



DefiLlama



DLResearch

T H E S T A T E O F  
**RWAfi**

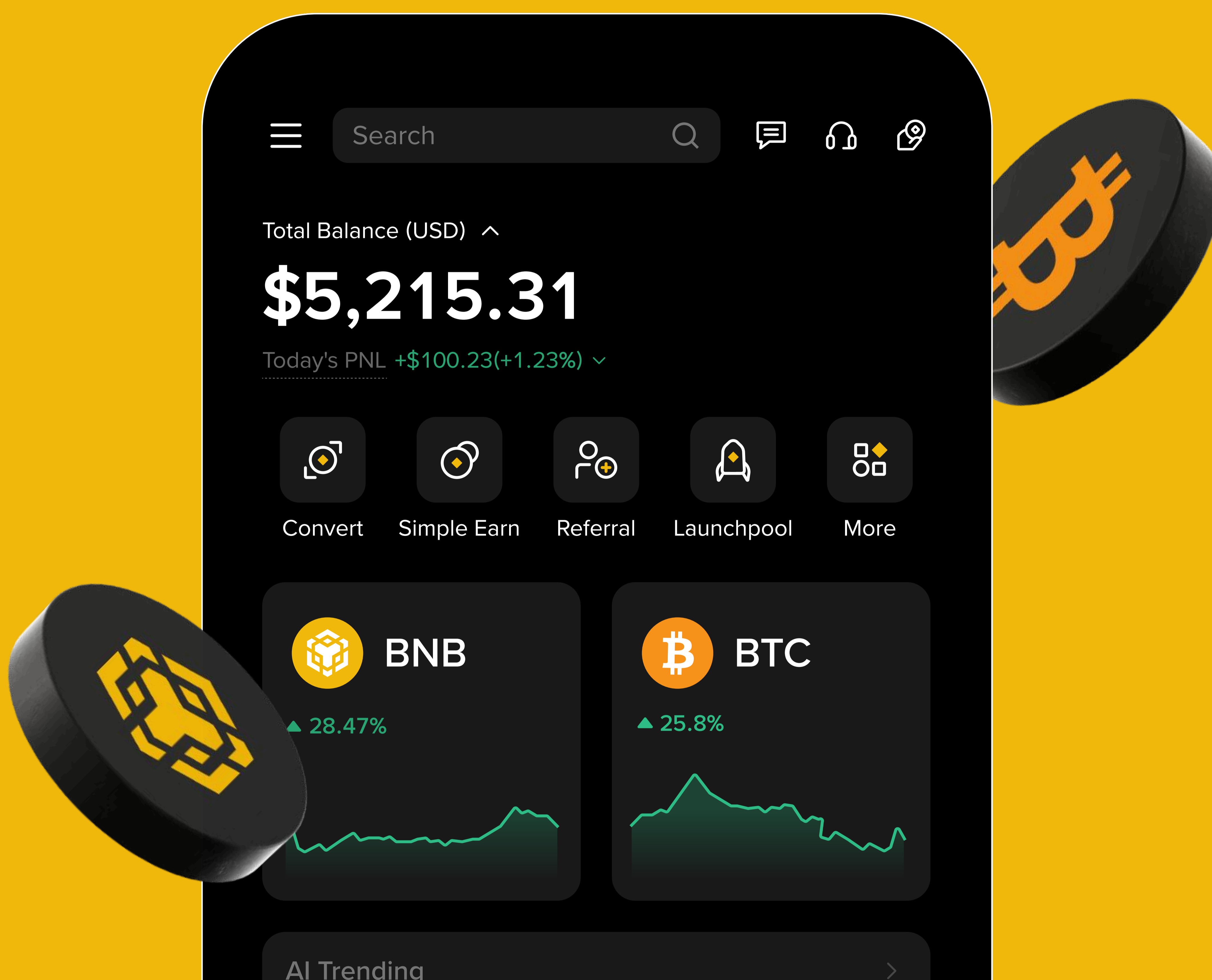
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Q1 2026





# 300+ MILLION USERS TRUST BINANCE



# The State of **RWAfi**

Q1 2026

<b>Scope of the research report</b>	<b>4</b>	<b>Tokenised real estate</b>	<b>45</b>
<b>Market overview</b>	<b>7</b>	Different classes of tokenised real estate	46
<b>Tokenised commodities</b>	<b>9</b>	Regulation as the primary constraint	49
Overview and structural categories	11	How is tokenised real estate used onchain?	51
Liquidity, Redeemability and capital efficiency	13	<b>Tokenised alternative finance</b>	<b>56</b>
Asset behaviour: How commodities are actually used onchain	21	What is alternative finance in traditional markets?	57
Regulation: A green light, with boundaries	26	Private credit	61
<b>Tokenised stocks</b>	<b>27</b>	Examples of private credit DeFi active TVL	65
Synthetic tokens	29	Private equity and venture capital	69
Structured notes or tracker tokens	31	Carbon credits and environmental assets	72
Custody-backed tokenised stocks	31	<b>Risks</b>	<b>76</b>
Security entitlements in traditional markets	33	Global risks	77
Natively issued tokenised shares	34	Sector-specific risks	78
Market size & growth: How big is it getting?	36	<b>Outlook</b>	<b>81</b>
Issuance is concentrated, but circulation is more balanced	37		
What users are actually holding onchain	38		
Tokenised stocks are concentrated on three chains	39		
The DeFi legos: New financial primitives	40		

With the support of



# Scope of the research report

Tokenisation is expanding rapidly across financial markets. From stablecoins to commodities, equities and real estate, an increasing share of assets is moving onchain. Yet this growth is often analysed as a single trend, grouping fundamentally different asset classes under one umbrella. Unfortunately this framing creates blind spots.

Each asset class carries its own structural characteristics. Commodities are tied to physical supply chains and custody systems. Equities represent financial claims with embedded rights such as dividends and voting. Real estate operates within jurisdiction-specific legal frameworks and registry systems. Other emerging financial assets introduce yet another set of dynamics.

As a result, tokenisation of real world assets doesn't unfold uniformly. The pace of adoption, the role of intermediaries, the depth of liquidity and the degree of DeFi integration all vary depending on the underlying asset.

Hence, rather than treating tokenisation as a homogeneous market, this report takes a segmented approach, focusing on four emerging sectors: commodities, equities, real estate, and alternative financial assets, which are often overlooked in research that typically focuses on more traditional instruments such as bonds and Treasury bills.

Across each sector, the analysis goes beyond simple growth metrics. It combines quantitative data with qualitative insights to understand how these assets are structured, how they are used onchain, and how they integrate into DeFi. The goal is to connect usage, growth and constraints to build a clearer view of how each segment is evolving and collectively shaping what can be defined as RWafi.

The report begins with a brief global overview to set the stage. It then examines each sector independently to capture its specific dynamics and constraints, before bringing these perspectives together in a final section to show how these segments connect and what they reveal about the development of RWafi.

## FEATURED INTERVIEW



A conversation with

# Meta



### What makes DefiLlama RWA dashboard unique in the space?

We organize RWAs under several classification systems. Are you looking for permissioned vs permissionless? What about yield bearing RWAs versus tokenized commodities? Simply looking for bonds? How about specifics like palladium or sovereign bond funds? Or RWAs only on ETH? We have them organized in countless ways. Most importantly, we have Active Marketcap and DeFi Active TVL as core metrics for our dashboard. DeFi Active TVL is how much value of an RWA is found in third-party defi protocols. This gives us an idea of how integrated with the rest of crypto an RWA is. Active Marketcap is a derivation of onchain marketcap where we remove from the total marketcap the tokens held in high confidence associated wallets that belong to the team, treasury, or other various internal addresses or that are engaged in mint-burn loops. This gives us a more realistic picture of how much RWA value is actually being provided for the greater market and not simply a reflection of internal bookkeeping. Utilization as a metric is the % of DeFi Active TVL over Active Marketcap. The higher the utilization, the more integrated an RWA truly is with the greater financial ecosystem. TradFi already has its various

financial instruments webbed together. DeFi has that already. We want to see an increasing amount of this as this means the RWAs are not just sitting stale and represent capital that's actively taking risk. This is the most perceptible and thus most quantifiable intersection demonstrating where the future of finance is being birthed.

### What are the main challenges you face when integrating RWA projects on the dashboard?

Defining what constitutes RWAs. That is what criteria are needed to sufficiently define an asset as an RWA. What *isn't* an RWA? It's a philosophical debate at this point. What also are the exclusionary criteria for RWAs? That seemed easier to come up with as a lack of evidence. Where is the difference programmable finance and RWAs? What metrics will someone want to see that can effectively compare a treasury bond to copper to Pokemon cards?

### What are the hardest metrics to standardise across RWA protocols?

The concept of TVL/AUM/Marketcap. Each RWA protocol seems to operate differently when claiming how much capital exists within their asset/protocol. Standardization had to come from us to prevent user confusion. RWAs are such a massive umbrella of assets that you truly are comparing apples and oranges and that's desired. Fruit is a big umbrella but RWAs are bigger than that metaphor and closer to anything that can be ingested. How do you decide to show the same standardized data

for a fractionalized art piece and carbon credits and the same money market fund that has three different jurisdictional wrappings?

### **What are the biggest data transparency issues you see with RWA protocols today?**

Attestations. Though lots of RWAs provide them. There are some that can't provide them easily due to the risk associated with revealing exact locations/doxxing while adhering to security procedures. Furthermore, frequency of attestations and what constitutes as "good enough" of a verification are somewhat subjective when this entire industry is still in its infancy. Do you need a live webcam stream of a gold vault to know it exists or is a simple document signed every few months enough? If so, how do we know that the assets haven't moved during that duration of time in between? Crypto solved for double-spend onchain but not offchain.

### **Where do you think the RWA sector will be in 2/3 years in terms of on-chain data and transparency?**

It's going to be glorious compared. The rate of change in the past two years has been exponential. Simply put, as much as the crypto native is not fond of regulatory compliance being a barrier for development that isn't the case when it comes to RWAs. They're already regulated IRL. "Don't trust, verify" is going to hit TradFi \_hard\_.

What used to be hidden away due to inaccessibility is going to be a normal demand from people so that they can have trust with these products. Onchain data is the trickiest part but there are several developments that look like they're going to help get us on track to where we want. We want to get from the point of PDFs uploaded to centralized servers declaring the existence of RWAs to eventually having the full document written onchain and updated there on the public ledger. That's going to be a bit intensive in terms of block space, sure. That will also be solved for. The significant takeaway isn't the transparency and onchain data for RWAs, it really is about how much it is going to influence the rest of the world & TradFi to become more transparent about their record keeping. We're here at the advent of a new era of finance and it is absolutely pertinent that we do not lose sight of why we are avid about crypto to begin with. The old system was broken. We shouldn't rush onboarding that old system without making the improvements we need to make it sustainable. Once again, we've solved double-spend in crypto. Let's not be too excited that massive values of assets are being put onchain and neglect the reason they even were inspired to come onchain in the first place: a decentralized peer-to-peer financial system that anyone can audit themselves. This is going to happen in steps. We've made breakthroughs. The next ones are going to be loosening of crypto regulations while enhancing the pre-existing compliance for the underlyings. This is how we manufacture concrete DeFi lego blocks.

# Market overview

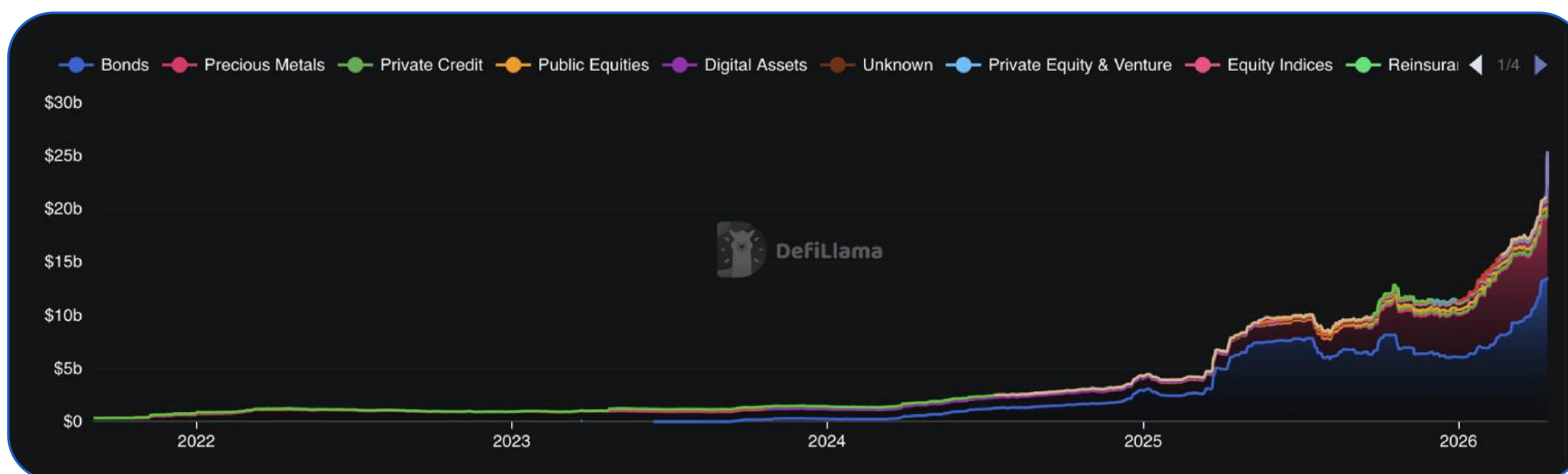
Tokenisation is no longer an emerging narrative. It is becoming a measurable segment of financial markets. As of March 2026, the active real-world asset market cap\* has expanded from approximately \$4.1 billion in early 2025 to \$25.2 billion as of today, representing a more than fivefold increase in just over a year.

This growth, however, is not evenly distributed. It is concentrated across a limited number of asset classes.

Tokenised funds dominate the market, growing from \$2.7 billion to \$13.5 billion and accounting for more than half of total active market cap. Commodities follow, expanding from \$1.1 billion to \$5.9 billion, largely driven by tokenised gold. Private credits come next, with \$4.6 billion but remains hard to track with accuracy due to the private nature of the asset class. Tokenised stocks and equities have also scaled rapidly, increasing from around \$200 million to \$1.2 billion. Together, these segments represent the vast majority of the market accounting for more than 95% of total RWA value.

Real estate remains relatively small and requires a different lens of analysis, as it is more relevant to consider the underlying asset value rather than the active market capitalisation. The sector has grown from a few tens of millions to around \$300 million in represented value.

## ONCHAIN MARKET CAP (RWA)



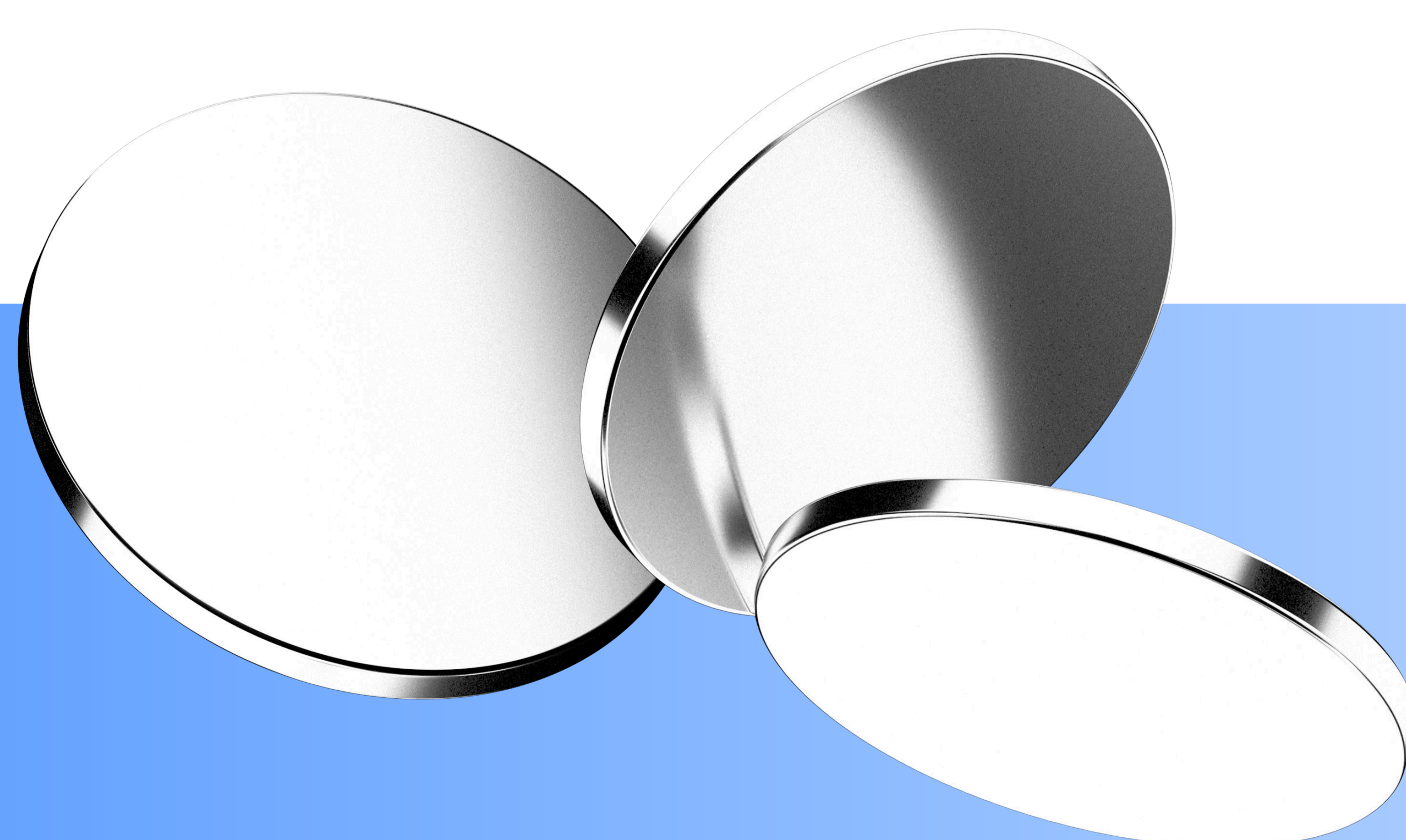
Source: [DefiLlama](https://defillama.com)

\*Active Market Cap : The portion of Onchain value taking real market risk in user or protocol hands.

Beyond market size, actual usage is another key metric to consider. While total onchain market capitalisation stands at approximately \$28.6 billion, only around \$2.81 billion is currently deployed within DeFi protocols.

The uneven growth across asset classes and the still gradual pace of DeFi integration can largely be explained by how the market is structured. Not all assets are equal. Some are easier to standardise, distribute and track, while others are more complex due to legal, operational or market constraints. Tokenised assets rely on offchain infrastructure such as custodians and legal entities, meaning tokens often represent claims rather than direct ownership, and their tracking can vary in complexity. Liquidity also differs: it can be deep and accessible in some cases, while in others it remains fragmented across issuers, chains and venues. Regulation further defines how far assets can integrate into DeFi, particularly when introducing yield, lending or cross-border activity.

As a result, RWA should not be viewed as a single market, but as a set of distinct asset classes evolving under different conditions. This is what we explore in the following sections across the four selected asset classes.



# 01

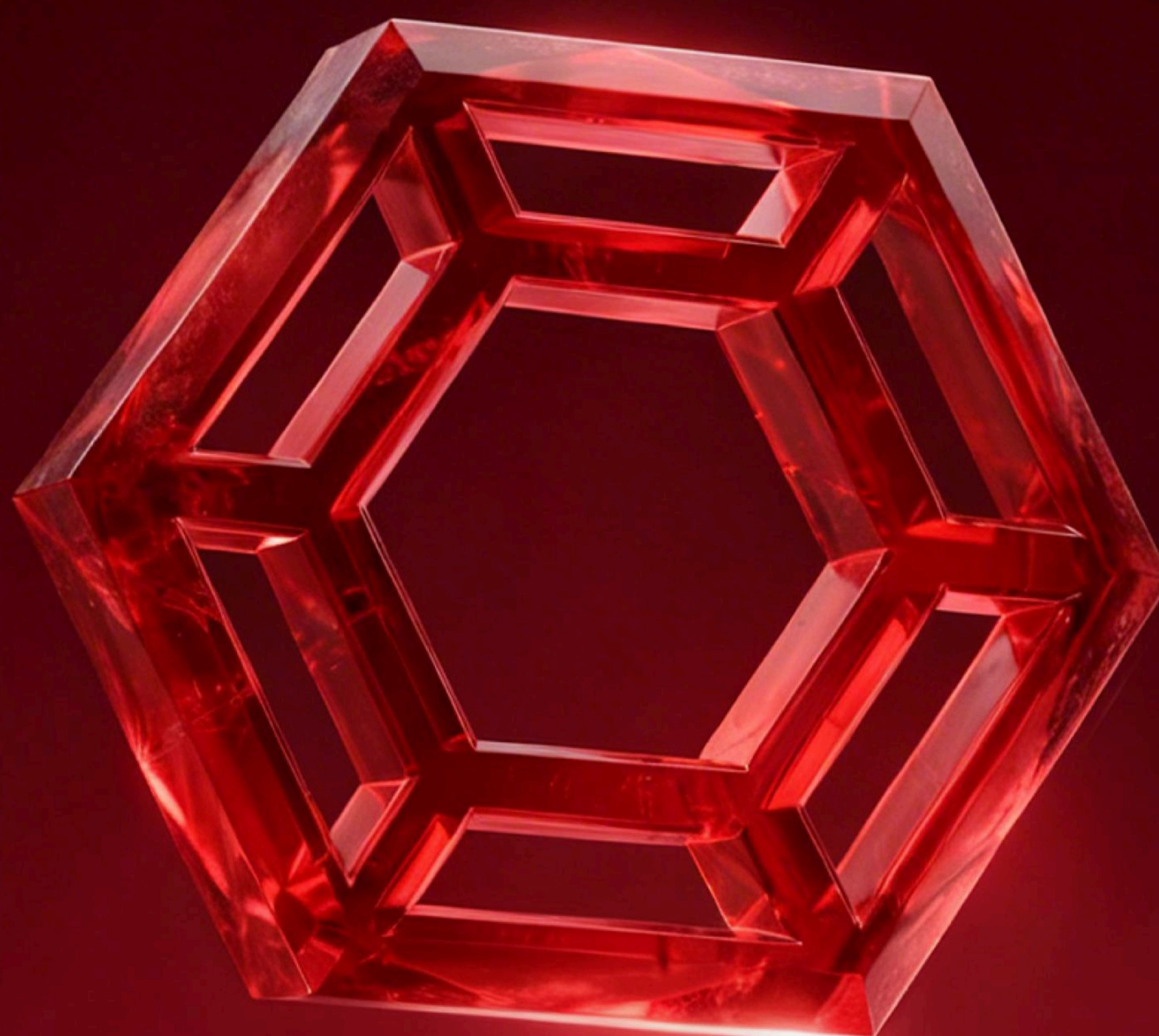
## Tokenised **Commodities**





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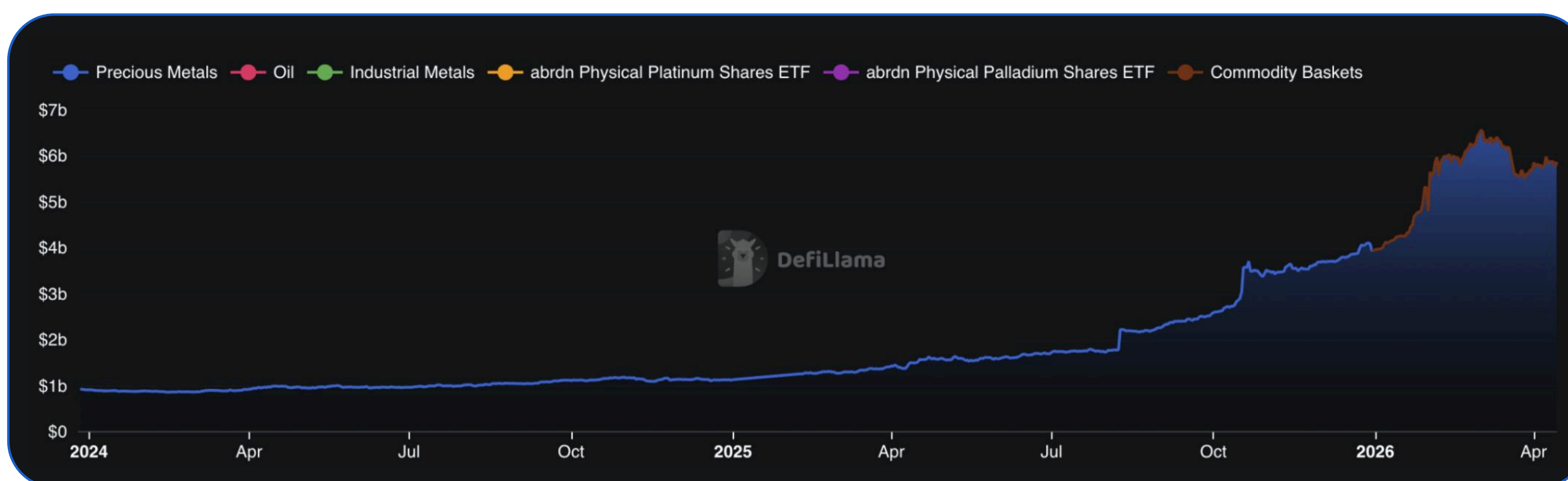
# Overview and structural categories

Commodities represent a broad sector covering a wide range of assets. Structurally, they share a common foundation: each commodity is tied to an underlying tangible asset. Ownership or exposure ultimately represents rights linked to something physical, although legal structures, regulation, custody and KYC requirements introduce important differences across assets.

The market itself is massive, representing more than \$138 trillion in nominal value, largely driven by oil and gas alongside precious metals such as gold. In traditional finance, commodities form a mature and highly financialised sector supported by deep liquidity and a broad range of instruments, including futures, ETFs and structured products.

Onchain, commodities are emerging as one of the largest real-world asset categories after tokenised U.S. Treasuries, reaching around \$5.8 billion in active market cap. This represents strong growth from approximately \$1.1 billion one year earlier, a 481% expansion. While a wide variety of assets exists onchain, ranging from oil, copper, uranium, soybeans, gold, and silver, the market remains heavily concentrated. Two assets alone, XAUT and PAXG, account for roughly 95% of total commodity market capitalisation, reflecting the dominance of tokenised gold.

## ACTIVE MARKET CAP (COMMODITIES)



Source: [DefiLlama](#)

This concentration shows that commodities do not move onchain uniformly. In fact, their economic function, how they are stored, used, regulated, and financialised, determines their migration. Three segments emerge: monetary collateral commodities, strategic supply constrained commodities, and industrial flow based commodities.

**Monetary collateral commodities** are primarily held rather than consumed. Gold, and to a slightly lesser extent silver, fall into this category. They exhibit high above-ground stock relative to annual production, standardised units, deep global liquidity and mature custody infrastructure. Most importantly, they already function as collateral within traditional finance. Their price discovery is continuous, storage is verifiable and their reserve role is globally recognised. This makes them structurally suited for tokenisation.

**Strategic supply-constrained commodities** follow a different path. Uranium is the clearest example. Its value is closely tied to energy security and geopolitical positioning rather than monetary function. Physical ownership is highly regulated and retail access remains limited, with exposure typically occurring through specialised vehicles or mining equities. In this category, tokenisation primarily expands access rather than settlement efficiency, meaning adoption is more likely to remain institutional-first and permissioned.

**Industrial flow-based commodities** represent a third structural model. Oil and copper are continuously produced and consumed within logistics-heavy supply chains. Financial markets for these assets are dominated by derivatives used for hedging rather than long-term holding. Investors rarely seek physical ownership and instead trade exposure through futures or swaps. Storage, transport and delivery requirements introduce operational complexity, making warehouse-backed tokenisation less practical. As a result, migration onchain is more likely to occur through synthetic or derivative structures.



# Liquidity, redeemability and capital efficiency

Traditional commodity markets are already efficient, liquid and deeply financialised, yet commodities are progressively moving onchain. The shift is therefore not about fixing inefficiencies, but about improving infrastructure. Beyond faster settlement and transparency, tokenisation influences how commodities are accessed, redeemed and deployed as capital.

*Methodological note: With XAUT and PAXG representing roughly 95% of commodity TVL, they are used as proxies for broader market dynamics in the sections below.*

## Liquidity: Access vs depth

Traditional commodity markets are highly liquid at the institutional level. Gold trades hundreds of billions of dollars daily across spot, futures and OTC markets, while oil futures maintain substantial open interest on CME and ICE. However, access typically requires brokerage accounts, clearing relationships, margin frameworks and custodial infrastructure. Products also remain fragmented across providers, creating friction and limiting capital mobility between venues.

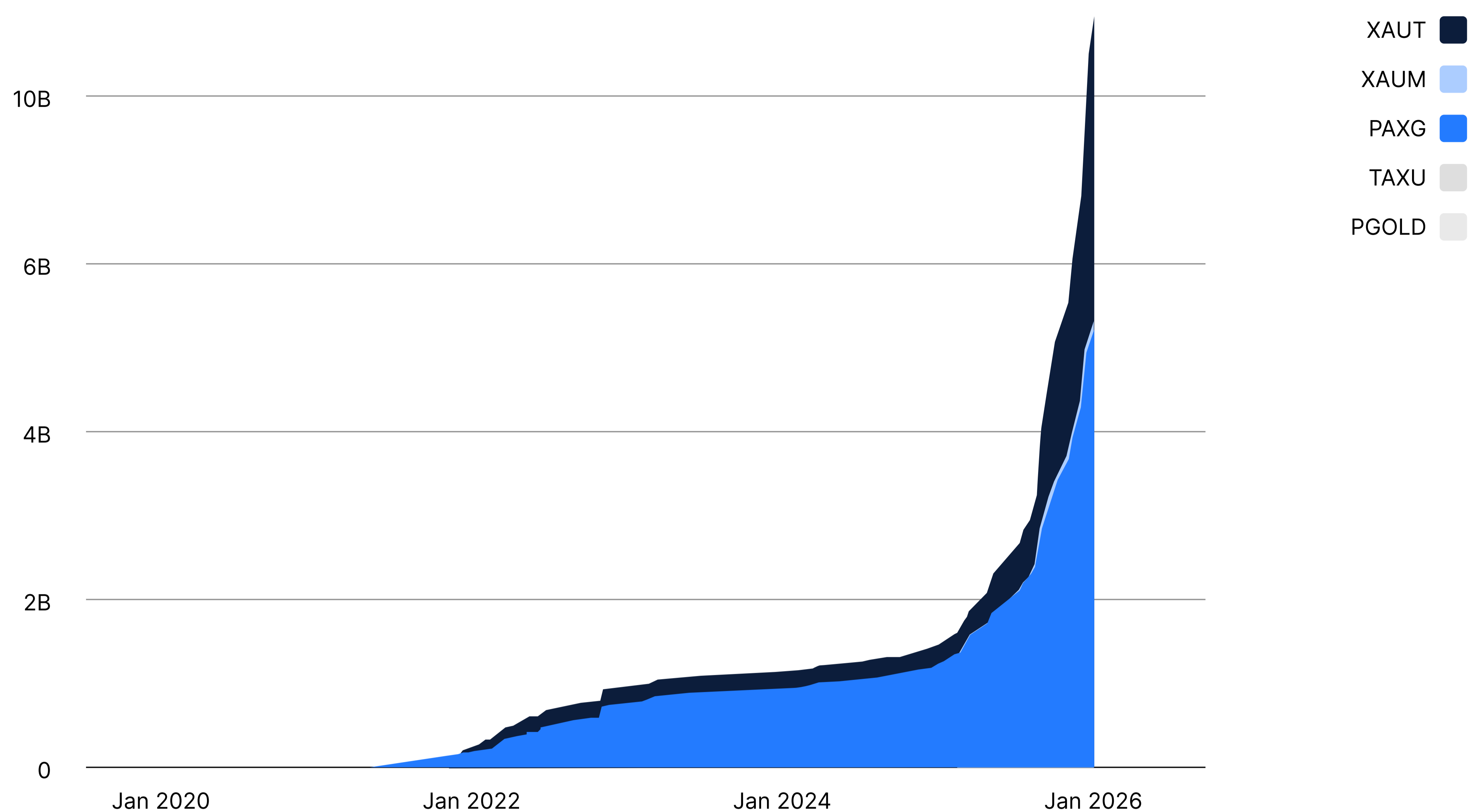
Tokenisation reduces these frictions.

Fractional ownership lowers entry thresholds, settlement occurs within minutes rather than days, and assets can be transferred directly without authorised intermediaries. Liquidity therefore becomes more accessible and more portable.

This dynamic is visible in tokenised gold markets, where transaction volume between whales and retail participants appears relatively balanced, indicating that access is no longer dominated by institutions alone. Whale participation has also become more consistent compared to earlier years, reflecting clearer regulation and improved liquidity infrastructure.

This trend aligns with deeper market activity, as cumulative DEX volume increased from roughly \$1.4B to over \$8.4B in the past year alone, signalling stronger secondary liquidity and better execution conditions.

CUMULATIVE DEX VOLUME (ONCHAIN GOLD)

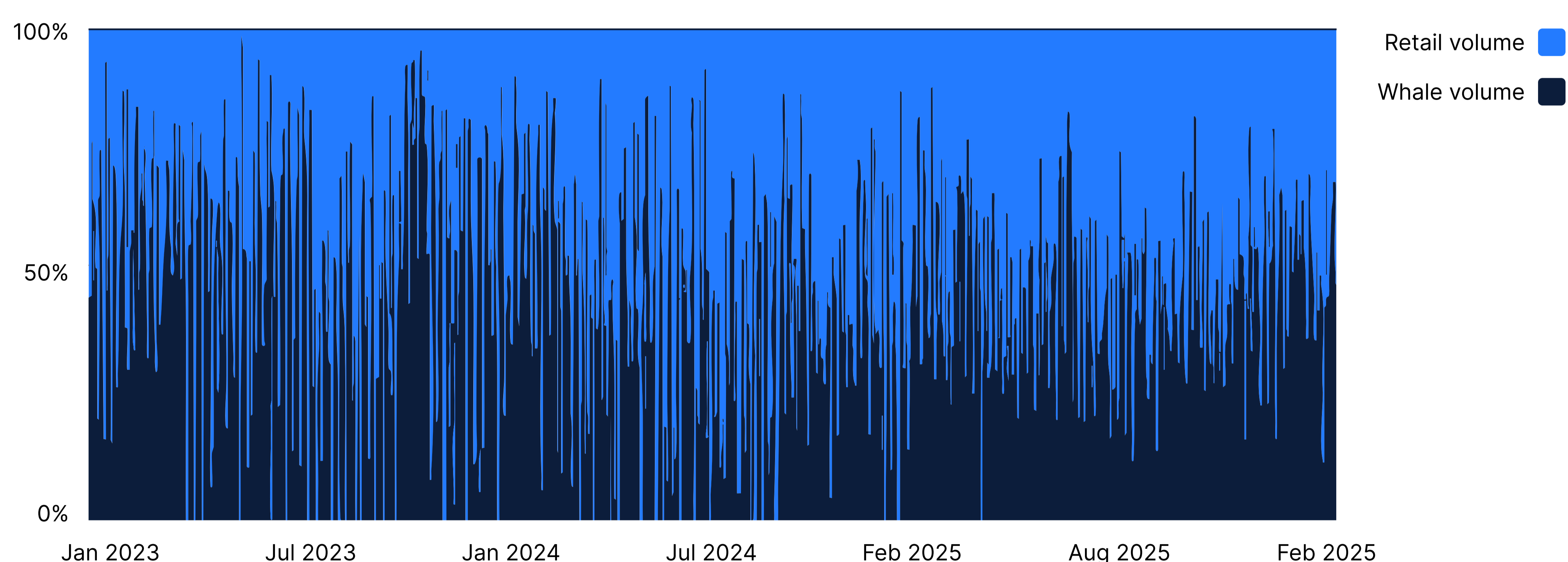


Source: @gateresearch / Dune

Liquidity quality is also reflected in transaction behaviour.

The share of PAXG transactions routed through DEX smart contracts increased from roughly 5% in earlier periods toward around 20%, suggesting that liquidity has matured enough to support active trading rather than simple transfers.

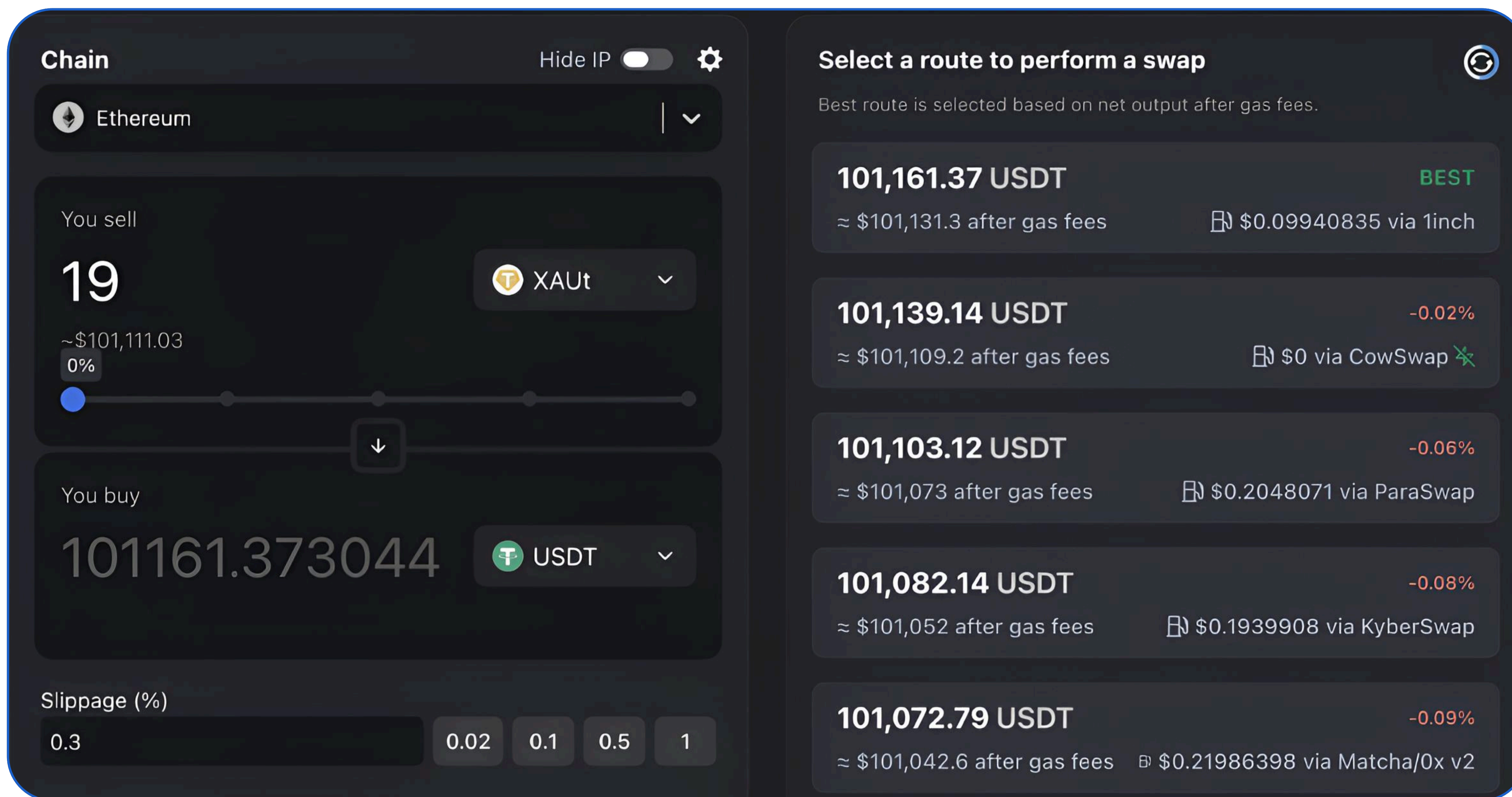
PAXG DEX vs WALLETS TRANSFER VOLUME



Source: @amandatw / Dune

Execution quality further reinforces this evolution. Tests on PAXG, XAUT and SLV using trade sizes of \$10k and \$100k show slippage remaining below 0.03% (when not net positive thanks to solvers) when routed through aggregators such as 1inch, CoW Swap, and around 0.1% when executed directly against individual pools.

SLIPPAGE FOR A \$100K XAUT SWAP

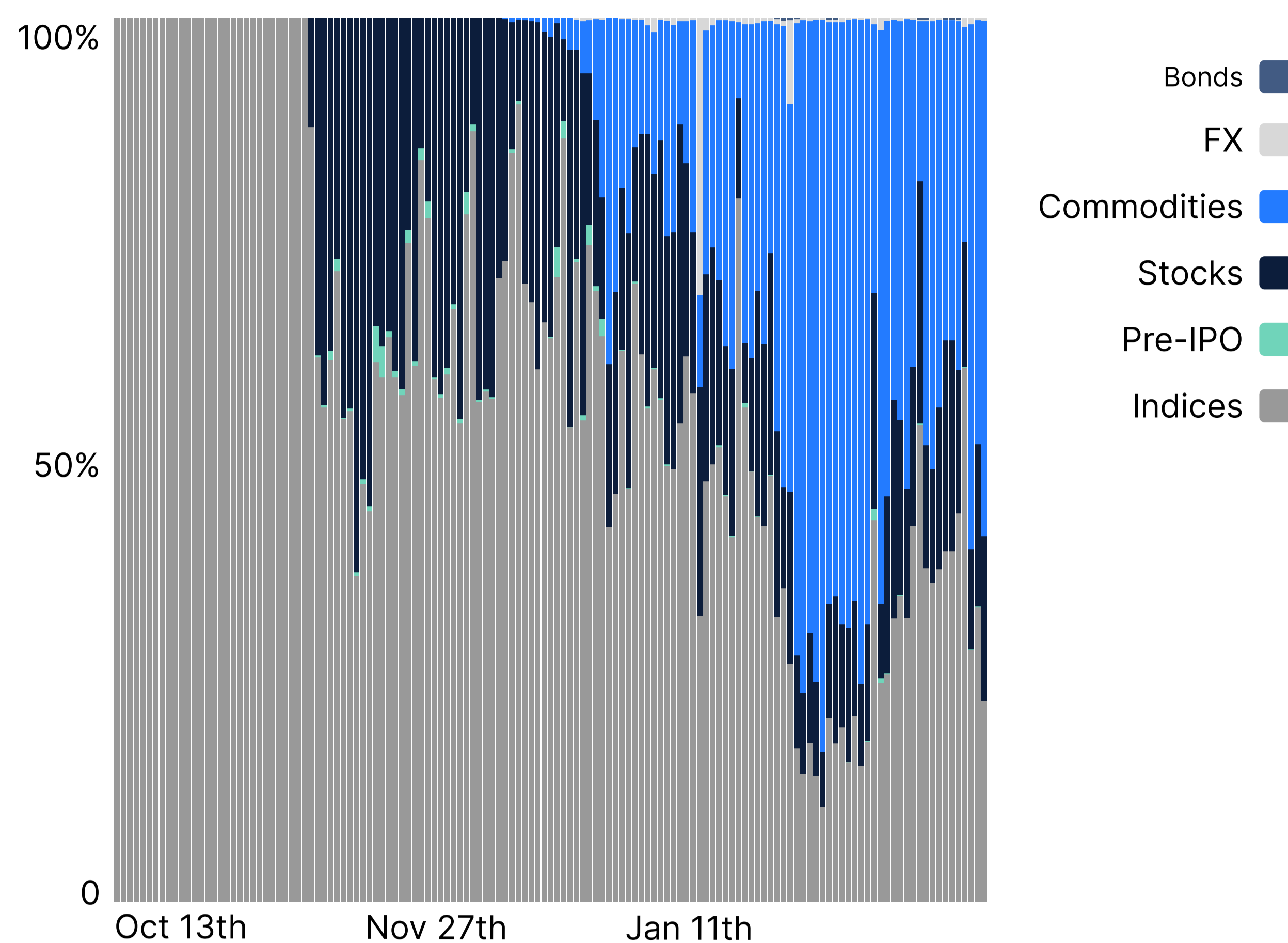


Source: [DefiLlama](#)

Liquidity depth also extends beyond spot markets. Commodities now represent over \$1B in daily perpetual trading volume, with platforms such as Hyperliquid and Ostium showing commodities accounting for more than half of RWA perpetual activity. Open interest reinforces this trend, with Ostium alone showing more than \$150M in commodity OI, signalling the ability for the platforms to support long term positioning.

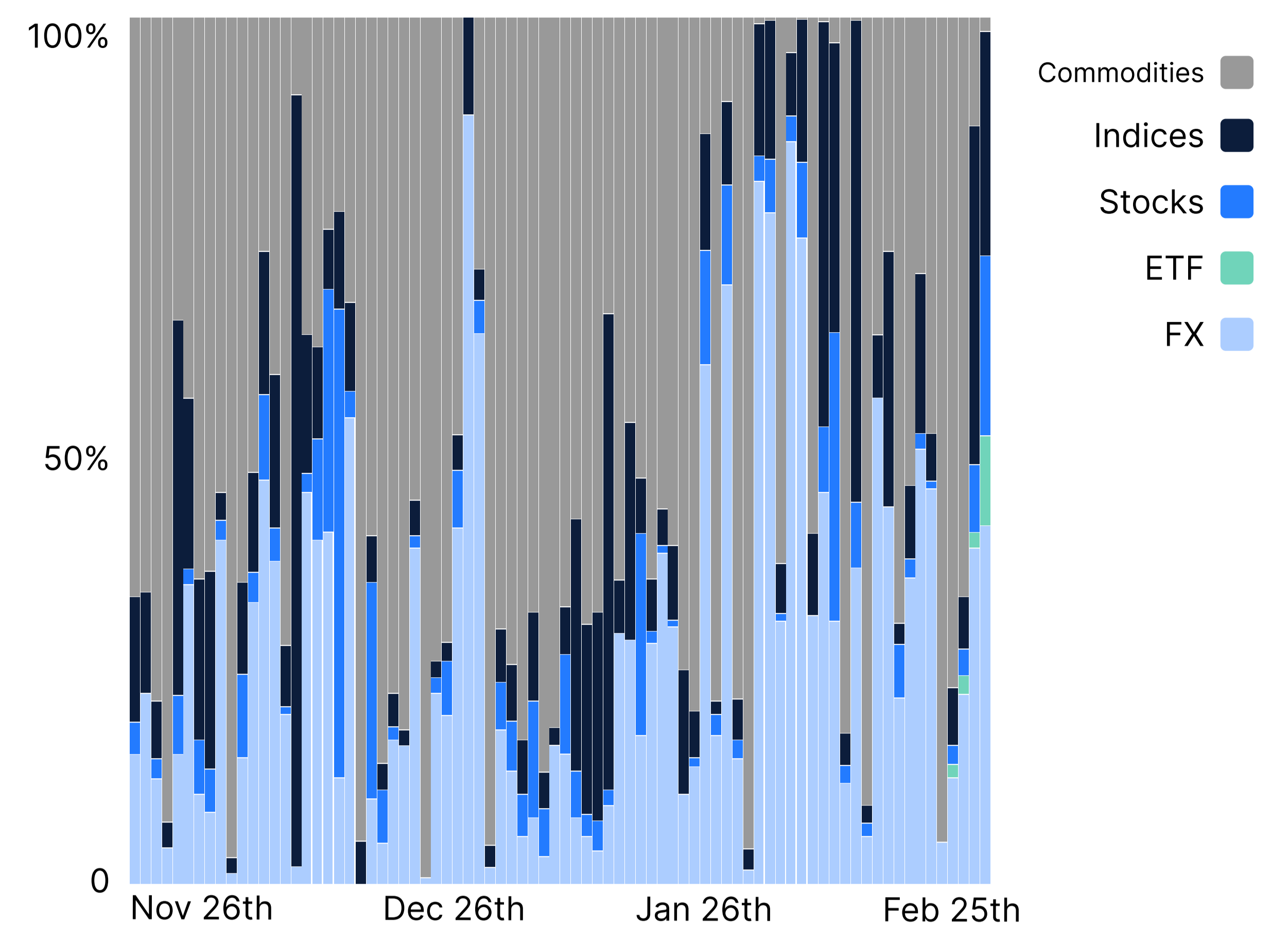


VOLUME PER CATEGORY (EXCEPT CRYPTO) ON HYPERLIQUID



Source: [Dune](#)

VOLUME PER CATEGORY (EXCEPT CRYPTO) ON OSTIUM



Source: [Dune](#)

The key takeaway is that tokenisation fundamentally improves access to liquidity.

Onchain markets now offer execution quality sufficient for both spot and perpetual trading at size, with pricing and slippage often comparable to traditional finance. While liquidity remains concentrated, with roughly 95% centred in XAUT and PAXG, this reflects an early-stage market likely to broaden as more commodity tokens mature. Tokenised commodities are therefore no longer experimental, but functional trading assets.

## Redeemability: Credibility over usage

In theory, physically backed commodity tokens such as tokenised gold or silver establish direct claims on vaulted assets. Legal structures, custody arrangements and attestations establish the backing mechanism.

In practice, redemption remains conditional, requiring KYC compliance, jurisdictional limits and minimum thresholds. For example, XAUT or PAXG typically require around 430 tokens, corresponding to one London Good Delivery bar. Smaller holders can usually redeem in cash for fees ranging from roughly 0.25% to above 1%.

## XAUT CLASSIFICATION

Token Properties		Issuer Information	
Category Tokenized Gold & Commodities	Asset Class Allocated gold token	Issuer TG Commodities Limited	Registry Information Private company limited by shares, TG Commodities Limited is a wholly owned Tether group subsidiary that issues Tether Gold (XAUT). It was previously incorporated in the British Virgin Islands and regulated by the BVI Financial Investigation Agency, and as of 27 January 2025 has redomiciled to the Republic of El Salvador.
Type Asset	RWA Classification RWA	Source <a href="https://gold.tether.to/legal/termsofservice">https://gold.tether.to/legal/termsofservice</a>	
Access Model Permissionless	Parent Platform Tether		
Classification		Attestations	
<b>Redeemable</b> Indicates whether the token can be redeemed for underlying assets	<b>KYC to Mint or Redeem</b> Indicates whether minting or redeeming the token through the issuer or primary market requires KYC/AML verification (KYC/KYB/onboarding)	Date of Last Attestation 2025-12-31	Attestation Frequency Quarterly
<b>Transferable</b> Indicates whether the token can be transferred freely between on chain addresses	<b>Self Custody</b> Indicates whether the token can be held in a user controlled wallet	<b>View Attestations</b> Third-party verification reports	<b>View Attestations</b> Third-party verification reports
<b>CEX Listed</b> Indicates whether the token is listed on a centralized exchange	<b>Attestations</b> Indicates whether the issuer provides periodic attestations or assurance reports regarding reserves or backing		

Source: [DefiLlama](#)

This dynamic is not unique to crypto. In traditional finance, physical redemption is also possible but generally limited to authorised participants, large institutional investors or holders meeting minimum size requirements, often involving custodial agreements and settlement through approved clearing entities.

In reality, most participants seek exposure rather than physical ownership. Consequently, what matters is not redemption itself, but the credibility behind it.

The existence of a legally enforceable redemption pathway anchors price stability and mitigates insolvency risk. Onchain, credibility is reinforced through periodic audits, proof-of-reserve mechanisms and mint-and-burn structures designed to align token supply with underlying assets.

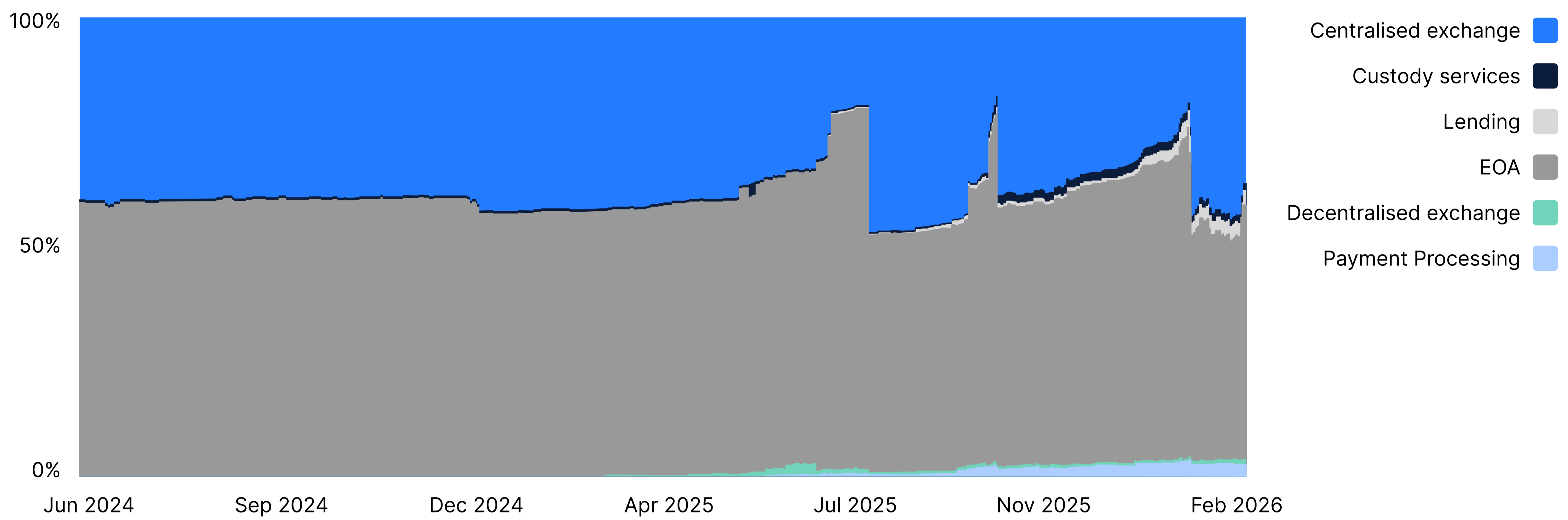
## Capital efficiency: From static exposure to programmable collateral

In traditional finance, commodities already function as collateral. They can be pledged in structured products or margin accounts, yet this collateral remains institution-bound and often siloed across custodians. Tokenisation changes this dynamic by allowing collateral to move more freely across venues and protocols, a shift that is now becoming visible onchain.

For example, XAUT holdings are split between approximately 49% externally owned wallets and 42% centralised exchanges, with the remaining share deployed across lending, payment solutions and DEX activity. While this active share remains limited in absolute terms, the trend is more meaningful.

Indeed financial applications such as payments, lending and trading account for an increasing share of usage. This indicates a gradual shift toward commodities functioning as active financial primitives within DeFi.

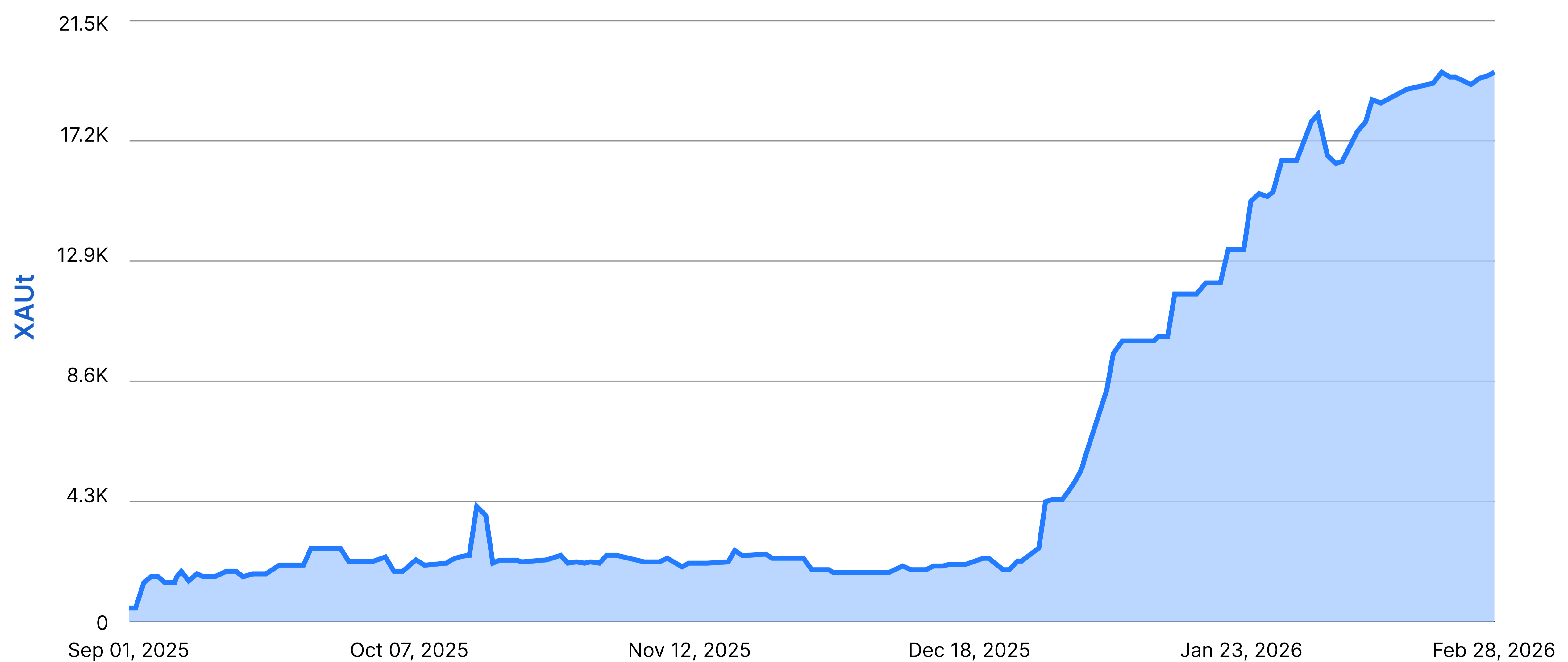
### XAUT HOLDERS BY CATEGORY



Source: @sqrr-research / Dune

The Aave XAUT vault illustrates this transition even better. Supplied balances increased nearly tenfold over a few weeks, demonstrating that holders are increasingly deploying gold within credit markets rather than passively storing it.

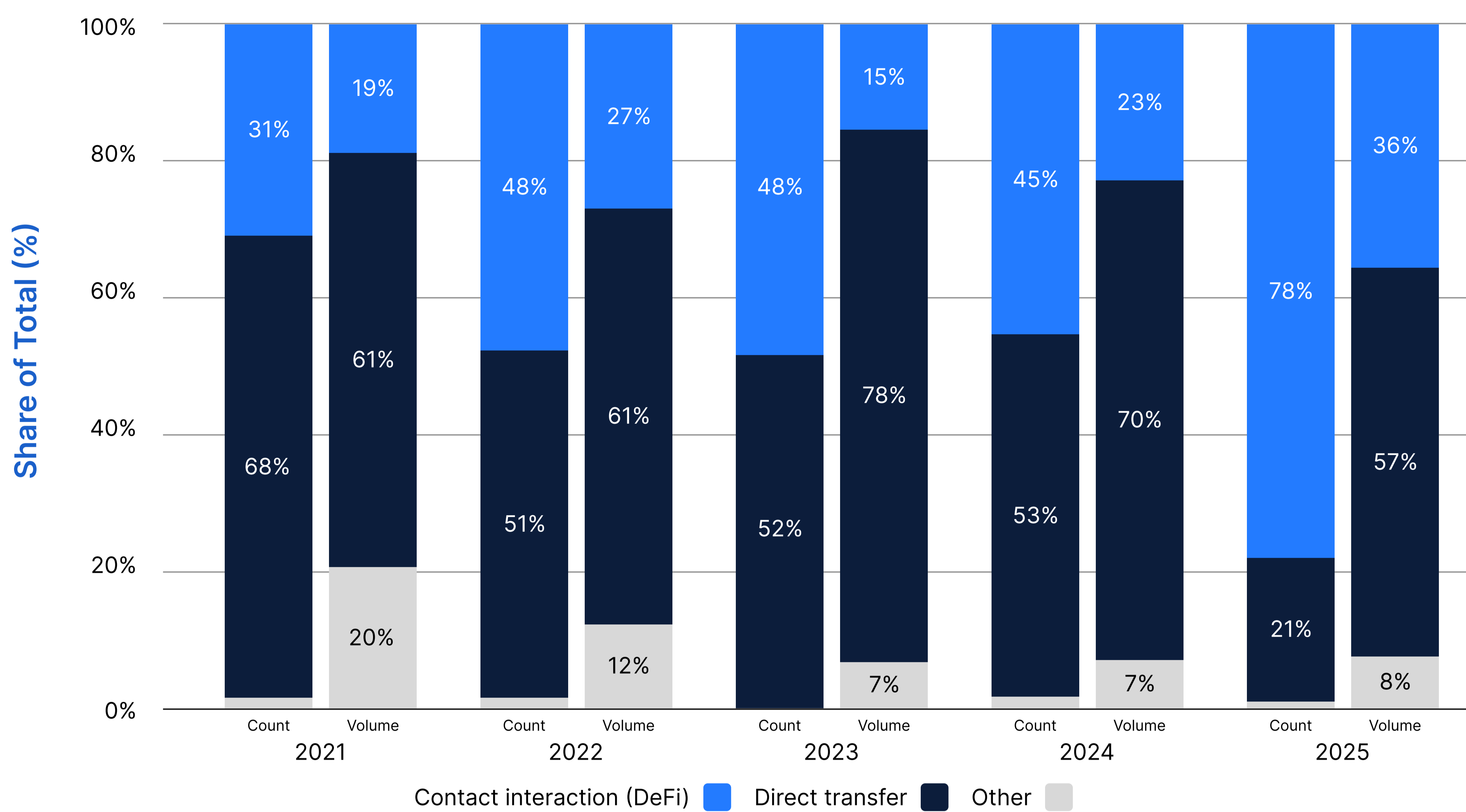
### XAUT ETHEREUM V3 VAULT ON AAVE



Source: Aavescan

This evolution is also visible in broader interaction patterns. Since 2021, both the number and volume of XAUT and PAXG interactions with smart contracts have increased significantly, with more than 75% of transactions and around 36% of total volume now involving contracts.

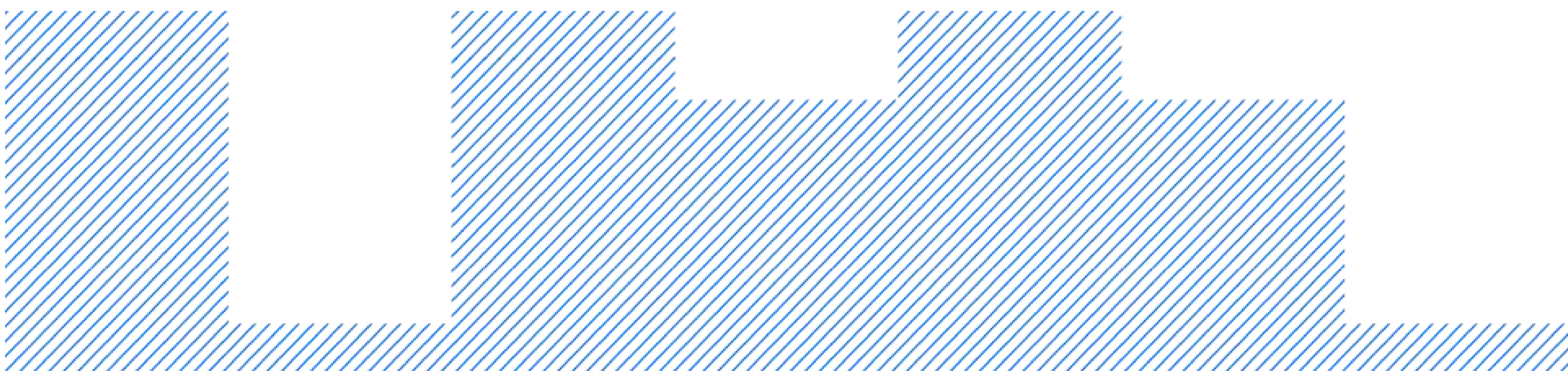
EVOLUTION OF TRANSACTION STRUCTURE FOR XAUT AND PAXG



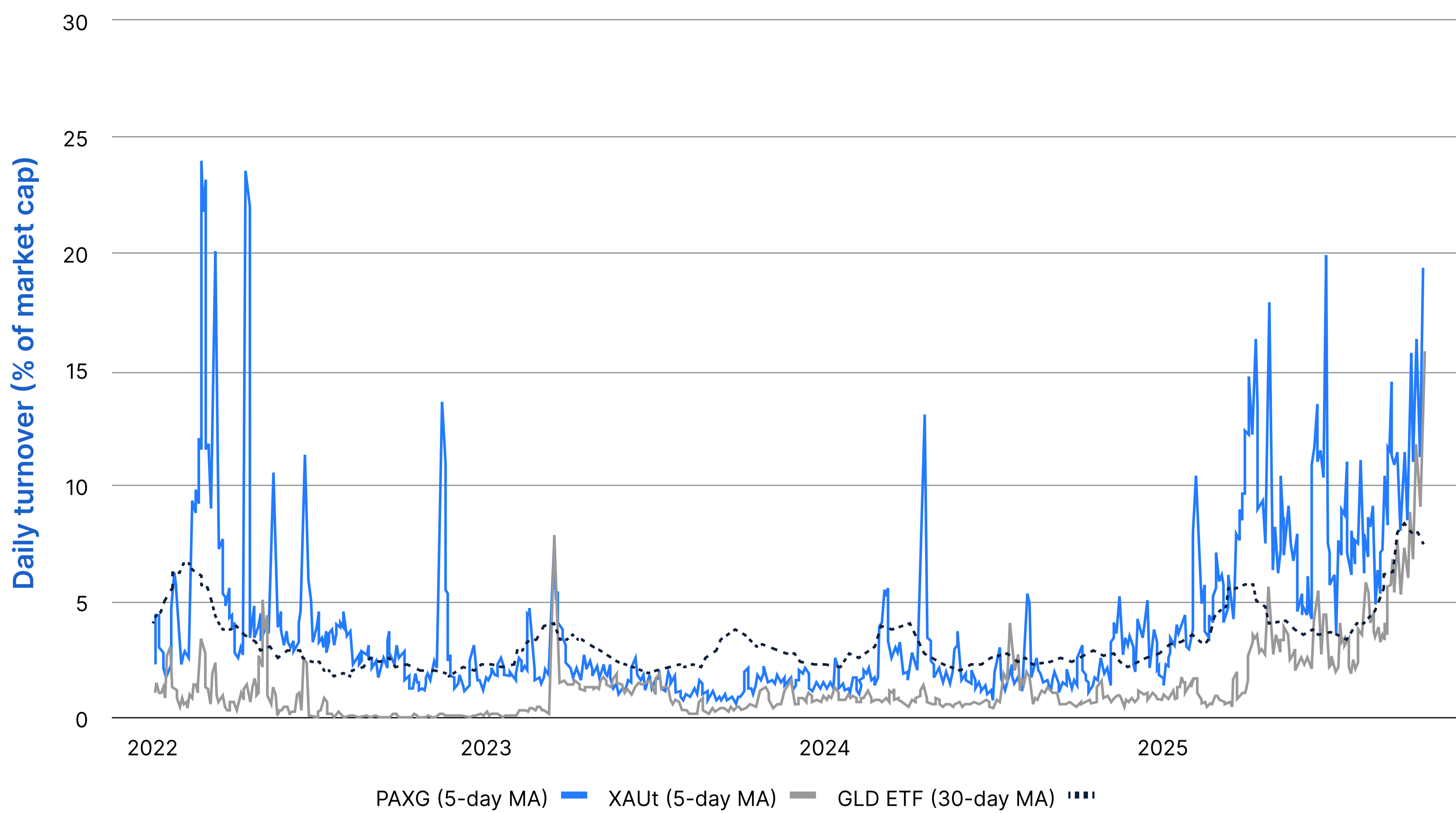
Source: [Tokenised Gold](#)

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Finally, asset velocity has also increased materially. Turnover on assets such as PAXG and XAUT is two to three times higher compared to traditional ETF equivalents, indicating that users deploy these assets more actively when they exist onchain.



### DAILY TURNOVER: TOKENISED GOLD VS GLD ETF



Source: [Tokenised Gold](#)

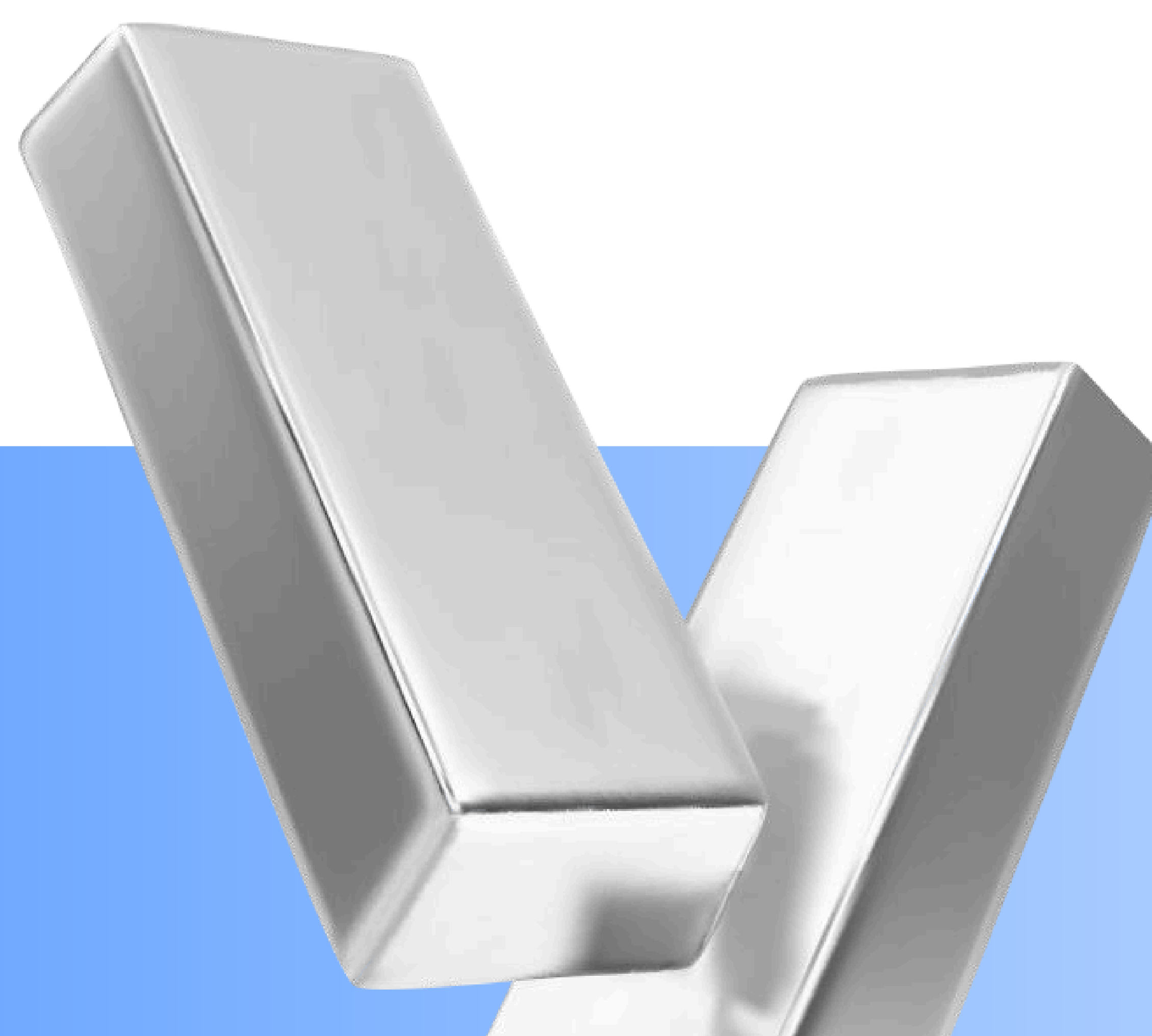
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Taken together, these figures reflect the growing momentum of DeFi for commodities, where collateral usage, yield opportunities and composable strategies encourage more active capital deployment. This dynamic is enabled by the programmability, composability and interoperability introduced through tokenisation.



# Asset behaviour: How commodities are actually used onchain

Tokenised commodities have grown rapidly in market capitalisation, but usage patterns reveal a more nuanced reality. Supply expansion and issuance growth do not automatically translate into deep DeFi integration and behaviour remains highly asset-specific.

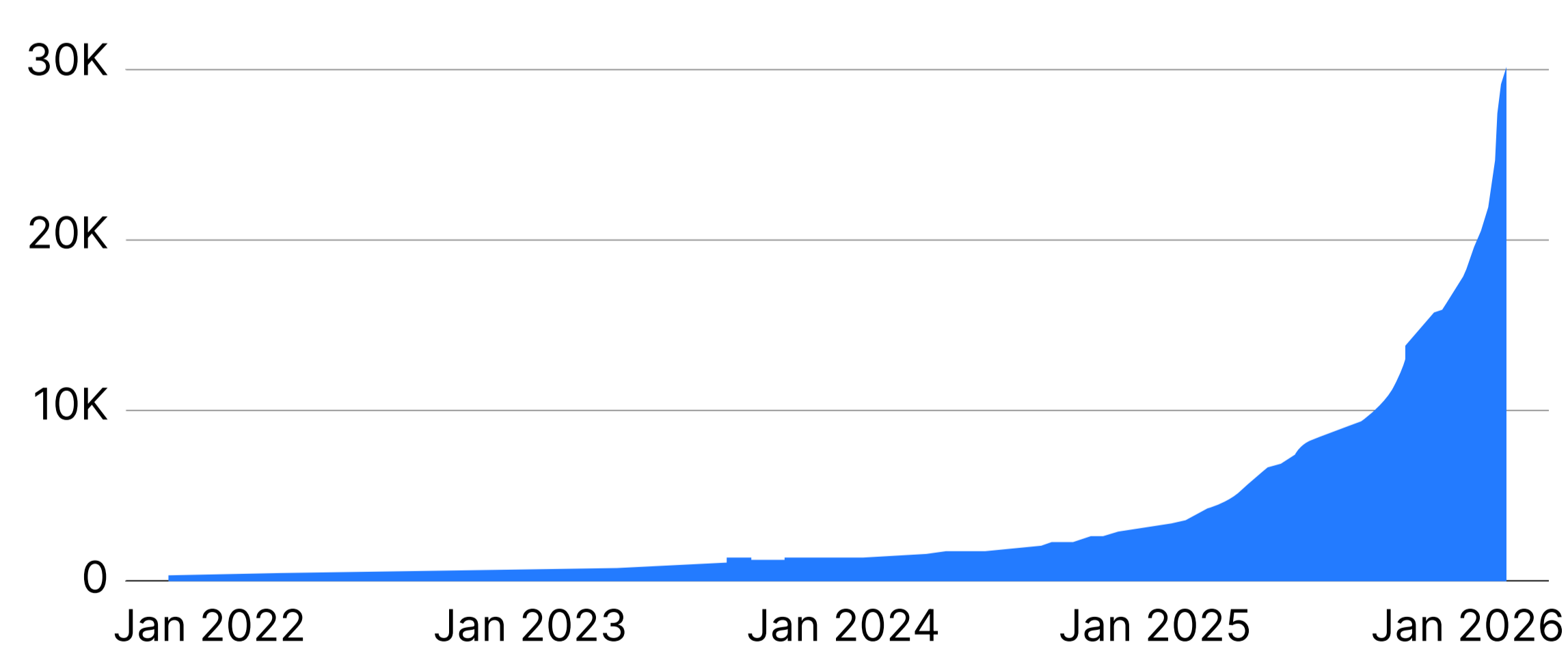
Across the sector, most activity concentrates around two functions: holding exposure and leveraged trading. Composability exists but emerges unevenly depending on the underlying economic role of each commodity.

## Gold and silver, examples of monetary-collateral commodities

Gold represents the clearest case of structural alignment between traditional financial roles and onchain integration.

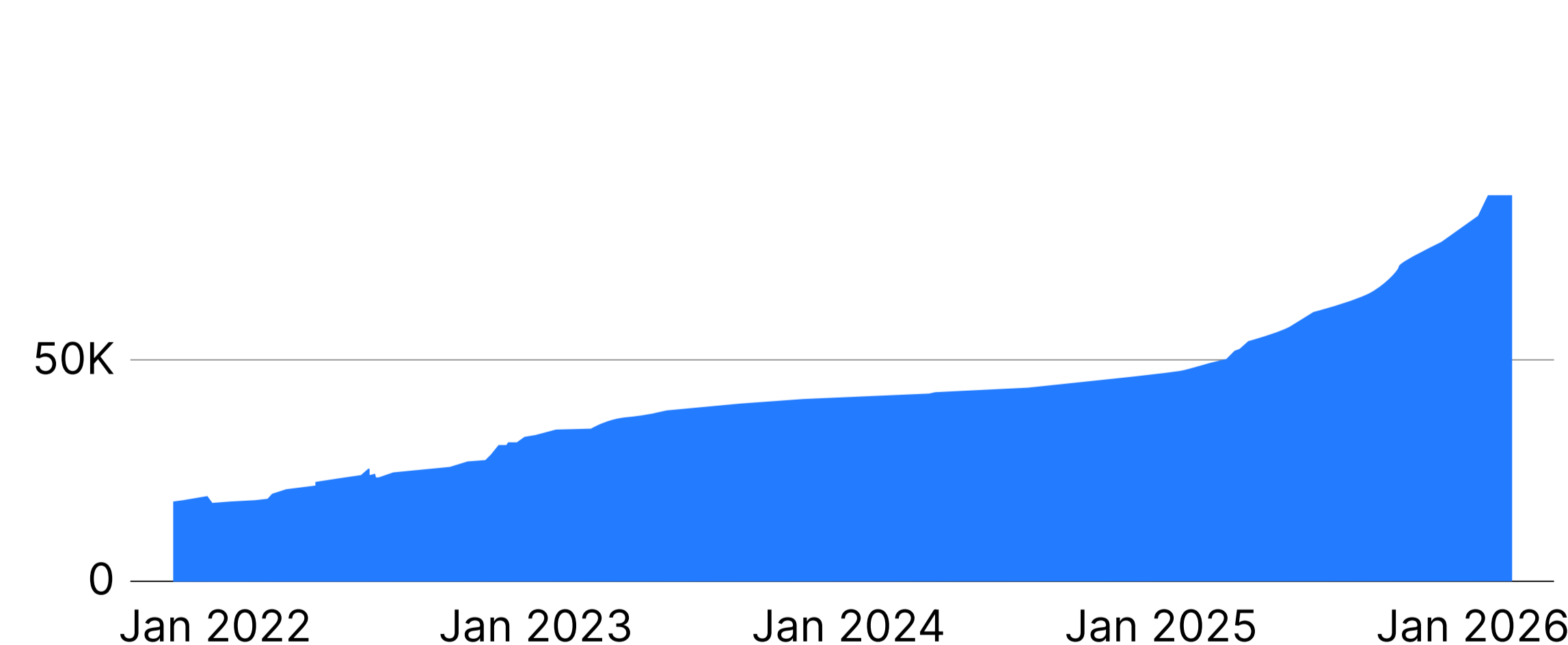
Tokenised gold has reached multi-billion-dollar scale, with XAUT (~\$3.7B) and PAXG (~\$2.4B) forming the backbone of the onchain commodity sector. Holder growth has been strong, with XAUT increasing from roughly 3k to over 30k holders (10x) and PAXG rising from 48k to 98k (2x) within a year.

NUMBER OF XAUT HOLDERS



Source: [@sqrr / Dune](#)

NUMBER OF PAXG HOLDERS



Source: [DLResearch / Dune](#)

A large share of supply remains held in wallets or centralised exchanges, reflecting gold's traditional role as a long-term store of value. This mirrors offchain behaviour, where exposure is often preferred over active deployment.

At the same time, collateral usage has accelerated. XAUT balances supplied into DeFi lending markets expanded close to tenfold, while interactions with smart contracts and protocols increased materially, as discussed in the previous section.

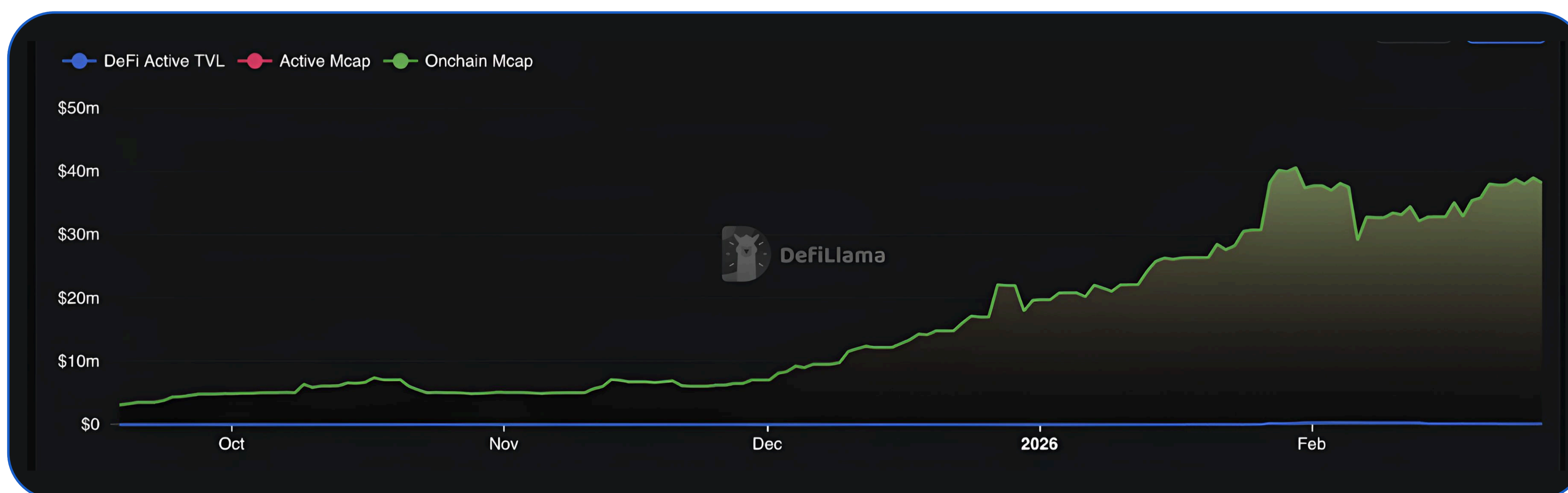
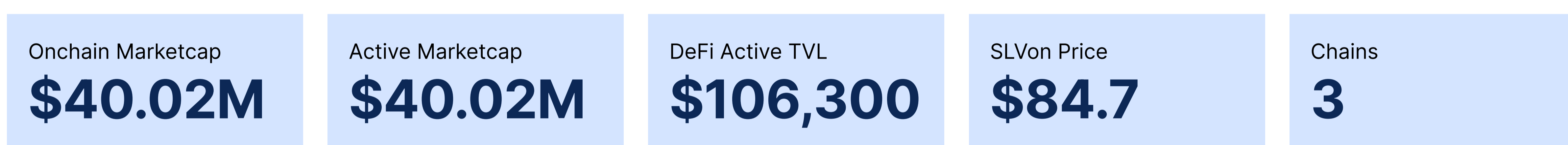
Yield-bearing structures are also emerging. Tokenised gold and other commodities are increasingly being used to generate returns, for example through commodity-backed stablecoins such as pmUSD issued by RAAC through advanced lending strategies, or assets like thGOLD issued by Theo, which offers around 2% yield through lending to selected partners. This represents a structural shift for gold, traditionally a non-yield-bearing asset, and illustrates how DeFi can unlock financial use cases beyond what traditional markets typically offer.

Derivatives markets show substantial participation, with perpetual volumes often exceeding spot activity. Market structure also suggests sustained positioning rather than purely short-term turnover, as reflected by open interest levels remaining elevated relative to trading volume (roughly \$200M in OI versus \$100M in daily volume on Hyperliquid at the time of writing).

Gold therefore exhibits the most advanced behavioural stack among commodities, functioning simultaneously as a store of value, collateral asset and trading instrument.

Ondo Global Markets currently provides the largest tokenised silver product, with roughly 326,000 oz tokenised, a market capitalisation of approximately \$40M and more than 1,500 holders. Other projects are significantly smaller, typically ranging between \$2M and \$5M, including Kinesis Silver, which operates within a highly regulated framework, and Denario Silver Coin, which introduces an innovative approach through the use of industrial-grade granules to facilitate logistics and compliance.

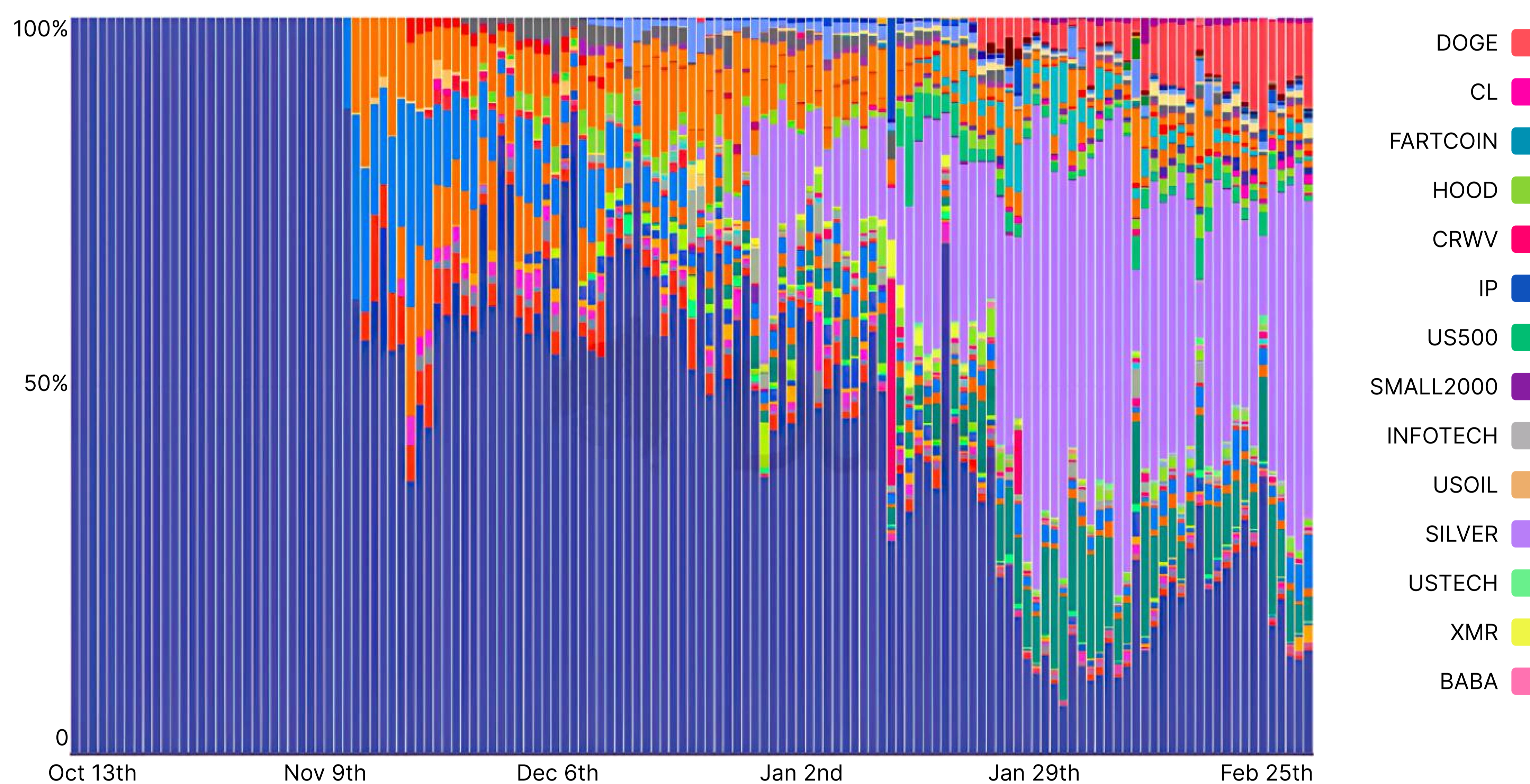
### SLVON ONCHAIN MARKETCAP



Source: [DefiLlama](#)

Combined, trading volume across these assets rarely exceeds \$5M per day, highlighting limited spot-market activity. The most notable feature of silver, however, is its strong presence in derivatives markets. On Hyperliquid, silver trading volume is frequently 2-3x larger than gold, often accounting for around 40% of perpetual activity despite its much smaller onchain footprint. Open interest and turnover metrics also indicate faster trading behaviour, reinforcing silver’s more speculative profile (at the time of writing, roughly \$157M in open interest versus \$351M in volume).

HIP-3 BY COIN



Source: DLResearch / Dune

DeFi integration remains limited. Only a small fraction (around \$100k via Ondo Global Markets) of tokenised silver is currently deployed into lending pools or other DeFi strategies, reflecting an early stage of adoption for yield generation and collateral usage.

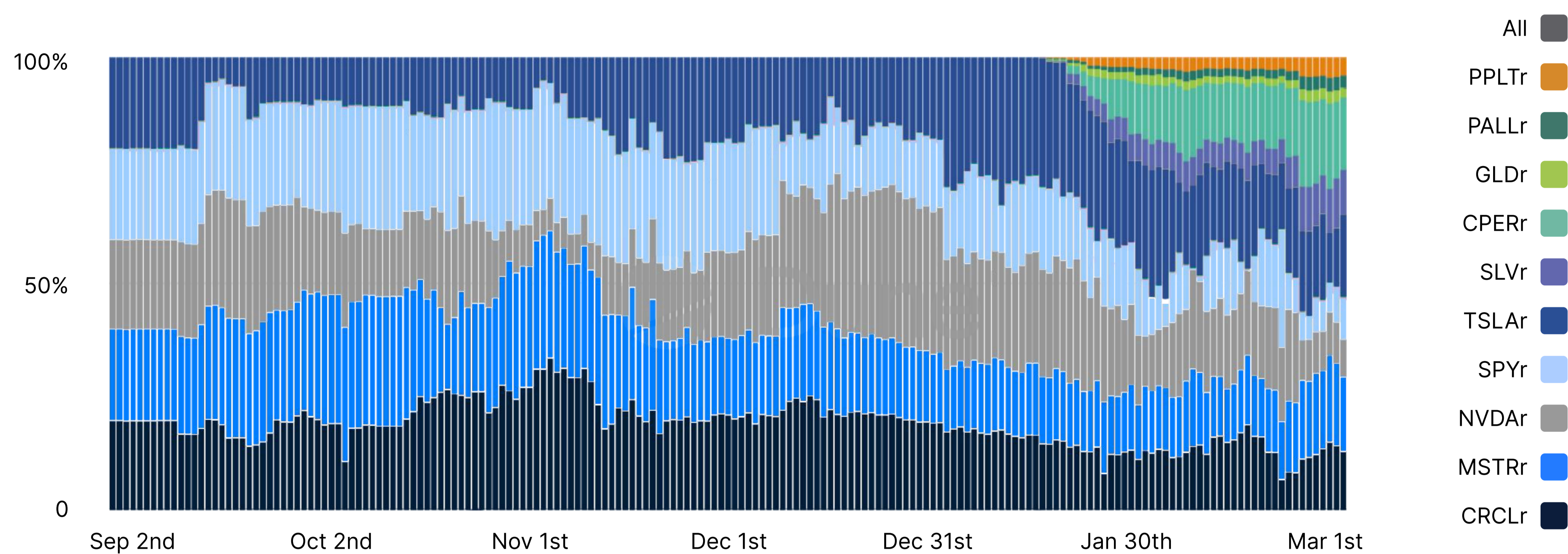
This behaviour mirrors traditional markets, where silver tends to attract higher-beta, speculative positioning compared to gold.

## Oil and copper, examples of industrial flow-based commodities

While the onchain market size for tokenised industrial commodities is still limited, demand is gradually increasing as illustrated by recent activity with copper and oil.

For copper, Remora Assets recently launched CPERr, which has already become its second-largest asset, representing roughly 17% of AUM with around \$450K allocated. Ondo's COPXon also demonstrates a small but growing demand, reaching approximately \$2M in market capitalisation within a few weeks. On the oil side, onchain availability remains more limited, but USOon has still surpassed \$2M in market cap.

### REMORA ASSETS



Source: [Remora Assets / Dune](#)

Participation, however, remains largely derivative-driven. Perpetual futures are the primary avenue for exposure, with copper recording roughly \$8M in daily volume and around \$28M in open interest, while oil shows about \$1M in daily volume with approximately \$5M in open interest. This highlights a market structure centred on synthetic exposure rather than direct ownership.

This behaviour mirrors traditional finance, where industrial commodities are mainly used for macro positioning and hedging rather than as long-term collateral assets. DeFi integration therefore remains limited, and its expansion remains to be seen.

## Uranium, example of strategic supply-constrained commodities

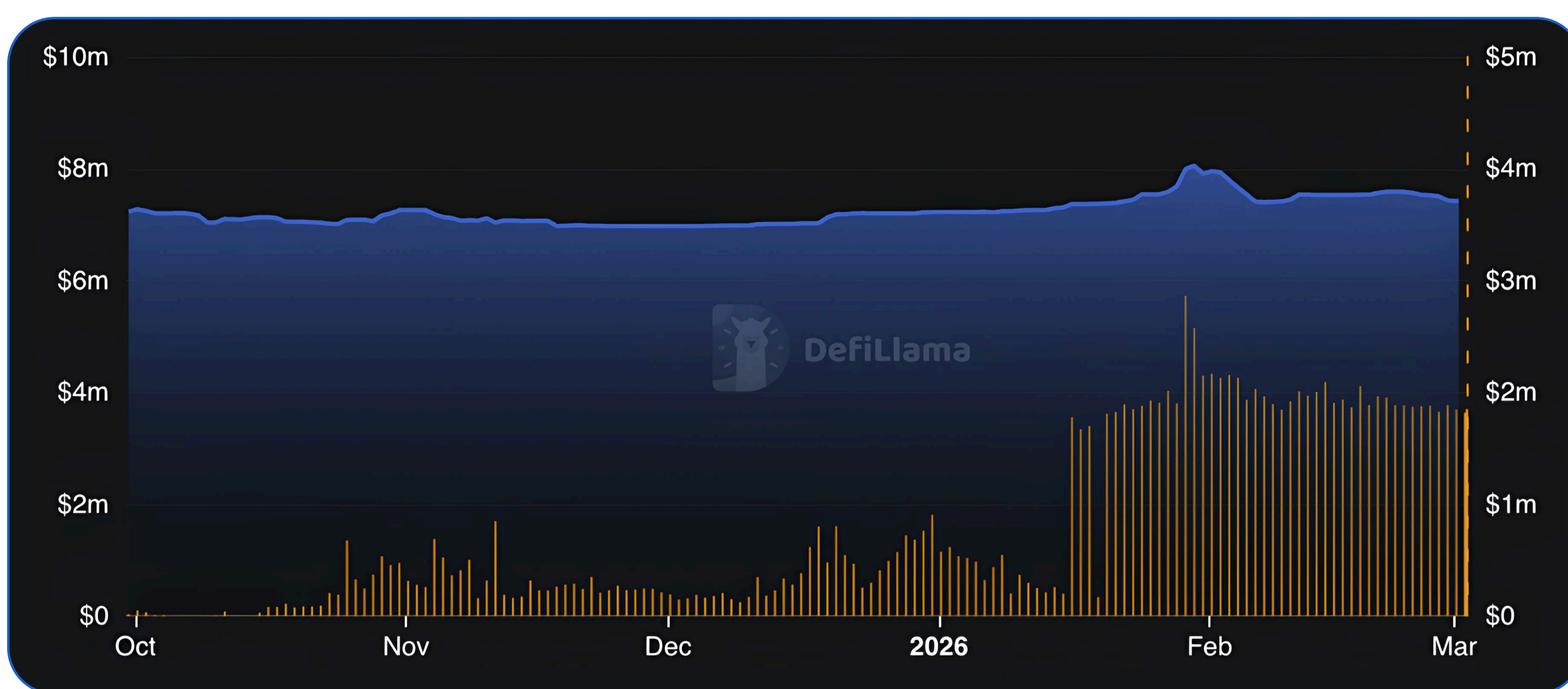
Uranium occupies a distinct position where access drives adoption more than composability. Surveys indicate that nearly 90% of investors would consider uranium exposure if access were simpler, while around 75% would use tokenised uranium specifically to bypass access friction.

One asset currently leads the sector: XU803, issued by Archax. Its TVL has hovered around \$7M, while daily trading volume has grown from a few hundred thousand dollars to several millions, showing early signs of market formation. Perpetual access remains extremely limited,

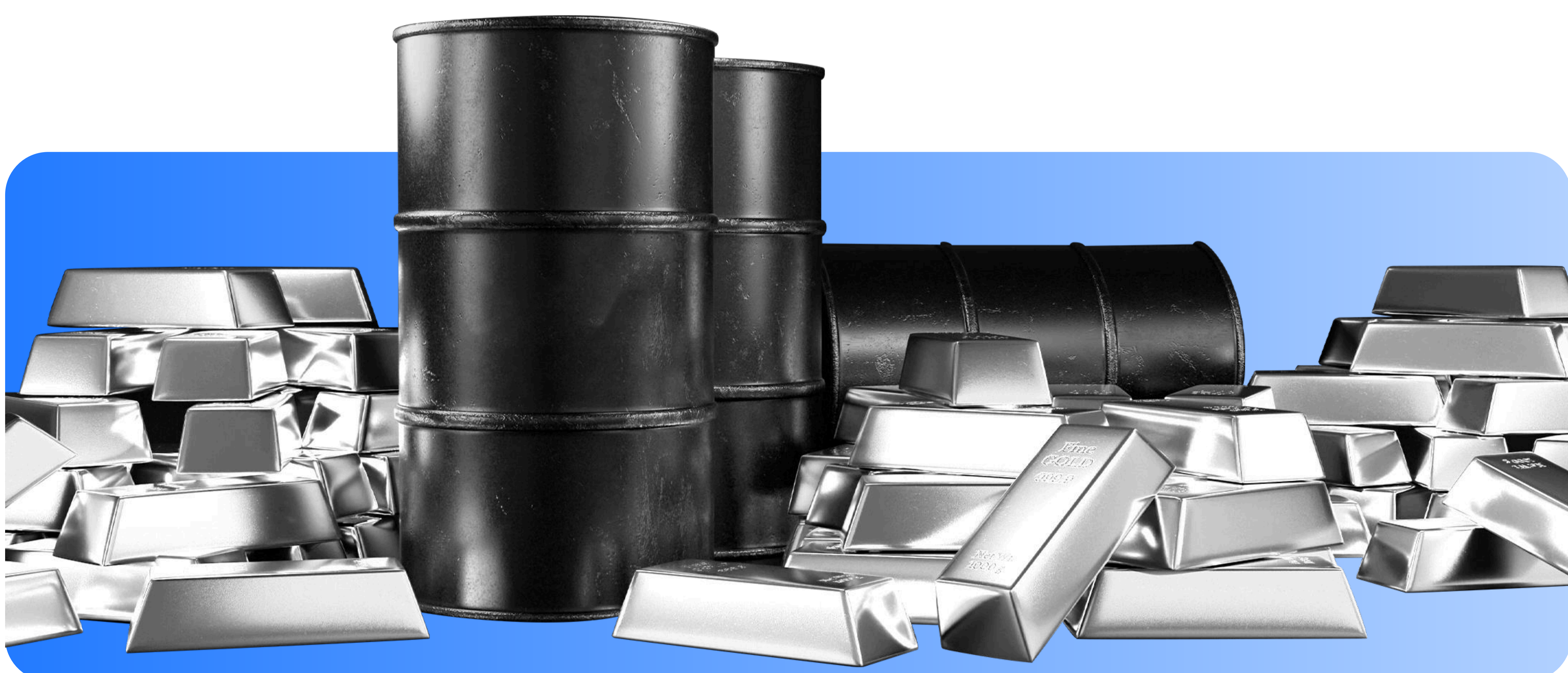
with platforms such as Hyperliquid not offering uranium exposure. DeFi integration is also largely absent and remains to be developed.

Here again, uranium mirrors traditional finance dynamics, where access is structured, institutionally driven, and focused on investment exposure rather than composable financial usage.

### XU803 TVL AND TRADING VOLUME



Source: [DefiLlama](#)



# Regulation: A green light, with boundaries

Compared to tokenised equities or real estate, commodities benefit from a more mature and globally recognised regulatory classification. In most major jurisdictions, commodities are clearly distinguished from securities, reducing one of the main sources of uncertainty that has slowed other RWA integrations.

In the United States, commodities fall primarily under the jurisdiction of the CFTC rather than the SEC, and physical assets such as gold, silver or oil are not securities by default. In Europe, commodities are similarly treated as a distinct asset class under MiFID frameworks, while jurisdictions like Switzerland and Singapore have introduced explicit regulatory structures for tokenised assets and DLT-based market infrastructure. This structural clarity provides a relatively supportive foundation for commodity tokenisation.

The complexity emerges once these assets enter DeFi. Permissionless trading, cross-border transfers, yield generation and collateral usage remain only partially defined across jurisdictions. Regulatory questions increasingly shift toward behaviour rather than classification: whether yield-bearing structures resemble dividends, whether collateralised lending introduces additional licensing obligations, or how programmable exposure should be treated when assets move across protocols.

Regulation therefore acts less as a barrier and more as a framework defining the pace and depth of scale. Several jurisdictions are already experimenting with controlled models. Singapore's Project Guardian explores tokenised funds, liquidity pools and collateral mobility under supervised conditions, while Hong Kong's Project Ensemble tests tokenised deposits and settlement infrastructure designed to support tokenised assets. In Europe, recent guidance clarifies that staking itself is not prohibited, signalling a gradual evolution toward clearer rules for onchain financial activity.

As a result, the key constraint is not whether commodities can move onchain, but how far regulation will allow DeFi functionality around them.

# 02

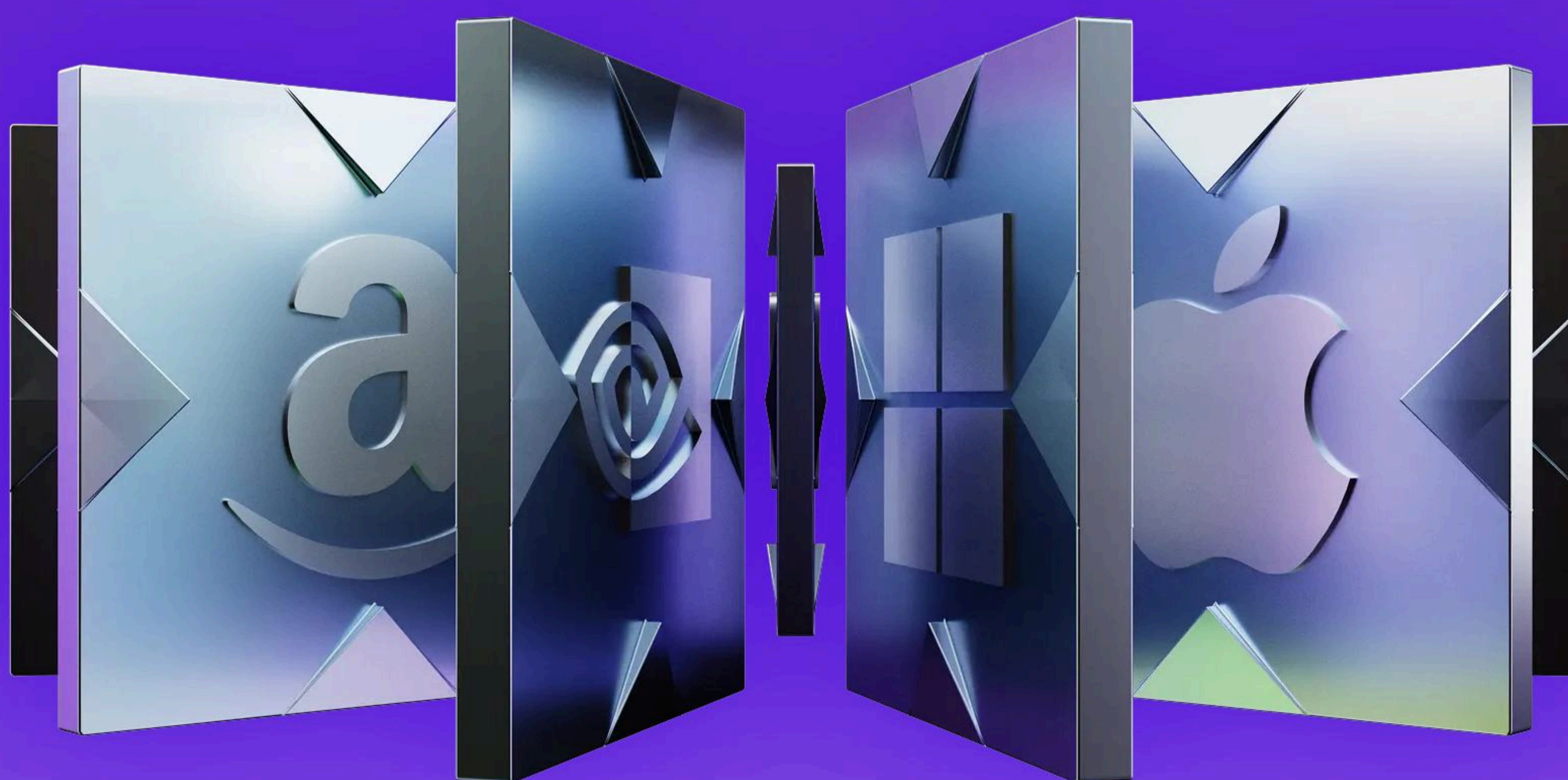
## Tokenised Stocks



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Tokenised stocks have gained significant mainstream attention in recent months, although they have existed for several years. The concept itself is not new; what has changed is how they are issued and what the token legally represents.

The clearest way to understand the market is to position different models along a spectrum of ownership rights.

### HOW MUCH OWNERSHIP DO TOKENISED STOCKS REALLY GIVE?



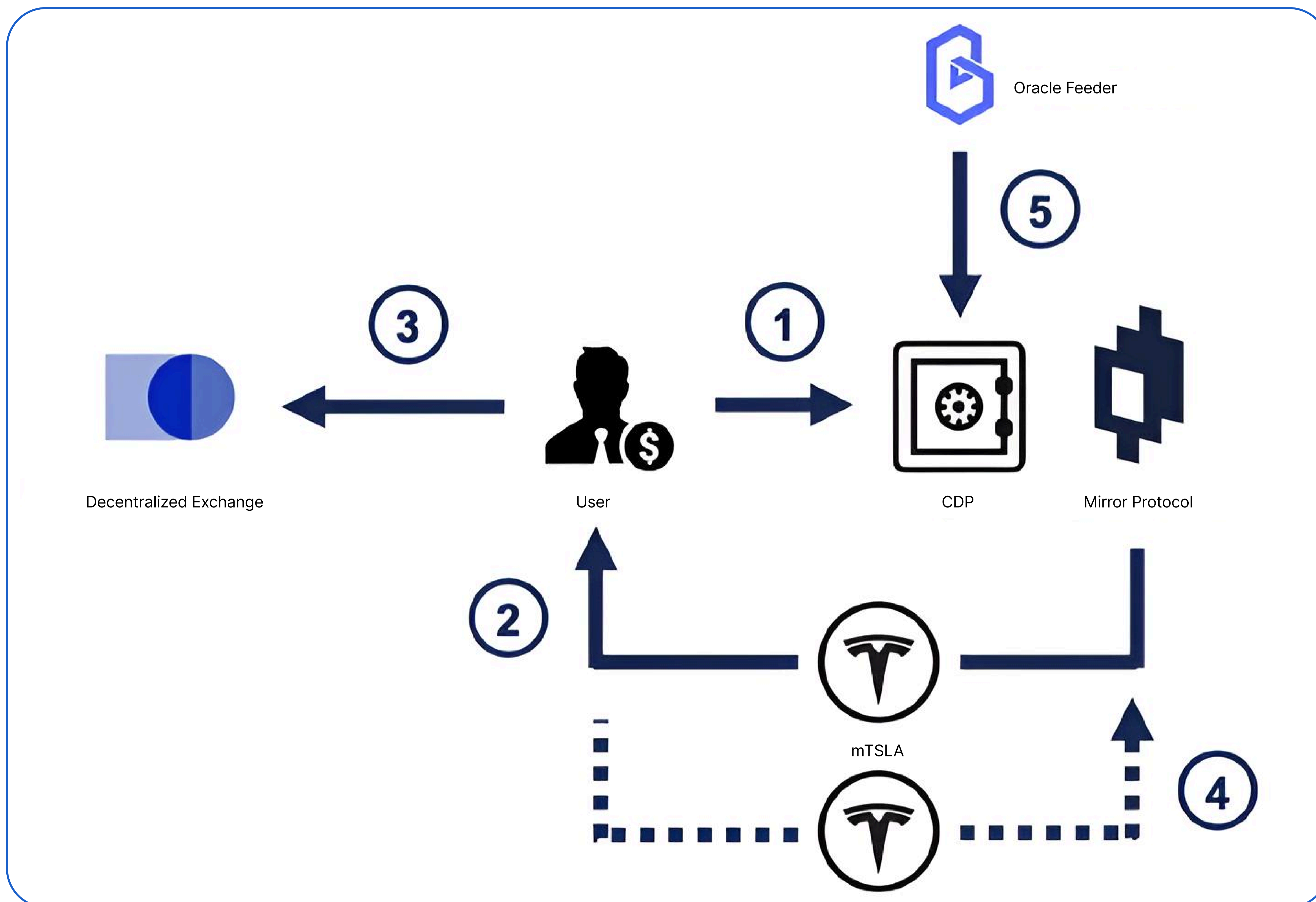
Source: [DLNews](#)

## Synthetic tokens

The earliest phase emerged in 2020–2021. Protocols such as Synthetix and Mirror enabled users to mint tokens that tracked the prices of publicly traded equities. These systems did not hold the underlying shares. Instead, users posted collateral to mint synthetic assets, whose prices were maintained through oracle feeds. When prices diverged, the system relied on liquidations of undercollateralized positions and arbitrageurs buying or selling the tokens to push prices back toward the oracle value.

As a result, these tokens functioned purely as derivatives, mirroring the performance of the underlying assets without conveying ownership. Governance parameters such as collateral ratios further influenced how tightly prices followed the underlying asset.

MIRROR PROTOCOL ARCHITECTURE



Source: [Medium](#)

Despite its novelty, the model proved difficult to sustain.

Demand for synthetic equity tokens remained limited, which in turn constrained trading activity and liquidity. Because minting required users to lock up collateral and often assume economically unattractive positions where there was a high risk to lose money, participation was weak, and many markets remained thin.

Regulatory uncertainty added further pressure, as these products sat uneasily outside traditional securities frameworks, which forced Uniswap to cut off access to synthetic stocks on the protocol it supports through its interface.

The model's fragility became even clearer with the collapse of Mirror Protocol following the implosion of the Terra ecosystem in 2022. Taken together, these issues meant that the first generation of synthetic stock tokens failed to achieve lasting adoption.

# Structured notes or tracker tokens

The second model moved closer to the underlying asset. Centralised exchanges such as Binance and FTX introduced tokenised equities linked to real shares held offchain through intermediary structures. In these setups, a partner entity acquired the shares, while the platform issued tokens designed to track their value.

This was a step forward from pure synthetics, but ownership remained indirect. Token holders did not own the underlying shares. Instead, they held a contractual claim against an issuer structure, making the product economically similar to a tracker certificate or structured note rather than a directly held equity.

That structure introduced layered counterparty risk across the exchange, issuer, broker, and custodian chain. It also quickly drew regulatory scrutiny. In 2021, Germany's BaFin warned that Binance appeared to be offering share tokens without the required prospectus, raising concerns that the products were unregistered securities. Binance halted new stock token sales in July 2021 as pressure expanded across jurisdictions.

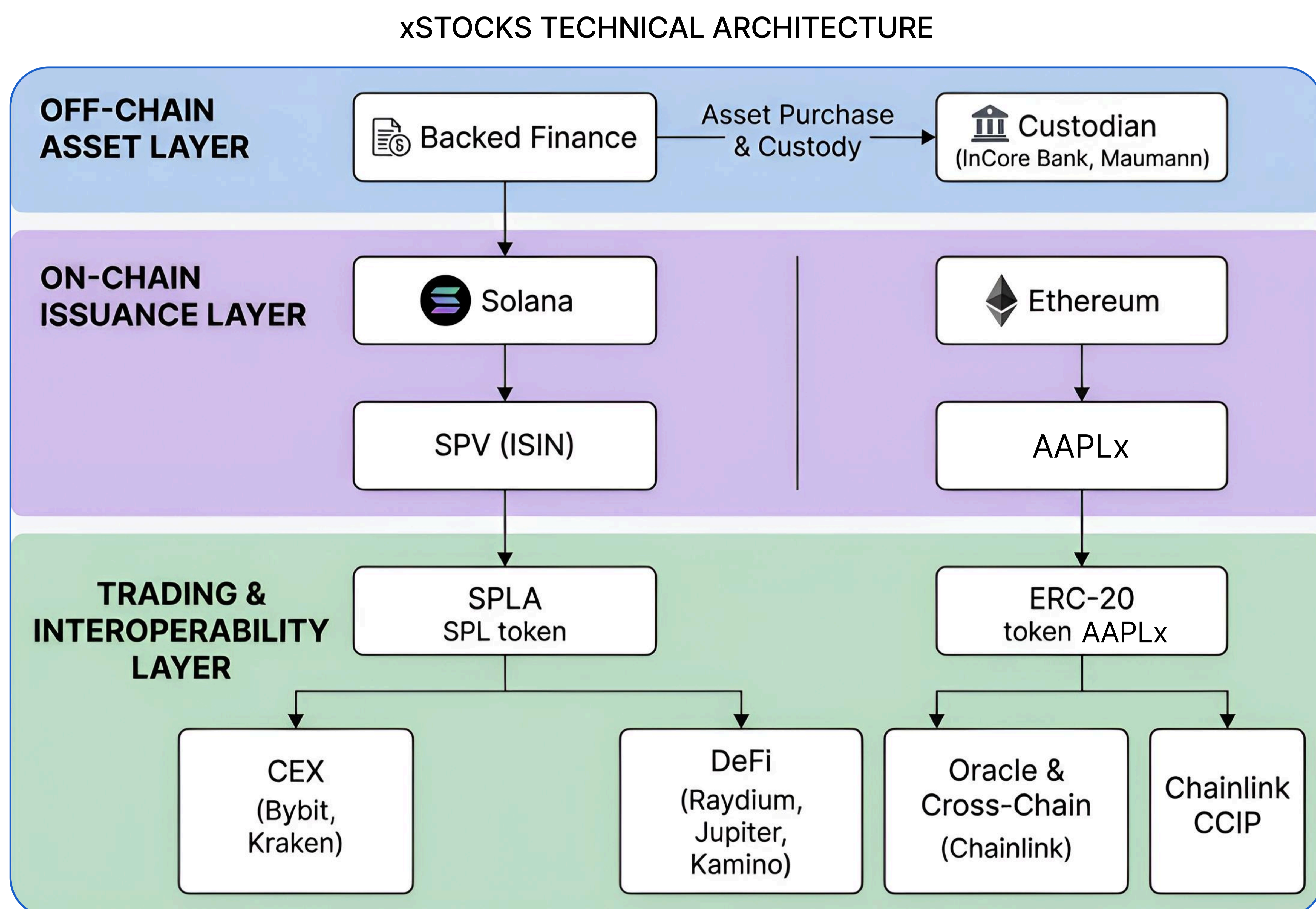
FTX exposed the model's other weakness. Even where shares were said to exist in the background, investors relied on an exchange-mediated claim rather than a direct legal interest in the stock. When FTX collapsed in November 2022, and withdrawals were suspended, tokenised stockholders were left exposed to the same counterparty and operational risks as any other exchange user.

# Custody-backed tokenised stocks

The third and now dominant model is custody-backed tokenised stocks. In this structure, a token is issued only after the underlying share has been purchased and placed into custody. The token, therefore, sits on top of a real stock position rather than merely referencing its price.

Unlike tracker tokens, which only give holders an indirect claim on shares held somewhere in the issuer structure, custody-backed tokens are issued only after the underlying shares are actually purchased and held with named regulated custodians, providing clearer asset segregation and greater transparency into how the tokens are backed.

In the case of xStocks, issuance begins offchain. New tokens are not minted directly for ordinary retail users. Instead, the initial creation order is placed by an approved market participant that has completed the issuer's onboarding and is permitted to subscribe in the primary market. Backed Finance (Issuer of xStocks) then arranges for the underlying U.S. stock to be purchased through a regulated broker, such as Alpaca Securities LLC. Once the trade settles, the shares are held with regulated custodian banks in Switzerland, including InCore Bank AG and Maerki Baumann & Co. AG. Only then is the token created onchain.



Source: [DLNews](#)

This model is stronger because the shares actually exist and are set aside for the product. It also offers stronger protection for holders in the event of issuer default, as xStocks is designed to be bankruptcy remote, meaning the assets backing the product are intended to remain protected even if the issuer goes bankrupt. As a result, dividends and other corporate actions can be handled through the structure itself rather than recreated synthetically.

The token holder, however, still does not become the shareholder of record. Even so, the terms governing issuance, redemption, and custody are far clearer and more clearly defined than they were in the earlier Binance and FTX model and they are better protected from bankruptcy.

## Security entitlements in traditional markets

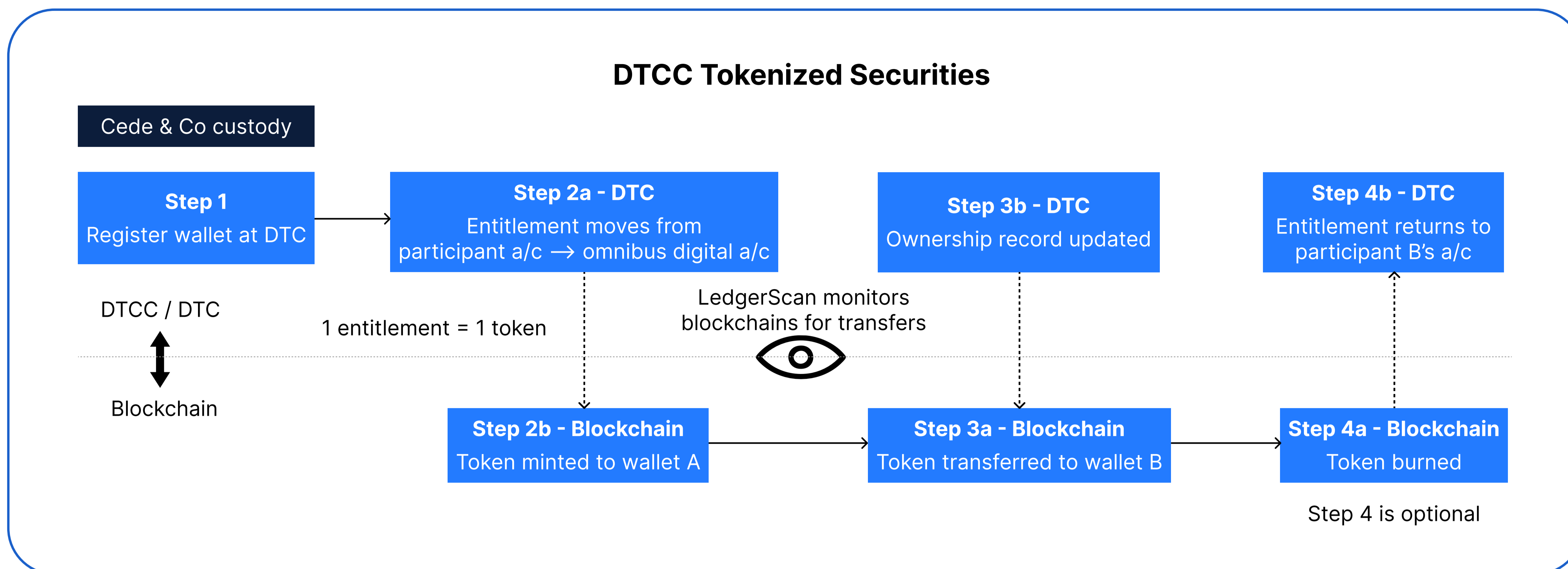
To understand the fourth model, it helps to start with how most public stocks are already held today. In traditional markets, investors usually do not appear directly on the company's share register. Instead, they hold securities through brokers and other intermediaries in "street name." Legally, what the investor owns in that system is a security entitlement: a recognised claim to the securities position held for them through the intermediary chain.

This matters because this model does not tokenise the share itself. It tokenises that entitlement.

The investor still sits inside the traditional market structure, but the claim is now represented in tokenised form. Compare this model to tokenised stocks issued by xStocks or Ondo Global Markets, where the traditional securities are custodied by an issuer who issues a net-new, digitally native security that is (fully) backed by the custodied securities. In both the traditional and digitally native models, intermediaries play roles in custody, recordkeeping and compliance. In the latter model, there may be an additional custody layer, while the new, digitally native securities issuance can facilitate issuance and trading in new markets.

The leading example of the tokenised securities entitlements model is DTCC's tokenisation program. DTCC is the core post-trade infrastructure group for U.S. securities markets, and its depository subsidiary, DTC, is the central securities depository that holds and records vast amounts of U.S. securities in book-entry form. What DTCC is building is not a separate crypto wrapper around stocks, but a system that allows DTC participants to convert a conventional book-entry entitlement into a tokenised entitlement on approved blockchains, while DTC continues to keep the official books and records.

### HOW DTCC TOKENIZATION ACTUALLY WORKS



Source: [Ledger Insights](#)

DTCC’s model brings tokenisation into the traditional securities system itself. The investor still does not become the registered shareholder, but the token now represents a recognised entitlement within core market infrastructure rather than a separate contractual product built around a stock held elsewhere.

## Natively issued tokenised shares

The fifth model goes even one step further than tokenised security entitlements. Here, the token is tied directly to the issuer’s own shares and to the official shareholder record. The token is not a wrapper around a custody arrangement, and it is not a tokenised claim moving inside the traditional brokerage chain. It is part of how the shares themselves are recorded and transferred.

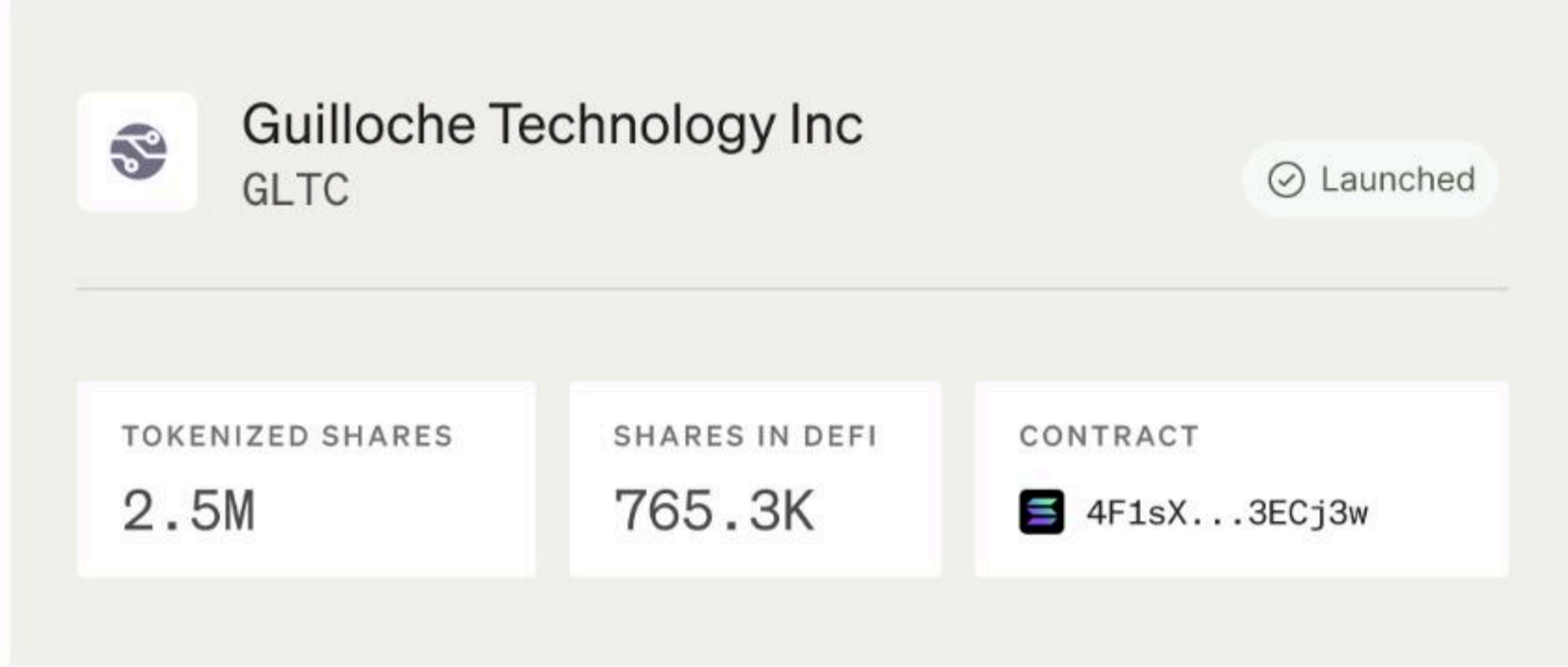
The clearest example is Superstate’s Opening Bell. Opening Bell is designed to let public companies make their SEC-registered shares available on blockchain networks such as Ethereum and Solana. Superstate does this through its transfer-agent infrastructure, which means the onchain token is connected to the company’s shareholder records rather than sitting alongside them.

Superstate also describes a direct issuance model in which new shares can be issued directly to eligible investors, settled in stablecoins, and delivered to the investor’s wallet as tokenised shares.

### SUPERSTATE FEATURES

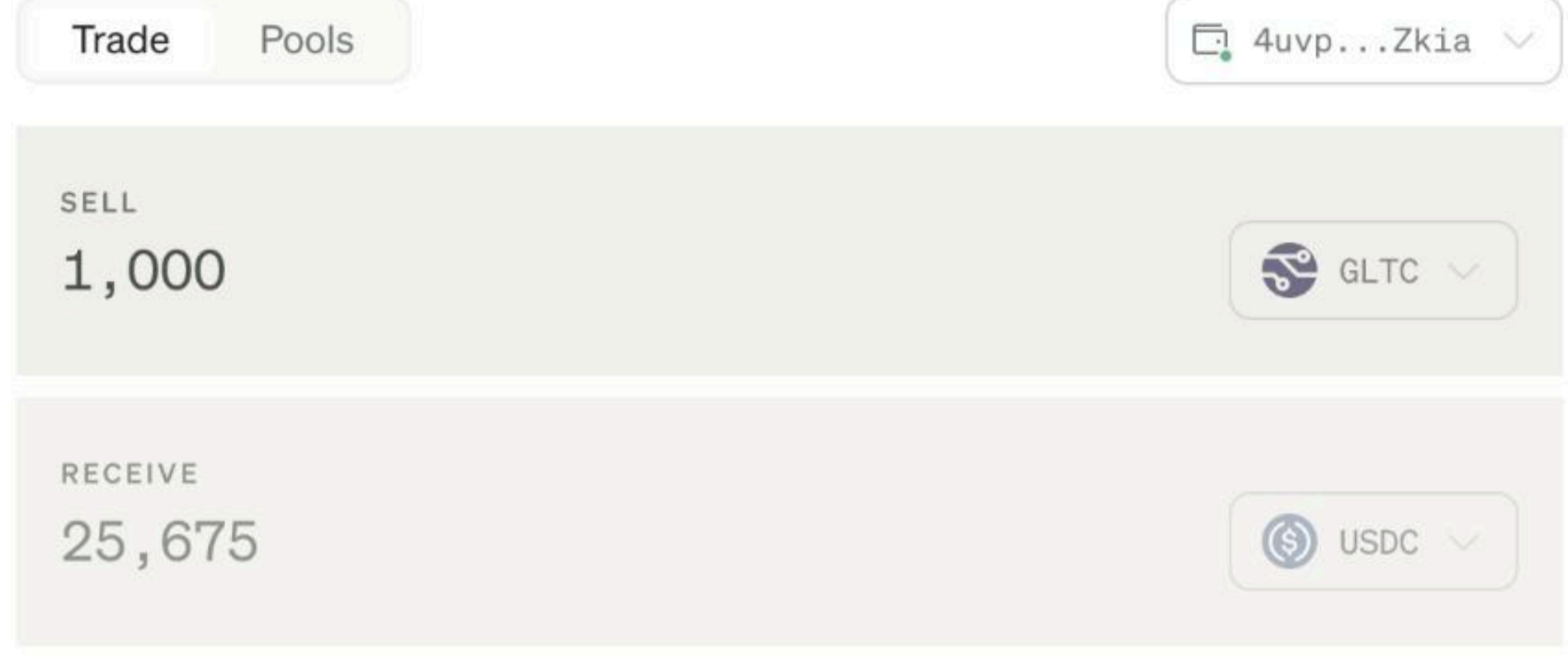
#### Modern SEC-registered transfer agent

Superstate partners with companies to make their shares natively available on Ethereum, Solana, and other major blockchains. Tokenized shares are not derivatives, wrappers, or new share classes.



#### Access new markets

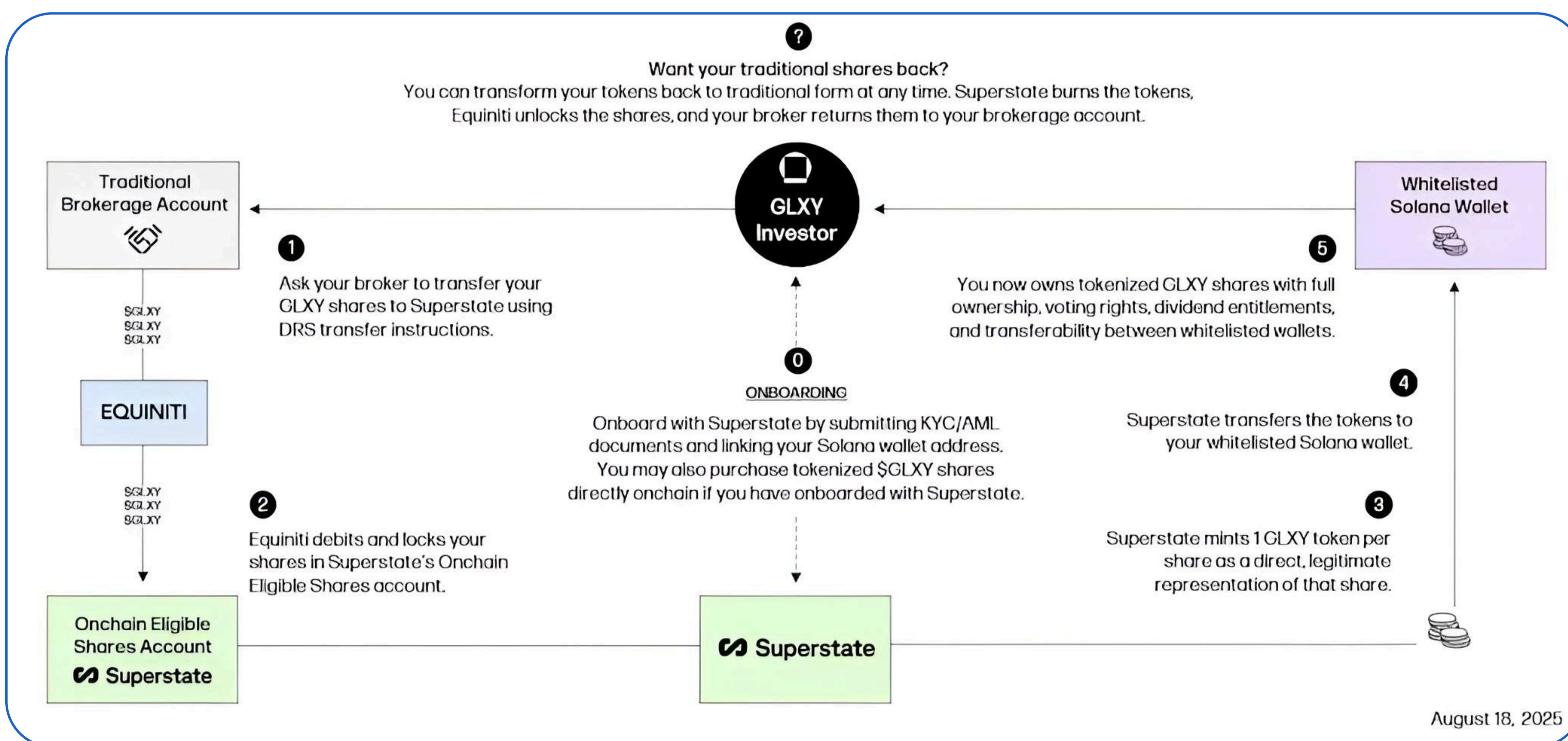
Tokenized shares can be transferred, traded, and settled in real-time, 24/7/365, in a rapidly growing ecosystem of supported onchain applications.



Source: [Superstate](#)

Galaxy Digital's GLXY shares are the clearest live example of how this works. In September 2025, [Galaxy launched](#) tokenised GLXY shares on Solana through Opening Bell. Approved investors can hold those shares in their own wallets, and when transfers happen onchain between verified participants, the ownership records are updated by Superstate as the official transfer agent.

### GLXY STOCK TOKENIZATION PROCESS



Source: [Galaxy](#)

This is the closest current model to direct tokenised share ownership. The investor is no longer just holding a claim inside the traditional custody chain. Instead, the token is connected to the issuer's own equity and to the formal shareholder-record process. Regulated transfer agents remain part of the structure, so this is not a purely disintermediated system, but it is the clearest example of tokenisation moving from a wrapper around ownership to part of ownership itself.

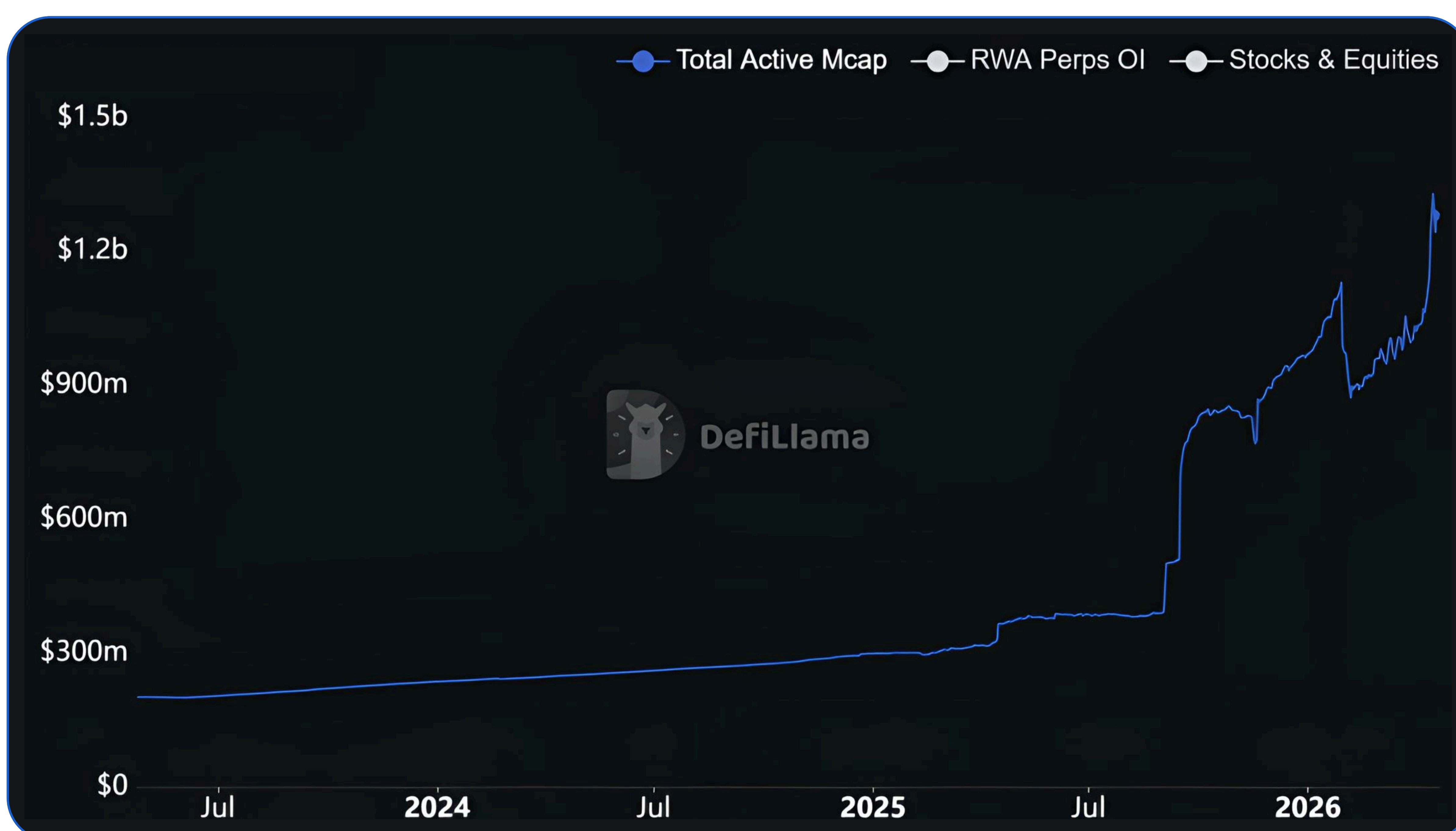
However, one of the issues with natively issued shares versus custody-backed tokenised stocks is that they have their own price that is not pegged to the underlying TradFi shares, meaning there is either price risk or a market maker must actively maintain prices, which can also become a cost for the issuer if they have to retain a market maker agreement.

## Market size & growth: How big is it getting?

Tokenized equities have grown from a niche segment into one of the most exciting parts of the RWA market. Over the past year, the market size has expanded rapidly as new issuers entered the market, distribution improved, and investors started to actually hold these tokens in their portfolios.

That growth is visible in the market cap data. The active market cap rose from roughly \$30M in April 2025 to \$1.28B in April 2026, showcasing how big a part of RWafi tokenized equities have become.

TOKENISED STOCKS RWA ACTIVE MARKET CAP



Source: [DefiLlama](#)

# Issuance is concentrated, but circulation is more balanced

At the issuer level, the market is still led by two dominant platforms, but it is no longer close to evenly split between them. Ondo Global Markets (BVI) Limited accounts for approximately \$726.1M, representing 62.01% of issuer-level active market cap. Backed Assets (JE) Limited follows with \$357.7M, or 30.55%. Together, the two account for 92.56% of the market.

Among named issuers beyond Ondo and Backed, Republic Core LLC ranks third with \$44.0M (3.76%), followed by Stobox Tokenized Equities Ltd. at \$24.0M (2.05%) and PreStocks at \$19.1M (1.63%). All remaining issuers account for less than 1% each.

ISSUER BREAKDOWN BY ACTIVE MARKET CAP AND DEFI TVL

Issuer	Active Market Cap (\$)	Active Market Cap Share (%)	DeFi Active TVL (\$)	DeFi Utilization (%)
Ondo Global Markets (BVI) Limited	726,120,020	62.01%	5,112,214	0.70%
Backed Assets (JE) Limited	357,720,055	30.55%	36,725,667	10.27%
Republic Core LLC	44,000,000	3.76%	0	0.00%
Stobox Tokenized Equities Ltd.	24,000,000	2.05%	0	0.00%
PreStocks	19,091,308	1.63%	2,347,551	12.30%

Source: DefiLlama

Looking at DeFi utilization, which measures DeFi Active TVL as a percentage of active market cap, the picture becomes more differentiated. While Ondo leads by market size, only 0.70% of its active market cap is deployed in DeFi. By contrast, Backed shows much stronger utilization, with 10.27% of its active market cap deployed across DeFi protocols. PreStocks stands out even more on this metric, with 12.30% of its active market cap deployed in DeFi, though from a much smaller base.

Taken together, the market remains highly concentrated, but it is no longer best described as a near-parity duopoly. Instead, the updated data points to a market where Ondo leads clearly in active market cap, Backed remains one of the strongest issuers in DeFi integration at scale, and the rest of the market consists of a fragmented long tail of much smaller issuers.

# What users are actually holding onchain

Issuer market share shows who is bringing tokenised equities to market. Underlying exposures reveal what users actually want to hold.

By active market cap, demand remains concentrated in a relatively small group of familiar names, though the composition has shifted in the latest dataset. Circle is the largest underlying exposure at approximately \$205.3M, equal to 16.0% of total active market cap. It is followed by Mt Pelerin Shares at \$116.9M (9.1%), MicroStrategy at \$93.8M (7.3%), the S&P 500 at \$91.1M (7.1%), and Tesla at \$70.1M (5.5%).

That concentration is not surprising. In the early stages of a new market, investors usually begin with the most familiar and liquid exposures, and the same pattern is visible here. Large-cap equities and broad market index products remain among the most popular choices.

Circle's position at the top suggests that many investors buying tokenised equities today are still closely tied to crypto-native names, while the strong ranking of names such as MicroStrategy, Tesla, NVIDIA, and Alphabet shows continued demand for a narrow group of widely recognised growth stocks.

TOP UNDERLYING EXPOSURES BY ACTIVE MARKET CAP

Rank	Underlying	Active Market Cap (\$)	Share of Total Active (%)
1	Circle	205,334,097	16.02%
2	Mt Pelerin Shares	116,940,867	9.12%
3	MicroStrategy	93,760,103	7.31%
4	S&P 500	91,073,277	7.10%
5	Tesla	70,098,980	5.47%
6	NVIDIA	49,659,291	3.87%
7	Alphabet	46,382,477	3.62%
8	Republic Note	44,000,000	3.43%
9	QQQ	37,671,600	2.94%
10	Thermo Fisher	24,658,387	1.92%

Source: DefiLlama

The composition of the top ten also shows that users are not only looking for single-stock exposure. The S&P 500 and QQQ both rank among the largest underlying exposures, which points to a more conventional pattern of portfolio construction. At the same time, the presence of names such as Circle, MicroStrategy, Tesla, NVIDIA, and Alphabet shows that demand is still concentrated in a relatively familiar set of large-cap and crypto-adjacent assets.

## Tokenised stocks are concentrated on three chains

When we look at the distribution of tokenised equities by chain, it becomes much clearer which networks have been able to capture the sector most effectively. Ethereum now leads by active market cap with roughly \$634.0M, equal to 49.4% of the market. It is followed by Solana at \$297.5M (23.2%) and BNB Chain at \$277.5M (21.6%).

After those three, the market drops off sharply, though Avalanche now stands out as the largest secondary network with \$46.2M (3.6%), ahead of Arbitrum at \$25.8M (2.0%) and Mantle at \$2.3M (0.2%). What the data shows is that tokenised equities remain heavily concentrated across a small number of chains, while the rest of the market is still relatively limited in scale.

TOP CHAINS BY ACTIVE MARKET CAP

Rank	Chain	Active Market Cap (\$)	Active Share (%)
1	Ethereum	634,021,605	49.41%
2	Solana	297,514,428	23.18%
3	BNB Chain	277,477,487	21.62%
4	Avalanche	46,170,309	3.60%
5	Arbitrum	25,766,233	2.01%
6	Mantle	2,285,483	0.18%

Source: DefiLlama

Ethereum has remained the natural home for more institutionally oriented products. Ondo's tokenised equities business has been closely aligned with Ethereum from the outset, reflecting a preference for deeper liquidity, more established custody and compliance integrations, and a more mature DeFi ecosystem.

Solana's position remains closely tied to the rollout of xStocks. Backed Assets (JE) Limited chose Solana as a primary venue for xStocks at launch, combining the product with exchange distribution and Solana-native infrastructure. That decision gave Solana one of the strongest early distribution channels for tokenised equities and helped establish it as one of the leading chains in the sector.

BNB Chain occupies a different role. It has become an important distribution layer due to its large retail user base and its close connection to Binance's exchange infrastructure. Issuers have expanded onto BNB Chain primarily to broaden reach and access distribution, rather than to make it the core home of the product itself.

Avalanche is the clearest second-tier chain in the market. While still far smaller than Ethereum, Solana, or BNB Chain, it has moved ahead of Arbitrum and Mantle and established a more visible foothold in tokenised equities.

Tokenised equities are still overwhelmingly concentrated on Ethereum, Solana, and BNB Chain, which together account for more than 94% of active market cap. Avalanche has begun to emerge as a meaningful fourth venue, but the broader market beyond the top three chains remains comparatively small.

## The DeFi legos: New financial primitives

The next phase of tokenised equities is not just about putting stocks onchain. It is about integrating them in DeFi once they are onchain. A tokenised stock becomes more interesting when it can move beyond simple buy-and-hold exposure and start functioning like other onchain assets.

## Lending & borrowing

Lending and borrowing are one of the clearest ways tokenised equities begin to matter beyond simple spot exposure. Once a tokenised stock can be posted as collateral, the holder no longer has to choose between keeping the position and accessing liquidity. That opens up more capital-efficient use cases. Investors can retain equity exposure while borrowing stablecoins against it, which makes tokenised stocks more useful for leverage, treasury management, and portfolio construction inside DeFi.

That opportunity is real, but the market is still at a very early stage.

### xStocks vs Ondo

Today, lending activity is concentrated in two ecosystems. On Ethereum, Ondo's tokenised equities have begun appearing in Morpho markets. On Solana, xStocks have been integrated into Kamino. The contrast between the two is stark. Ethereum has the framework, but very little actual activity. Solana is where a market is starting to form.

The clearest evidence comes from Kamino's xStocks market. The screenshots show a market size of \$20.63 million, with multiple tokenised equities already accepted as collateral. SPYx leads with about \$4.65 million in supplied collateral, followed by TSLAx at \$3.04 million, QQQx at \$2.89 million, NVDAx at \$1.71 million, and GOOGLx at \$1.49 million.

#### XSTOCKS MARKET ON KAMINO

Asset	Total Supply	Total Borrow	Liq LTV	Supply APY	Borrow APY
SPYx	\$4.65M	\$16.70K	75%	0.01% +2.16%	3.88%
TSLAx	\$3.04M	\$2.22K	65%	0.00% +2.16%	3.87%
QQQx	\$2.89M	\$29.98K	72%	0.04% +2.16%	3.90%
NVDAx	\$1.71M	\$1.95K	65%	0.00% +2.16%	3.87%
GOOGLx	\$1.49M	\$0.00	70%	0.00% +2.16%	-
MSTRx	\$881.02K	\$0.00	40%	0.00% +2.16%	-
USDC	\$5.59M	\$4.95M	0%	4.12%	5.51% +2.16%
cbBTC	\$197.64K	\$0.00	80%	-	-
USDG	\$4.87K	\$4.21K	0%	3.92%	5.37%

Source: [Kamino](#)

On top of the lending markets on Solana, xStocks also has a lending market on Ethereum through Morpho, where users can borrow against SPYx and take out a loan in AUDS. Combined, these markets currently total about \$2.07 million in size. While xStocks' Ethereum market is still smaller than its Solana markets, it only launched on March 30, 2026 and has been growing steadily since then.

### SPYX MARKETS

Network	Collateral	Loan	LLTV	Trusted By	Total Market Size ↓	Total Liquidity	6H Rate
+	wSPYx	AUDS	86.00%	f	1.75M AUDS \$1.75M	388.30k AUDS \$388.18k	-8.09%
+	SPYx	AUDS	86.00%		318.13k AUDS \$318.03k	0.00 AUDS \$0.00	3.85%

Source: [Morpho](#)

Ondo's tokenised equities became usable in Ethereum DeFi lending markets in February 2026, following integrations with Morpho and risk management by Gauntlet as well as with Euler and risk management by Sentora. Initial markets for SPYon, QQQon and TSLAon are live, and are paired with both USDC and PYUSD. These markets are expected to grow as vaults gain additional utility and they're integrated across as the ecosystem more widely.

### SPYon MARKET

Network	Collateral	Loan	LLTV	Total Market Size ↓	6H Rate	Utilization	Trusted By	Total Liquidity
+	SPYon	USDC	62.50%	1595.62 USDC \$1595.53	19.58%	99.59%	f	8.18 USDC \$8.18

Source: [Morpho](#)

### QQQon MARKET

Network	Collateral	Loan	LLTV	Total Market Size ↓	6H Rate	Utilization	Trusted By	Total Liquidity
+	QQQon	USDC	62.50%	358.97 USDC \$358.95	13.32%	99.49%	f	8.18 USDC \$8.18

Source: [Morpho](#)

These figures indicate that while the infrastructure is in place, meaningful lending activity has not yet developed on Ethereum. The contrast with Solana is significant. Kamino and xStocks have already reached a stage where multiple tokenised equities have accumulated measurable collateral supply, and borrowing activity is beginning to emerge.

On Ethereum, xStocks has the more sizable lending market so far, but the ecosystem still remains in an earlier phase where markets have been established and have yet to scale.

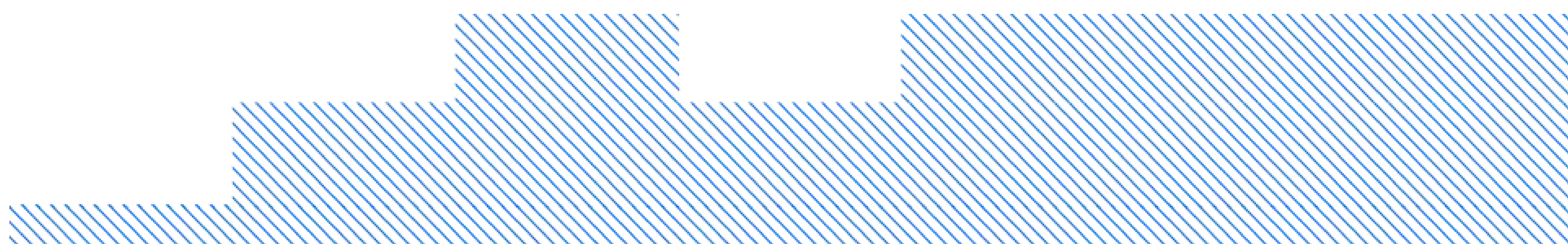
## Equity perpetuals

Tokenised equities are not only being brought onchain through spot representations. A parallel market is emerging through perpetual futures. Rather than holding a token backed by an underlying share, users can trade synthetic exposure through perpetual contracts that track the price of a stock or index.

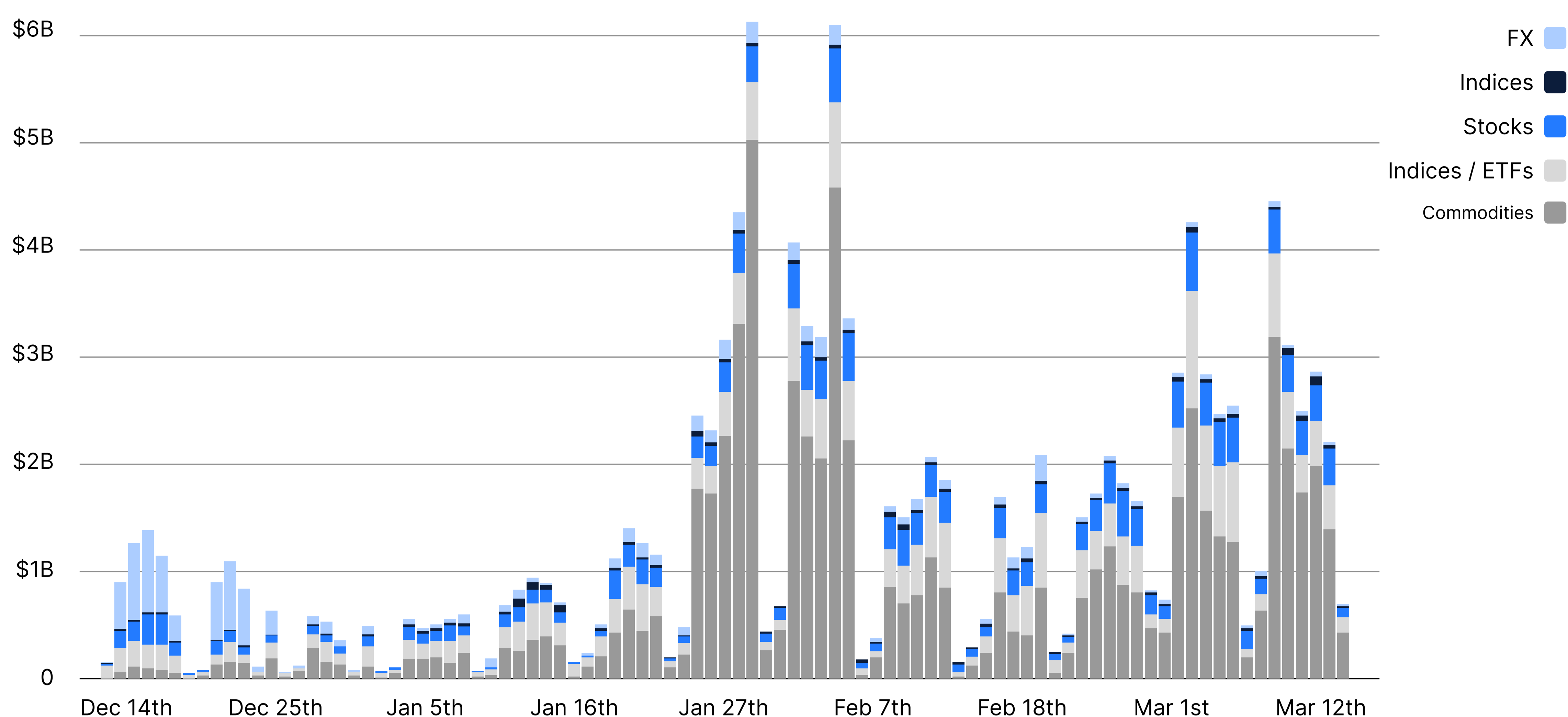
This shift is often described as the "perpification" of RWAs. The idea is simple. Instead of replicating traditional spot exposure onchain, crypto-native derivatives provide a faster and more liquid way to express the same exposure. This mirrors the native crypto market where perpetual volumes dominate, making it a natural evolution. Merging the primitives of tokenized stocks and perpetuals, Ondo Perps, a perpetual futures platform for U.S. equities and commodities, will soon enable tokenized stocks to be used as multi-asset collateral.

## Market size and growth

The RWA perpetual market has grown into a significant corner of onchain derivatives. From mid-December through mid-March, daily volumes regularly reached into the billions, peaking around late January and early February where single-day volume briefly touched \$6 billion.




### RWA PERPS VOLUME BY ASSET CLASS



Source: [Dune](#)

Tokenised equity perps have generally represented somewhere between 10-15% of total RWA perp volume on any given day. At time of writing, on March 14th for example, stocks accounted for around \$90 million of the day's total RWA perp volume, roughly 13% of the overall mix, making it the third largest category behind commodities and indices/ETFs.



## Bringing Wall Street to the World

Ondo Finance is a blockchain-based platform focused on tokenizing real-world assets and bringing institutional-quality financial products onchain.

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# 03

## Tokenised **Real Estate**



# Different classes of tokenised real estate

Tokenised real estate is often presented as a single category. In practice, it covers structurally different models that vary in what is placed onchain, what rights are created, and how risk is allocated. Without this distinction, discussions around liquidity, DeFi integration, or scalability become misleading.

## Onchain representation of property data

The first class involves placing real estate data onchain without transferring ownership. In this model, the property remains fully governed by traditional land registry and property law. The blockchain records selected information such as ownership history, valuation updates, energy certificates, maintenance logs, or notarised documents.

The objective is infrastructure improvement rather than financialisation. Blockchain serves as a coordination and audit layer.

## Direct or fractionalised ownership

The second class aims to tokenise the ownership of the property itself, whether for a single owner or fragmented across multiple participants. In this configuration, the notarial and title transfer process would effectively move onchain.

While technically possible, most jurisdictions do not recognise blockchain tokens as valid instruments for transferring property title. Pilot programmes are emerging, and full integration could fundamentally reshape notarial processes and improve liquidity in traditionally illiquid assets. However, significant barriers remain, including liability allocation, governance frameworks, tax treatment, and AML compliance.

## Legal and financial wrappers

The third and most dominant class today is financial structuring through legal wrappers. Here, investors do not acquire property directly. Instead, they purchase tokens representing a financial instrument issued by an entity that owns or finances the property.

These structures take several forms such as:

**SPV equity:** A Special Purpose Vehicle owns the property. Tokens represent shares or units in that entity. Investors receive rental income and liquidation proceeds. Platforms such as RealT and Reental operate largely under this model.

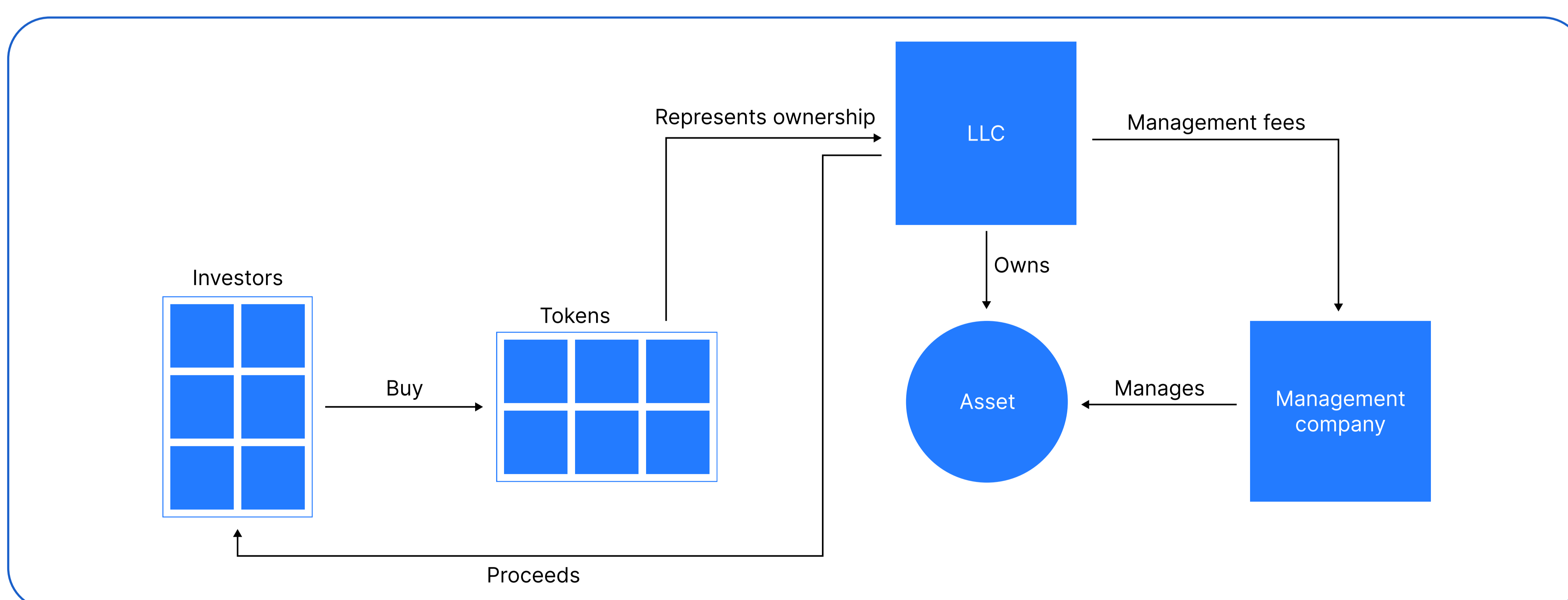
**Tokenised debt:** Investors finance projects through participatory loans or structured debt instruments. Returns are contractual rather than ownership-based. Reental’s Spanish model, for example, tokenises participatory loans under domestic financial regulation.

**Trust and deed-based yield vehicles:** Some projects provide exposure to real estate-backed debt positions rather than direct asset participation. These emphasise yield generation rather than title ownership.

**Portfolio or basket tokens:** Tokens represent diversified exposure to multiple properties, similar to a real estate ETF. RECC operates under this logic.

These models align more easily with existing corporate, fund, and securities law. They offer regulatory clarity and scalability, but introduce entity risk, counterparty exposure, and insolvency considerations. The token becomes a digital wrapper around a traditional financial structure.

### STANDARD SPV CONFIGURATION



Source: [Landshare Docs](#)

## Synthetic and derivative exposure

The fourth class includes synthetic or derivative products referencing real estate markets. These instruments do not confer ownership or claims on cash flows. Instead, they allow exposure to price movements or regional indices.

Platforms such as Parcl (via Polymarket) enable trading on the home values of specific locations. These instruments are structurally closer to financial derivatives than to property investments.

## Why the distinction matters

Each class carries different legal obligations, compliance requirements, liquidity profiles, and risk dynamics. A blockchain-based registry does not face the same constraints as a tokenised SPV. A synthetic index does not create the same regulatory exposure as fractional equity.

Ultimately, it is regulation that determines what can and cannot be done within each configuration. For this reason, the next section examines how jurisdictions treat tokenised real estate in practice.



# Regulation as the primary constraint

This section focuses on a selection of jurisdictions that stand out for their clarity, experimentation, or institutional relevance in tokenised real estate. Rather than covering every market, the objective is to highlight distinct legal approaches that are actively shaping how the sector is developing.

## Liechtenstein: Legal recognition of tokenised rights

Liechtenstein stands out for its conceptual clarity. Its Token and Trusted Technology Service Providers Act (TVTGA) defines a token as a container for rights. The law does not restrict tokenisation to predefined asset classes. Instead, it recognises that legally enforceable rights can be represented onchain, provided the relationship between the token and the underlying claim is clearly defined.

This framework gives issuers certainty around issuance, custody, and transfer of tokenised claims. However, it does not override property law. Land ownership remains governed by the traditional registry. As a result, most tokenised real estate is structured through entities holding property, with tokens representing economic claims rather than direct title.

Liechtenstein is highlighted because it provides one of the clearest legal foundations for tokenisation, where tokens can represent enforceable rights, even if direct ownership of real estate remains tied to traditional registries.

## Dubai: Infrastructure modernisation

Dubai's approach differs by focusing on integrating real estate infrastructure directly onchain. Through initiatives led by the Dubai Land Department, blockchain is being incorporated into registries, settlement workflows, and administrative processes. Tokenisation in this context enhances transparency and coordination, but it doesn't create permissionless markets.

Legal ownership remains anchored in the official land registry. Transfers are subject to residency requirements and regulatory approval, and fractional participation operates within supervised frameworks.

Dubai is included as a case of state-led experimentation, where blockchain is being integrated at the infrastructure level rather than purely at the financial layer.

## Luxembourg: Institutional real estate infrastructure

Luxembourg is one of the world's leading fund domiciles and a major centre for cross-border real estate structuring. Real estate funds, SPVs, and securitisation vehicles are already deeply embedded in its financial ecosystem.

Through a series of blockchain laws adopted since 2019, Luxembourg clarified how distributed ledger technology can be used in securities issuance and settlement. Rather than redefining ownership, it allows blockchain to operate within existing financial structures.

Tokenised real estate typically takes the form of fund units, securitisation notes, or SPV equity. Investor rights remain governed by traditional fund and securities law. This model offers legal certainty and attracts institutional capital, but limits permissionless transferability and DeFi-style liquidity.

Luxembourg is spotlighted because it shows how tokenisation is being absorbed into traditional real estate finance infrastructure.

## Other jurisdictions: A regulated baseline

Beyond the leading examples, several major jurisdictions provide clear legal pathways for tokenised real estate. However they differ in the sense that real estate tokens are seen as a classic RWA token regardless of their specificities.

**Switzerland** recognises ledger-based securities under its DLT Act, supervised by FINMA. Digital securities are legally valid, allowing real estate exposure to be structured through regulated entities and recognised on distributed ledgers. However, property title remains governed by the traditional land registry.

**European Union.** MiCA does not apply to tokenised real estate where tokens qualify as financial instruments. These fall under MiFID II and national capital markets rules. Spain illustrates the practical implementation: DLT can be used for securities record-keeping and corporate structuring, yet ownership remains anchored in national land registries.

**United States.** Tokenised real estate is treated as a securities activity under SEC oversight. Issuers rely on exemptions such as Regulation D or Regulation S, which typically restrict offerings to accredited or offshore investors. The framework provides clarity and legal enforceability, but imposes significant constraints on transferability and open secondary markets.

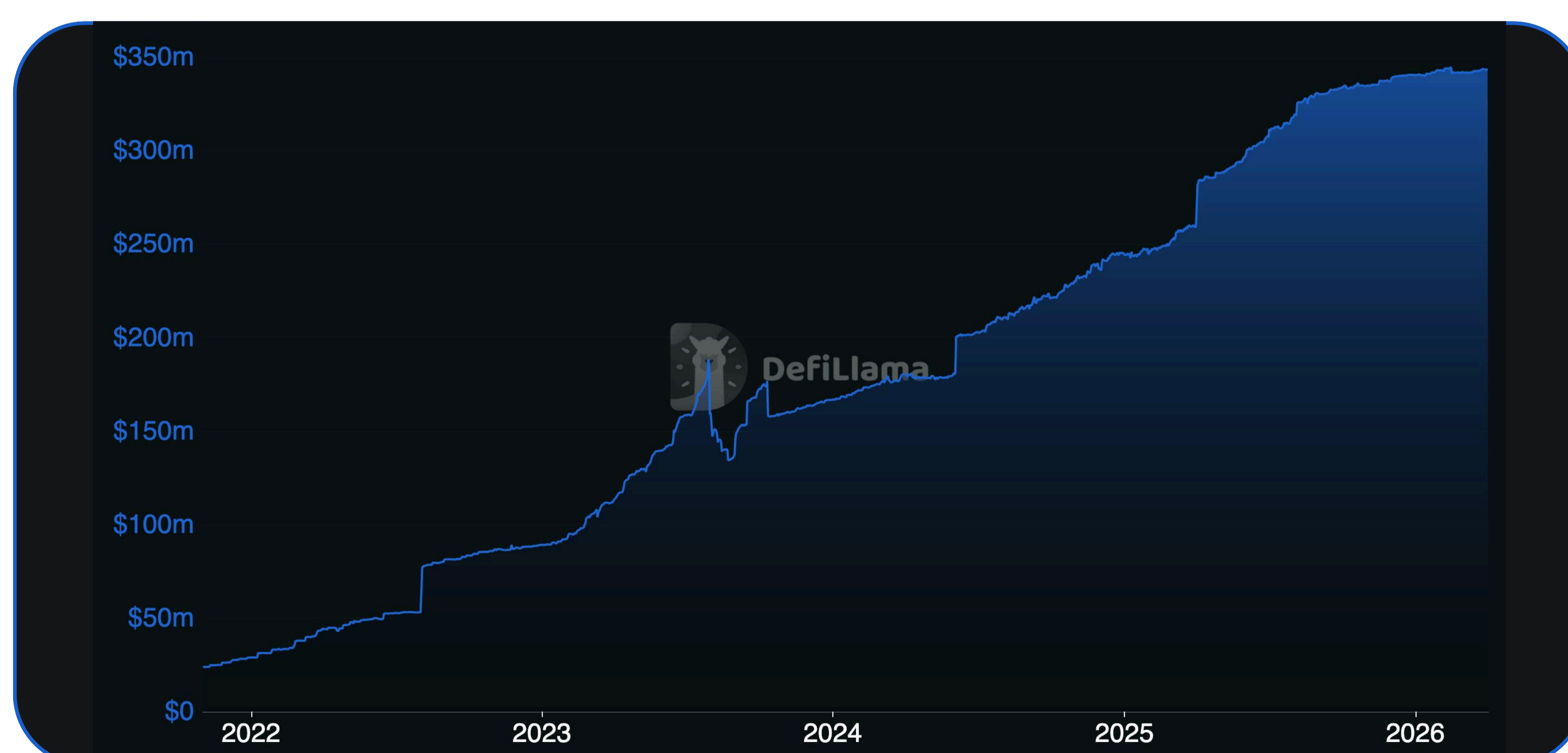
**Singapore** follows a comparable model under the Monetary Authority of Singapore. Tokenised real estate is structured through regulated funds or corporate vehicles. Blockchain enhances operational efficiency and settlement, but ownership rights and investor protections remain governed by existing financial law.

# How is tokenised real estate used onchain?

## Data fragmentation

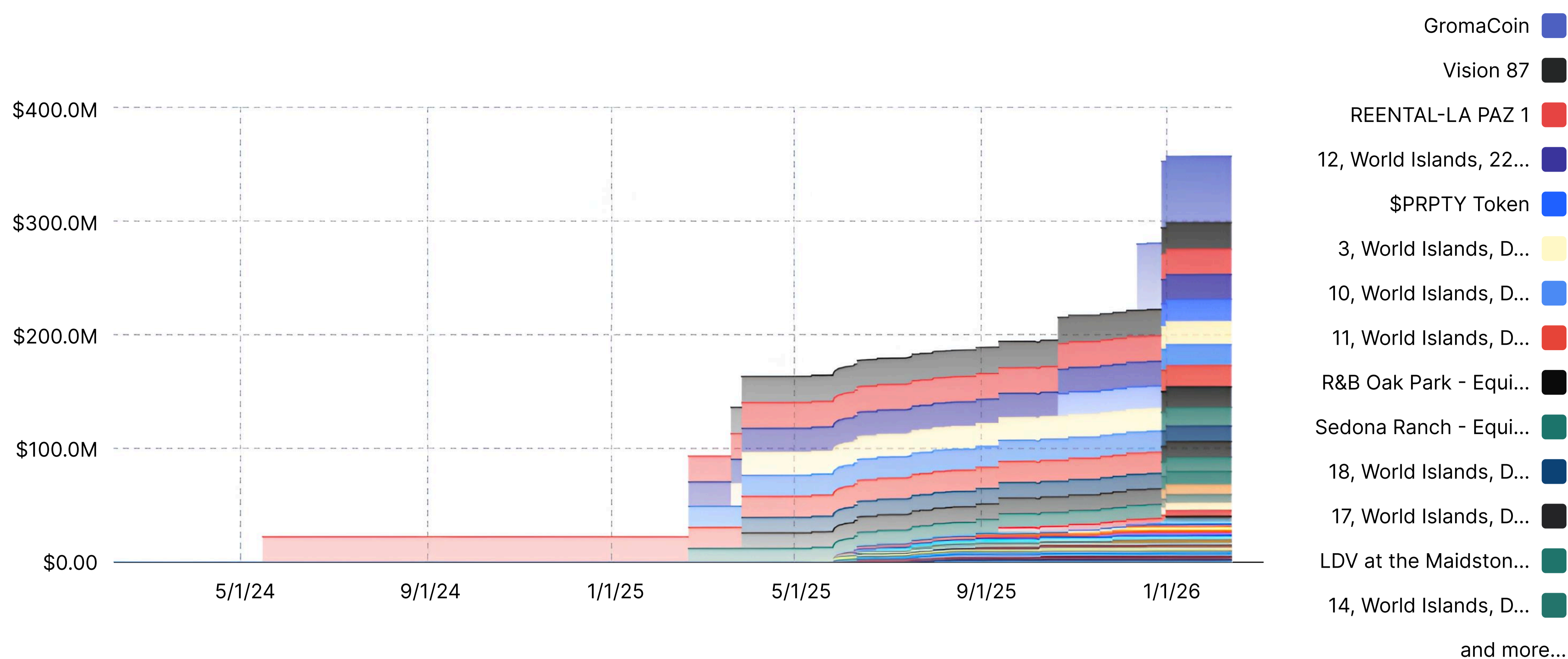
Tokenised real estate is visible onchain, but it is not measurable in a unified way. Unlike stablecoins, where supply and circulation are transparent, real estate tokens operate within layered legal and operational structures that limit full visibility.

RWA.xyz estimates roughly \$400 million in tokenised real estate across 58 assets and more than 10,000 holders, with concentration in the United States and Dubai. DeFiLlama reports closer to \$340 million, tracking a different subset of platforms such as RealT and Lofty.



Source: [DeFiLlama](#)

TOKENISED REAL ESTATE TVL



Source: [rwa.xyz](https://rwa.xyz)

The gap reflects structural complexity rather than data error. Tokens vary in classification, custody structure, and disclosure obligations. Many addresses represent platforms or SPVs rather than end investors, and significant activity occurs within permissioned or private environments. The result is a market that exists and grows, yet cannot be tracked with the clarity of native crypto assets.

## How do people get into tokenised real estate in practice

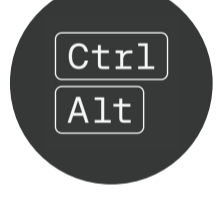

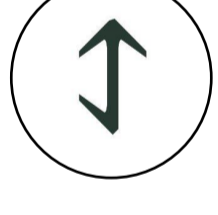

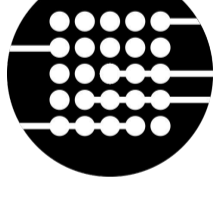

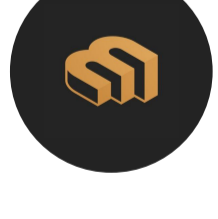

The dominant structure today relies on financial wrappers, where investors purchase tokens representing equity or debt claims, either for yield generation or for simple real estate exposure. This model is already operating at a meaningful scale. A few illustrative examples include RealT with approximately \$156 million in tokenised exposure, Ctrl Alt at around \$124 million, RedSwan Digital Real Estate with close to \$108 million in offerings, Lofty with \$99 million in property value. A second tier sits in the \$40-60 million range, including Reental, Tangible and Groma.

### LEADING REAL ESTATE PROTOCOLS PER RWA VALUE

	Name	Asset class	Total assets
1	 RealT Tokens 1 chain	Real Estate	\$156.92M
2	 Lofty 1 chain	Real Estate	\$99.18M
3	 Tangible RWA 6 chains	Real Estate	\$42.57M
4	 Vesta Equity 1 chain	Real Estate	\$20.63M
5	 Estate Protocol 1 chain	Real Estate	\$14.2M
6	 Binaryx Platform 1 chain	Real Estate	\$7.52M
7	 Propbase 1 chain	Real Estate	\$1.1M

Source: [DefiLlama](#)

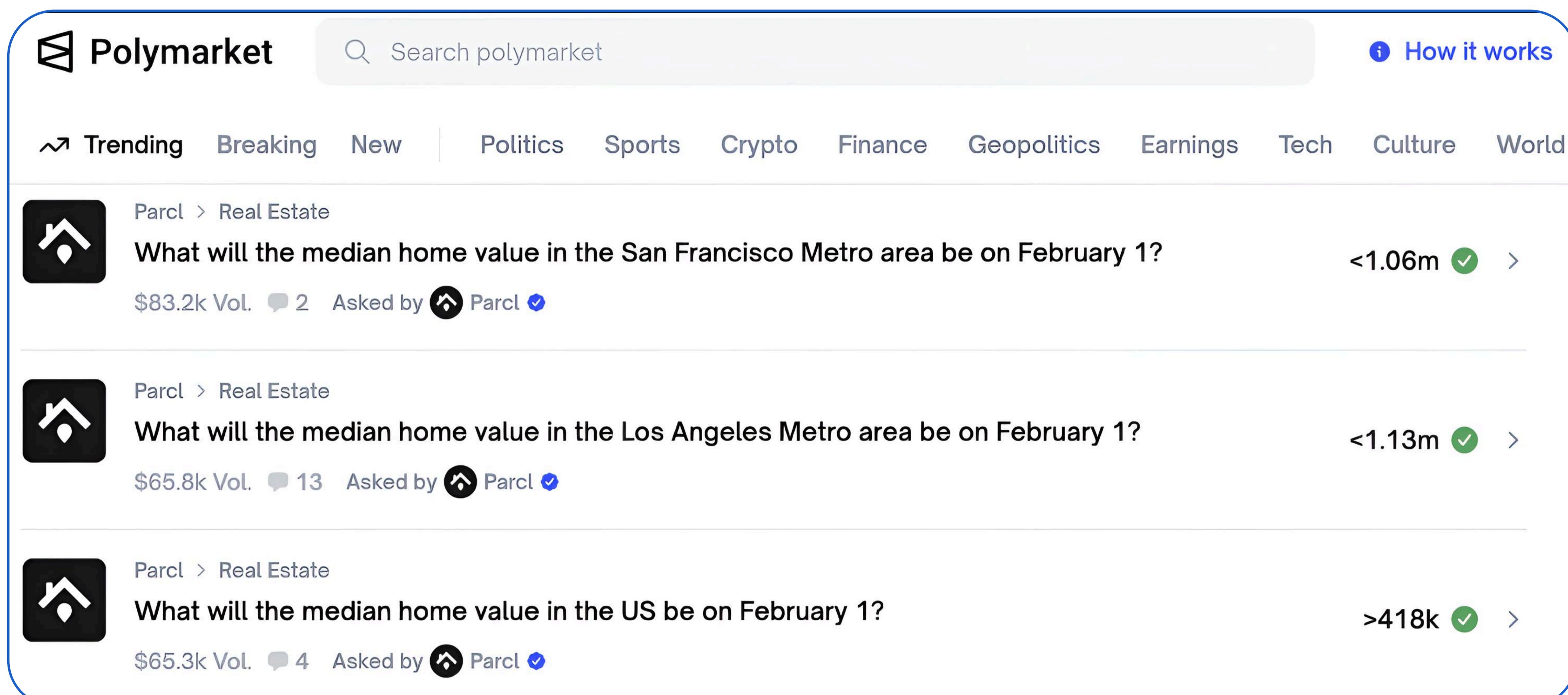
### REAL ESTATE VALUE

	Platform	RWA count	Total value	30D %	Market share
1	 Ctrl Alt	19	\$124.6M	0%	31.73%
2	 RedSwan Digital Real Estate	8	\$108.0M	0%	27.51%
3	 Groma	1	\$58.2M	0%	14.83%
4	 Rental	16	\$47.6M	9.69%	12.12%
5	 T-RIZE Group	1	\$23.0M	0%	5.86%
6	 DigiShare	1	\$20.0M	0%	5.10%
7	 MetaWealth	10	\$10.9M	1.02%	2.78%
8	 RealtyX	1	\$332.10K	0%	0.08%

Source: [rwa.xyz](#)

Synthetic exposure is an emerging category. Platforms such as Parcl (via Polymarket) allow users to trade on home prices in specific regions. Individual markets often generate between \$40,000 and \$80,000 in volume despite being relatively recent. At current volumes, these instruments remain experimental meaningful hedging or price discovery requires significantly deeper liquidity.

### PARCL PAST PREDICTION MARKETS



The screenshot shows the Polymarket interface with a search bar and navigation tabs. Three prediction markets are listed under the 'Parcl > Real Estate' category:

Question	Volume	Comments	Asked by	Market Status
What will the median home value in the San Francisco Metro area be on February 1?	\$83.2k Vol.	2	Parcl	<1.06m ✓
What will the median home value in the Los Angeles Metro area be on February 1?	\$65.8k Vol.	13	Parcl	<1.13m ✓
What will the median home value in the US be on February 1?	\$65.3k Vol.	4	Parcl	>418k ✓

Source: [Polymarket](#)

It is also important to highlight the scale of Dubai's pilot initiative with CTRL ALT, which represents approximately \$445 million in asset value. This case is distinct in that blockchain is used primarily for registry integration, tracking, and administrative modernisation, rather than for issuing investor-accessible tokens or enabling open market trading.

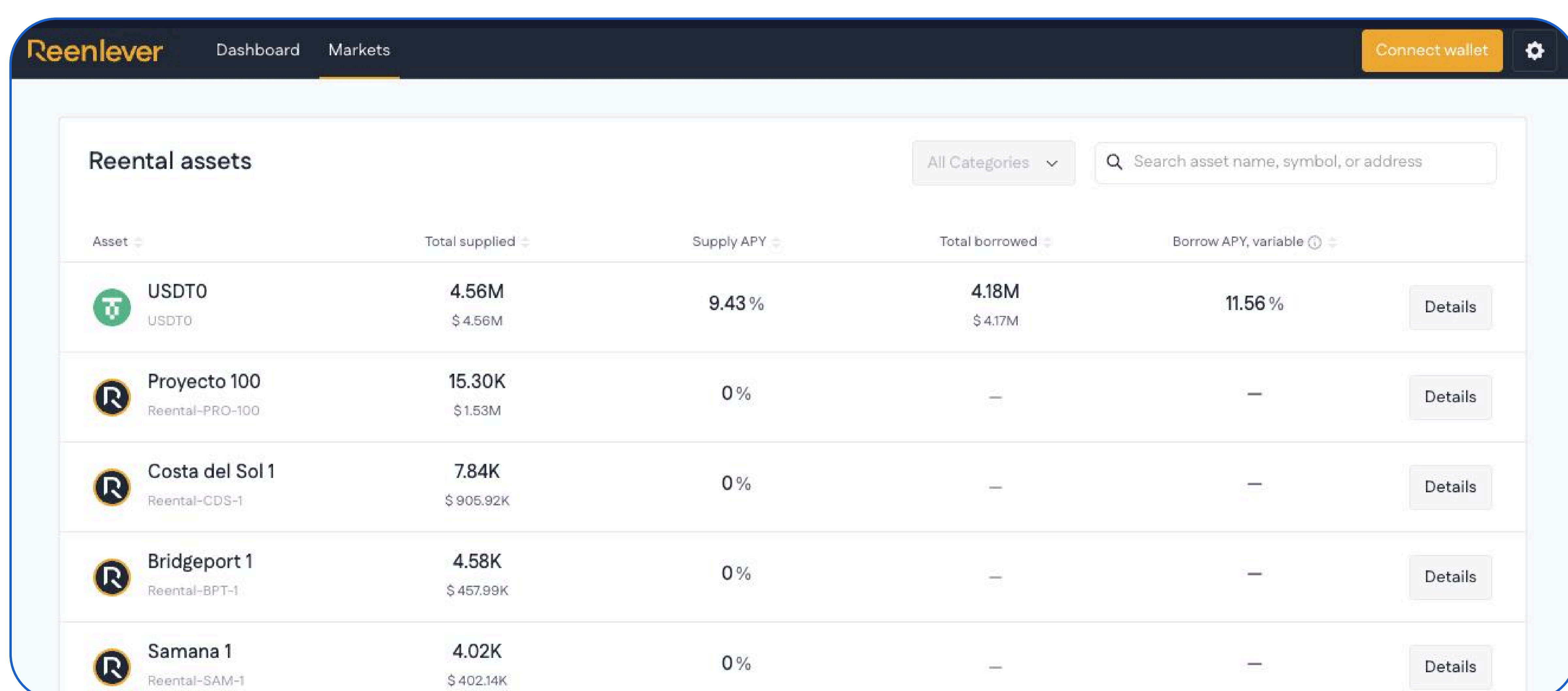
## DeFi integration: Possible, but not yet native

From a technical standpoint, tokenised real estate can integrate with DeFi infrastructure. Tokens can follow ERC standards, connect to oracles, and interact with lending protocols.

In practice, integration remains limited. Real estate valuation depends on offchain appraisal cycles rather than continuous price discovery. Liquidity is thin and often jurisdiction-bound. Many tokens embed compliance restrictions that constrain transferability. These features conflict with core DeFi assumptions of real-time pricing, deep liquidity, and permissionless access.

The collaboration between Reental and Aave illustrates both the opportunity and the constraint. Reental, which tokenises participatory loans linked to Spanish real estate, received strong community support to use its real-estate-backed tokens as collateral on Aave V3. In principle, this allows investors to unlock liquidity without selling their exposure. In practice, it requires conservative collateral parameters, carefully designed oracle feeds reflecting offchain valuations, and strict liquidation logic adapted to illiquid assets. The model demonstrates that DeFi integration is technically possible, but only within tightly controlled risk frameworks that reflect the structural realities of real estate.

### REENLEVER (REENTAL) MARKETS POWERED BY AAVE



Asset	Total supplied	Supply APY	Total borrowed	Borrow APY, variable	
USDT0 USDT0	4.56M \$ 4.56M	9.43 %	4.18M \$ 4.17M	11.56 %	Details
Proyecto 100 Reental-PRO-100	15.30K \$ 1.53M	0 %	—	—	Details
Costa del Sol 1 Reental-CDS-1	7.84K \$ 905.92K	0 %	—	—	Details
Bridgeport 1 Reental-BPT-1	4.58K \$ 457.99K	0 %	—	—	Details
Samana 1 Reental-SAM-1	4.02K \$ 402.14K	0 %	—	—	Details

Source: [Reenlever](#)

Another example is PRIME from Hastra, which brings yield from tokenised home equity loans onchain. It offers around 7% base yield at the time of writing, and on Kamino users can loop the position to increase returns up to 16%, showing how DeFi can amplify real-world income streams.

Other initiatives explore revenue-backed stablecoins, structured lending pools, or yield strategies tied to property cash flows. Tangible, for example, experimented with real estate backed stablecoin designs, where tokenised property exposure supported a yield-generating stable asset. In these configurations, real estate functions more like collateral within a structured credit product than as a freely tradable asset.

Overall, for tokenised real estate to function as a DeFi-native asset class, valuation transparency, secondary liquidity, and regulatory clarity must deepen. Until then, it remains closer to regulated digital securities than to permissionless DeFi primitives.

# 04

## Tokenised **Alternative Finance**



Alternative finance refers to a set of private and specialized assets that sit outside traditional public markets, including private credit, private equity, venture capital and carbon credits. These markets are defined less by what they are and more by how they function: they are typically illiquid, operationally complex, and accessed through restricted channels.

As these markets have grown, the limitations of their underlying infrastructure have become more visible. Tokenisation introduces a new ownership and distribution layer that can improve how these assets are issued, held, and transferred.

## What is alternative finance in traditional markets?

In this report, alternative finance is best understood as a large group of assets and investment strategies that sit outside the traditional core of public equities, government and corporate bonds, and bank deposits.



### Making Tokenized Equities Productive in DeFi

Sentora Tokenized  
Equity Yield (STEY)



In traditional finance, these investments are “alternative” not because they are separate from the financial system, but because they typically involve private markets, lower liquidity, more complex underwriting, longer holding periods, and less standardised pricing than conventional listed assets.

### ALTERNATIVE VS TRADITIONAL INVESTMENTS

<b>Alternative Investments</b>		<b>Traditional Investments</b>
Rarely traded on public markets	vs.	Traded on public markets
Little or no correlation to stocks and bonds	vs.	May have higher liquidity, lower volatility
May have higher returns than traditional asset classes	vs.	Returns depend on the movement of global markets
Some can have lower liquidity, higher volatility	vs.	Can have lower investment minimums and transaction costs
May have higher minimum and performance fees	vs.	Highly regulated by the SEC and other government agencies
Subject to fewer regulations than traditional investments	vs.	May have lower returns compared to alternative investments
Can be difficult to value	vs.	Sensitive to inflation

Source: [Kubera](#)

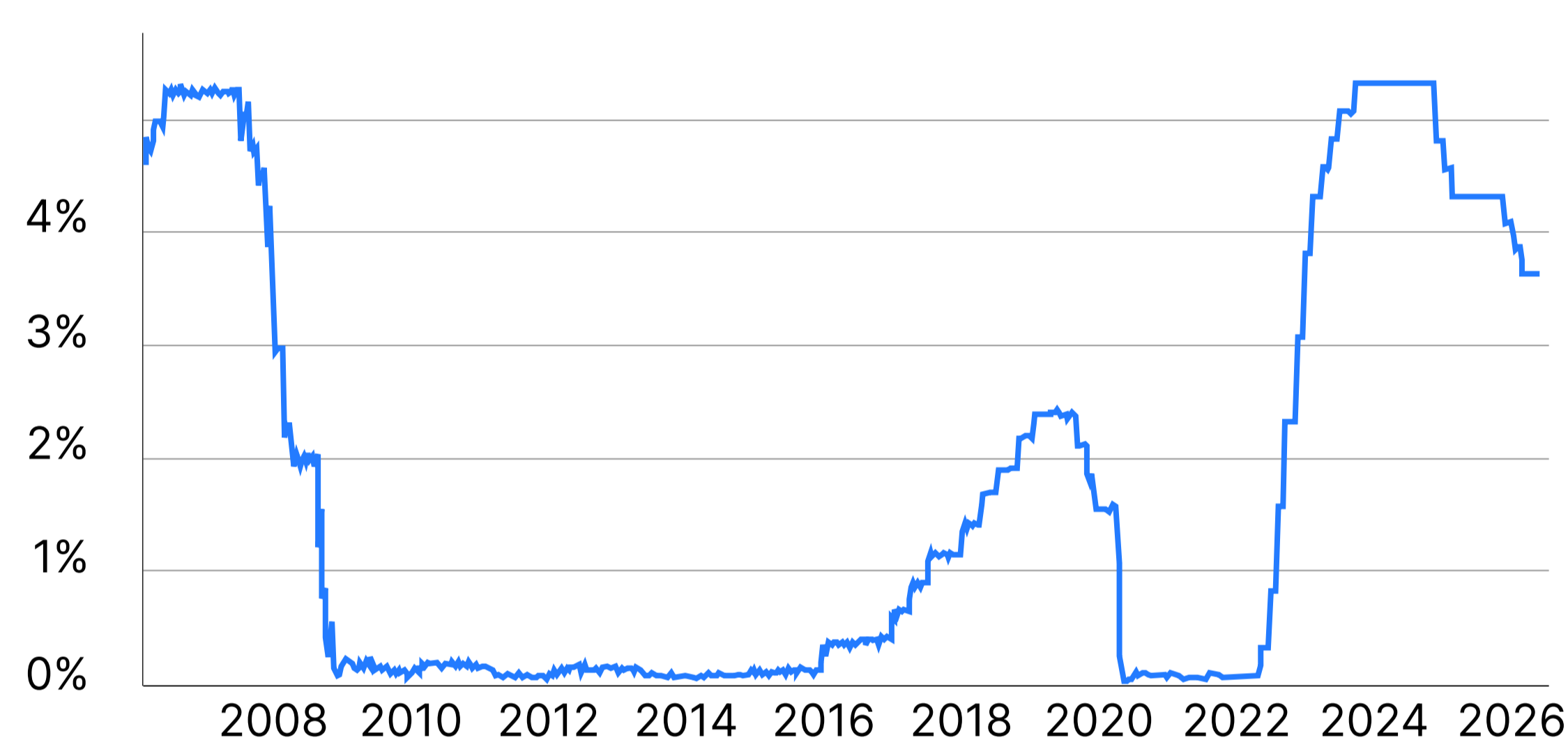
The asset classes considered in this report fit naturally within that definition. Private credit, private equity, venture capital, carbon credits, environmental assets, and other exotic real-world assets differ in structure and risk, but they belong to the same broad investment universe because each offers exposure to sources of value that are not readily captured through conventional listed securities.

## Post-2008 expansion of alternative investments

The expansion of alternative investments since 2008 is central to understanding their current role in portfolio construction. The global financial crisis marked a turning point in the organisation of capital markets. In its aftermath, tighter regulation, bank deleveraging, and higher capital requirements constrained the willingness and ability of banks to retain certain forms of risk on their balance sheet.

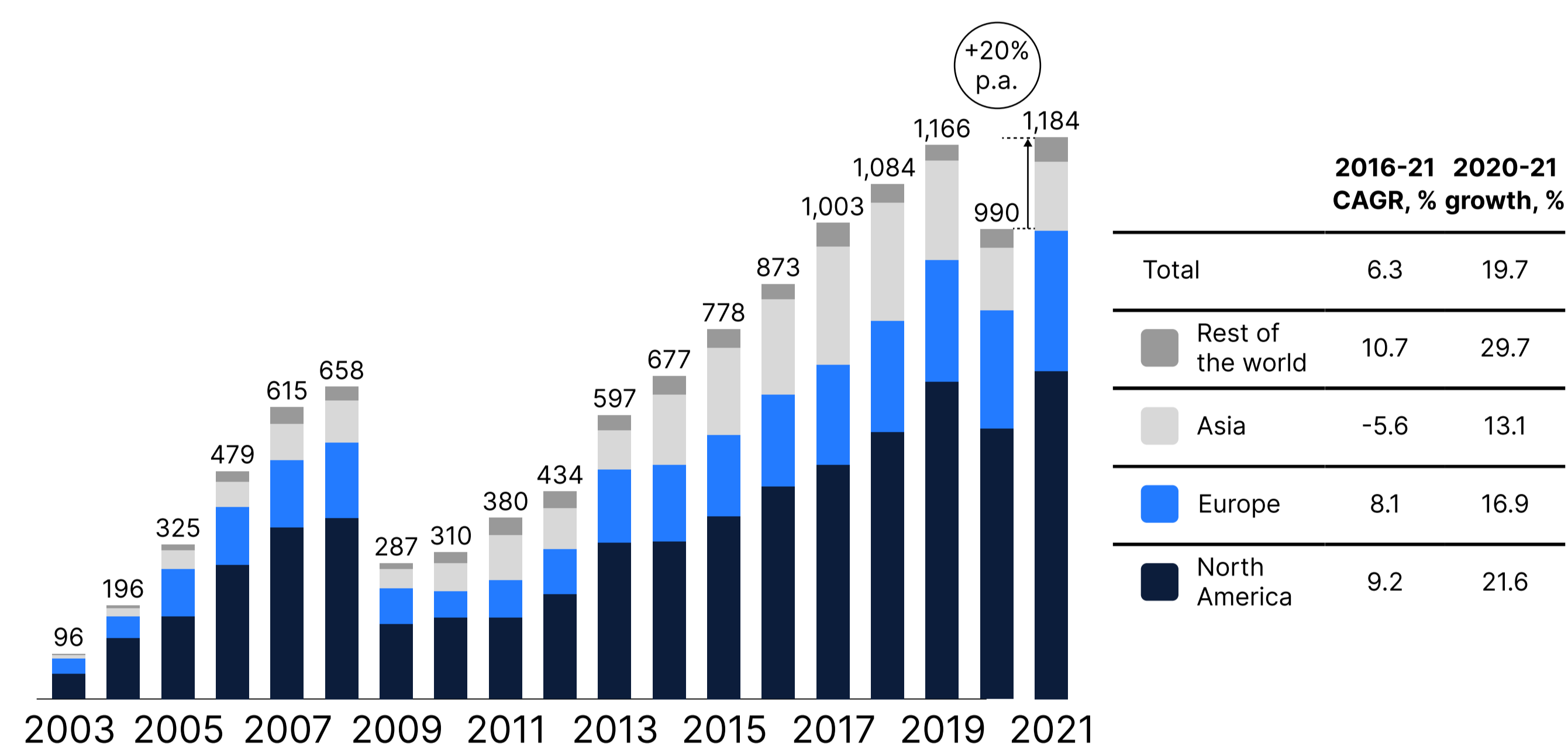
At the same time, the prolonged period of low interest rates that followed the crisis reduced yields in traditional fixed income and intensified investor demand for assets that could offer higher returns, greater diversification, or access to less crowded parts of the market.

FEDERAL FUNDING RATE 2008-2026



Source: [Macrotrends](#)

PRIVATE MARKETS FUNDRAISING



Source: [McKinsey](#)

The sustained rise in private markets fundraising over the past decade reflects a structural reallocation of capital by both investors and borrowers toward private and specialised capital pools. Annual fundraising increased from roughly \$300–400 billion in the early 2010s to over \$1.1 trillion by 2021, with particularly strong acceleration after the mid-2010s and a rapid rebound following 2020.

Almost all of the asset classes discussed in this report within alternative finance followed a similar pattern of sustained capital inflows. However, the growth was concentrated, with private equity and private credit emerging as the main beneficiaries, capturing a disproportionate share of fundraising and AUM expansion over the period.

## Why alternative finance is ripe for tokenisation

While alternative investments have grown significantly in scale, the infrastructure through which they are issued, managed, and traded remains largely unchanged. As a result, many parts of the market continue to rely on manual processes, limited distribution channels, and fragmented systems.

At the same time, alternative finance is not a single, uniform asset class. Private credit, private equity, venture capital, carbon credits, and other real-world assets differ meaningfully in how they are originated, valued, and exited. The reasons for moving each of these assets onchain are therefore not identical. For example, improving transferability may be more relevant for private equity, while better tracking and verification may be more important for environmental assets like carbon credits.

For this reason, the case for tokenisation should be considered separately for each asset class. The following sections examine these dynamics in more detail.

Despite these differences, a set of common challenges appears across all segments of alternative finance. These challenges are not driven by the assets themselves, but by how the market is currently structured.

### COMMON CHALLENGES IN ALTERNATIVE FINANCE

Common Challenge	How It Appears in Alternative Finance	What Tokenisation Enables
Limited access	Investments are often restricted to institutions or high minimum tickets	It allows retail investors to gain exposure at lower ticket sizes and, in some cases, enables fractionalisation.
Low liquidity	Positions are hard to transfer, and secondary markets are thin	Easier transferability and potential secondary trading
Operational complexity	Manual processes, fragmented records, and slow settlement	Standardised digital ownership and faster execution

Source: DefiLlama

These issues appear across all alternative asset classes, even though the assets themselves are different.

Moving these assets onchain improves how they can be accessed, transferred, and used. It allows for continuous trading rather than limited secondary windows, opens access to a broader investor base, and enables participation in DeFi.

# Private credit

Private credit refers to lending by non-bank institutions outside the public bond and syndicated loan markets. In practice, it covers a broad set of strategies in which private funds, business development companies, insurers, and other alternative asset managers provide capital directly to borrowers.

Historically, the market was most closely associated with middle-market corporate lending, but it now spans a much wider set of financing activities, including asset-backed lending, infrastructure debt, venture debt, mezzanine capital, distressed debt, and speciality finance.

## The main onchain models

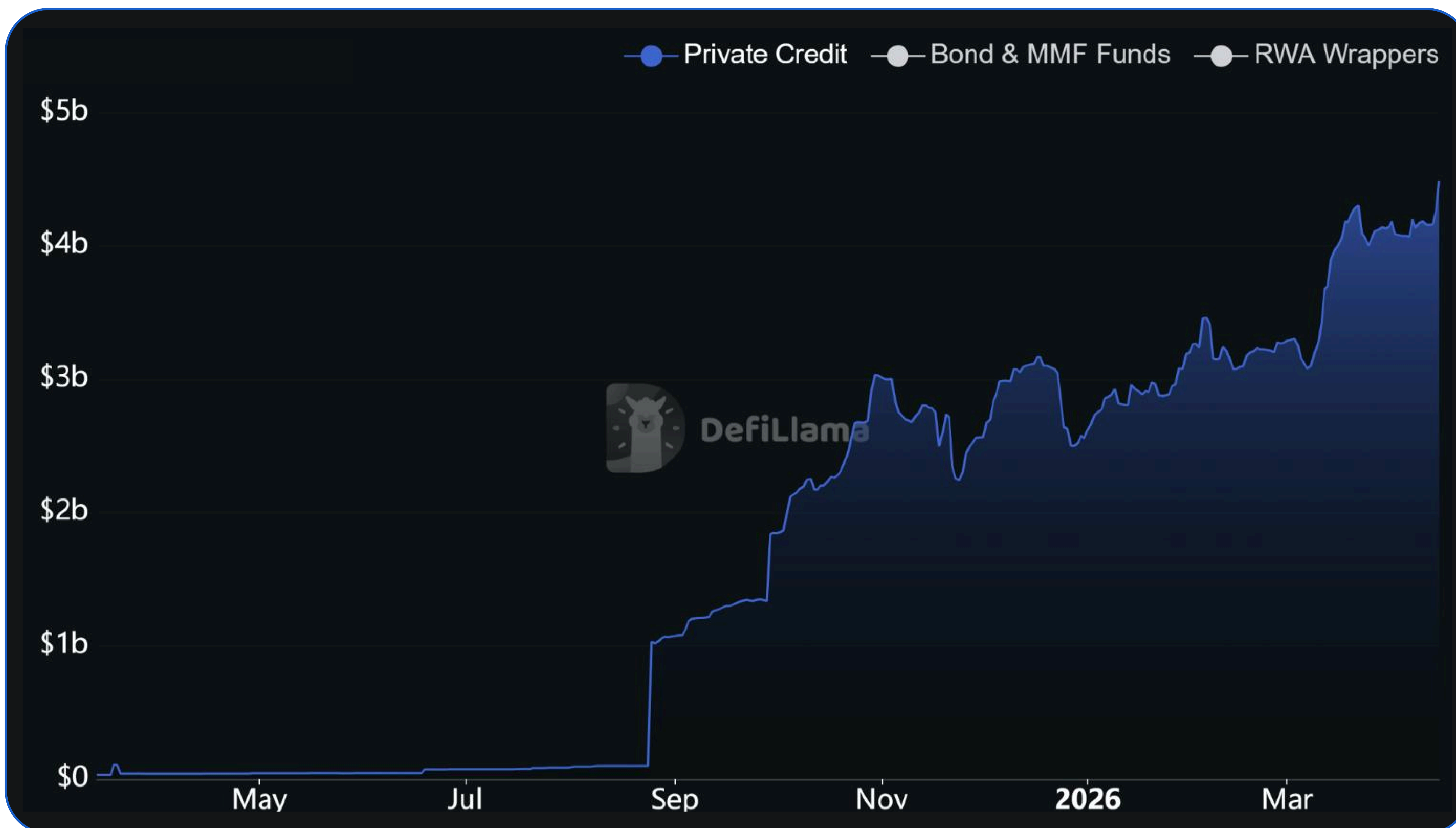
The onchain private credit market, like traditional private credit, has developed through several distinct structures. The most useful way to categorise the space is into four groups.

- 1. Tokenised private credit funds:** The most institutionally familiar structure. The underlying strategy remains a conventional private credit fund, while the ownership layer is tokenised through a feeder fund or similar wrapper.
- 2. Onchain lending pools:** This model brings the lending activity itself closer to onchain rails. Rather than tokenising a traditional fund, capital is pooled and deployed through structures more directly integrated with onchain markets.
- 3. Structured and speciality credit:** These products tokenise a defined credit instrument or pool rather than a broad fund. Examples include CLO exposure, trade finance receivables, invoice pools, and other structured claims.
- 4. Reinsurance-linked credit:** The most distinct category. Rather than lending to companies, capital is used to underwrite insurance and reinsurance risk. Economically, this sits closer to insurance-linked securities than to corporate credit, though it functions as part of the broader onchain private credit universe.

## Market size and growth

The private credit market has grown massively over the past year. In April 2025, private credit had an active market cap of just \$49M, while as of April 2026 it has risen to \$4.57B, making it one of the fastest-growing sectors in RWAfi.

RWA ACTIVE MARKET CAP



Source: DefiLlama

When we look at the split between permissioned and permissionless products, we can see that most of the active market cap in private credit is in permissionless products, while permissioned products account for only 6.8% of the total private credit market. This shows that permissionless access matters to users.

Metric	Value
Total active market cap	\$4,578,906,232
Permissionless active market cap	\$4,285,365,737
Permissioned active market cap	\$293,540,495

Source: DLResearch

Breaking the market down by structure gives a clearer picture of where capital actually sits and how it is being used.

Onchain lending pools dominate the market by a wide margin, with \$3.93 billion in active market cap, representing the vast majority of all active capital. This reflects the rapid growth of products like Maple’s Syrup pools, where capital is not only deployed onchain but actively used within lending strategies. The scale of this segment shows that credit products designed natively for onchain environments are currently the primary drivers of growth.

Segment	Active market cap
Onchain lending pools	\$3,933,432,173
Reinsurance-linked credit	\$333,428,463
Tokenised private credit funds	\$172,890,518
Bonds	\$138,896,846

Source: DLResearch

Reinsurance-linked credit is the second-largest segment, with \$333.4 million in active market cap. This category is different from lending pools or tokenised funds. Rather than financing corporate borrowers or consumer credit, these products give investors exposure to insurance and reinsurance risk, which offers a different return profile compared to the other private credit products. It offers exposure to a source of yield that is tied more closely to underwriting and catastrophe risk than to traditional credit cycles. That makes it attractive as a way to diversify for investors.

Tokenised private credit funds are smaller, at \$172.9 million in active market cap, and they serve a different role in the market. These products are best understood as conventional private credit funds wrapped in an onchain format. Investors buy tokenised access to a managed credit strategy, but the underlying structure remains closer to traditional asset management than to DeFi.

Bonds account for \$138.9 million in active market cap. This segment includes products backed by bond exposure rather than direct private loans or insurance-linked risk. Compared with lending pools, bonds are typically more familiar to traditional fixed-income investors and easier to position as a conservative yield product. Onchain, however, they have so far remained a smaller segment of the private credit market.

## Who are the key players in private credit?

Looking at the market leaders in each model helps explain what is actually driving adoption in tokenised private credit. The leaders are not all winning for the same reason. Each one reflects a different source of demand, and that is what makes the market interesting.

In onchain lending pools, the clear leader is Syrup USDC, with \$2.10 billion in active market cap. Maple has built SyrupUSDC as a liquid, yield-bearing dollar backed by overcollateralised loans to institutional borrowers and holders have a lot of insight into the collateral and lending activity that is backing the token.

More importantly, Maple has pushed the product into the core of DeFi. SyrupUSDC has been integrated across venues such as Morpho, Pendle, Aave, Drift, Kamino and Jupiter, which makes it usable not only as a way to earn yield passively but also as collateral inside other onchain strategies. That is why it leads its category.

Segment	Winning product	Active market cap
Onchain lending pools	SyrupUSDC	\$2,095,757,678
Reinsurance-linked credit	Re Protocol reUSD	\$179,421,200
Tokenised private credit funds	Apollo Diversified Credit Securitize Fund	\$132,140,522
Bonds	Janus Henderson Anemoy AAA CLO Fund	\$138,896,846

Source: DLResearch

In reinsurance-linked credit, Re Protocol reUSD leads with \$179.4 million in active market cap. Its leadership is tied to first-mover advantage. Re Protocol was one of the frontrunners in bringing reinsurance-linked credit onchain and was also able to secure strong DeFi integration early. That combination helped it establish itself as the leading product in a segment that remains relatively specialised. It stands out not just because it was early, but because it was able to translate that early lead into sustained onchain adoption.

In tokenised private credit funds, Apollo Diversified Credit Securitize Fund leads with \$132.1 million in active market cap. Apollo is one of the best-known names in private credit in traditional finance, so its leadership onchain is not surprising. Its strong brand, established track record, and early move into tokenised private credit have made it a natural market leader.

In this segment, investors are largely looking for access to reputable managers and familiar strategies, with tokenisation acting mainly as a new distribution channel.

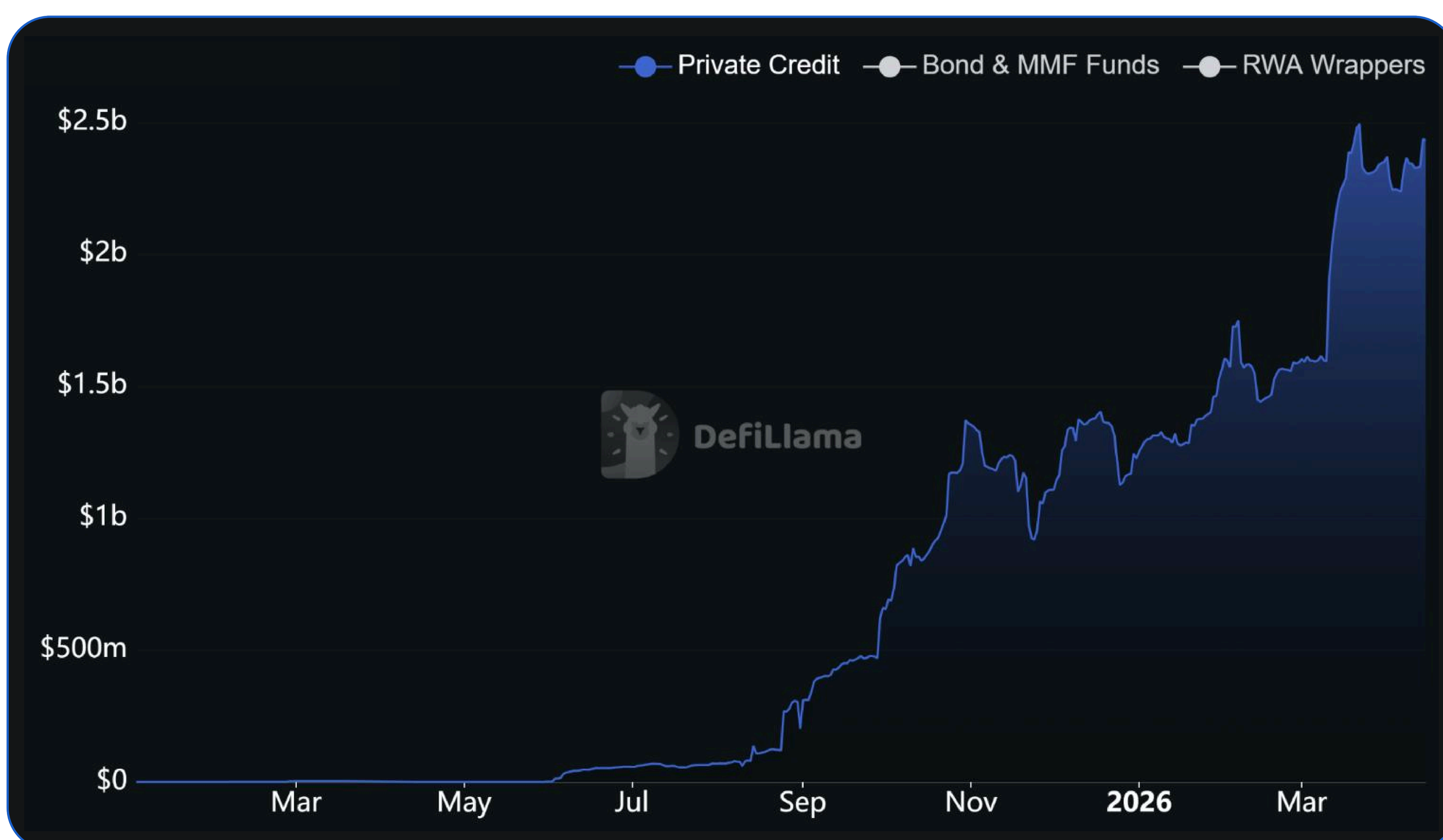
In bonds, Janus Henderson Anemoy AAA CLO Fund leads with \$138.9 million in active market cap. Here again, the explanation is similar to Apollo's. Janus Henderson is a well-known traditional asset manager, and AAA CLO exposure is already a familiar and well-understood institutional product. That makes it easier for investors to trust and allocate to the product onchain.

Taken together, the category leaders show that adoption in tokenised private credit is being driven by a mix of brand credibility, first-mover advantage, and crypto-native product design.

## Examples of private credit DeFi active TVL

One of the most important developments in tokenised private credit is that these assets are increasingly being used in DeFi rather than simply held onchain. The TVL of private credit actively deployed in DeFi has been steadily growing and now stands at \$2.8B as of April 2026.

PRIVATE CREDIT DEFI ACTIVE TVL



Source: [DefiLlama](https://defillama.com)

This is what makes private credit composable. A holder can remain exposed to the underlying credit asset while borrowing against it onchain. In traditional private markets, that kind of flexibility is limited. Secondary transfers are often slow, bilateral, and operationally heavy. Onchain collateral markets change that by making private credit positions more usable without requiring an outright sale.

The clearest examples today are on Morpho, where tokenised private credit has begun to appear in dedicated collateral markets. The two largest integrations are currently Pareto’s AA\_FalconXUSDC market and Fasanara’s mF-ONE market. Together, they show that private credit is beginning to move from static tokenisation toward real financial utility on DeFi rails.

The AA\_FalconXUSDC / USDC market is the strongest live example of this model in practice. The market currently shows \$48.38 million in total market size, \$4.12 million in available liquidity, and a 77% liquidation LTV. Utilisation is 91.96%, which indicates that borrowing demand is already absorbing most of the liquidity available in the market.

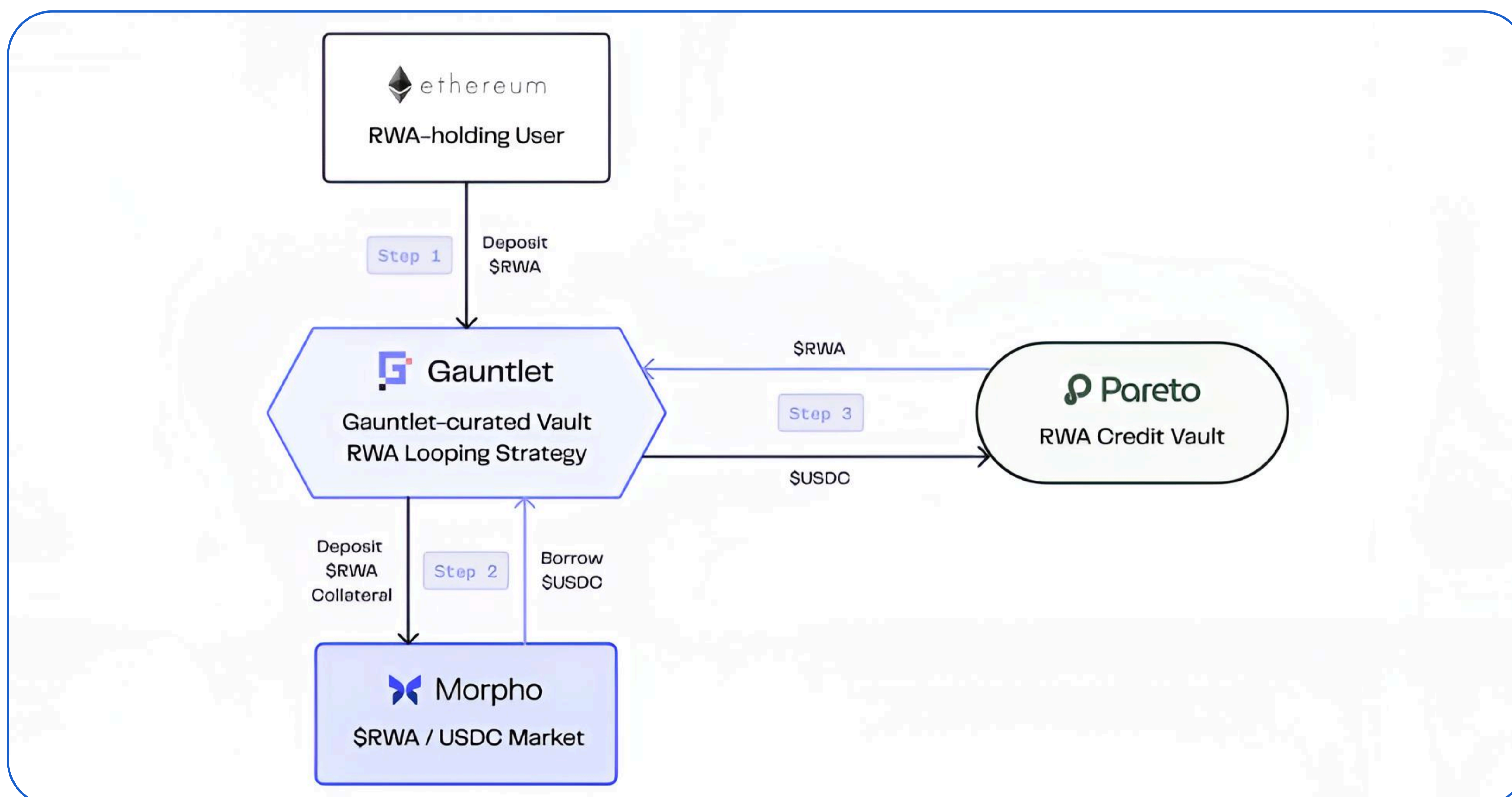


Source: [Morpho](#)

Depositors into Pareto’s FalconX Credit Vault receive the transferable receipt token AA\_FalconXUSDC. That token can then be posted as collateral on Morpho to borrow USDC. From there, the borrowed USDC can be used for liquidity needs or redeployed back into the vault to increase exposure.

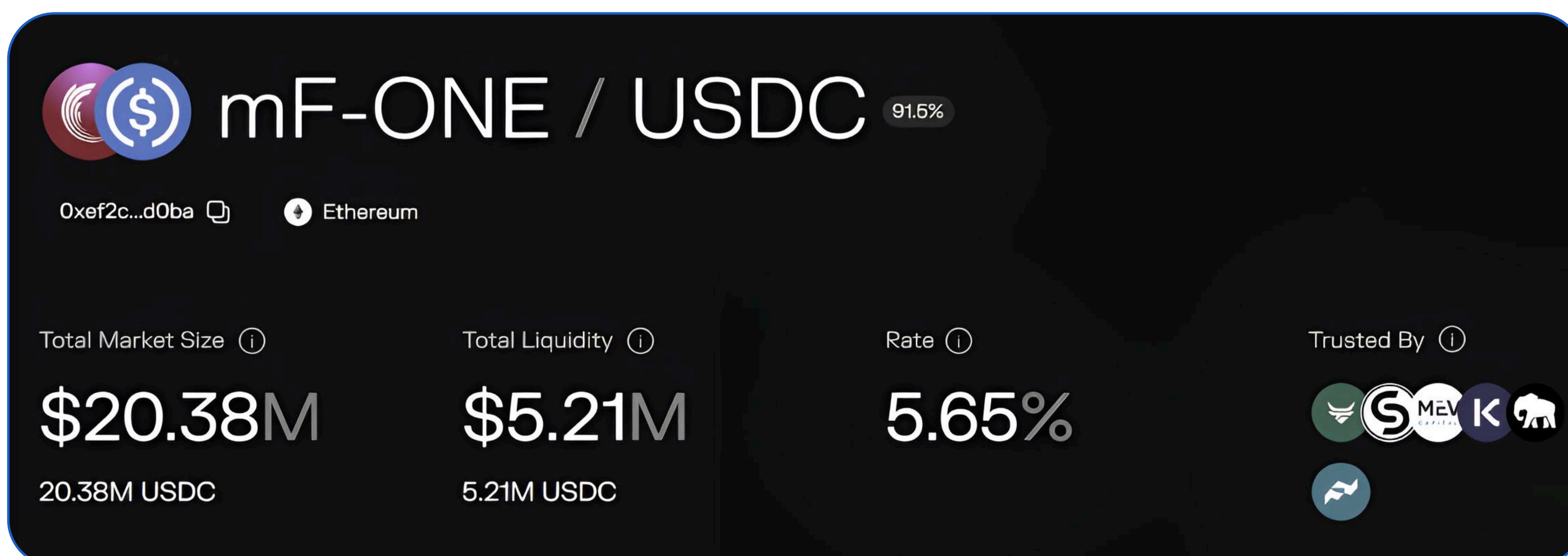
Gauntlet’s levered RWA strategy shows how this process can be automated through its Aera vault infrastructure, turning what would otherwise be a manual loop into a managed strategy with predefined risk controls. In practice, this is close to an onchain repo-like structure for private credit.

LEVERED RWA STRATEGY



Source: Gauntlet

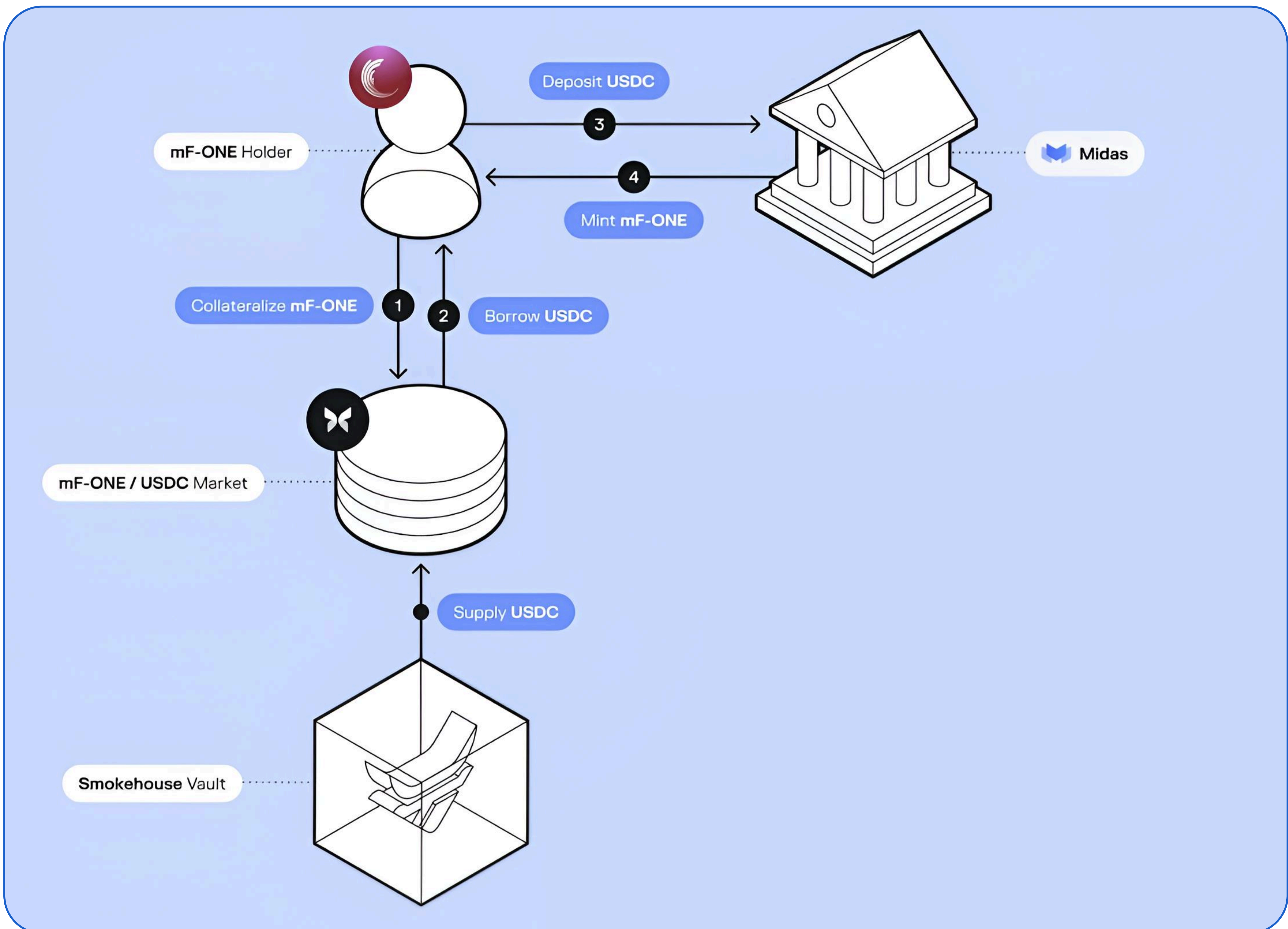
The mF-ONE / USDC market is the second major example. It currently shows \$20.38 million in total market size, \$5.21 million in liquidity, and a 91.5% liquidation LTV. While smaller than FalconX, it is important because it shows the same core pattern taking hold in another part of the market: private credit exposure is not just being tokenised, but financed.



Source: Morpho

At a high level, the structure is straightforward. mF-ONE can be posted as collateral on Morpho to borrow USDC, with liquidity supplied by dedicated lending vaults. That matters because it allows investors to access liquidity or increase exposure without exiting the underlying credit position.

FASANARA MF-ONE ONCHAIN PRIVATE CREDIT



Source: [Morpho](#)



# Private equity and venture capital

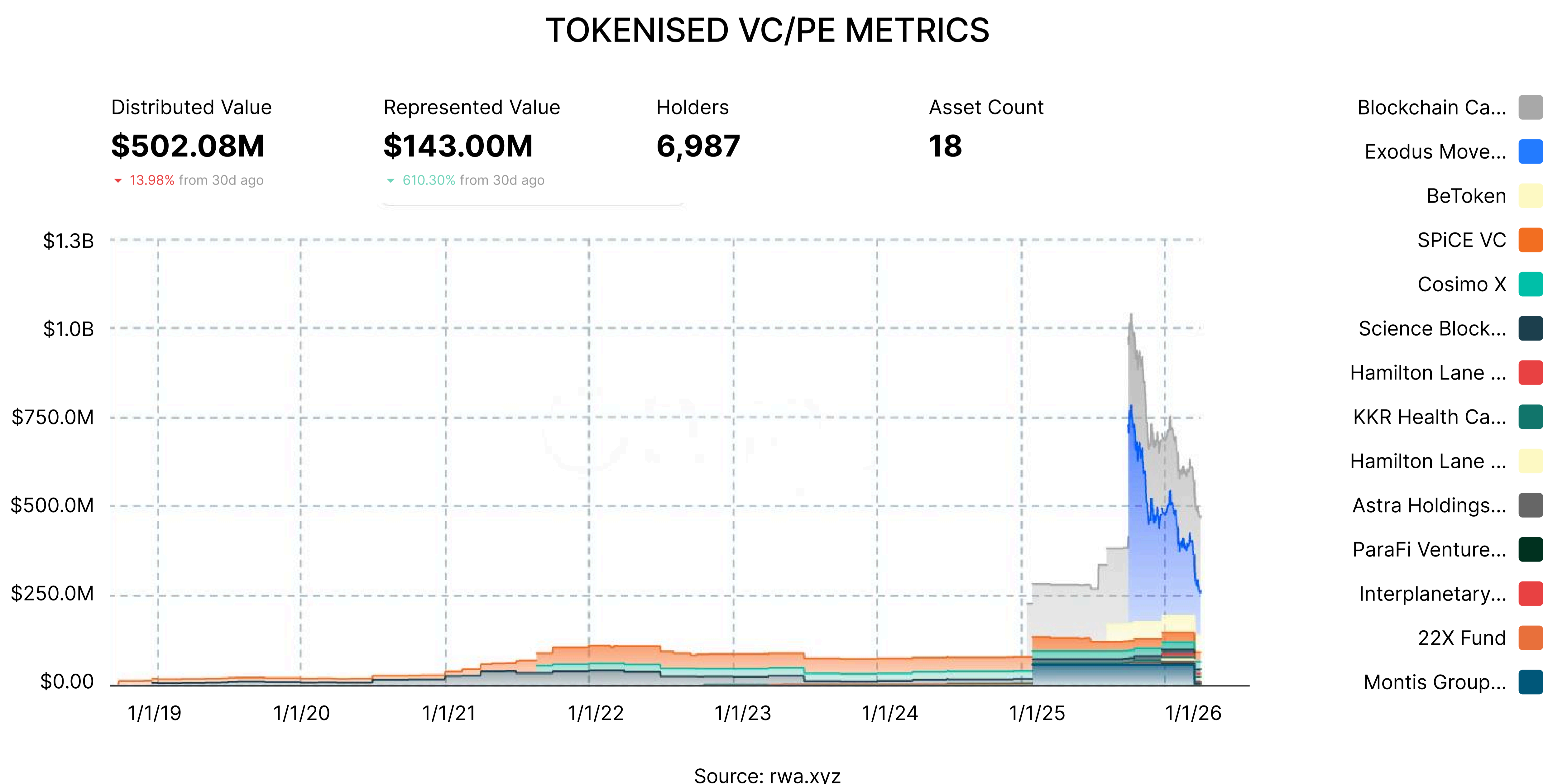
Private equity and venture capital are among the largest and most important segments of alternative finance, which is precisely why their onchain footprint matters. These are markets built around private ownership, long holding periods, infrequent price discovery, and highly restricted access. In that sense, they embody many of the structural frictions that tokenisation is meant to address.

But they also importantly differ from private credit. The main issue is not cash-flow generation or DeFi composability. It is access, transferability, and the administrative burden of owning and moving private assets.

## Market size and growth

At the time of writing, tokenised PE and VC account for \$502.08 million of distributed value and \$143.00 million of represented value, across 6,987 holders and 18 assets. Combined, that brings the total tracked value to roughly \$645.1 million.

The category is already split across two distinct tokenisation models. Distributed value represents assets where the ownership layer is more directly issued and maintained onchain. Represented value captures assets where the token functions more as a digital representation of an offchain ownership claim. That distinction matters because it shows the market is not developing along a single path.





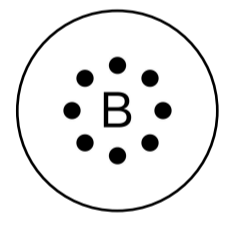

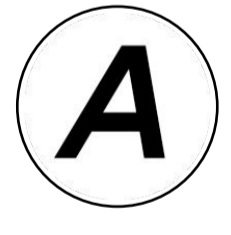


Distributed assets remain the larger side of the market, accounting for roughly 77.8% of total tracked value, while represented assets account for 22.2%. Over the last 30 days, however, the two segments have moved in opposite directions.

Distributed value declined 14.0%, while represented value increased 610.3%. That divergence does not imply broad-based market growth. Instead, it suggests that recent expansion has been concentrated in a narrow set of represented assets.

## Market structure

The category is highly concentrated at the platform level. Securitize remains the dominant platform overall, with \$448.4 million in value across 10 assets, representing 69.46% of the market. Ctrl Alt follows with \$142.8 million across two assets, or 22.13% of total value. Together, those two platforms account for more than 91% of all tracked PE/VC value.

TOKENIZED PE / VC LEAGUE TABLE

	Platform	RWA count	Total value	30D %	Market share
1	 Securitize	10	\$448.4M	▼ 6.84%	69.46% ▼
2	 Ctrl Alt	2	\$142.8M	▲ 615.3%	22.13% ▲
3	 Beself Brands, SA	1	\$47.4M	0%	7.35% ▼
4	 EVIDENT	2	\$6.3M	0%	0.97% ▼
5	 Aktionariat	1	\$440.30K	0%	0.07% ▼
6	 Cashlink	1	\$160.30K	▼ 1.50%	0.02% ▼
7	 Archax	1	\$1.4	▼ 100.00%	0.00% ▼

Source: [rwa.xyz](https://rwa.xyz)

That concentration reveals the market's current shape. This is not yet a broad, competitive ecosystem with many scaled issuers. It is a small market dominated by a handful of platforms and a limited number of flagship products. It also reinforces the split between the two tokenisation models. Securitize leads the distributed market, while Ctrl Alt effectively defines the represented market.

### THE KEY PLAYERS

Asset	Segment	Structure	Value	Holders
Blockchain Capital III Digital Liquid Venture Fund	Venture Capital	Distributed	\$208.6M	627
Exodus Movement, Inc. Class B	Private Equity	Distributed	\$154.8M	1
Alt I Equity Token	Private Equity	Represented	\$81.4M	1
Alt II Equity Token	Private Equity	Represented	\$61.4M	1
Beself Brands, SA	Private Equity	Distributed	\$47.4M	139
SPiCE VC	Private Equity	Distributed	\$26.8M	288
Cosimo TI Ltd.	Private Equity	Distributed	\$21.8M	2
Science Blockchain	Private Equity	Distributed	\$11.9M	408

Source: rwa.xyz

The largest asset in the category is Blockchain Capital III Digital Liquid Venture Fund at \$208.6 million, making it the clearest example of a tokenised VC fund reaching real scale. The second-largest asset, Exodus Movement, is structurally different. Rather than representing a venture fund, it reflects tokenised private-equity-style company exposure.

The market is also heavily top-weighted. The top two assets account for roughly 56% of the total tracked value. The top five account for roughly 86%. In practice, tokenised PE and VC remain a market defined by a handful of large issuances rather than a broad and deep set of active products.

Unlike private credit, tokenized private equity and venture capital have not meaningfully integrated into DeFi. The current market is largely composed of tokenised fund interests and equity exposures that are held passively rather than actively reused within onchain financial systems.

In practice, these assets function primarily as digital wrappers around private market exposure, rather than as composable financial primitives. They are not widely used as collateral, are rarely integrated into lending markets, and do not yet support structured onchain strategies such as leverage or liquidity provision at scale.

This has direct implications for growth. While tokenisation has improved access and distribution, particularly by lowering minimums and enabling fractional ownership in some cases, it has not yet expanded the functional utility of these assets. As a result, PE and VC have not reached the scale that might be expected given the size of the underlying offchain markets.

# Carbon credits and environmental assets

Carbon credits are one of the few alternative assets where the offchain market structure already makes the case for tokenisation unusually strong. Unlike private credit or private equity, the core problem in carbon markets is not simply illiquidity.

It is fragmentation, provenance, and trust. Carbon credits sit across multiple registries, methodologies, geographies, and project types, and each credit carries its own history of issuance, transfer, and retirement.

## WHY TOKENISE CARBON CREDITS

Tokenization solves many problems in the traditional carbon credit system:

Problem	Solution through tokenization
Credits are hard to verify and track	Blockchain keeps a public, tamper-proof record
Trading is slow and manual	Digital tokens are instantly transferable
Retirement (when a credit is used) is opaque	Retirements are visible, searchable, and timestamped online
Carbon software is isolated and incompatible	Blockchain provides shared infrastructure and native interoperability with other applications and platforms

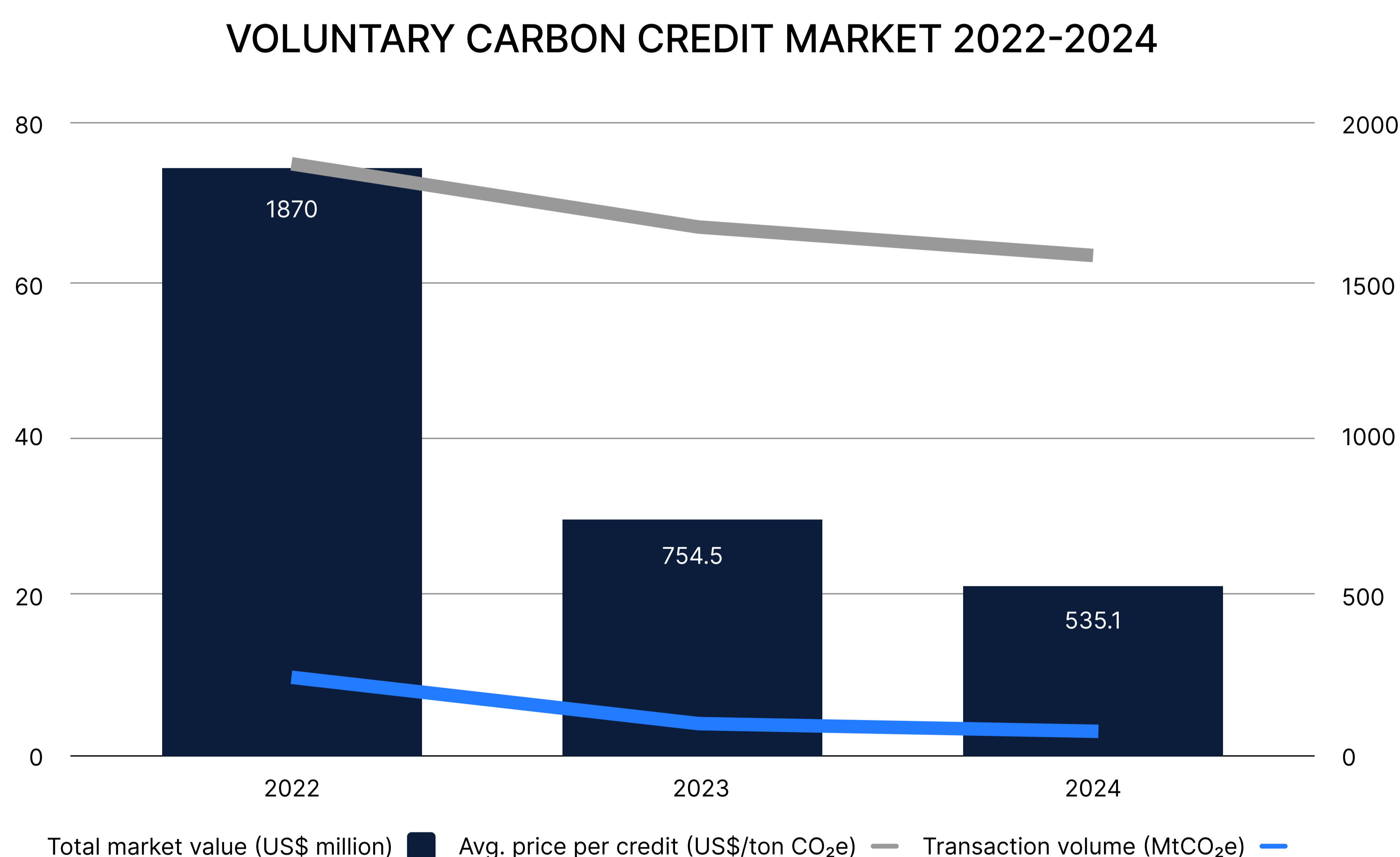
Source: [Carbonmark](#)

The broader market context makes that point clearer. In compliance with carbon markets, governments are already using carbon pricing and emissions trading at significant scale.

The World Bank [reports](#) that carbon pricing revenues reached a record \$104 billion in 2023, with 75 carbon pricing instruments in operation worldwide, covering roughly 24% of global emissions. California's cap-and-invest system alone covers about 80% of the state's greenhouse-gas emissions, and its August 2024 joint auction with Quebec cleared more than 51 million current-vintage allowances at a settlement price of \$30.24.

By contrast, the voluntary carbon market sits outside government-mandated cap-and-trade systems. Instead of regulated entities being required to buy allowances for compliance, voluntary credits are purchased by companies and other buyers that choose to offset emissions or support climate-related projects. That makes it a more discretionary market, and therefore more sensitive to shifts in demand, confidence, and credit quality.

When we look at the voluntary credit market, we can see a sharp decline. Total market value fell from \$1.87 billion in 2022 to \$754.5 million in 2023, before falling again to \$535.1 million in 2024. Transaction volume also declined materially over the same period, while the average price per credit moved down more gradually. In other words, the contraction was driven less by a collapse in pricing and more by a drop in activity.

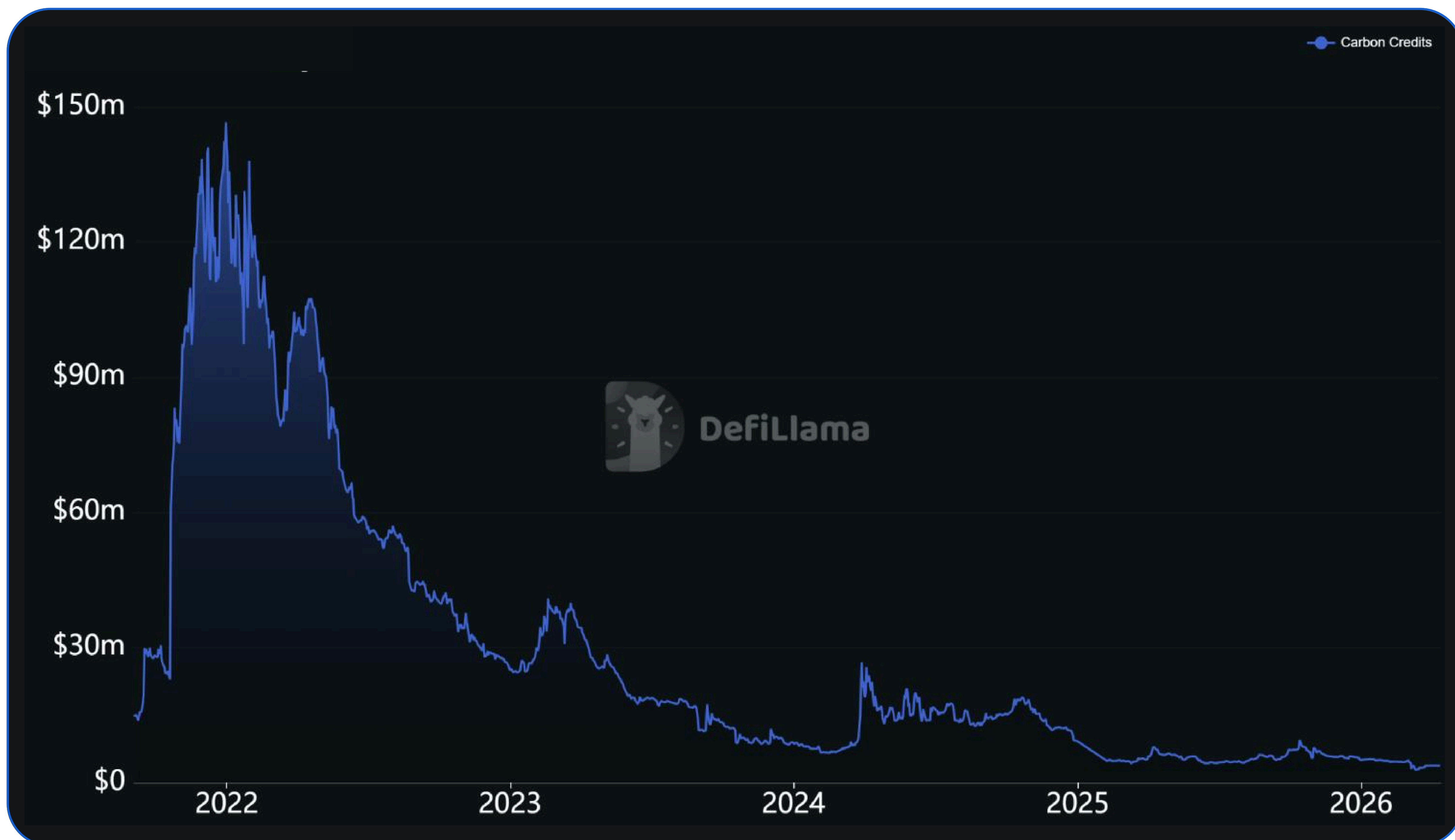


In a compliance market, the main value lies in efficient issuance, trading, and settlement of regulated allowances. In the voluntary market, the more important issue is credibility: buyers need confidence in what a credit represents, how it was verified, and whether it has already been retired.

## Market size and growth

The tokenised carbon market remains small relative to the rest of the RWA universe. At the time of writing the active market cap is \$3.76 million. This means roughly 95.5% of the market is actively held, with only a small portion sitting idle.

CARBON & ENVIRONMENT ACTIVE MARKET CAP



Source: [DefiLlama](#)

That high active share is important. It suggests tokenized carbon is not a market defined by large dormant issuance. Most of the value brought onchain is actually circulating across wallets. At the same time, DeFi active TVL is only \$283,513 or 7.54% of active market cap.

This is a very different profile from private credit. Carbon credits may be onchain, but they are not yet being meaningfully reused inside DeFi.

This helps explain the current state of the sector. Tokenised carbon remains a small and specialised market, with relatively few scaled products and limited DeFi integration. The primary use case today is not composability. It is representation, tracking, and environmental market infrastructure.

## Market composition

The category is highly concentrated. Klima Protocol's kVCM accounts for roughly 49.5% of the total active market cap. CANA Holdings adds another 19.20%, while the two Toucan Protocol pool products contribute about 21% combined. In practice, close to 90% of the tokenised carbon market is in just four products.

### MARKET SHARE OF CARBON CREDIT PRODUCTS

Product	Active market cap	Market share
Klima Protocol kVCM	\$1.89M	49.50%
CANA Holdings California Carbon Credits	\$733.7K	19.20%
Toucan Base Carbon Tonne	\$404.3K	10.60%
Toucan Nature Carbon Tonne	\$397.0K	10.40%
Moss Carbon Credit	\$229.5K	6.00%
Biochar	\$161.5K	4.20%

Source: DefiLlama

This concentration reinforces the point that tokenised carbon is still early. It is not yet a broad ecosystem with many scaled issuers and active secondary markets. Instead, it remains a niche market defined by a small number of token standards and product structures.

Overall, the tokenised carbon market remains small, concentrated, and lightly integrated into DeFi. Its structure is very different from the other major RWA categories.

The relatively high active share suggests that the limited amount of carbon brought onchain is largely being held rather than left idle. But the very low DeFi usage shows that these assets are still not being widely reused as financial building blocks.

## DeFi integration

Unlike private credit, carbon credits and environmental assets have seen very limited integration into DeFi. While a small portion of the market is technically deployed onchain, it has not translated into meaningful composability or widespread use within lending, borrowing, or structured strategies.

At the time of writing, total DeFi active TVL stands at \$283,513 which represents only 7.54% of the total onchain market cap and, given its small size, is not particularly noteworthy.

# 05

## RWafi Risks



Across RWAfi, risk should be understood on two levels. First, there are global risks that affect all tokenised real-world assets regardless of sector. These come from the shared architecture of RWA itself: offchain asset backing, legal wrappers, fragmented liquidity, regulatory dependence and increasing DeFi composability.

Second, each sector also carries specific risks tied to the nature of the underlying asset, how ownership is structured, and how far integration into DeFi has progressed.

## Global risks

**Offchain enforceability risk:** Across all RWA sectors, tokens do not eliminate reliance on offchain legal and operational infrastructure. In most cases, the token represents a claim mediated through issuers, custodians, SPVs, brokers, registries or other legal entities rather than direct native ownership of the underlying asset. This means enforceability in a stress event still depends on documentation, jurisdiction and the solvency of intermediary structures.

**Liquidity fragmentation risk:** Issuance scale does not automatically translate into deep secondary liquidity. Across RWA, liquidity is often fragmented across issuers, chains, venues and wrappers, while active circulation is frequently much smaller than total onchain supply. If there is not enough liquidity or it is fragmented that can both create slippage and also make it hard to integrate with lending protocols.

**Pricing and oracle risk:** Many RWA assets depend on external valuation and pricing infrastructure. Some assets trade only during market hours, others rely on periodic appraisal, and others still depend on registries or reference markets that are not natively onchain. As a result, stale pricing, delayed updates or distorted oracle inputs can create mispricing, poor collateral decisions and unfair liquidations.

**Regulatory risk:** RWA remains highly dependent on jurisdiction-specific legal treatment. Classification, transferability, investor eligibility, tax treatment, KYC/AML requirements and the scope of permitted DeFi usage vary materially across regions. This can prevent assets from moving freely across markets and limits the emergence of a single global liquidity layer.

**Composability and smart contract risk:** as RWA assets are increasingly used in lending, leverage, stablecoin structures and derivatives, they gain utility but also become exposed to DeFi-native contagion. A failure in a smart contract, liquidation engine, oracle network or collateral market can spill across protocols and affect assets whose offchain backing remains intact.

# Sector-specific risks

## Commodities

Tokenised commodities combine traditional commodity risks with DeFi-native risks. While regulatory classification is relatively clear, the operational stack and the tangible nature of the assets introduce new risks.

Custody remains a core layer of risk, as physically backed tokens rely on offchain vaults, custodians and attestations. Token holders ultimately hold claims on issuer structures rather than direct ownership. This is reinforced by issuer concentration, where a small number of providers dominate supply, creating dependency and potential points of failure.

Risk profiles also vary by commodity. Synthetic exposure removes custody constraints but introduces reliance on exchange mechanics, while assets such as uranium face additional limitations due to market depth and regulation.

Finally, as commodities integrate into DeFi, composability increases systemic interdependence. Capital efficiency improves, but so does the potential for cascading effects across protocols.

## Tokenised stocks

Tokenised stocks have improved significantly as the market has shifted away from purely synthetic and exchange-mediated models toward custody-backed structures, but the category still faces several structural risks.

The primary risk comes from indirect ownership. In most custody-backed models, token holders do not directly own the underlying shares, but instead hold a contractual claim on a structure built on top of real stock positions held by regulated custodians. This is stronger than synthetic exposure, but the legal strength of the asset still depends on the wrapper structure, custody chain, and jurisdiction.

There is also a structural market-hours mismatch risk. Tokenised stocks can trade onchain continuously, while the underlying equities trade only during traditional market hours. This creates periods where market makers cannot hedge efficiently, which can lead to wider spreads and price deviations, especially during off-hours.

Finally, as tokenised equities begin to integrate into DeFi lending markets such as Kamino and Morpho, they take on an additional layer of risk beyond issuer and custody structures. Smart contract vulnerabilities, oracle failures, and liquidation design become part of the equity risk stack, which is particularly important given that these integrations are still early and not yet fully stress-tested.

## Real estate

Tokenised real estate introduces a digital execution layer on top of a legally and operationally complex asset class, creating additional layers of risk for issuers, institutions, and investors.

The primary risk remains structural. In most configurations, investors do not hold direct title to property. They hold regulated claims on an SPV, fund vehicle, or contractual income stream. This introduces entity risk, governance risk, and jurisdictional insolvency exposure in addition to real estate market risk. Legal enforceability remains anchored in local courts and land registries, not in smart contracts.

Liquidity risk is equally central. Real estate is inherently illiquid and valuation is periodic rather than continuous. Appraisal cycles, jurisdiction-bound markets, and transfer restrictions limit secondary depth. When tokens are used as collateral, these features require conservative loan-to-value ratios and strict liquidation design. The asset cannot behave like a crypto-native token because its price formation is fundamentally different.

Regulatory risk remains persistent. Securities classification, investor eligibility rules, tax treatment, and cross-border restrictions vary significantly by jurisdiction. Tokens cannot circulate freely across markets without compliance checks. This prevents the emergence of a uniform DeFi layer.

## Alternative finance

Alternative finance covers a wide range of assets including private credit, private equity, venture capital, carbon credits and other specialised investments, and the main risks come not only from the assets themselves but also from how they are structured and tokenised. A key issue is that the same tokenisation frameworks are often applied to assets with very different cash flow profiles, valuation methods and liquidity characteristics, which can create structural mismatches between the token and the underlying asset behaviour.

In tokenised private credit, the main risk sits in the underlying credit book rather than in the tokenisation layer. Tokenisation improves distribution, access and composability, but it does not improve borrower quality, underwriting standards or recovery values. As these assets become usable as collateral and leverageable in DeFi, weak underwriting standards can propagate into onchain lending markets.

For private equity and venture capital, the main risks come from illiquidity and valuation lag. These assets are defined by long holding periods, infrequent price discovery and restricted access, and while tokenisation can improve transferability at the margin, these markets still lack deep secondary liquidity and remain only marginally integrated into DeFi.

In tokenised carbon and environmental assets, the core risk is credibility rather than liquidity. Carbon credits depend heavily on verification quality, registry integrity, retirement tracking and confidence that environmental claims are not misrepresented or double-counted, making the market particularly sensitive to trust and credit quality.



# 06

## RWAfi Outlook



The evolution of RWafi does not follow a single trajectory. Each asset class develops according to its own structural characteristics, leading to differentiated adoption paths and use cases.

**Tokenised commodities** are among the most advanced segments. Rather than reinventing the asset class, tokenisation improves efficiency, accessibility and programmability. Gold leads this transition, evolving from a passive store of value into an active financial primitive used as collateral, in trading and increasingly in yield-generating structures. Other commodities are likely to follow according to their own economic functions. The next phase will be defined by how these assets are integrated into DeFi, with regulation shaping the boundaries of collateral usage, yield generation and cross-border composability.

**Tokenised stocks** have moved beyond early experimentation into a more functional market built on custody-backed issuance, regulated intermediaries and clearer redemption mechanisms. This model has proven that there is real demand for onchain equity exposure, particularly among crypto-native users, and it is already supporting both spot and derivatives activity. But its growth is still constrained by indirect ownership and reliance on issuer-led structures. The next phase will depend on whether tokenised securities can move closer to direct legal recognition within existing market infrastructure. If regulation and market structure evolve in that direction, tokenised equities could become a more credible extension of traditional capital markets rather than a parallel niche product.

**Tokenised real estate** remains structurally early, with growth primarily driven by financial wrappers, regulated funds and institutional pilots. Its development will depend on legal clarity, liquidity formation and deeper integration with registries and administrative systems. While DeFi integration is possible, it will remain selective due to valuation constraints, illiquidity and regulatory requirements, keeping real estate closer to regulated digital securities than fully composable onchain assets.

**Tokenised alternative finance** is developing unevenly, with different asset classes moving onchain for different reasons. Private credit is the most advanced segment, as tokenisation is already improving distribution and enabling integration into lending, collateral and yield strategies. Other areas, such as carbon credits and environmental assets, remain earlier and are still focused more on tracking, transparency and market infrastructure than financial composability. The outlook is therefore not a single path for alternative finance, but a separation between assets that become more useful once tokenised and those where the main value remains operational rather than financial.

Beyond individual asset classes, the RWA sector is entering a new phase: RWafi, where tokenised assets are deployed as functional components within financial systems rather than passive representations.

So far, growth has been driven primarily by issuance, with assets being brought onchain while usage remains limited. The next stage of development will depend less on how much is tokenised, and more on how effectively these assets are deployed within financial systems. Three dynamics are likely to shape this transition.

First, yield is likely to become a key driver of adoption. As already visible in early initiatives, even traditionally non-yield-bearing assets are beginning to support lending, collateral and structured yield strategies. This shift transforms tokenised assets from passive exposure into active financial instruments, making them more attractive for both users and protocols. Composability plays a central role in this evolution, enabling assets to be reused across multiple financial layers.

Second, integration into DeFi will deepen, but unevenly across asset classes. Some assets, such as commodities and private credit, are naturally suited for collateral, lending and trading use cases. Others, such as real estate or equities, remain more constrained by legal structures, liquidity and regulatory requirements. As a result, RWAFi is unlikely to evolve into a uniform system, but rather into a set of specialised financial primitives with varying levels of composability.

Third, regulation will increasingly act as both an enabler and a source of fragmentation. Clearer frameworks will support growth and institutional participation, but differences across jurisdictions may limit how freely assets can move or integrate into global DeFi systems. Regulation will not only determine whether assets can exist onchain, but what can be done with them once they are there.

At the same time, RWAFi is unlikely to become a purely onchain system. Offchain infrastructure will remain essential, with custodians, issuers and legal frameworks anchoring asset validity. Tokenisation therefore introduces a new execution layer that improves distribution, settlement and accessibility, while continuing to rely on traditional structures for enforcement and ownership.

As a result, the outlook for RWAFi is not simply more tokenised assets, but more financially productive ones. The next phase will be defined by how effectively assets are integrated, used and interconnected across both onchain and offchain systems. Growth will come from usage rather than issuance, and from assets that move beyond representation to become functional components of a broader financial system.



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THE STATE OF  
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