

Interchain Liquidity

An analysis of DeFi
Markets in Cosmos

A report by



Contributors [@erikbrinde](#) & [@rMalakaib](#)

Executive Summary

The report offers an overview of the Cosmos ecosystem's liquidity, examining IBC's transaction volume and zonal growth, ATOM's volume and its turnover and depth ratios compared to ETH, and the total value locked (TVL) and volume metrics of leading decentralised exchanges (DEXes), liquid staking providers (LSPs), and credit utilisation in money markets.

- IBC volume has plateaued since the beginning of 2023 at approximately \$850 million.
- An ATOM-ETH turnover and depth ratio comparison suggests that the resiliency and depth relative to market capitalisation of ATOM requires improvement to facilitate greater liquidity inflows.
- The state of the Osmosis, Canto, and Shade Protocol DEXes showed a clear decrease in both TVL and volume between January 2022 and July 2023, where TVL on Osmosis, Canto, and Shade continues to hover around \$130 million, \$25 million, and \$8.5 million, respectively; some 90%, 80%, and 15% lower from their all time highs.
- Money markets Umee and Mars saw credit utilisation rise by some 350% and 100% to a total of \$4.5 million and \$3 million, respectively, between February and July 2023 (which in the case of Mars is still 50% below its ATH).
- TVL on liquid staking providers Stride, Persistence, and Quicksilver rose by 200%, 350%, and 25% to \$30 million, \$9 million, and \$2 million, respectively, between November 2022 and July 2023—showcasing the growing popularity for liquid staking tokens.
- The substantial rise in TVL observed for the Osmosis liquidity pools of ATOM/stATOM and ATOM/qATOM, growing by 212% to \$22 million and 350% to \$900 thousand, respectively, with the former now not far off from overtaking ATOM/OSMO as the largest liquidity pool on Osmosis.
- The void left by Terra's UST stablecoin's decline has impacted user acquisition, but emerging stablecoins like IST, native USDC, USDt as well as a host of other potential onboarding apps hold promise for rejuvenating liquidity in the ecosystem.
- Broader IBC connections to other ecosystems beyond Cosmos promise a richer token variety and the potential for increased liquidity.
- The current user experience, still marred by complexities and fragmentation, require further complexities to be abstracted away for easier onboarding and smoother interactions to ensure broader adoption.

Outline

Summary	2
Outline	3
Liquidity Dynamics in DeFi: a view from the Cosmos	4
Current state of Liquidity in the Cosmos	6
Interchain and ATOM Liquidity	6
Liquidity across IBC	6
ATOM Liquidity	8
Decentralised Exchanges	9
Crescent	10
ShadeSwap	11
Canto Dex	12
Osmosis	13
Liquid Staking Providers	15
Persistence	15
Stride	16
Quicksilver	18
Lending protocols	19
Mars Protocol	19
Umee	20
Developments in Cosmos DeFi	21
ATOM Economic Zone (https://joinatom.zone/)	21
Innovative Projects in Cosmos	22
Concluding discussion	24
About EntryPoint	26
List of References	27

Liquidity Dynamics in DeFi: a view from the Cosmos

Liquidity lies at the heart of any financial market, and decentralised finance (DeFi) is no exception. Protocols with deep liquidity allow for assets to be traded smoothly without individual trades having a significant impact on the price, also known as slippage. As such, liquidity remains a critical indicator of the health of any DeFi protocol and its wider ecosystem. Markets with deep liquidity tend to have high trading volumes, swift trade execution, low slippage and better price discovery, contributing to more stable and efficient markets, and in turn, attracting even more liquidity. This phenomenon can be explained by the so-called flywheel effect, a self-reinforcing cycle where the presence of deep liquidity begets further liquidity.

As a protocol's liquidity deepens, it becomes increasingly attractive to traders due to the reduced price impact of trades and improved price discovery. This increased trading activity can attract additional liquidity providers, who are drawn by the potential for higher trading volumes and thus, more fee income. This further deepens the liquidity of the protocol, creating a virtuous cycle of growth and stability. Hence, the flywheel effect underscores the importance of initial liquidity provision in DeFi markets as a catalyst for sustained growth and development. It is this momentum, once initiated, that can drive a protocol's expansion and resilience, reinforcing the critical role of liquidity in the health and success of the DeFi ecosystem.

Liquidity: In the context of financial markets, liquidity refers to the ease with which an asset can be bought or sold without affecting the asset's price.

Slippage: Slippage refers to the difference between the expected price of a trade and the price at which the trade is executed. High slippage usually occurs in markets with low liquidity.

Flywheel Effect: The flywheel effect is a concept in business and economics where a virtuous cycle is created, leading to a self-reinforcing advantage. In the context of DeFi, it refers to the positive feedback loop where increased liquidity in a protocol attracts more users, which in turn attracts more liquidity.

The Cosmos ecosystem, with its vision of creating an "Internet of Blockchains", is a network of interconnected blockchains with the Cosmos Hub at its heart. The Cosmos SDK allows for the development of sovereign app-chains, where the Hub leverages a range of technical features, including Inter-Blockchain Communication (IBC), Interchain Accounts (ICA), and Interchain Queries (ICQ), to facilitate seamless communication, control, and data exchange between blockchains.



The importance of initial liquidity provision in DeFi markets as a catalyst for sustained growth and development underscores the need to address the challenges hindering deeper liquidity, for Cosmos as well as the crypto market more broadly, both of which have been severely affected by the recent bear market. Reinforcing this thought was the liquidity theme at the Gateway to Cosmos Conference in June this year [2023], with multiple speakers stressing the need for more, less fragmented liquidity and easier onboarding. Yet, the process of attracting serious liquidity into crypto, especially from larger institutions, remains far from straightforward, despite the growing appetite for digital assets amongst investors.¹ The crypto industry is still grappling with a number of hurdles that stand in the way for deeper liquidity, including the lack of regulated access to its markets, the absence of robust risk management structures, as well as the improving, but still overly technical and complex user experience of navigating the space.

“Liquidity is the heartbeat of any economy, nothing interesting happens without it, and you need deep liquidity for adoption.”

- David Graf, CTO of White Whale, “The Oil Powering Defi: Liquidity Developments” panel, 2023 Gateway to Cosmos Conference

Despite these challenges, the Cosmos tech stack remains state-of-the-art at the forefront of blockchain innovation, with potential that has yet to be fully realised. The developments of the ATOM Economic Zone (AEZ) offer reason for hope, with the Cosmos Hub having recently onboarded its first two consumer chains, Neutron and Stride. Altogether, in its pursuit of an Internet of Blockchains, Cosmos is uniquely positioned to enhance liquidity in DeFi markets. Its Inter-Blockchain Communication (IBC) protocol is a cornerstone of this potential, fostering seamless interaction between sovereign app-chains and across IBC-connected ecosystems. This interoperability allows for the smooth transfer of assets between different blockchains, thereby facilitating efficient cross-chain transactions and liquidity flows.

The remainder of this report is structured as follows: First, the main analysis, which looks at liquidity across the Cosmos ecosystem, starting with an examination of ATOM and interchain/IBC activity, before assessing the liquidity across four DEXes (Shade Protocol, Crescent, Canto and Osmosis), three different Liquid Staking Providers (Persistence, Stride, and Quicksilver), and two money markets (Mars and Umee). For the final part of the report, spotlight will be turned towards intriguing projects building on Cosmos, with particular emphasis on liquidity; before drawing to a close with a discussion of the findings.

Current state of Liquidity in the Cosmos

Interchain and ATOM Liquidity

Liquidity across IBC

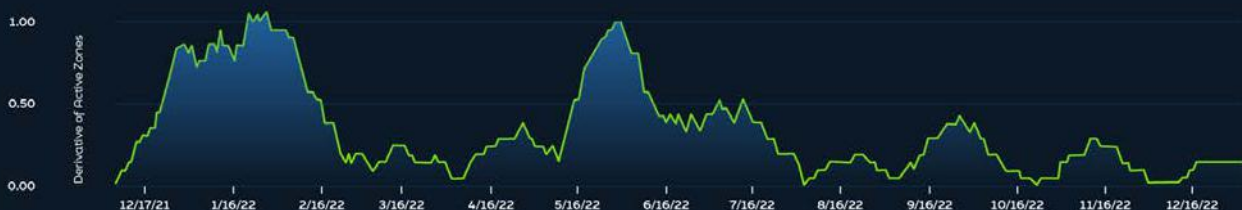
The Interchain is a network of independent blockchains and an ecosystem of tokens and interconnected applications and services, all connected through the Inter-Blockchain Communication Protocol (IBC)

Today, the Interchain unites resources across a multitude of chains and tokenised ecosystems. With its universal applicability, the IBC protocol supports a resilient and decentralised economy. It allows each ledger to work independently using a shared consensus mechanism, while also providing a framework for ledgers to agree on message exchanges asynchronously. In essence, this pioneering technology facilitates a consortium of blockchains to communicate, liberating them from the liquidity and composability issues associated with isolation.

Understanding simple network effects, which dictate that the value of the network increases proportionally with the number of chains and users, is paramount to analysing the Interchain. With the onboarding of more users, chains, and cross-ecosystem capabilities, greater utility and liquidity can subsequently materialise over the Interchain. The rate of Interchain zonal development from IBCs inception to 2023, pictured below, enables Interchain expansion to be visualised.

At genesis, the Interchain initially saw large influxes of capital and interest due to the greater liquidity, ease of use, and cross-chain composability benefits of a federated economy. This saw a great number of chains join the ecosystem. The current state paints a different picture, with the number of zones joining the network having decreased considerably as of late.

Figure 1. Rate of Interchain Zonal Growth 2022-2023



(Critical mass is calculated based on MoZ daily Interchain zone numbers as $\text{zones } t+1 - \text{zones } t / \text{time } t+1 - \text{time } t = d\text{Zones} / d\text{Time}$).^{2,3}

The recent trend seen across zonal growth is also apparent in monthly IBC volume, which remained relatively flat during the first half of 2023 at around \$800-\$900 million, before sinking to just over \$700 million as of late August.^{4,5}

Larger trends in IBC transfers does indeed reinforce the stagnating behaviours around zonal development and IBC volume. Since September of 2022 to late August of 2023, monthly IBC transfers have decreased from 5 million to just over 1 million. Overall, the deceleration in zonal growth, transfers, and the lower IBC volume indicates a slowdown in Interchain expansion and liquidity. Given the current state of traditional financial markets and the broader economy, these developments are not entirely unexpected.

The Internet of Blockchains is an ever expanding network as witnessed by the additions of new chains every month. From the beginning of IBC in February 2021 to 2023, the community of independent, interconnected, and sovereign blockchains has taken substantial strides to improve IBC. Today these blockchains rely on channels and connections to pass information. As a chain connects to a greater number of other chains, the network enables liquidity to pass with substantially more efficiency. In short, the more paths for information to flow through, the greater the capabilities of the Interchain.



(Source: Map of Zones)⁶

The Interchain offers cross-ecosystem connectivity due to the generalised framework of IBC. With the recent launch of Composable Finance's Centauri connection, Polkadot is the first layer-1 ecosystem to establish a trustless connection with Cosmos via IBC, marking a milestone in the evolution of IBC—with further connections to Ethereum, NEAR, Avalanche, Solana, among others in progress. This opens up a new frontier of opportunities for mutual growth and symbiotic collaboration across both networks, which would bolster the resource pool of the Cosmos ecosystem.⁷

ATOM Liquidity

In the aftermath of the Terra USTC collapse, liquidity for the Interchain became a pressing concern. The falter of Terra paved the way for another token to replace its position as the onramp asset within the Cosmos ecosystem, and ATOM naturally assumed this role. As depicted in Figure 1 below, ATOM liquidity has steadily risen since the Terra collapse in May 2022. In line with these positive developments, the Cosmos Hub and its 200,000 unique active users maintains the healthiest and highest utilisation rate versus any other Cosmos SDK blockchain. Moreover, usage over a year timespan remains consistent with levels showing strength despite the bear market.

Figure 3. ATOM, volume 2022



(Calculated based off of ATOM daily volume data from CoinGecko).

The sideways trend seen in Figure 3 raises a critical question: is the liquidity of ATOM adequate to fuel the growth of the Cosmos ecosystem? A comparative analysis of ATOM's turnover and market depth with a highly liquid asset like Ether (ETH) provides a more comprehensive perspective. The turnover ratio, calculated as volume over market capitalisation, is useful to gauge liquidity because it recounts how often the liquidity of the system is utilised relative to market capitalisation. It reveals that ATOM's resilience after large trades relative to market capitalisation is less robust than ETH's. Additionally, ATOM's market depth, or the number of open orders, is narrower compared to ETH.

The analysis in Figure 4 of ATOM's turnover ratio and depth indicates a need for improved resilience and depth to accommodate a larger market within the ecosystem. This finding naturally segues into an analysis of the liquidity within the ecosystem's spot markets, also known as DEXes.

Figure 4. ATOM-ETH turnover and depth comparison

ATOM Turnover Ratio %		ETH Turnover Ratio %	
2.614369401		0.13081361	
3.729606511		0.327614096	
3.537747651		0.197179322	
3.732139563		0.76670258	
3.838576457		0.783612687	
2.43676988		0.64108263	
ATOM AVG TR 6 month		ETH AVG TR 6 month	
3.314868244	Lower the number the better	0.474500821	
HHL - Market DEPTH		HHL - Market DEPTH	
0.176365725	Higher the number the better	0.99470445	

(Source: Data from CoinGecko, author's calculations)

Decentralised Exchanges

Decentralised Exchanges (DEXes) are integral to the DeFi ecosystem, acting as the primary venue for crypto asset trading. By removing the need for traditional intermediaries, DEXes promote a more efficient and transparent trading environment. They play a significant role in enhancing liquidity in the DeFi market, as they facilitate the easy exchange of assets, fostering a more fluid and dynamic market.

Crescent (<https://crescent.network/>)

Crescent Dex is an Automated Market Maker (AMM) / Orderbook Hybrid Decentralised Exchange that provides a smooth method of trading inter-chain assets. It achieves this through the most cost-efficient and sustainable management of liquidity via Orderbook and Ranged liquidity.

An analysis of the Crescent DEX reveals several key insights. There is a clear downward trend in TVL as show in Figure 5, from roughly \$15 million to a current TVL of just over \$4 million, in total a 70% reduction.

Figure 5. Crescent, TVL



(Source: Defillama, Crescent DEX, TVL)

When TVL is juxtaposed with volume, a more comprehensive picture emerges. An inverse correlation is observed, with decreasing TVL and increasing outbound volume suggesting sell pressure. If TVL continues its downward trend depicted in Figure 6, swap volume on the Crescent DEX is likely to further diminish.

Figure 6. Crescent, volume



(Source: Defillama, Crescent DEX, Volume)

ShadeSwap (<https://shadeprotocol.io/>)

ShadeSwap is a privacy-preserving automated market maker (AMM) functioning on Shade Protocol within the Secret Network that offers front-running resistant trades. It is one of a few that offer secretive swapping with protocol-owned arbitrage and maximal extractable value resistance.

Due to the novelty of ShadeSwap, the scope of the Figure 7 data is minimal compared to Crescent. Shade has nevertheless shown strong consolidation trends since entering the market, with an all-time high TVL of \$10 million now sitting 15% lower at \$8.5 million.

Figure 7. ShadeSwap, TVL



(Source: Defillama, ShadeSwap, TVL)

In line with the positive development around ShadeSwap's TVL, as seen in Figure 8 volume is experiencing similar consolidation trends. As a result of TVL and volume maintaining their current level, buy and sell pressure appears even.

Figure 8. ShadeSwap, Volume



(Source: Defillama, Shade Protocol, TVL)

Canto Dex (<https://canto.io/>)

Canto DEX is an automated market maker operating on Canto, a general-purpose Cosmos SDK blockchain that runs an EVM execution layer. Canto DEX is unique in that it seeks to encourage equal opportunity for execution across users by guaranteeing that the application cannot implement fees or be upgraded. The DEX supports concentrated liquidity pools and constant product liquidity pools.

Canto plays a pivotal role in bolstering liquidity within the Cosmos ecosystem by enabling asset transfers through any bridge service compatible with Ethereum Virtual Machine (EVM), including Ethereum, Synapse, Avalanche, Polygon, Optimism, and Arbitrum. Given the diverse sources of liquidity, Canto DEX has established itself as a prime spot for trading. Figure 9 displays that despite experiencing a significant drop from a peak TVL of \$128 million to the current \$25 million, Canto DEX remains one of the most substantial liquidity contributors in the Cosmos ecosystem.

Figure 9. Canto DEX, TVL



(Source: Defillama, [Canto, TVL](#))

Trading volume mirrors the trend of Canto DEX's TVL, currently at its lowest since the platform's inception. Although there was a significant surge in trades earlier in 2023, this has since dwindled considerably. The decline in TVL and volume, shown by Figure 10, underscores the ongoing challenge of maintaining liquidity.

Figure 10. Canto DEX, Volume



(Source: Defillama, [Canto, Volume](#))

Osmosis (<https://osmosis.zone/>)

Osmosis DEX is an advanced automated market maker (AMM) protocol that forms the core of the Osmosis blockchain. It stands out as a key protocol in the Cosmos ecosystem, offering a robust and efficient platform for decentralised trading with high-speed and low-cost transactions.

Osmosis reinforces the general trend of stagnating or decreasing TVL as observed across both Shade and Crescent. Figure 11 depicts an all-time high TVL of \$1.8 billion and a current TVL of \$117 million, with a 93% decrease since the spring of 2022.

Figure 11. Osmosis, TVL



(Source: Defillama, [Osmosis, TVL](#))

Another trend that appears to lack a floor is the volume of Osmosis. Figure 12 shows that over a 30-day period, volume is at its lowest point ever. Coupled with the recent decline in TVL, it can be inferred that the recent volume primarily represents sell pressure. Evidently, total liquidity on Osmosis is dwindling. However, with the revised tokenomics and implementation of supercharged liquidity, which will improve the liquidity efficiency on the DEX by allowing users to choose a range to provide liquidity in, Osmosis is heading in the right direction. This will allow Osmosis to handle the same amount of volume with much less liquidity.

Figure 12. Osmosis, volume



(Source: Defillama, [Osmosis, Volume](#))

All in all, DEX liquidity within the Cosmos ecosystem has been in a clear state of decline. To further substantiate this analysis of Cosmos liquidity, it is necessary to consider the characteristics of a healthy market. Healthy markets exhibit high price resilience and depth. To assess the robustness of the Cosmos ecosystem, the resilience of Osmosis, the largest DEX in the ecosystem, is examined, and the findings are extrapolated across the subsequent smaller ones. The rationale behind this extrapolation is that the largest sources of liquidity have an exponential impact on smaller sources. As a reminder, resilience is the market's ability to maintain the digital asset at its intrinsic or true value after trades.

The average turnover, then, reveals the overall resilience of the market. The lower the turnover ratio, the higher the resilience. Looking towards Figure 13, with a turnover ratio of 1.82 it can be inferred that Osmosis DEX would struggle to maintain fair value after large trades, possibly with a negative impact on market health. Extrapolating the effects on Osmosis after large trades towards other DEXes across the Cosmos ecosystem, one conclusion is that for the Cosmos ecosystem to grow substantially, market resilience ought to improve through a lower turnover ratio.

Figure 13. Osmosis, turnover ratio

OSMO		Osmosis Monthly Volume (m)	TVL (m)	Turnover Ratio
22	Dec	\$ 229,140,583.00	\$ 146,946,104.00	1.559351196
23	Jan	\$ 369,134,651.00	\$ 187,217,614.00	1.971687616
23	Feb	\$ 398,101,461.00	\$ 180,890,776.00	2.200783643
23	Mar	\$ 374,535,995.00	\$ 165,180,935.00	2.267428714
23	Apr	\$ 244,631,022.00	\$ 168,210,133.00	1.454317987
23	May	\$ 208,686,752.00	\$ 139,204,574.00	1.499137176
OSMO 6 Month Average				1.825451055

The question then arises: if ATOM and the Cosmos spot markets have low liquidity in terms of resilience and depth, is the solution to attract more external liquidity, or is liquidity in the Cosmos ecosystem being used inefficiently?

Liquid Staking Providers

Liquid Staking Providers (LSPs) play a crucial role in the DeFi economy by allowing users to stake their assets and earn rewards, thereby incentivising participation in the network. This process not only secures the network but also enhances liquidity, as staked assets can be used in other DeFi protocols, thereby creating a more interconnected and fluid DeFi ecosystem.

Persistence (<https://persistence.one/>)

Persistence (pSTAKE Finance) is a liquid staking protocol that allows users to stake their assets while maintaining the liquidity of these assets. On staking with pSTAKE, users earn staking rewards and also receive 1:1 pegged staked representative tokens (stkTOKENs) which can be used in DeFi to generate additional yield.

Liquid Staking Derivatives (LSDs) align user incentives and solve liquidity lock up issues from staking with blockchains. Persistence is a leading liquid staking provider that offers bridges between Ethereum and other supported PoS networks, but has yet to find market fit in the Cosmos Ecosystem. Before the genesis of Persistence there were few LSD options. Now there are many. In the short term Figure 14 shows, consolidation of TVL is taking place, although Persistence's market share over the long term exhibits a continual downward trend with an 88% decrease from an all-time high TVL of \$60 million that now sits close to \$7 million.

Figure 14. Persistence, TVL



(Source: DeFiLlama, [pStake Finance](#), TVL)

Despite this, liquidity remains poor. The decreasing TVL seen in Figure 15 is compounded by the lowest ever 30-day volume, which does not provide meaningful insights into buying or selling pressure. The long-term TVL trend for the Persistence DEX is negative, and the short-term trend is flat while volume continues to decrease. These factors contribute to decreasing resilience and depth of liquidity.

Figure 15. Persistence, volume



(Source: Defillama, [pStake Finance, Volume](#))

Stride (<https://stride.zone/>)

Stride is a leading multichain liquid staking protocol that allows users to stake their tokens from any Cosmos chain and mint stTokens in return, which can be freely traded and redeemed at any time. This allows users of Stride to deploy their staked assets elsewhere across DeFi to generate additional yield.

Having recently onboarded the AEZ as the second consumer chain to acquire Replicated Security from the Cosmos Hub, many Cosmonauts are looking for Stride to have a big impact on the Cosmos ecosystem. By unlocking the liquidity of staked assets, Stride allows users to continue earning staking yield while also earning additional yield through lending, liquidity provision, and more. This dual earning potential could attract more users to the Cosmos ecosystem, thereby increasing the volume of traded assets and improving overall liquidity. So far, this appears to be coming to fruition.

Figure 16. ATOM/stATOM Osmosis pool, TVL



(Source: info.osmosis.zone, [Osmosis, Pool 803](#))

Since the October 2022 genesis of ATOM/stATOM pool on Osmosis seen in Figure 16, the observed TVL of \$2.5 million has increased considerably to \$22.5 million. As previously discussed, LSDs align incentive mechanisms for users, which is evident when observing:

1. The 35% decline in TVL in the ATOM/OSMO pool during 2023, versus the 212% TVL growth observed in the ATOM/stATOM pool during the same time period;
2. The ATOM/OSMO pool is presently making new all-time lows while the ATOM/stATOM pool, launching to all-time highs, closes the \$3 million gap to flip ATOM/OSMO as the number one pool on Osmosis.

The inverse TVL relationship's of the ATOM/stATOM pool versus the OSMO/ATOM can be said to reveal the Cosmos ecosystem's incentive misalignment before LSDs.

Figure 17. Stride, TVL



(Source: [Defillama, Stride, TVL](#))

The bottom line is that Stride is receiving massive adoption, as conveyed by Stride TVL in Figure 17, and the primary reason for its success is that it enables incentives and liquidity to function with greater alignment in Cosmos.

Quicksilver (<https://quicksilver.zone/>)

Quicksilver is a liquid staking provider that allows delegators to stake assets against any IBC-enabled chain validator, and in return receive qAsset, which represents a claim against their staked position. Quicksilver also allows users to continue to exercise their governance rights as if they were delegating natively, by mirroring proposals submitted on connected chains.

Similarly to Stride, Quicksilver is another LSD provider that appears to be enhancing liquidity in the Cosmos ecosystem. The protocol's issuance of qAssets ensures that staked assets remain liquid and can be employed in various DeFi protocols, thereby boosting the volume of traded assets and enhancing overall liquidity. Additionally, Quicksilver's capability to support staking across all IBC-connected chains could attract a more diverse set of participants, including delegators and liquidity providers from multiple chains, leading to an increase in the volume of staked assets and further liquidity improvement.

Figure 18 shows the ATOM/qATOM pool raised a staggering 350% between March and July from \$200k to \$900k. The inverse correlation observed in stATOM versus ATOM/OSMO can also be seen in qATOM, further reinforcing the idea that LSDs improve orientation around incentives...

Figure 18. ATOM/qATOM Osmosis Pool, TVL



(Source: info.osmosis.zone, [Osmosis, Pool 944](#))

Quicksilver is of the more recent LSD providers joining the ecosystem and has exhibited sturdy TVL, as seen by Figure 19, consolidation around \$2 million with a high of \$2.5 million. In light of the money exiting DEXes, Quicksilver's strength is a major positive for empowering liquidity growth in Cosmos.

Figure 19. Quicksilver, TVL



(Source: Defillama, [Quicksilver, TVL](#))

Lending protocols

Money Markets in DeFi serve as platforms for the borrowing and lending of crypto assets. They play a crucial role in enhancing liquidity by allowing users to earn interest on idle assets and providing borrowers with access to capital. This fosters a more efficient use of assets and contributes to a more liquid DeFi ecosystem.

Mars Protocol (<https://marsprotocol.io/>)

Mars Protocol is an open-source, decentralised lending and credit protocol that combines leverage-focused DeFi applications and interest rate products, allowing users to deposit and borrow assets in a transparent and efficient manner.

Mars currently offers one outpost across the Cosmos ecosystem with the hope to expand in the future. The go-to-market strategy of bringing the lending platform to a DeFi hub like Osmosis has enabled strong traction in terms of borrowed assets. Figure 20 shows, the Red Bank lent an all-time high loan volume of \$6 million, a figure that has experienced a 50% decline to \$3 million.

Figure 20. Mars, Borrowed Volume



(Source: Defillama, [Mars, Borrowed volume](#))

By providing a platform where users can lend, borrow, and earn, Mars Protocol can potentially enhance the liquidity in the Cosmos ecosystem by increasing the volume of assets being traded. Furthermore, the protocol's focus on safety and customisation of lending algorithms could attract a wider range of participants, including risk-averse institutional investors, thereby contributing to the depth and resilience of liquidity in the Cosmos ecosystem.

Unlike global money markets, the total money supply in the Cosmos ecosystem currently outpaces total debt. Mars Protocol is focused on augmenting the utility of digital money and reversing the debt-to-money balance within the Cosmos ecosystem to mirror that of conventional markets. Achieving this recalibration could lead to marked enhancements in the depth and resilience of liquidity within the Cosmos ecosystem.

Umee (<https://umee.cc/>)

Umee is a base layer blockchain designed for lending, with a focus on safety and adaptability. It enables developers to build applications for cross-chain borrowing, lending, and trading, and it connects various blockchain ecosystems, including Cosmos, Ethereum, and others.

It is paramount in any market that participants have access to liabilities because the money supply versus the market demand for money is disproportionate. In turn, loans become a consequential tool for financial markets. By providing a platform where users can lend and borrow assets, Umee is set to enhance liquidity in the Cosmos ecosystem. The protocol's focus on safety, programmability, and cross-chain interoperability could attract more users and capital to the ecosystem, thereby driving its growth and development.

Figure 21. Umee, Borrowed Volume



(Source: Defillama, [Umee, Borrowed volume](#))

Umee plays a key role as one of those tools and has seen a steady uptrend in credit utilisation, seen in Figure 21, from \$1 million to an all-time high of 4.5 million, a 350% increase.

Unlike Mars' satellite approach to money markets over the Cosmos ecosystem, Umee employs a vertically integrated model to attract borrowers. The key difference is that Umee does not fragment its liquidity across the ecosystem, as Mars' satellite model does, and instead holds all the liquidity on its layer 1. This architecture creates friction by forcing the user to exit the blockchain they interact with, borrow from Umee, and then send the borrowed assets back. In that sense, Umee's model enforces liquidity to go to the product rather than the product coming to the liquidity pockets. The consequence of this strategy is higher loan volume. The objective of Umee to create a money market for the Cosmos Ecosystem will, like Mars, permit the growth of liquidity in the system.

Developments in Cosmos DeFi

This section introduces the ATOM Economic Zone and highlights a number of interesting projects developing on Cosmos.

ATOM Economic Zone (<https://joinatom.zone/>)

The AEZ is a recent initiative by the Cosmos Hub to position itself at the core of a thriving ecosystem of interconnected app-chains, also known as the Internet of Blockchains. The AEZ was conceived to address the challenge of capturing value for ATOM, which has traditionally been used only for staking and paying network fees. In doing so, the AEZ aims to provide both security and liquidity to other chains in the ecosystem, by driving greater on-chain activity, generating more fees for the Cosmos Hub, increasing the market capitalisation of ATOM, and attracting more users and liquidity. The AEZ is built on three main pillars:

Replicated Security: This feature allows new blockchains to rent validators from Cosmos Hub, saving them the time and resources needed to build their own validator systems. This means that the Cosmos Hub directly benefits from the growth of dApps, users, and transactions on these new chains.

Liquid Staking Module (LSM): This tool facilitates the transformation of staked ATOM into a liquid state for delegators. This maintains network stability by keeping a consistent level of staked ATOM while also generating substantial liquidity for DeFi within the Cosmos Ecosystem.

ATOM Accelerator DAO: This is a fund designed to support initiatives and research that add value to Cosmos Hub. While its impact may not be significant in the short term, it has the potential to ensure the long-term growth of the entire ATOM ecosystem if used effectively.

The AEZ is still in its early stages, but it has the potential to be a significant catalyst for the ecosystem's growth. Having recently onboarded its first two consumer chains Neutron and Stride, with the Duality DEX integrated into Neutron. If the Cosmos Hub manages to get the economic model right, this could be the start of something big.

Innovative Projects in Cosmos

Whether as consumer chains or not, there are many interesting projects building in the Cosmos ecosystem outside of those in the analysis. Below is a non-exhaustive list of such projects, with potential to improve liquidity in the ecosystem.

Neutron (<https://neutron.org/>) is built to be the most secure CosmWasm smart contract platform, and was the first consumer chain to join the AEZ. Its design aims to facilitate easier development and scaling of cross-chain DeFi apps in Cosmos, allowing smart contracts to interact with any IBC-connected chains. By attracting more developers and users of DeFi applications, Neutron is well-positioned to draw additional liquidity to Cosmos. As an example, the platform's first DEX, Astroport (<https://astroport.fi/>), has already collected over \$20 million in TVL through Neutron.

Duality (<https://duality.xyz/>) is a soon-to-launch Cosmos DEX that aims to unlock fair, efficient markets by empowering traders and liquidity providers to own their experience. It provides a powerful trading experience with access to various order types and approximations of any AMM curve to LP into. Duality DEX is set to enhance liquidity in the Cosmos ecosystem by providing a platform where users can trade assets and earn fees.

Noble (<https://nobleassets.xyz/>) is bringing native USDC, as well as a Japanese stablecoin in collaboration with Toki, to the Cosmos ecosystem. This external liquidity is likely to significantly enhance the Cosmos ecosystem's liquidity depth, making it more resilient and attractive to traders and liquidity providers. Furthermore, Noble's IBC packet middleware will enable more efficient asset velocity, deepening liquidity in the Cosmos ecosystem.

Tether (<https://tether.to/en/>) is set to issue USDT on the Kava blockchain, bringing its popular stablecoin to the Cosmos ecosystem. This move could attract more users and liquidity to the platform, enhancing the overall liquidity within Cosmos and making it more attractive to traders and liquidity providers.

dYdX (<https://dydx.exchange/>), a leading DEX, is set to relaunch as a sovereign Cosmos chain. Known for its advanced financial capabilities, including margin trading and derivatives, dYdX brings a level of sophistication to Cosmos DeFi. This move will allow dYdX to leverage the speed, scalability, and interoperability of the Cosmos ecosystem, providing a better user experience and possibly attracting more users and liquidity to the platform.

Inter Stable Token (<https://inter.trade/>; <https://agoric.com/>), also known as IST, is another stablecoin that has recently launched on the Agoric blockchain, which is soft-pegged to the US dollar and over-collateralized by digital assets like ATOM, DAI, USDC, and USDT. By providing a stable and secure medium of exchange, Agoric IST could attract more users and transactions to the Cosmos ecosystem, thereby enhancing its overall liquidity.

Injective (<https://injective.com/>) is a decentralised exchange that is pioneering a new wave of DeFi applications by enabling fully decentralised cross-chain derivatives trading across a myriad of networks. Its unique layer 1 enhances its scalability and speed, while its decentralised nature ensures security and transparency. Injective's ability to support a wide range of financial products could enhance liquidity in the Cosmos ecosystem.

Sei Network (<https://www.sei.io/>) is a Cosmos-based layer-1 blockchain that is optimised for DeFi applications, offering a high-performance, scalable, and secure platform for developers. Sei's unique architecture allows for the creation of customised applications with specific features that require high throughput. Outsized throughput empowers greater flexibility that could attract DeFi developers, leading to an influx of new applications and liquidity into the Cosmos ecosystem.

SushiSwap (<https://www.sushi.com/>) has recently acquired the Cosmos-based Vortex Protocol, a yet-to-launch derivatives DEX built on the Sei Network, and plans to launch its services on Cosmos. This move will bring SushiSwap to the Cosmos, which as a relatively large and established DEX could draw additional liquidity into the ecosystem.

Axelar (<https://axelar.network/>) is a cross-chain communication platform that continues to improve the way dApps interact with assets and applications across different blockchains. By providing a simple API atop a permissionless network, Axelar allows for secure and efficient cross-chain communication. By enabling more efficient asset transfers and interactions between different blockchain ecosystems, Axelar has the potential to enhance liquidity in the Cosmos ecosystem.

White Whale (<https://whitewhale.money/>) aims to address liquidity fragmentation in the Cosmos ecosystem by providing flash loans and open-source bots. This enables retail users to perform liquidations and arbitrage, traditionally reserved for well-capitalised players. By democratising these financial tools, White Whale could attract more participants to the Cosmos ecosystem, thereby enhancing liquidity.

Quasar (<https://www.quasar.fi/>) is a decentralised asset management platform that allows users to create or join vaults, which are smart contracts that execute interchain strategies. These vaults can crowdsource capital from liquidity providers across different chains, enabling the creation and execution of complex DeFi strategies. By simplifying the process of building these strategies and enhancing the interoperability of assets, Quasar could attract more users and transactions to the Cosmos ecosystem, thereby enhancing its overall liquidity.

Sommelier (<https://www.sommelier.finance/>) is a DeFi platform that provides automated vaults for optimising yields, hosting a variety of strategies for different risk profiles and crypto asset preferences. The platform utilises machine learning models to manage risk and optimise yields, and it offers fast execution and automated dynamic rebalancing. By providing a platform for optimised yield generation and risk management, Sommelier could attract more users and transactions to the Cosmos ecosystem, thereby enhancing its overall liquidity.

Concluding discussion

This report has sought to provide an overview of the recent state of liquidity in the Cosmos ecosystem and across the Interchain. It has done so by looking at the transaction volume and zonal growth rate of IBC; the volume of ATOM along with a turnover and depth ratio comparison with ETH; TVL and volume across leading DEXes, LSPs, as well as credit utilisation on money markets in the Cosmos ecosystem. When charting the zonal growth rate of IBC it is evident that the boom observed near the beginning has since slowly dissipated and flattened.

The initial positive sentiment surrounding the growth of the network saw liquidity enter, but the recent sluggish development has marked a period of consolidation for Interchain liquidity. Moreover, the inspection of ATOM liquidity and turnover ratio comparison with its ETH counterpart suggests that the resiliency and depth relative to market capitalisation of ATOM requires improvement. Barriers to deploying large amounts of capital grow as the resiliency and depth decrease. Thereby, the consequence of both measures being lower for the Cosmos Hub is decreased inflows. As important sources of inbound liquidity for these app-chains, the state of the Osmosis, Canto, and Shade Protocol DEXes showed a clear decrease since the start of the year in both volume and TVL. Observing the TVL on the LSPs painted an entirely different picture, with Stride and Quicksilver experiencing explosive TVL growth since coming online—showcasing the growing popularity for liquid staking tokens (LSTs). Reinforcing this finding was the substantial rise in TVL observed for the Osmosis liquidity pools of ATOM/stATOM and ATOM/qATOM, with the former now not far off from overtaking ATOM/OSMO as the largest liquidity pool on Osmosis. Impressive growth was also observed across the money markets of Umee and Mars this year.

It is apparent that LSPs such as Stride, Persistence, and Quicksilver enhance liquidity within the Cosmos Ecosystem. They allow users to unlock previously illiquid capital and as a result interchain composability expands. One example is using the Liquid Staking Module to mint staked derivative representations of the bonded token for collateralisation on Mars or Umee. These projects can play a crucial role in attracting participants and increasing the depth of liquidity, thereby contributing to the overall health and stability of the ecosystem. While the positive progress alters the topology of liquidity in the Cosmos ecosystem, user experience and usage remain a challenge that is further exacerbated by the absence of a primary onboarding application.

Historically, Anchor served as a key application for intuitive ease of access to Terra, and via IBC, to the Cosmos ecosystem. The hole created by the fall of Terra's UST stablecoin has left an application with high ease of use and low barriers of entry missing from the Cosmos ecosystem. The user base and liquidity have shrunk due to the lack of a point of entry. Despite this, progress towards user adoption is being made. The applications that are poised to fulfil the missing access point by abstracting away complexity from the user include Sommelier, Quasar, EntryPoint, and Cosmos Hub with its Atom Economic Zone. To this day, the Cosmos ecosystem has been devoid of stablecoins that have achieved the same level of success as UST. Although true, the recent advancements from Agoric, Noble, and Tether with IST, native USDC, and USDt could unlock a wave of liquidity and activity throughout the interchain, with the potential for significant growth across the Cosmos ecosystem.

Furthermore, additional IBC connections to other ecosystems developed by Polymer Labs, Composable Finance, Wormhole, and others, to Ethereum, Polkadot, Solana, AVAX, NEAR, and more, will not only allow Cosmos chains to offer a greater range of tokens on their platform, be it for trading or in a vault product, but likewise enable cross-ecosystem liquidity to flow into the Cosmos ecosystem—assuming there are enough incentives to do so.

While user acquisition is expected, user retention in Cosmos will require deeper liquidity and smooth UX for new users. User experience is full of friction and unfriendly to new and veteran users alike. For instance, in the circumstance where a user would like to liquid stake their bonded ATOM to the Cosmos Hub, they must first unbond them, move the liquid ATOM across IBC to Stride, and rebond them with Stride to receive a liquid-staked representation of bonded ATOM (stATOM). This process is not alone in its complexity. An asynchronous protocol like IBC generates fragmentation that poses challenges for all Cosmos ecosystem UX designers. Currently, the Cosmos ecosystem raises the barrier of entry for novice entrants because it does not solve the problems IBC creates, resulting in a suboptimal, less intuitive user experience.

In conclusion, the Cosmos Ecosystem faces challenges and opportunities regarding liquidity. To drive ecosystem expansion, onboarding applications need to address user experience to make using liquidity frictionless. Although LSPs and money markets show that the Interchain is making headway to solve the limited liquidity, the process to liquid stake tokens must be abstracted away from the user, and simplistic methods for utilising the derivatives must take form. Progress is being made towards solving the aforementioned issues, providing hope for liquidity and user retention in Cosmos.

About EntryPoint

EntryPoint (<https://entrypoint.zone>) is a sovereign, governance-driven Cosmos SDK blockchain that provides diversified indexes and risk-minimised portfolio management for cryptocurrencies and tokenised assets. It offers seamless broad market access without the need for deep technical knowledge or time-consuming research, and features non-custodial and fully-collateralised index vaults for reduced counterparty risk, secure asset ownership, and diversified market exposure.

To learn more about EntryPoint and stay up-to-date with development, visit our [Website](#), follow our [Twitter](#) and [Blog](#), or join the community on [Discord](#).

List of References

1. Fidelity Digital Assets, 2022. Institutional Investor Digital Assets Study. [online] Available at: https://www.fidelitydigitalassets.com/sites/default/files/documents/2022_Institutional_Investor_Digital_Assets_Study.pdf [Accessed 20 August 2023].
2. Wilson III, E.J., 2011. The Flip Side of Metcalfe's Law: Multiple and Growing Costs of Network Exclusion. International Journal of Communication. [online] Available at: <ijoc.org/index.php/ijoc/article/viewFile/873/549> [Accessed 20 August 2023].
3. Yoo, C.S., 2015. Moore's Law, Metcalfe's Law, and the Theory of Optimal Interoperability. Colorado Technology Law Journal, [online] 25 November. Available at: <ctlj.colorado.edu/wp-content/uploads/2021/02/14.1_7_v2.Final-Yoo-11.25.15-JRD.pdf> [Accessed 20 August 2023].
4. Fiebach, M., 2022. 2022 Year End Review: Network Coverage, Layer 1S & 2S. Blockworks Research, [online] 27 December. Available at: <www.blockworksresearch.com/research/2022-in-review-network-coverage-layer-1s-and-2s> [Accessed 20 August 2023].
5. CoinWire, 2022. Cosmos Ecosystem - Q3 2022 Quarterly Report. CoinWire, [online] 10 October. Available at: <coinwire.com/cosmos-ecosystem-q3-2> [Accessed 20 August 2023].
6. Map of Zones, 2023. Cosmos network explorer. Map of zones. [online] 20 June. Available at: <https://mapofzones.com/zones?columnKey=ibcVolume&period=30d> [Accessed 20 August 2023].
7. Composable Finance, 2023. Centauri. Composable Finance. [online] 24 June. Available at: <https://docs.composable.finance/products/centauri-overview/> [Accessed 20 August 2023].