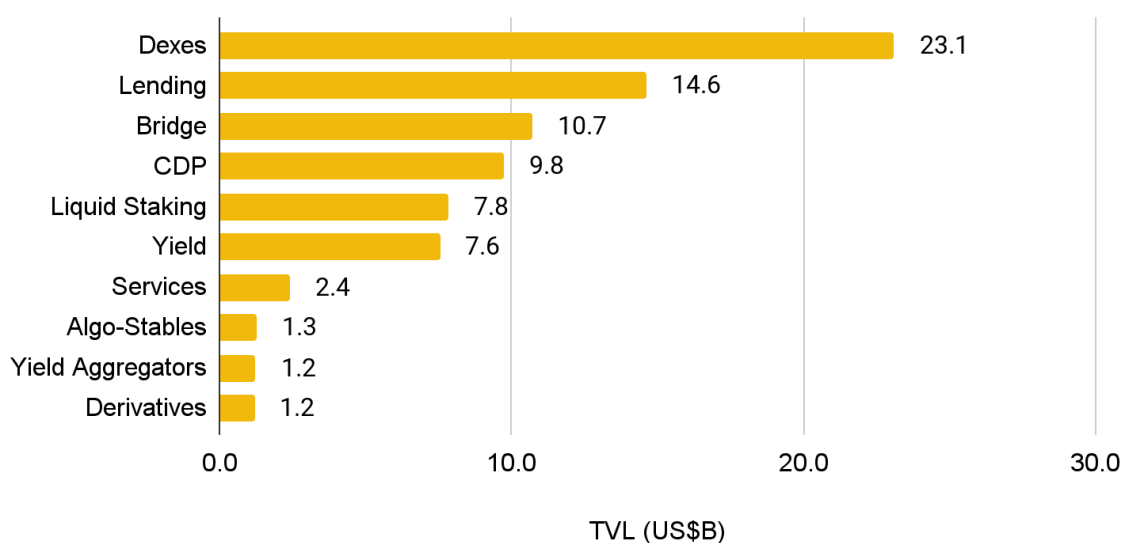
Source: DeFi Llama, Binance Research

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Project Spotlight: Venus

VENUS

Venus is an algorithmic money market protocol on the BNB Chain. The protocol designs are architected and forked based on Compound and MarkerDAO. The end-product is a protocol that combines features of both dApps, allowing users to use the collateral supplied to not only borrow other assets but also to mint VAI, a synthetic stablecoin. By building on BNB Chain, Venus is able to offer fast, low-cost transactions while accessing a deep network of wrapped tokens and liquidity.

A brief summary of how users can utilize Venus:

- ❖ **Lending:** Users can supply cryptocurrencies to Venus and participate as a lender, earning a variable interest rate in return. Lenders will receive vTokens that can be used to redeem the asset supplied.
- ❖ **Borrowing:** Users can borrow from the platform by supplying assets as collateral. Users with a shortfall (negative liquidity) are subject to liquidation, and are unable to withdraw or borrow assets until account liquidity is positive again.
- ❖ **Minting Stablecoins:** Users can mint VAI, a synthetic stablecoin on Venus. This can be done by using the vTokens received for supplying assets.

Venus is the leading lending protocol on BNB Chain. Compared to other lending protocols, **Venus commands the lion's share of lending TVL, with approximately 84% market share.**

Figure 12: Venus is the largest lending platform on BNB Chain

*Source: DeFi Llama, Binance Research*

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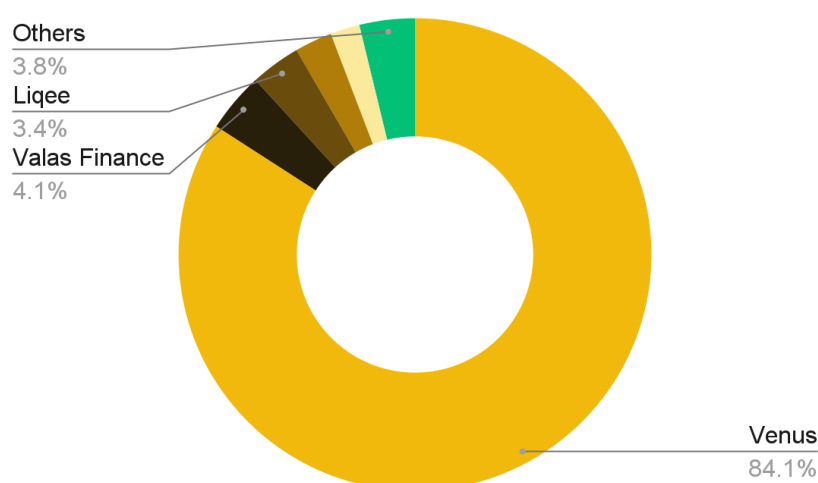
Lending and borrowing activity on Venus has generally quietened down since the start of the year, very much corresponding with generally deflated activity in the broader DeFi market. Average daily supply has fallen over 65% from US$2.6B to US$921M from January to September, and average daily borrowing has fallen around 63% from US$1B to US$372M in the same period. That said, **utilization on the platform has remained steady and at a healthy level of 35-41% over the year**, representing a good balance between demand and supply for loans.

Figure 13: Average supply and borrowings on Venus have been on a downward trend, but utilization has maintained relatively steady
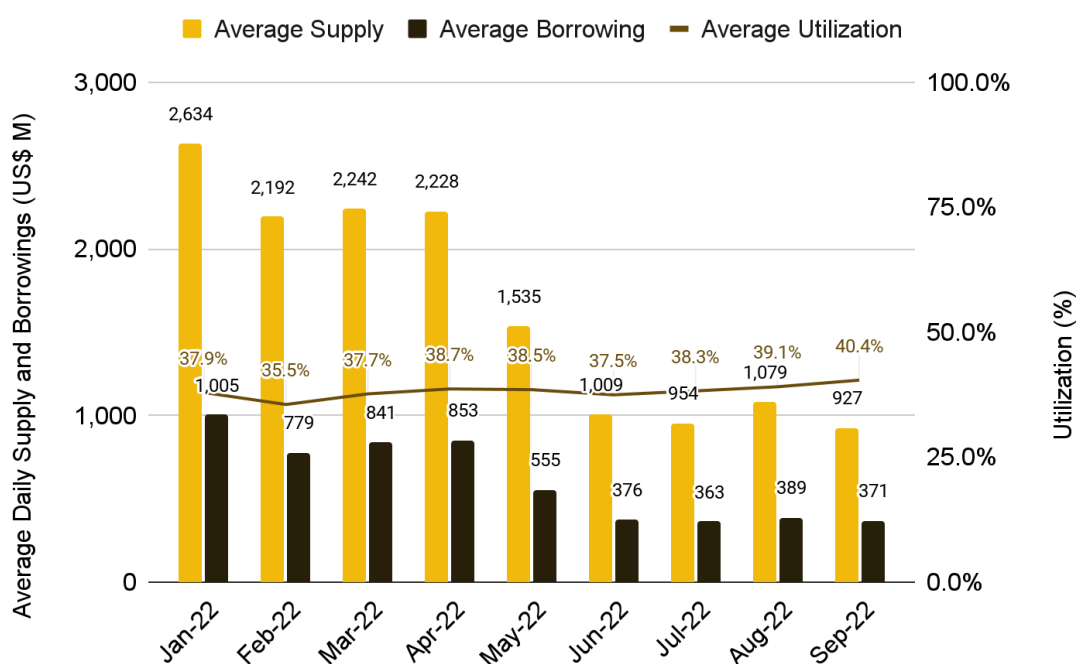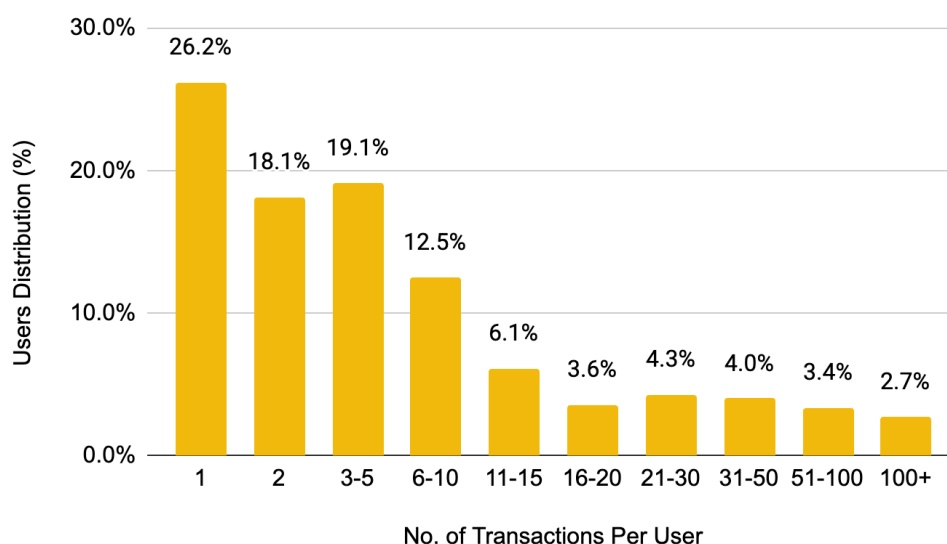

Source: Dune Analytics (@hicrypto), Binance Research

User metrics paint a relatively sanguine picture. Referring to Figure 14, the total number of unique users on Venus continues to track higher, although the rate of growth has slowed to low single digits on a month-on-month basis.

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Figure 14: Total unique users continue to grow, albeit at a slower pace

Legend: Total Unique Users (K) — MoM Growth
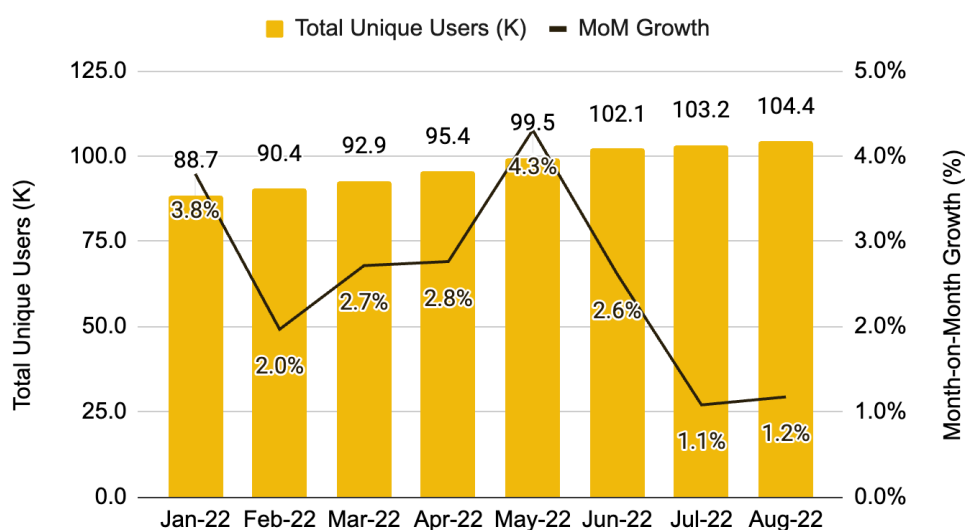
Source: Dune Analytics (@hicrypto), Binance Research

Venus has a good mix of users with a majority (>63%) that transact between 1-5 times, and a commendable 37% of avid users that have transacted 6 or more times. Looking ahead, this would be an interesting metric to watch as the platform improves its offerings and rolls out new products. For example, if the team introduces isolated lending markets (discussed under "Recent Developments and Views"), users will have a greater selection of lending pools, potentially resulting in more transactions per user in the long run.

Figure 15: Most users make between 1-5 transactions on Venus

Source: Dune Analytics (@hicrypto), Binance Research

Recent Developments and Views

Venus has recently proposed a Tokenomics 3.0 upgrade, which includes changes to revenue allocation and XVS token vault mechanics, among others.[7]

Soulbound Token - Venus Prime Token

Notably, Venus proposed the launch of a Soulbound Token ("SBT") called the Venus Prime Token. There will be two forms of SBT - an "OG Irrevocable Token" and an "Earned Revocable Token". The OG Token will be issued to a select group of users based on specific criteria, and the token cannot be burned, revoked, or transferred. The Earned Token will be rewarded to users who stake at least 1,000 XVS tokens in the XVS vault for at least 90 days. The Earned Token is non-transferable, but can be burned and revoked if the holder's staking balance falls below 1,000 XVS.

In our view, **the Venus Prime Token marks a significant step by a leading DeFi protocol to adopt SBTs to differentiate distinct groups of users and to incentivize certain user behaviors.** For example, by allowing Venus Prime Token holders to earn boosted yields on selected markets, users are financially incentivized to meet the minimum requirement of a 1,000 XVS tokens staked. Moreover, Venus has proposed a tiering system where users get different sets of benefits depending on the amount of XVS tokens staked (i.e. Users can get upgraded to different tiers). This motivates users to increase the amount of XVS staked.

For more details about SBTs, check out our report - [Soul Searching - Soulbound Tokens](#).

Isolated Lending

During our interview with Brad (CEO of Venus Protocol), he shared that the team is also exploring isolated lending in Venus. For context, Venus currently operates on a common collateral pool model where all assets are vulnerable to bankruptcies in a single asset. This increases capital efficiency, but results in a relatively small selection of supported assets as higher risk assets are avoided. On the other spectrum, isolated lending refers to the separation of collateral into independent lending pools. This model has lower capital efficiency but allows users to lend/borrow a wider range of assets.

In our view, **isolated lending has the benefit of allowing Venus to support the long tail of DeFi tokens, expanding the number of assets supported by the platform.** If executed well, this is likely to draw in new users that are looking for specific assets to lend or borrow. Consequently, isolated lending may also provide a boost to the TVL of Venus, and increase demand for the XVS native token. Undoubtedly, isolated lending will introduce its own set of challenges. Factors such as oracle risk, and the exact mechanics of how custom pools are created and managed are just a few of the considerations to be taken into account.

Research x Labs Exclusive: Interview Highlights

Interview with Brad Harrison (CEO of Venus)

Key Takeaways and High-level Thoughts:

Throughout our interview with Brad, there is a clear emphasis on risk management. The team has gleaned valuable insights from their past experiences and is actively looking at different ways to increase robustness of the protocol. For example, the Venus team is exploring multiple price feeds to prevent overreliance on a single oracle. Overall, Venus continues to look at ways to improve user experience and build new features to expand its product suite.

Q: Could you share with us your view of DeFi today?

A: DeFi has grown at an extraordinary pace. The initial explosion of growth during 'DeFi Summer' happened only last year, and it looks like DeFi has entered the terrible twos. We believe we have entered a phase of maturation where there is greater awareness of risk management - users will likely not invest in a high yielding project without educating themselves about the risks involved. On this front, **Venus has worked with risk management companies to analyze risk on the platform**. Going forward, the industry will see more focus on risk management that will increase robustness of the ecosystem and bolster confidence.

Q: What does the team think about liquidity and its importance in DeFi?

A: If the protocol is the engine, liquidity is the fuel. For Venus, when liquidity is added to the protocol, that lowers borrowing costs, and drives demand for loans. **Venus possesses a great store of liquidity that is second only to PancakeSwap**. In fact, users are paid to borrow certain tokens on Venus. Risk management is the focus for the team at Venus and we look at collateral factors to control liquidity. For example, when collateral factors are tightened, users need to post more collateral for the same amount of loan.

Q: Given recent market conditions, did the team observe any liquidity issues?

A: Liquidity problems can occur in lending markets, across both traditional finance and DeFi. For example, after the 2008 financial crisis, regulators have tightened requirements around the liquidity ratios of banks. In DeFi, protocols can have issues keeping up with liquidations in times of high volatility. Venus witnessed such an issue in May. The lesson is that we need to double down on risk management. Beyond that, Venus has received a lot of

support from ecosystem partners. We believe that the future lies in a hybrid approach of decentralized and centralized finance to resolve liquidity problems and in reassuring users.

Q: Are there any exciting trends you have observed in DeFi?

A: Real yields. This is a lesson learnt this year. **Users should seek yield that comes from protocol revenue rather than thin air**. For Venus, the revenue gets redistributed to the XVS vault - that is real yield. This is the type of yield we believe users will seek more in months to come, and will also make the DeFi ecosystem more sustainable.

Q: What are some upcoming developments or initiatives that the team is focused on?

Risk management and increased robustness. Specifically, **Venus is looking to support multiple price feeds**. Price feeds form a critical piece of DeFi infrastructure and relying on multiple price feeds mitigates the risk of a single point of failure. Next, we are also looking to **introduce stable-rate borrowings for Venus users**. This would cater to users who prefer a stable rate and could be helpful during times of volatility when variable rates fluctuate. Finally, we are also **considering bringing isolated lending to the market**. This would allow us to expand our support to the long tail of DeFi assets, and potentially provide new offerings such as margin trading with DEXes. Longer-term, Venus is looking at different opportunities such as supporting bonds and the financialization of NFTs.

Q: Any final thoughts for our readers?

A: DeFi has had its fair share of hurdles and failures, but it's early days. With valuable lessons learnt, we will get to trillions of dollars of liquidity more sustainably.

Asset Management

Asset management protocols provide services to handle the investments and assets of DeFi users. While asset management is not a new industry and has been an integral part of the traditional financial ecosystem, DeFi has opened a realm of possibilities in terms of potential offerings and the type of users that can access it.

DeFi offers users a myriad of ways to earn a yield on their assets (e.g. providing liquidity to liquidity pools; lending tokens; selling options etc.). Given differences in ease of use of protocols, the background of users, and the risks associated with different DeFi protocols, some **users may find it difficult to keep up with developments in the space** and getting the best yields on their investments. **This is where asset management protocols can step in and provide a one-stop solution** to meet the needs of investors.

One of the earliest pioneers in the asset management space is Yearn Finance which offers yield-enhancing vaults called yVaults. Users can deposit tokens into a vault which is then routed through different strategies to seek out the high yields in DeFi.[8] This allows users to have a fuss-free and seamless experience to obtain high yields, without having to manually evaluate and execute trading strategies. Vault products also help mitigate costs associated with rebalancing.

Figure 16: Examples of Yearn Vaults

Asset ▼	APY ▲	Total assets ▼
Curve aETHc	1.53%	$ 91,792
ETH	2.38%	$ 75,937,626
Curve alETH	4.23%	$ 1,969
Curve sETH	4.95%	$ 1,173,386
Curve stETH	5.74%	$ 85,480,017

Source: Yearn Finance

The asset management space continues to develop and new projects have developed from time-to-time to meet the ever-changing needs of DeFi users. In this section, we explore Tranchess, an asset management protocol that caters to different users with varying risk appetites.

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Project Spotlight: Tranchess

◇TRANCHESS

Tranchess is a yield-enhancing asset-tracker. The protocol offers users an array of tokens to suit the needs of investors with different risk and return profiles. Specifically, Tranchess consists of three 'tranche' tokens called 'QUEEN', 'BISHOP', and 'ROOK', as well as a governance token called 'CHESS'.

 ❖ **QUEEN (Crypto yield enhancement):** QUEEN represents the token of the main fund which tracks the performance of BTCB, ETH, or BNB. Instead of holding the underlying asset, investors can hold QUEEN to gain the same underlying asset exposure, and earn incremental yield by farming Tranchess's CHESS tokens.
 ❖ **BISHOP (BUSD-yielding product):** BISHOP targets users that are looking to enhance yield on their stablecoin holdings. BISHOP holders collect interest at a specific interest rate that changes every week. The interest rate is determined based on the sum of the 7-day average BUSD interest rate on Venus, and an additional premium which is determined by governance voting.
 ❖ **ROOK (Leveraged crypto asset exposure):** ROOK holders intrinsically borrow from BISHOP holders to gain leveraged exposure to the main fund. Returns for ROOK holders = profits/losses of the main fund - interest paid to BISHOP holders.

Tranchess currently offers three separate funds that track BTCB, ETH, and BNB. Each fund has its own set of QUEEN, BISHOP, and ROOK tokens. Using Tranchess' BNB fund as an example, the representative tokens are nQUEEN+, nBISHOP, and nROOK+. Compared to the BTCB and ETH funds, the BNB fund comes with an additional source of yield - validator rewards from the BNB Smart Chain. Tranchess stakes all BNB in the fund to its validator node on BNB Chain and distributes the validator rewards back to nQUEEN+ and nROOK+ holders. Notably, **Tranchess is one of the top 21 active validators on the BNB Chain.**[9]

Tranchess has not been immune to the slowdown in DeFi activity and fall in TVL. TVL in Tranchess has fallen by over 90% since the start of the year and is currently at approximately US$70M.

Figure 17: Tranchess TVL has fallen since the peak but has stabilized at ~US$70M
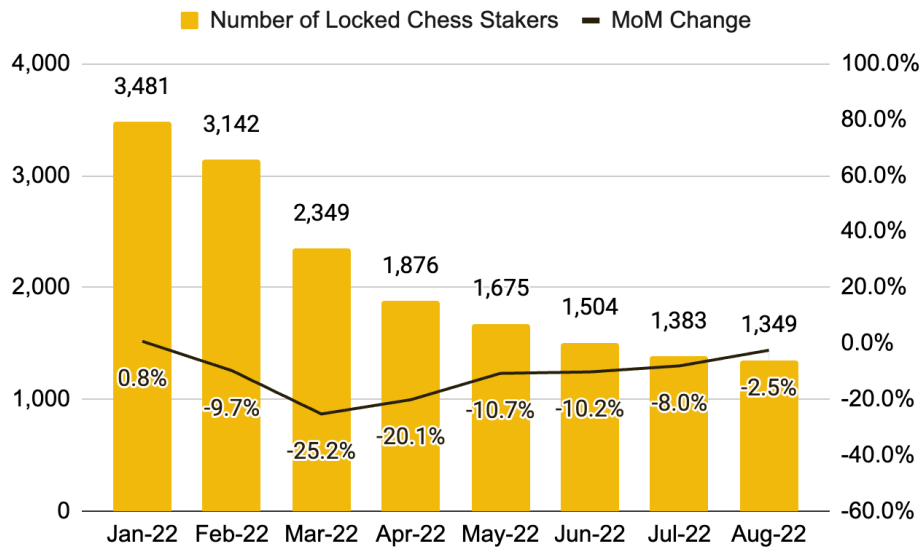

Source: DeFi Llama, Binance Research

CHESS is the governance token of Tranchess and users can obtain CHESS by staking QUEEN, BISHOP, or ROOK. To align incentives of CHESS token holders with the protocol, **Tranchess has adopted the vote-escrow model where CHESS token holders can lock the token in exchange for veCHESS**. CHESS can be locked up to 4 years and the number of veCHESS received varies depending on the duration the token is locked. To incentivize locking, veCHESS provides additional utility to token holders in the form of CHESS emission voting power, rebates from protocol revenue, and staking rewards boost. Currently, veCHESS holders receive an indicative average percentage yield ("APY") of 5.5%.[10]

Figure 18: veCHESS holders receive an indicative APY of 5.5%

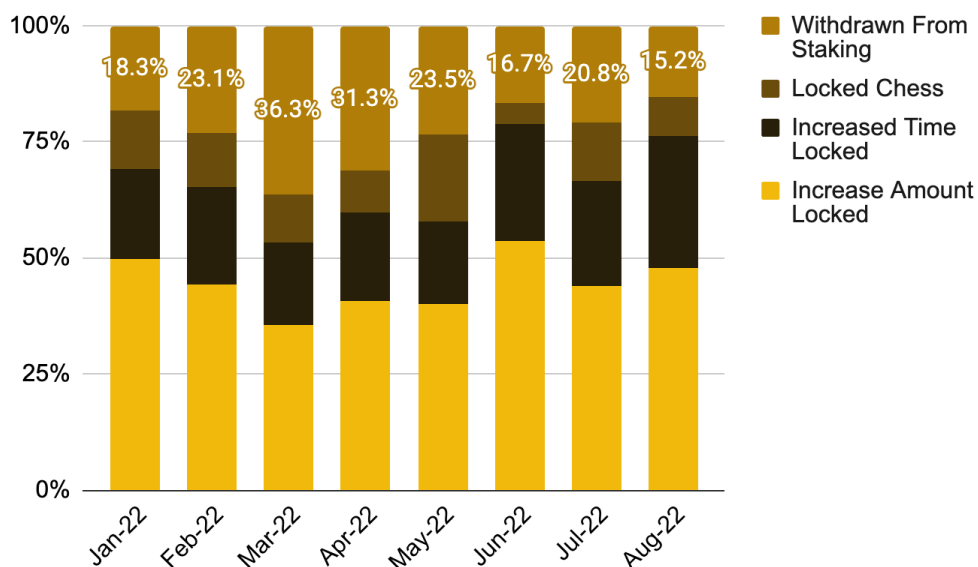| Total locked CHESS	Average lock duration	Indicative APY
42,742,577 (46.55% of all circulating CHESS)	7.6 months	5.5%

Source: Tranchess, Binance Research

Locked CHESS statistics reveal a slow down similar to the trend observed for TVL - the number of locked CHESS stakers has fallen from around 3.4K to 1.3K since the start of the year. That said, the pace of slowdown has reduced and over 46% of all circulating CHESS is locked for an average duration of 7.6 months.[11]

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Figure 19: Number of locked CHESS stakers has fallen over time, albeit at a slower pace

Legend: Number of Locked Chess Stakers — MoM Change

Data values by month:
- Jan-22: 3,481 (0.8%)
- Feb-22: 3,142 (-9.7%)
- Mar-22: 2,349 (-25.2%)
- Apr-22: 1,876 (-20.1%)
- May-22: 1,675 (-10.7%)
- Jun-22: 1,504 (-10.2%)
- Jul-22: 1,383 (-8.0%)
- Aug-22: 1,349 (-2.5%)

Source: Dune Analytics (@gh95), Binance Research

Looking underneath the hood, stakers' behavior paints a more optimistic picture. The proportion of transactions related to withdrawals of locked CHESS has been decreasing over the past few months, falling from the high of 36.3% in March to 15.2% in August. The remaining transactions relate to increasing time / amount locked, and new CHESS locked.

Figure 20: Proportion of transactions related to staking withdrawals has fallen

Legend: Withdrawn From Staking, Locked Chess, Increased Time Locked, Increase Amount Locked

Withdrawn From Staking values by month:
- Jan-22: 18.3%
- Feb-22: 23.1%
- Mar-22: 36.3%
- Apr-22: 31.3%
- May-22: 23.5%
- Jun-22: 16.7%
- Jul-22: 20.8%
- Aug-22: 15.2%

Source: Dune Analytics (@gh95), Binance Research

Recent Developments and Views

Tranchess launched V2 of its protocol in June. A key update is the **introduction of liquidity pools for BISHOP and ROOK, allowing instant swaps between the tokens and BUSD.** Additionally, this provides another opportunity for passive investors looking to enhance yield on their stablecoin holdings. Specifically, instead of just holding BISHOP, users can provide liquidity to the liquidity pool to earn trading fees, receive lending interest on BISHOP, and to farm CHESS. During our conversation with Danny (Co-Founder of Tranchess), we found out that the Tranchess liquidity pool was introduced after listening to community feedback about the demand for instant liquidity.

This is a positive development and increases the ability of token holders to access immediate liquidity when required. **By working with DEXes such as PancakeSwap, Tranchess has exhibited the power of composability within the DeFi ecosystem** to enhance user experiences.

Moving forward, **the team has unveiled plans to expand multichain, with Ethereum being the next in the pipeline.** Tranchess announced that it will be launching its own ETH liquid staking solution with qETH soon.

Figure 21: Snapshot of Tranchess' announcement of qETH

Source: Twitter (@Tranchess)

This will be an interesting development to see how Tranchess expands its offerings to a different group of users, and how the team would adapt the product to compete effectively in the Ethereum ecosystem.

BINANCE RESEARCH

Research x Labs Exclusive: Interview Highlights

Interview with Danny Chong (Co-Founder of Tranchess)

Key Takeaways and High-level Thoughts:

"Education" was a term that came up several times during our conversation with Danny. Beyond just looking at conventional ways to increase market share, the Tranchess team takes on a multi-fold growth strategy that includes growing the size of the overall DeFi pie through education. By producing carefully curated content (e.g. videos, medium articles), the team aims to make it easier for users of different technical backgrounds to learn about DeFi and Tranchess. Over time, the goal is to onboard more users onto DeFi and the Tranchess platform.

Q: Could you share with us your view of DeFi today?

A: The overall market has been down given a challenging macro environment. We have witnessed consolidation in the ecosystem where lower quality projects that lacked innovation were purged. This is a good time for building. From a protocol perspective, the current environment gives us time to slow down, and figure out ways to improve our offerings. Tranchess launched V2 of our protocol in the current market. We have also been focused on improving user interfaces and experiences, as well as achieving sustainable yields.

Q: Are there any exciting trends you have observed in DeFi?

A: We are seeing a trend where protocols are building better revenue models and launching products that have more sustainable yields. We expect more products in the future that will offer real yields that are independent of tokenomics. For Tranchess, there have been discussions about the **possibility of constructing something from options to provide principal-protected products.** Separately, we believe that more needs to be done about **education and improved UI/UX, especially for users without DeFi experience.** This will make it easier for users to come into the space. For Tranchess, beyond a whitepaper, we have a robust set of frequently asked questions, medium articles, and short video clips to allow users to quickly grasp and understand fundamentals and concepts. By being ready for users of different types, and by being mindful of the background of users, we will be able to build a bigger DeFi ecosystem.

Q: Tranchess launched V2 recently with several new features. How has the feedback been?

A: User feedback has been quite positive. We introduced instant swap AMM pools to allow users to swap between BUSD and Tranchess tokens. This proved very popular and increased user penetration. Users have also given very positive feedback on our social media channels. Additionally, in the past, Tranchess tokens could not be taken out of the Tranchess ecosystem. This has now changed and the Queen token can be taken out of Tranchess and be part of liquidity pools on other platforms. **Increased composability has resulted in increased use cases for Tranchess tokens.**

Q: Are there any upcoming developments that the community should be aware of?

Firstly, **Tranchess is exploring multichain, starting off with Ethereum.** We hope to bring a differentiated product to the community. Secondly, we want to continue building our product suite. We are currently **looking at structured products and are exploring how we can bring the asset class onto Tranchess.** Finally, Tranchess is doing a lot on educating our users and newcomers of DeFi. We have educational videos, as well as comprehensive write-ups to educate users.

Q: What is the team's view about competition within DeFi and for Tranchess?

A: Looking at the different yield-bearing products in the market, an investor has numerous options that span beyond DeFi to also traditional finance such as bonds. At Tranchess, we aim to offer a differentiated product compared to other existing offerings and protocols. Tranchess also caters to users of different profiles. For 'hodling', users can use QUEEN. For yields on stablecoin, users can use BISHOP. For some leverage, users can get exposure through ROOK. Besides that, we also focus a lot on education. We believe education will play a role in expanding the DeFi market, and also result in a greater market for Tranchess.

Q: Any final thoughts for our readers?

During this time, protocols should take their time to build. Market capitalization is secondary and protocols should focus on their long-term goals. There should also be more collaboration between protocols.
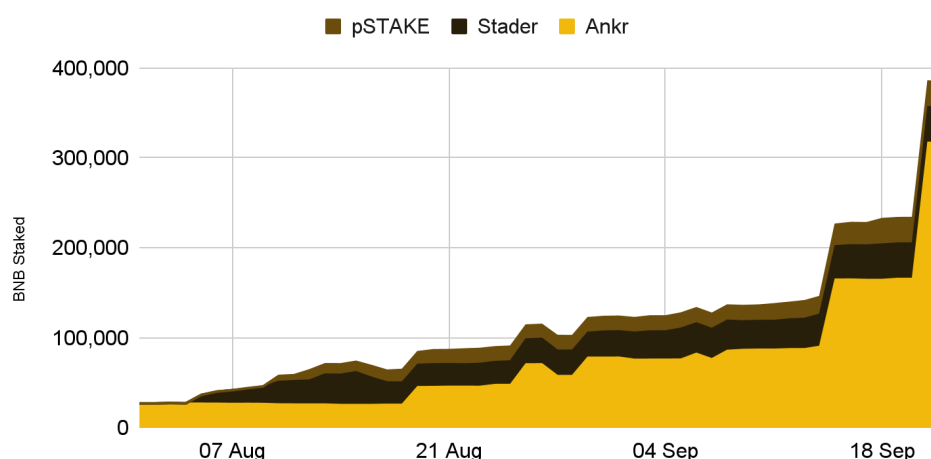
Liquid Staking

BNB Chain operates on a Proof of Staked Authority ("PoSA") consensus where users can participate in securing the network by staking their BNB to become validators or by delegating their BNB to a validator. In return, stakers earn rewards composed of fees.

However, it may not be feasible for everyone to be a validator given hardware requirements, and the capital commitment required.[12] Additionally, by staking one's BNB as a validator or as a delegator, stakers commit to 'lock' their BNB tokens to participate in the validation process and are unable to use their BNB to participate in other DeFi opportunities.

Given the above-mentioned tradeoffs, **liquid staking presents an attractive alternative by offering users the ability to retain liquidity while generating yield on their BNB.** This is accomplished by tokenizing one's stake - users receive a liquid staked-BNB token in exchange for each BNB staked with the liquid staking protocol. The liquid staked-BNB token can be transferred, spent, or traded, similar to a regular token. Apart from direct benefits to individual users, liquid staking also provides additional value-add to the BNB ecosystem as a whole. By incentivizing more BNB holders to stake their BNB, liquid staking protocols facilitate the increase of the network's overall robustness via a higher staking ratio.

Liquid staking on BNB Chain has picked up speed since August with the launch of pSTAKE and Stader. **There are currently over 380K BNB staked on the 3 major liquid staking providers** - Ankr, Stader, and pSTAKE. As the first liquid staking provider to provide support for BNB, Ankr is the leading liquid staking provider on BNB Chain with over 80% share.

Figure 22: Liquid staking protocols have over 380K BNB staked

Source: Dune Analytics (@becks0303), Binance Research

Project Spotlight: pSTAKE

ⓢPSTAKE

pSTAKE is a liquid staking protocol which unlocks liquidity for staked assets. Stakers can utilize pSTAKE to stake their proof of stake (PoS) tokens and receive staked tokens (stkASSETs) in return. This allows pSTAKE users to earn staking rewards, while also allowing them to explore other DeFi opportunities via stkASSETs.

The protocol currently offers liquid staking for native tokens of BNB Chain (BNB), Cosmos (ATOM), Ethereum (ETH), and Persistence (XPRT). Development plans to support Solana (SOL) and Avalanche (AVAX) are also in the pipeline.

Most recently, pSTAKE launched liquid staking services for BNB Chain in August 2022, offering the BNB community an option to unlock liquidity for their staked BNB. Users of pSTAKE can stake their BNB tokens and mint stkBNB which represents pSTAKE's liquid staked-BNB token. In turn, users earn auto-compounded staking rewards and can also utilize stkBNB to earn additional yield on DeFi.

Figure 23: Users stake BNB for stkBNB via pSTAKE which can be used to maximize yields

Source: pSTAKE, Binance Research

Despite being the newest liquid staking protocol on the BNB Chain, pSTAKE has quickly ascended to be the third largest liquid staking protocol with over 27K BNB staked on the protocol.

Figure 24: Comparison of BNB Liquid Staking Alternatives

	ANKR	Stader	pSTAKE	SteakBank	StaFi
Staked BNB	315,974	40,495	27,972	452	280
APY	2.3%	15.7%	5.2%	6.0%	9.7%
Unbonding Period	7-14 Days	7-15 days	15 Days	7 Days	14 Days

Source: Projects' websites, Binance Research

Research x Labs: DeFi on BNB Chain

Since the launch of stkBNB in Aug 2022, the total value unlocked through liquid staking on pSTAKE has been rising steadily. At the time of writing, the total value unlocked is approximately US$7.8M.

*Figure 25: stkBNB total value unlocked by pSTAKE approaches US$8M*
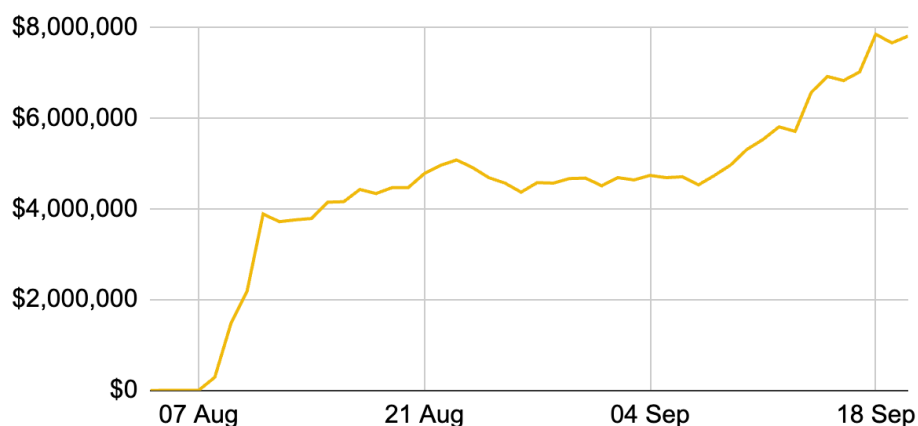
Source: Dune Analytics (@shini), Binance Research

Recent Developments and Views

Despite having only recently gone live on BNB Chain mainnet in August, pSTAKE has made commendable progress in driving adoption of stkBNB through partnerships with major DeFi dApps in the BNB Chain ecosystem. **Within a short span of over a month, pSTAKE has partnered with several DeFi protocols** and tools such as PancakeSwap, Alpaca Finance, Wombat Exchange, OpenLeverage, Coin98 Wallet, and MyCointainer.[13]

Figure 26: TVL of stkBNB-related DeFi protocols exceed US$20M
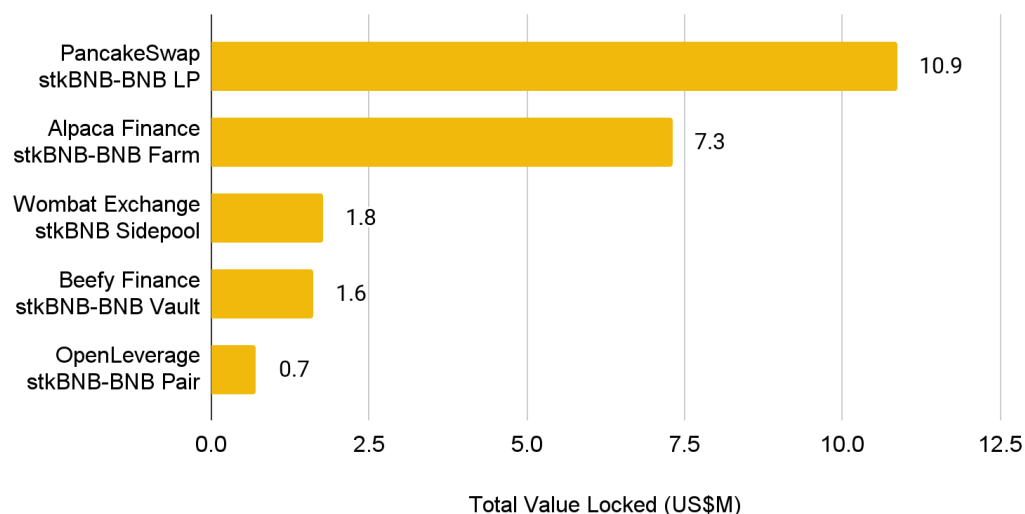
Source: pSTAKE, Binance Research

In our view, **the integration of pSTAKE with other DeFi protocols is vital to drive widespread adoption of stkBNB and of the platform.** By increasing the number of use cases of stkBNB through such integrations, there would be added incentives for BNB token holders to stake their BNB in exchange for stkBNB. The presence of deep liquidity pools for stkBNB-BNB is also important to ensure that users can seamlessly swap between both assets, and contribute to stkBNB adoption. Opportunity cost of staking is reduced by increasing the number of DeFi protocols that users can use to generate additional yield.

During our conversation with Tushar (Founder and CEO of Persistence), he shared that **the team is exploring expanding the number of use cases for stkBNB.** Lending/borrowing for stkBNB is one potential idea, but the team is open to all different kinds of possibilities. Through our conversations, it is evident that the pSTAKE team is cognizant of the importance of further integrations, and are actively working on this front.

While the overall BNB liquid staking market is relatively nascent, we are optimistic of the outlook for the market given the commitment and progress of liquid staking providers such as pSTAKE to improve user experiences and drive user adoption.

Research x Labs Exclusive: Interview Highlights

Interview with Tushar Aggarwal (Founder and CEO of Persistence)

Key Takeaways and High-level Thoughts:

What stood out during our conversation with Tushar is his differentiated view of "liquidity". While most of us think of liquidity in the context of liquidity pools and market making, Tushar sees opportunities to unlock liquidity through staked assets. The pSTAKE team takes a multichain and deliberate approach to help unlock liquidity from PoS networks. Besides just looking at the market size of the network, pSTAKE considers the team's expertise and skill sets to decide which network to offer their services.

Q: Could you share with us your view of DeFi today?

A: The spillover effects from the broad macro environment have impacted crypto markets. **An area we have seen of increasing interest is with regard to sustainable yields.** One way to receive sustainable yields is in the form of staking rewards from PoS networks where delegators and validators receive staking rewards. With the Ethereum merge around the corner, we have observed a lot of chatter from institutions with respect to PoS assets as yield-bearing assets. In terms of the outlook of DeFi and where new TVL may come from, my personal thesis is that immediate inflow can come from the staking of PoS assets, which is also what we are betting on at pSTAKE.

Q: What does the team think about liquidity and its importance in DeFi?

A: Generally, assets that are staked to secure a PoS chain are locked and are illiquid. Liquid staking focuses on issuing representative assets that unlocks liquidity of these staked assets. **By using liquid staked assets, one can also optimize yield by earning staking rewards in any DeFi activity.** For example, instead of selling covered calls on BNB, one can sell covered calls on stkBNB, allowing the user to also earn staking rewards on top of option yields. Separately, looking at liquidity from the traditional perspective of the users' ability to seamlessly trade between liquid-staked and native assets (e.g. stkBNB/BNB), deep liquid pools are required. stkBNB/BNB is currently live on PancakeSwap and the team is aiming to build more use cases for stkBNB.

Q: Which liquid staking tokens on pSTAKE have had the most traction, and is the team looking to expand into other chains?

A: The team is primarily focused on driving adoption of pSTAKE on the BNB and Cosmos ecosystem. Both ecosystems are large and the team has the necessary skill sets and capabilities to drive growth of pSTAKE in these chains. The Cosmos ecosystem follows an app-chain set-up that makes it very scalable for pSTAKE as launching new liquid-staked coins on the Cosmos require minimal incremental effort. We will be launching liquid staking for the Solana and Avalanche ecosystem in the future.

Q: How does pSTAKE differentiate itself and compete with other liquid staking providers?

A: The liquid staking business is relatively undifferentiated and generally boils down to security, and how tokens are issued. However, we believe the overall liquid staking market has a lot of room for growth and would be able to accommodate several liquid staking providers. The staked assets market is roughly US$100B right now and this represents less than 30% of total stakable assets. We believe there is potential for the proof-of-stake market to grow, the staking ratio to grow, and for the number of proof-of-stake chains to grow as well.

Q: Composability and collaboration are key traits of DeFi. What are some collaborations that you hope to see?

A: Deep liquidity pools are important to ensure liquidity. pSTAKE has worked with PancakeSwap to launch the stkBNB/BNB pool, and are keen to collaborate with other DEXes. **The next step is to look at borrowing/lending to create more use cases for stkBNB.** Beyond these, the team is open to all possibilities (e.g. covered calls, derivatives), and have also integrated with Alpaca Finance to do leveraged yield farming.

Q: Any final thoughts for our readers?

A: pSTAKE is excited to continue building and I look forward to working with other founders and getting support from the community. Anyone that wants to check out pSTAKE can head over to https://pstake.finance/ and explore opportunities to get involved with the dApp.

Closing Thoughts

While TVL and transaction activities in DeFi have plunged considerably since the start of the year, our conversations with founders reveal that it is not all doom and gloom. There is a general consensus that projects that have managed to withstand the downturn remain focused on improving their platform and are using this time to deliberate on how to grow in a more sustainable manner.

A term that came up several times during our conversations is "real yields". Founders have generally observed the pursuit of more sustainable sources of yields by DeFi protocols. **Instead of the typical 2021 playbook of subsidizing sky-high yields with elevated token issuances, several DeFi protocols are looking at ways to generate sustainable fees and in turn, real yields.** In this aspect, there is more awareness and focus to build sustainable business models that would be viable in the long-run.

Overall, **BNB Chain remains one of the most vibrant ecosystems for DeFi in terms of user metrics and transaction activity.** By offering high throughput and low transaction fees, BNB Chain is well-positioned to attract more DeFi protocols to build on the chain and in turn, attract more users to the network. While the bull market days of sky-high yields are gone, the current market environment is arguably a better set-up for a more sustainable future.

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