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Evaluating Risk in DeFi

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Understanding DeFi risk

Why risk matters in DeFi

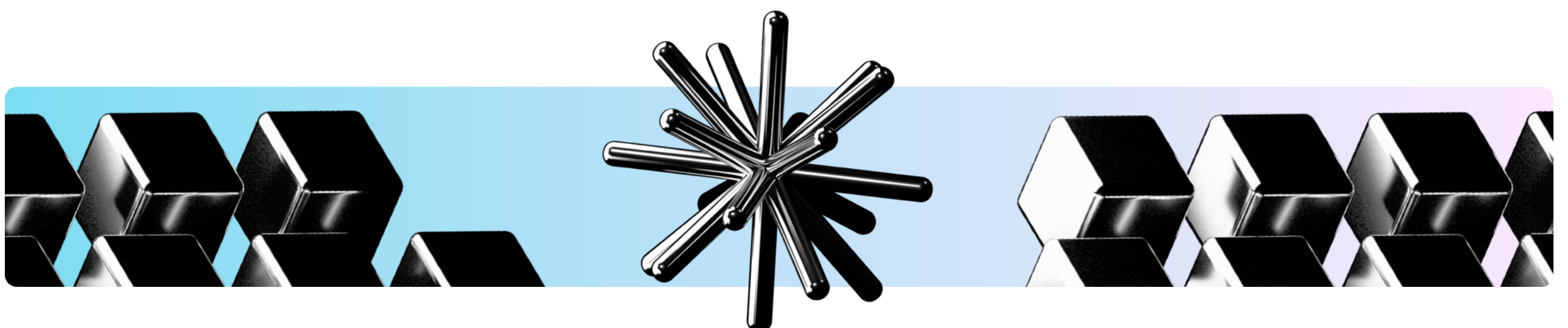
DeFi is redefining the foundations of global finance. Replacing the current financial system – by introducing new forms of lending, staking, trading, liquidity provisioning, and yield generation – with programmable protocols enables borderless, trust-minimised access to financial opportunities. However, the proliferation of open-source innovation also presents significant risks. Investors face exposure to smart contract vulnerabilities, oracle risks, liquidity constraints, and stablecoin instability. A lack of centralised institutions forces individuals to carefully navigate a fragmented ecosystem of interconnected protocols, many of which rely on rapidly evolving technical infrastructure.

Market volatility can further compound these risks. Many protocols rely on crypto-denominated collateral that can swing dramatically in price, quickly triggering liquidations, collateral shortfalls, or incentive misalignments. Meanwhile, protocol-level failures ranging from unaudited (and even audited) smart contracts, flawed tokenomics, or governance attacks expose even the most experienced investors to variable levels of onchain risk.

The growing complexity of DeFi risks

Risk management has become a critical infrastructure for security and helps preserve investor capital. As new blockchains, protocols, and yield-bearing strategies continue to emerge, the complexity and risk surface of DeFi grows mainly due to the composability of DeFi and interdependency risks. Speculative incentives, such as airdrop farming, often drive this momentum. This has lured users into nascent, lightly tested protocols with the promise of outsized yields.

In an industry where innovation often outpaces education, it's more important than ever for users to leverage tools that can surface, contextualise, and quantify risk. These tools empower investors to navigate DeFi safely and with confidence.



What DeFi exploits teach us about risk

Despite DeFi's promise of open, composable finance, its rapid pace of innovation often exposes hidden vulnerabilities. Major exploits ranging from Bybit's recent \$1.5B custodial breach to Mango Markets' oracle manipulation reveal how protocol design flaws, centralised key management, and misaligned incentives can trigger catastrophic losses. Even well-audited systems like Euler Finance were compromised through nuanced flash loan mechanics. Even cross-chain bridges such as Ronin and Wormhole demonstrated how validator coordination lapses and multisig failures can undermine a decentralisation approach.

Stablecoins and their alternatives have also proven fragile under volatility. Terra's algorithmic UST collapse and USDC's temporary depeg in March 2023 illustrated how promising products and offchain banking exposure can fracture even the most integrated ecosystems. These incidents reinforce that smart contracts are only part of the equation, while mechanism design, infrastructure dependencies, and real-time monitoring are just as critical.

Standardising risk in DeFi

In traditional finance, credit rating agencies like Moody's, Fitch, and S&P are pivotal, helping investors understand the risks associated with bonds and companies. Their standardised methodologies allow investors to assess risk-adjusted returns and make more informed portfolio decisions. As DeFi grows in complexity, it faces a similar need: a consistent, credible, and widely understood risk standard.

The yield opportunities in DeFi are abundant, as are the risks, ranging from smart contract vulnerabilities and governance centralisation to liquidity and oracle risks. Without a consistent benchmark to evaluate these risks across protocols and asset types, investors are left blindly navigating a fragmented ecosystem. As in traditional markets, a shared standard around risk is essential to price assets effectively, allocate capital more responsibly, and grow investor confidence.

A meaningful risk standard must meet three key requirements:

- **Fact-based:** Assessments must be grounded in objective, verifiable data. This includes protocol audits, economic design, historical performance, and security track records.
- **Holistic:** Risk cannot be siloed. A complete evaluation must span all major risk types, from the chain infrastructure and protocol design to the behavior of underlying assets and the mechanics of individual pools.

- **Standardised across assets and protocols:** A usable framework must be consistently applied across the DeFi landscape. This enables fair comparisons, improves transparency, and helps users align yield opportunities with their individual risk tolerances. A scorecard approach ensures repeatability and scalability as new protocols and strategies emerge.

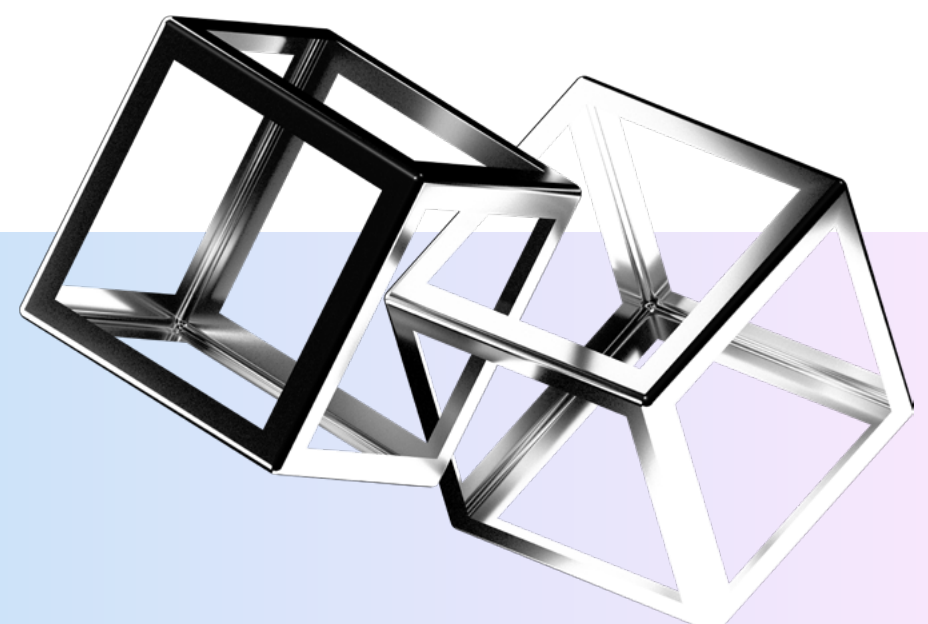
Exponential's risk methodology was built to meet these requirements. In response to the growing complexity and opacity of DeFi, the platform introduces a transparent, data-driven risk framework that empowers investors to navigate DeFi safely and confidently.

Much like traditional credit ratings, Exponential's ratings distil technical and financial data into intuitive, letter-grade risk scores (A-F). Its methodology evaluates four major dimensions of risk:

- **Chain risk:** Evaluating the reliability, decentralisation, and maturity of the underlying blockchain.
- **Protocol risk:** Assessing the smart contract design, governance structure, and security posture of the protocol.
- **Asset risk:** Examining collateral quality, peg mechanisms, volatility, and other asset-specific traits.
- **Pool risk:** Measuring risks specific to the individual strategy, including leverage, complexity, and dependency on external integrations.

This holistic, standardised scorecard enables investors to distinguish between sustainable and speculative yield, apply consistent risk filters to new opportunities, and construct portfolios aligned with their goals. Whether comparing single-asset staking products or complex multi-strategy vaults, this risk framework delivers a practical, scalable way to bring transparency and structure to DeFi investing.

As DeFi continues to expand across new chains, protocols, and investor profiles, this type of standardised risk evaluation will become the foundational infrastructure to support smarter investment decisions and help the ecosystem mature.



Structured products in DeFi: An overview

Structured products: Simplified returns, compounded risks

Risk management is especially critical in structured DeFi products, where multiple yield strategy products such as staking, lending, and liquidity provisioning are conveniently bundled into a single vault. While these structured products are designed to simplify access to optimised strategies, they also obscure complexity. Risks can then be compounded across integrated protocols, smart contracts, and external dependencies, making risk management more difficult to manage.

Despite these complexities, many investors continue to evaluate yield opportunities based solely on promoted yields. Without transparent risk breakdowns, users often conflate short-term returns with sustainable yield, mistaking protocol rewards for real yield. As a result, investment decisions are frequently driven by surface-level metrics rather than a holistic understanding of risk exposure.

From token incentives to sustainable yield

The evolution of yield generation in DeFi mirrors the space's broader transition from experimental incentive schemes to more sophisticated, sustainable financial engineering. In its earliest days, inflationary governance token emissions drove DeFi yield. Protocols like Compound, Synthetix, and Yearn incentivised participation with freshly minted tokens that users could farm and sell. This era gave rise to mercenary capital, liquidity that flowed short-term between protocols to capture incentives, often with little regard for protocol longevity. While this model rapidly attracted capital and bootstrapped user activity, it was ultimately unsustainable, as yields depended on token inflation rather than real cryptoeconomic activity. The 'DeFi Summer' of 2020 exemplified this trend, where users flocked to triple-digit APYs without fully understanding the risks or circular nature of many tokenomics models.

Structured products: The mechanics of modern DeFi

As the crypto markets matured, yield strategies began to align more closely with real economic drivers, such as lending interest (e.g., Aave), trading fees from LPs (e.g., Uniswap), or staking rewards. These mechanisms were more closely tied to actual user activity and protocol utility, which was viewed as more sustainable over time. However, even with these developments, users were tasked with managing the underlying complexities of selecting assets, timing positions, monitoring volatility, and assessing an array of smart contract risks. This burden led to the rise of structured DeFi products, which abstract complexity by offering curated, passive access to yield-generating strategies.

In DeFi, structured products refer to vault-based instruments and strategy aggregators that programmatically allocate user capital across multiple yield sources. These products may include combinations of staking derivatives, lending markets, liquidity provisions, perps, and/or options bundled into a single structured product. For example, Yearn Finance pioneered yield aggregation by routing stablecoin deposits through the most profitable lending protocols, while more recent platforms like Pendle offer products that split principal and yield.

In each case, the objective is to automate yield optimisation and minimise investor intervention.

Classifying structured products in DeFi

Structured products can be classified into the following categories:

- Yield aggregators (e.g., Yearn) focus on maximising return by routing deposits to yield-generating sources
- Leveraged yield vaults (e.g., Gearbox) use borrowing to amplify returns but also expose users to liquidation and interest rate risk
- Option-based vaults (e.g., Ribbon Finance) generate yield by selling options against deposited assets, capturing premium but assuming directional risk
- Structured Lending (e.g., Notional Finance) splits yield into principal and yield tokens, enabling fixed-income products

Compared to direct staking or simple LP positions, these products offer more upside. However, this abstraction introduces additional risks, including smart contract risks, reliance on strategist execution, and asset correlation across protocols, making clear risk evaluation that much more important.

How market trends have shaped risk awareness

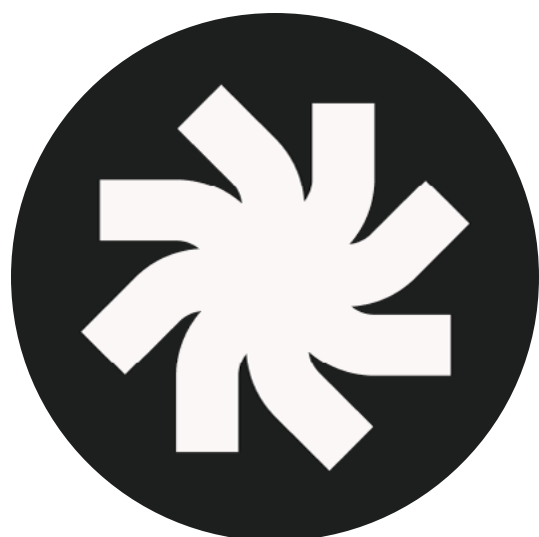
From a historical lens, DeFi's structured product ecosystem has evolved significantly since 2021. The initial proliferation of yield aggregators was driven by the need to simplify farming strategies. As gas costs rose and multichain ecosystems emerged, protocols began offering cross-chain vaults, whitelisted strategist programs, and auto-compounding mechanisms. In parallel, the collapse of protocols like Terra and high-profile DeFi exploits have made users more cautious, prompting demand for products that balance sustainable yield and risk management to preserve capital.

This brings us to the case studies ahead, where we examine three distinct structured DeFi products. Each showcases a strategic approach to yield generation and reinforces the importance of applying a practical, data-driven risk framework to evaluate these products.



Case studies: Three structured products

This section offers an in-depth analysis of three structured DeFi products, examining their design, yield generation mechanics, and strategies. Each case study is followed by Exponential's risk assessment, providing a clear lens through which to evaluate the product's risk-return profile.



Superform's SuperUSDC vault

Overview: SuperVaults and the SuperUSDC strategy

SuperVaults are Superform's flagship onchain yield product, engineered to deliver optimised stablecoin returns while abstracting away the complexities of DeFi. The inaugural vault, SuperUSDC, launched on Ethereum and provides automated access to high-performing USDC yield strategies across a curated set of whitelisted protocols. Built atop Yearn v3's battle-tested framework and integrated with Superform's core infrastructure, the vault design has been audited by yAudit.

Designed without leverage, SuperVaults prioritise stable, predictable returns through slippage-free rebalancing, reallocating capital in real time based on strategy performance. This vault offers a streamlined, automated experience for passive investors seeking competitive yields.

SuperVault's mechanism design

Deposit flow and protocol allocation

When a user deposits USDC into the SuperUSDC vault, the transaction is routed through the SuperformRouter, determining the optimal vault and yield route. This router sends capital to a curated vault managed by Superform, where assets are programmatically allocated across high-performing, whitelisted DeFi lending protocols such as Morpho, Euler, Aave, and Fluid.

Upon deposit, users receive SuperPositions (SPs), tokenised representations of their share of the vault's underlying strategy. These SuperPositions are minted using the ERC-4626 token standard, which standardises yield-bearing vaults and ensures broad interoperability across the DeFi ecosystem. Superform also supports ERC-7540, a newer token standard designed for multi-vault tokenised positions, enabling structured products to span multiple chains and strategies with greater efficiency. This enhances composability and allows vaults to span multiple strategies or chains efficiently.

As yield is generated from the underlying protocols, it accrues in the vault, automatically increasing the value of users' SuperPositions over time.

Underlying yield strategies

Once deposited capital is allocated across protocols, the SuperUSDC vault earns yield through three primary mechanisms:

- **Lending markets (e.g., Aave, Morpho, Euler):** These protocols generate interest from overcollateralised borrowers. Yields here are a function of borrowing demand. During periods of growing leverage demand, such as bull markets, borrowers drive up utilisation rates and interest rates. Conversely, in bear markets or risk-off environments, reduced borrowing leads to muted returns.
- **Protocol incentives (e.g., Euler rewards):** Some integrated strategies rely on emissions or incentive programs. While these can temporarily boost APYs, they are less durable and subject to governance or emissions schedule changes.

Each yield source is continuously evaluated through Superform's rebalancing logic, which dynamically reallocates deposits toward the most competitive and risk-adjusted strategies.

Rebalancing logic and yield optimisation

To maintain risk-adjusted returns and optimise during market shifts, SuperVaults employs an automated rebalancing engine. This engine uses predictive metrics, such as SuperAPY (a forward-looking yield estimator) and Sharpe ratios (a volatility-adjusted return measure) to evaluate the relative performance and risk profile of each yield source.

A Keeper contract continuously monitors yield sources and initiates a rebalance when:

- More favorable APYs become available on alternative protocols
- Risk thresholds are exceeded
- Market inefficiencies or liquidity changes trigger reallocation

The Keeper contract triggers reallocation through the SuperformRouterWrapper, which executes capital transitions with minimal slippage and gas overhead. Because vaults are non leveraged, transitions remain predictable and within conservative risk boundaries.

This real-time optimization allows SuperVaults to dynamically shift between strategies without manual intervention, offering a “set-and-forget” experience for users.

Vault performance: Ethereum vs. Base

Since its launch, SuperUSDC has delivered competitive and reliable yields by dynamically reallocating capital across integrated DeFi protocols. Available on both Ethereum and Base, the vaults follow similar strategies but offer different tradeoffs in cost, liquidity, and ecosystem maturity.

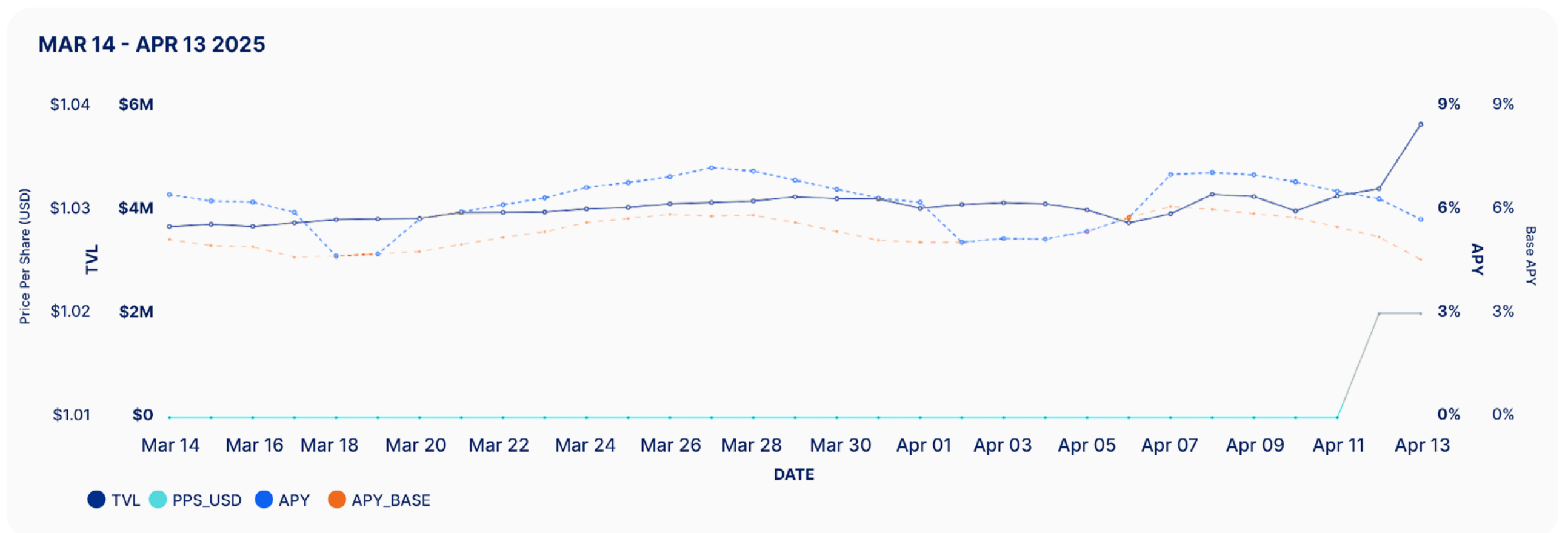
GRAPH 1 VAULT PERFORMANCE: ETHEREUM VS. BASE



Source: Superform

On Ethereum, SuperUSDC experienced strong demand, with TVL growing from ~\$65M to ~\$88.55M over the past month. Yields dipped in late March to 4.48% but recovered to stabilise between 5 and 6% in April. The Ethereum vault holds ~95% of Superform’s total SuperUSDC TVL, a reflection of the mainnet’s deeper integrations and mature lending markets.

GRAPH 2 VAULT PERFORMANCE: ETHEREUM VS. BASE



Source: Superform

On Base, SuperUSDC’s TVL grew from ~\$3.67M to ~\$5.63M in the same period. Yields hovered between 4.6 and 7% APY, consistently outperforming the base rate by over 1%. The strategy’s efficient cross-chain execution and low fees contribute to its strong relative performance.



Risk management and commentary

Superform's SuperUSDC vault presents an attractive option for users seeking stablecoin yields with a streamlined, passive experience. However, like all structured DeFi products, it bundles a range of underlying risks that need to be carefully evaluated.

Chain risk

Deployed on Ethereum mainnet, SuperUSDC benefits from the network's robust decentralisation, high validator count, long operational history, and mature tooling. Ethereum's track record of uptime and resilience contributes to a low Chain Risk rating.

Protocol risk

The vault architecture is built on Yearn v3, a well-audited, time-tested vault framework, and integrated into Superform's own infrastructure, which is also audited by yAudit. While the vault relies on automated routing via the SuperformRouter, the overall design is non-complex and avoids newer or experimental mechanisms. Its protocol dependencies include whitelisted lending protocols such as Aave, Morpho, and Euler. These are reputable and well-integrated, though each carries its own smart contract and governance-related risks. Because SuperUSDC interacts only with these vetted lending markets, Protocol Risk is moderate but largely mitigated by careful curation and lack of leverage.

Asset risk

USDC, the underlying asset, is a centralised stablecoin with strong backing transparency but exposure to offchain custodial risk. Historical events, such as the temporary USDC depeg in March 2023, highlight that even top stablecoins are not immune to volatility during systemic banking crises. While USDC generally earns a strong Asset Risk rating due to high collateral quality and liquidity, users must recognise the residual risk from Circle's custodial relationships and regulatory landscape.

Pool risk

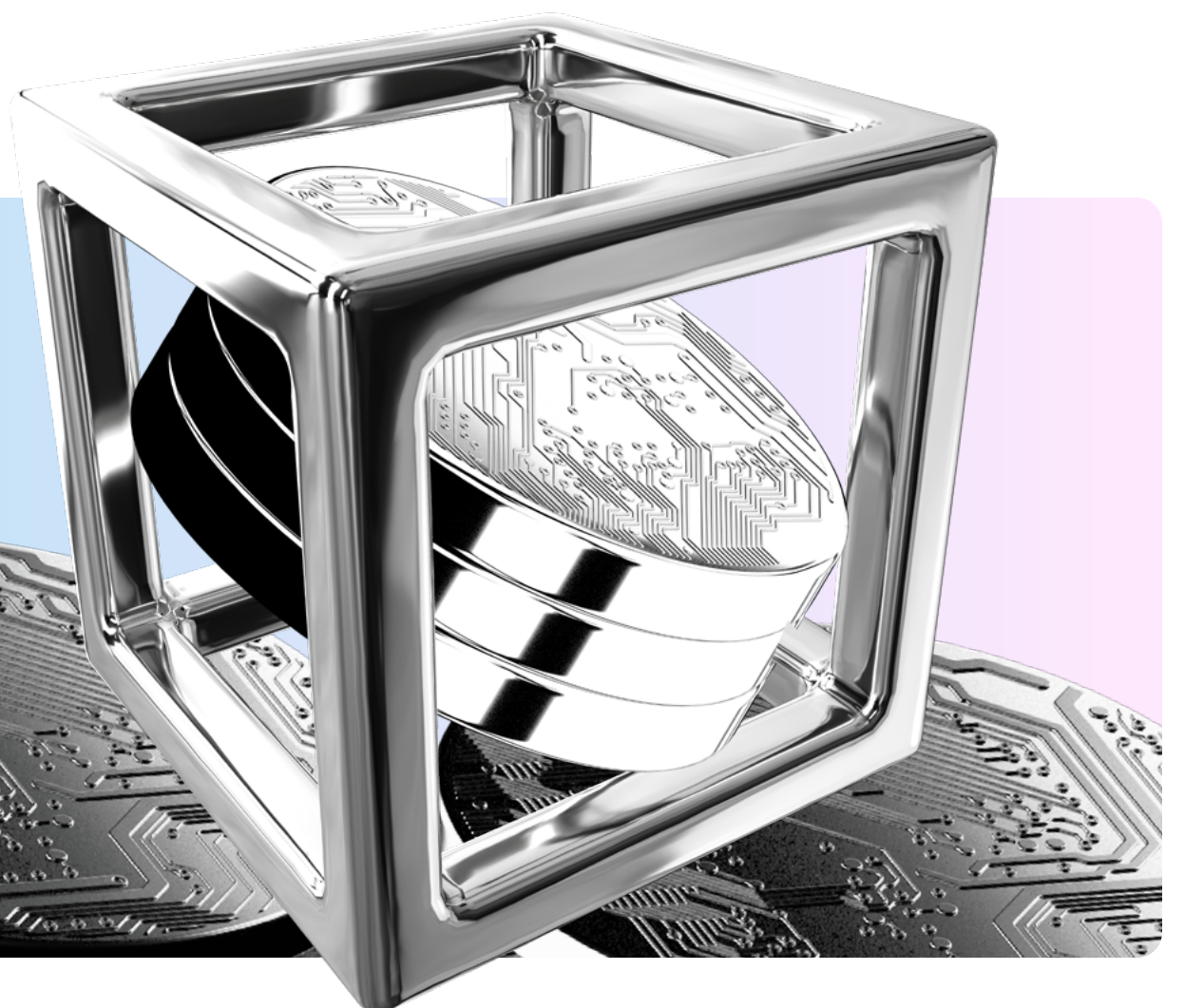
The pool design is conservative, employing only lending strategies without leverage. All yield is generated from overcollateralized lending protocols. The absence of complex strategies or composability with riskier systems keeps Pool Risk relatively low. The rebalancing logic, governed by the Keeper contract, introduces automation dependencies yet, it operates within well-defined, conservative boundaries to ensure capital is routed toward protocols offering competitive yet stable rates.

Exponential rating: B

The SuperUSDC vault earns a B rating, reflecting its conservative, non-leveraged design and reliance on well-established lending protocols. While it avoids price volatility risk, the strategy still carries exposure to custodial risk (via USDC) and operational dependencies on the underlying lending protocols it integrates with.

Key risk considerations:

- USDC's centralised nature introduces regulatory and custodial risks.
- Yield is contingent on borrowing demand in integrated protocols, which may fluctuate with market cycles.
- While audited, Superform's routing infrastructure introduces a dependency on accurate offchain yield signals and contract execution.





EtherFi's Liquid Ether vault

The evolution of liquid staking

Liquid staking emerged as a pivotal solution to a core tradeoff introduced by Ethereum's transition to Proof-of-Stake (PoS). While directly staking ETH secures the network and generates yield, it requires users to lock up 32 ETH in addition to having some technical know-how. This lockup makes it inaccessible to most and removes those funds from active use in the DeFi ecosystem.

In Ethereum's early PoS implementation, staked ETH was entirely illiquid, often locked for indefinite periods before withdrawals were enabled via the Shanghai upgrade. This created a strong demand for solutions that preserved staking participation without sacrificing access to liquidity.

Protocols like Lido pioneered liquid staking by issuing tokenised representations of staked ETH, such as stETH. These liquid staking tokens (LST) let users earn staking rewards while using their capital across DeFi for lending, collateral, or liquidity. As Ethereum staking infrastructure matured, newer designs emerged to further decentralise control, improve censorship resistance, and broaden user participation.

Non-custodial liquid staking with EtherFi

EtherFi is a decentralised, non-custodial liquid staking protocol that enables users to earn Ethereum staking rewards while retaining full access and control over their capital. When users stake ETH through EtherFi, they receive eETH, a rebasing ERC-20 token that accrues staking rewards directly to the holder's balance over time. This token represents a 1:1 claim on the user's staked ETH, offering exposure to Ethereum's PoS consensus mechanism while maintaining custody and liquidity.

eETH functions as a yield-bearing, composable asset within the broader DeFi ecosystem. It maintains a soft peg to ETH and is fully backed by a collateralised stake held in EtherFi's validator infrastructure. Its liquid design as an LST allows holders to put their capital to work. It can be deposited into lending protocols, paired in liquidity pools, or used within structured products to earn additional yield beyond base staking rewards.

What makes EtherFi different

Validator ownership structure: NFT-based staking model

When a user deposits 32 ETH to stake with EtherFi, two NFTs are minted directly to their wallet: the T-NFT and the B-NFT. This dual-token system allows EtherFi to separate value ownership from operational control, delivering a secure and liquid staking experience.

T-NFT (Transferable NFT): Represents a 30 ETH share of the validator and serves as the primary liquid ownership token. T-NFT holders are entitled to the corresponding portion of staking rewards and can trade or utilise the token within EtherFi's ecosystem. The EtherFi's liquidity layer enables T-NFTs to be swapped for ETH or eETH without waiting for a validator exit. Once a validator exits, the T-NFT is burned in exchange for its share of ETH and rewards. However, T-NFT holders do not control validator keys or initiate exits.

B-NFT (Bonded NFT) - a non-transferable soulbound NFT, representing a 2 ETH bonded stake tied to a validator. This NFT serves two key functions:

- **Slashing insurance:** The 2 ETH bond serves as the first line of protection if the validator is penalized, shielding the T-NFT's 30 ETH share
- **Operational control:** The B-NFT confers control over validator operations, including uploading the encrypted validator key for the node operator and initiating validator exits. Due to this elevated responsibility and risk, B-NFT holders earn ~50% higher staking yield per ETH than T-NFT or eETH holders

This structure allows EtherFi to combine non-custodial control with liquidity and decentralization. By distributing ownership, incentivizing responsible validator management, and embedding protective bonding mechanisms, EtherFi redefines liquid staking and sets itself apart from traditional custodial models.

Validator operations and bonding mechanism

Building on this NFT foundation, EtherFi introduces a validator operations model that reinforces decentralisation and performance. When a user stakes 32 ETH, the protocol runs an onchain auction to assign a professional node operator (e.g., P2P.org, Blockdaemon, Kiln, SSV Network) to run the validator. This ensures that only vetted operators, held to strict uptime and slashing standards, are managing validator infrastructure.

To further decentralise validation and enable participation for users with less than 32 ETH, EtherFi integrated Distributed Validator Technology (DVT), a system that shards validator duties across multiple independent operators. This not only improves fault tolerance and reduces single points of failure, but also opens the door for broader permissionless participation in Ethereum's consensus layer.

EtherFi yield strategies and performance

Beyond core staking rewards, EtherFi unlocks advanced yield strategies through eETH's composability across DeFi. As an LST, eETH can be deployed in lending markets to earn borrowing interest, paired in liquidity pools to capture trading fees, or allocated to structured products and vaults for amplified returns. EtherFi also natively restakes eETH via EigenLayer restaking, allowing validators to secure additional services like oracles and data availability layers, which can boost yields. Because eETH inherits additional yield and risk from staking, it's also classified as a liquid staking token (LRT).

EtherFi's Liquid ETH Vault allocates staked ETH across a diversified portfolio of DeFi strategies, reducing dependency on any single yield source. This includes exposure to fixed and variable-rate lending, structured yield products, and restaking protocols, each offering distinct yield mechanisms and risk profiles. Below are examples of key integrated protocols and how they contribute to ETH-denominated returns:

Structured yield strategies

- **Treehouse (Fixed income arbitrage):** Generates yield by converting eETH into tETH and capturing the spread between staking and lending rates. This arbitrage-driven yield is dynamically sourced with no lock-up periods, offering additional returns over standard staking rewards.













Lending strategies

- **Euler (Variable-rate lending):** Supplies ETH to borrowers through a dynamic interest rate market. Returns fluctuate based on protocol utilization, offering flexibility and liquidity but introducing exposure to rate volatility and smart contract risk.
- **Term (Fixed-rate lending):** Lends ETH at predefined rates and durations through onchain auctions. Yields are stable and predictable during the loan term, though capital is time-locked until maturity.

Restaking strategies

- **Swell (Restaked ETH rewards):** Stakes ETH to mint swETH and restakes it into rswETH, earning both staking and EigenLayer-based restaking rewards. This dual-yield strategy enhances returns but adds restaking-slashing risk and potential exit delays if tokens aren't sold on secondary markets.
- **Eclipse (Unified restaking index):** Aggregates rewards from a basket of LRTs, including eETH, rswETH, and others, into a single diversified token (tETH). The yield comes from EigenLayer restaking across multiple protocols, with diversification helping spread slashing and liquidity risk.

GRAPH 3 ETHERFI YIELD STRATEGIES AND PERFORMANCE

POSITIONS	ALLOCATIONS %	FIXED YIELD	VARIABLE YIELD
 Aave V3	24.0%	-	4.34%
 Eclipse	17.9%	15.00%	2.80%
 Swell WeETH	13.3%	12.00%	2.80%
 Reserve	13.1%	-	11.23%
 Treehouse tETH	6.2%	6.00%	3.25%
 Uniswap V3	5.6%	-	1.19%
 Euler	5.5%	9.00%	1.74%
 Fluid	1.8%	-	3.32%
 Swell Euler	1.5%	12.00%	0.60%
 Aerodrome	1.4%	-	2.33%
 Term tETH Lending	1.2%	5.00%	3.50%
STAKING REWARDS			14 Day Trailing APY
 KING			1.62%

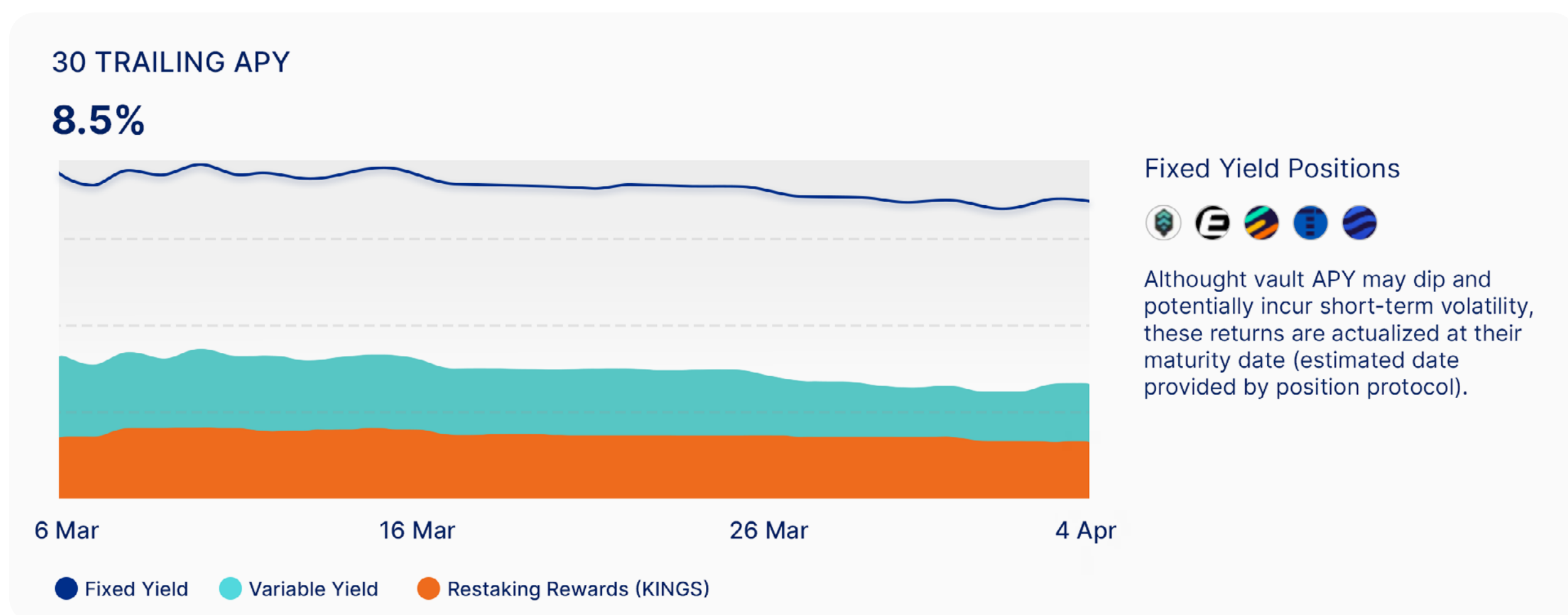
Source: EtherFi

This blended approach helps maximise the overall APY while spreading risk: for example, if lending rates dip, the vault still earns from staking and arbitrage, and if a particular strategy underperforms or encounters an issue, the others can dampen the impact.

EtherFi liquid Ether vault performance

Over the past 30 days, the vault has maintained a trailing APY of 8.5%, supported by fixed-rate strategies yielding up to 5.48%, variable returns reaching as high as 2.22%, and supplementary rewards from KING restaking incentives.

GRAPH 4 ETHERFI LIQUID ETHER VAULT PERFORMANCE



Source: EtherFi

Risk management and Exponential's commentary

EtherFi's Liquid ETH Vault offers users a fully automated, yield-optimised strategy for deploying eETH, weETH, or WETH across a curated set of DeFi protocols. Built on the Sommelier Cellar infrastructure and executed through a hub-and-spoke architecture of vaults and adaptors, this product abstracts away the complexity of strategy execution while diversifying yield sources. While the vault design introduces meaningful yield potential, it also incorporates several layers of complexity and inter-protocol dependencies.

Chain risk

Deployed on Ethereum, the vault benefits from Ethereum's decentralisation, security, and long-term stability, which collectively result in a low Chain Risk rating. All integrated DeFi protocols, such as Aave, Morpho, and Uniswap V3, are also Ethereum-native, avoiding added bridging or rollup risks.

Protocol risk

The vault architecture inherits much of its logic from Sommelier's Cellar framework, which has been battle-tested and has successfully weathered major market events. The smart contracts are heavily modular and audited multiple times by 0xMacro and other reputable firms. Still, complexity remains high: off-chain strategist signals are required to rebalance allocations, and vault operations depend on a layered role system (Admin, Timelock, Strategist). While these controls are robust, they introduce some governance and execution risk due to reliance on off-chain decision-making.

Asset risk

The vault accepts eETH, weETH, and WETH. Each token presents distinct characteristics: eETH is EtherFi's native LST, fully backed and liquid, but still maturing in market adoption. weETH is a wrapped version offering compatibility, while WETH is a widely accepted ETH wrapper.

Pool risk

This is the most dynamic risk category for the Liquid ETH Vault. The vault actively allocates across a wide variety of DeFi strategies and protocols, including:

- **Lending:** Aave and Fluid for ETH lending/borrowing opportunities.
- **LP positions:** Uniswap V3 and Aerodrome pools using weETH and ETH.
- **Yield derivatives:** Pendle positions, which provide variable and time-dependent yield opportunities.

The portfolio is adjusted via rebalance signals issued by the Strategist, who must operate within strict adaptor and asset constraints. Rebalancing is subject to a deviation threshold that ensures capital preservation by reverting changes if value loss exceeds a preset bound. This architecture enables granular control but also introduces reliance on accurate pricing data (via Chainlink and Redstone oracles) and sound strategist judgment.

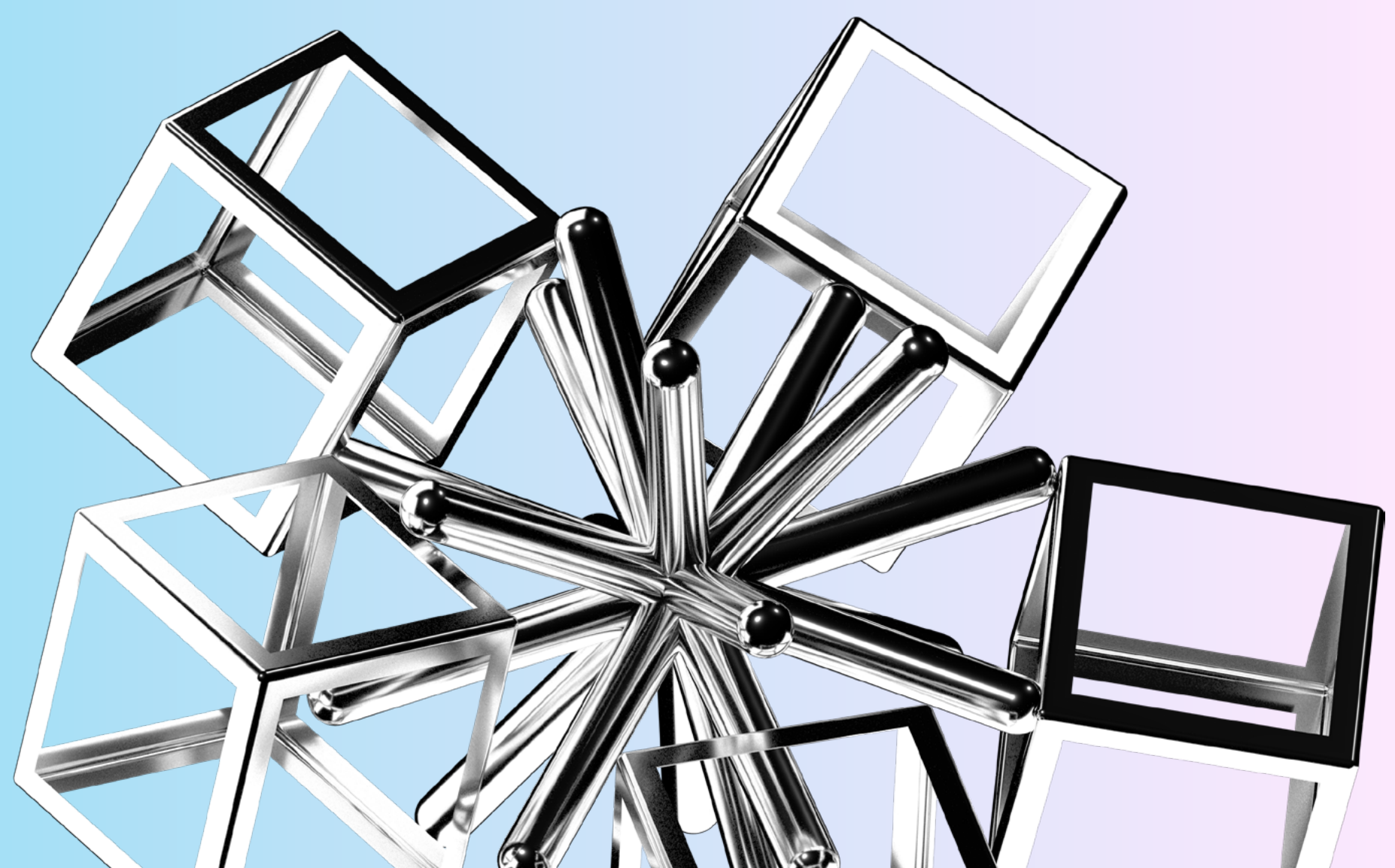
Withdrawals are not instant and must be processed via a queue with solver participation. This model enhances front-running protection but reduces liquidity and introduces slippage risk if market conditions deteriorate during the withdrawal window.

Exponential rating: C

The vault earns a C rating, appropriate for users seeking enhanced ETH yield through diversified DeFi positions while accepting moderate-to-elevated complexity and liquidity risk. The security history of the Sommelier architecture and broad protocol integrations strengthens its foundation, but users must understand the intricacies of DeFi composability and potential for short-term balance fluctuations.

Key risk considerations:

- PT-eETH exposure introduces short-term price volatility that may impact LP token pricing.
- Off-chain strategist signaling is critical to vault performance and adds governance dependency.
- Withdrawals are queued and reliant on solver fulfillment, limiting instant liquidity.





Gauntlet's 2x JLP vault

Strategy overview: Leveraged liquidity provision in practice

Gauntlet's 2x JLP Vault is a delta-neutral yield strategy designed to deliver amplified returns for liquidity providers on Jupiter's perpetual exchange. The vault combines leveraged exposure, hedging, and real-time risk modeling to optimise capital deployment.

The strategy acquires leveraged exposure to the Jupiter Liquidity Pool (JLP), a tokenised basket of assets and trader PnL by using user-deposited USDC to acquire JLP and then using those JLP tokens as collateral on Drift Protocol to borrow additional stablecoins. These borrowed assets are used to purchase more JLP, resulting in a 2x leveraged position. This leveraged exposure is paired with dynamic short positions on Drift, designed to keep the portfolio delta-neutral and insulated from major asset price swings. This structure enables users to earn JLP-derived trading fees, funding rates, and protocol rewards while minimising exposure to price volatility.

Gauntlet's risk engine: Delta hedging and rebalancing

A core differentiator of the 2x JLP vault is Gauntlet's delta hedging strategy, which continuously ingests and monitors real-time data from Jupiter and Drift Protocols, including asset balances, perpetual open interest, and token supply, to calculate precise asset and portfolio-level delta.

To maintain a delta-neutral profile, the strategy dynamically adjusts short positions in SOL, ETH, and BTC based on calculated exposures. Rebalancing is triggered by:

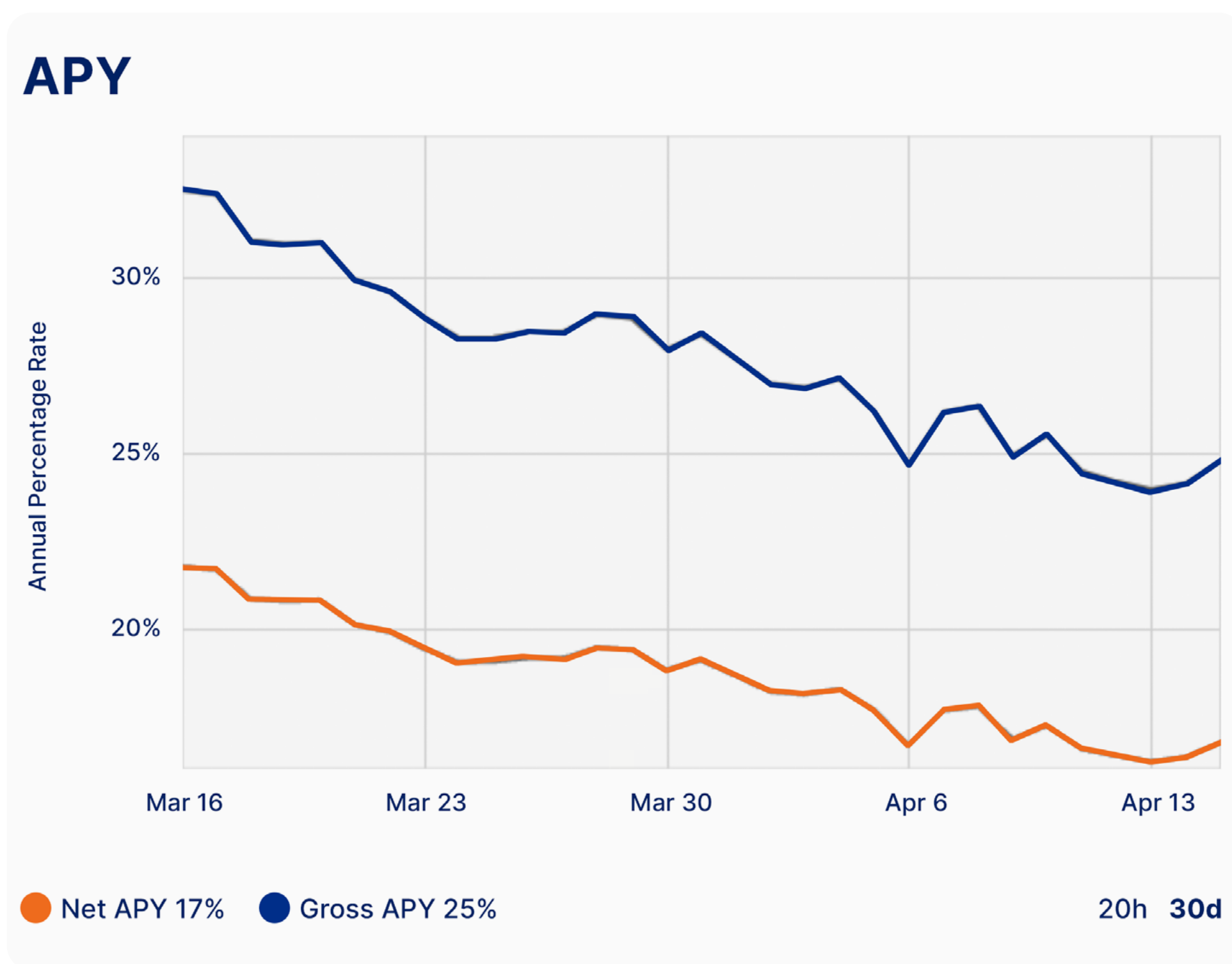
- **Deviation bounds** (e.g., 1–2% from net zero delta)
- **Time-based intervals** (e.g., 5-minute, hourly, daily)
- **Market volatility events**

Gauntlet applies both temporal and threshold-based hedging models, backtested for stability across conditions. This continuous, automated system minimises slippage, reduces overhead, and ensures market exposure is consistently optimised for risk-adjusted yield.

Yield performance and strategies

Returns in the 2x JLP vault stem from a blend of trading fees, funding rate arbitrage, and JLP rewards amplified through leverage. Borrowing costs are actively monitored and influence overall strategy profitability, as the vault seeks to maximise returns without overextending capital risk.

GRAPH 5 YIELD PERFORMANCE AND STRATEGIES



Source: Gauntlet

Over the past 30 days, Gauntlet's 2x hJLP (USDC) vault has maintained strong performance with a gross APY of 24.7% and a net APY of 16.7% as of April 15, 2025. This aligns with the vault's 90-day net APY range of 10% to 55% APY.

Designed to deliver delta-neutral returns through dynamic rebalancing, the hJLP vault has consistently outperformed unhedged JLP exposure across market scenarios. By actively managing risk, it achieves significantly lower drawdowns (0.3% vs. 9.79%) and delivers more stable, risk-adjusted yields, highlighting the effectiveness of its hedged strategy.

Risk management and Exponential's commentary

Gauntlet's 2x JLP Vault is a sophisticated, delta-neutral strategy that leverages real-time data modeling and hedging to deliver amplified yields. While it demonstrates strong historical performance and risk management controls, the structure introduces notable complexity and compounding risks that require close evaluation.

Chain risk

The vault operates on Solana, which offers low-latency execution and high throughput, making it well-suited for active hedging and rebalancing strategies. However, Solana's historical outages, centralised validator set, and frequent upgrades introduce elevated Chain Risk relative to more mature networks like Ethereum.

Protocol risk

The strategy depends heavily on both Drift Protocol and Jupiter Exchange, which represent the collateral, leverage, and reward mechanisms underpinning the vault. Drift is the perpetual DEX protocol, while Jupiter serves as Solana's leading swap aggregator and JLP liquidity layer. Both protocols carry protocol-specific risks such as oracle manipulation, funding rate volatility, and potential smart contract exploits. Additionally, the hedging engine's reliance on accurate real-time data from both platforms means that any data feed disruptions could impair delta management.

Asset risk

The vault is denominated in USDC, a highly liquid and centrally issued stablecoin. On Solana, USDC is natively issued by Circle, which eliminates previous bridging-related risks. The vault's exposure to JLP assets like SOL, ETH, and BTC is delta-hedged, but users remain exposed to funding rate dynamics, execution slippage, and potential price-feed anomalies.

Pool risk

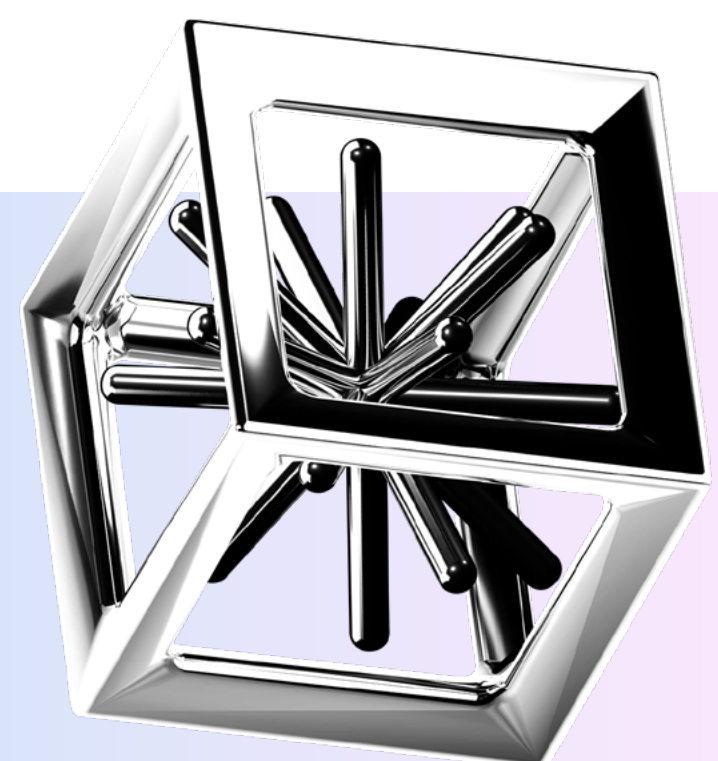
Pool Risk is elevated due to the use of leverage, multi-layered protocol integration, and sophisticated strategy execution. The vault maintains a 2x leveraged position and uses collateralised borrowing via Drift to acquire additional JLP exposure. Delta neutrality is maintained through dynamic short positions, but this introduces rebalancing risk, slippage, and reliance on Gauntlet's hedging model accuracy. Although the vault has delivered low drawdowns in practice, any failure in the hedging system or deviation in market behavior could amplify losses due to the leverage component. That said, the system employs both time- and deviation-based triggers to minimise drift from neutrality, helping to mitigate tail risk.

Exponential rating: C

The 2x hJLP vault earns a C rating, reflecting its sophisticated delta-neutral design and elevated complexity. Stress testing and strong backtest results validate the effectiveness of its hedging model, but the strategy remains best suited for experienced investors with a tolerance for operational and execution risk.

Key risk considerations:

- The strategy uses 2x leverage and depends on dynamic delta hedging; deviations from neutrality can amplify losses during fast market moves.
- It relies heavily on the uptime and data quality from Drift and Jupiter protocols.
- Withdrawal liquidity could tighten sharply during volatility spikes.



Exponential's backtested risk ratings and performance insights

To evaluate the predictive power of Exponential's ratings, the team conducted a retrospective analysis using historical data from publicly documented DeFi incidents. The goal was to assess how well Exponential's ratings correlated with actual pool outcomes, based on two key metrics:

- **Probability of default:** The frequency with which pools experienced significant adverse events, such as exploits or protocol failures.
- **Probability of losing money:** The proportion of events that resulted in unrecoverable user losses, after accounting for factors like insurance payouts, white-hat recoveries, and governance interventions.

Historical performance by rating tier

The analysis covered incidents from 2022 onward and matched each protocol's risk rating as of the date prior to the incident:

RATING	MEDIAN APY	PROBABILITY OF DEFAULT	PROBABILITY OF LOSING MONEY
A	3.19%	0.00%	0.00%
B	3.53%	1.81%	0.00%
C	3.86%	4.82%	0.10%
D	4.22%	10.94%	0.85%
F	5.32%	79.41%	28.72%

Source: Exponential.fi

Key Takeaways

- **A-rated pools:** These pools proved to be the gold standard, with no defaults or losses recorded. Investors in A-rated pools enjoyed full capital preservation, making them the safest option.
- **B-rated pools:** While a small default rate of 1.81% was observed, no investors lost money. This suggests that even when issues arose, recovery efforts — such as insurance or negotiations — fully protected users.

- **C-rated pools:** With a moderate default rate of 4.82%, these pools showed slightly higher risk. Yet, losses were rare (0.10%), thanks to effective external interventions.
- **D-rated pools:** Defaults occurred in 10.94% of cases, indicating elevated risk. Still, losses remained low at 0.85%, highlighting the strength of recovery mechanisms.
- **F-rated pools:** The riskiest tier, with a staggering 79.41% default rate and a 28.72% chance of losing money. Even with recovery attempts, these pools posed significant financial risk.

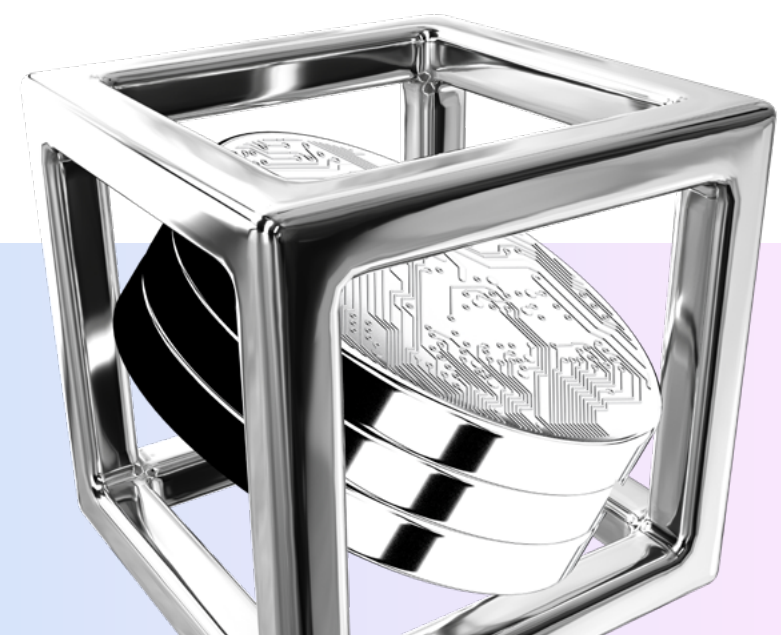
These results confirm a strong correlation between Exponential risk ratings and actual pool outcomes, proving their value as a reliable tool for DeFi investors.

Backtesting methodology

The backtesting process involved analysing publicly documented DeFi incidents from trusted sources like the Rekt Database and other community-driven repositories. Exponential mapped each incident around major exploits, depegs, and attack vectors since 2020 to the risk rating assigned before the event took place. This retrospective approach allowed them to assess the predictive accuracy of our framework.

To bring this to life, consider these real-world examples:

- **Euler V1 hack (2023):** Rated B. Suffered a major exploit, but all \$200M in user funds were recovered through negotiations.
- **Curve Vyper exploit (2022):** Rated C. An exploit in its Vyper compiler briefly impacted liquidity, but community action prevented significant loss.
- **Terra's UST collapse (2022):** Rated F. The reflexive collapse of the UST/LUNA mechanism resulted in catastrophic losses, aligning with its high-risk rating.



Implications for users

This analysis reinforces the value of Exponential's standardised ratings in making informed investment decisions:

- **Risk-averse investors:** A and B-rated products offer high protection and demonstrated resilience.
- **Moderate risk-takers:** C and D-rated pools offer a balance of risk and reward. Defaults may occur, but recovery mechanisms have historically minimised losses.
- **Aggressive yield-seekers:** F-rated pools might tempt those chasing high returns, but the data shows a substantial risk of both defaults and unrecoverable losses. Proceed with extreme caution.

Building safer markets through risk transparency

Exponential's backtesting not only validates the rating framework but also supports its mission to bring greater transparency and accountability to DeFi. To further this goal, the **Exponential Risk API** allows platforms and developers to embed these ratings into their own interfaces and tools, extending the reach of rigorous, consistent risk evaluation across the ecosystem.

As DeFi continues to evolve, data-backed frameworks like Exponential's will be essential infrastructure for building trust, protecting capital, and scaling adoption.



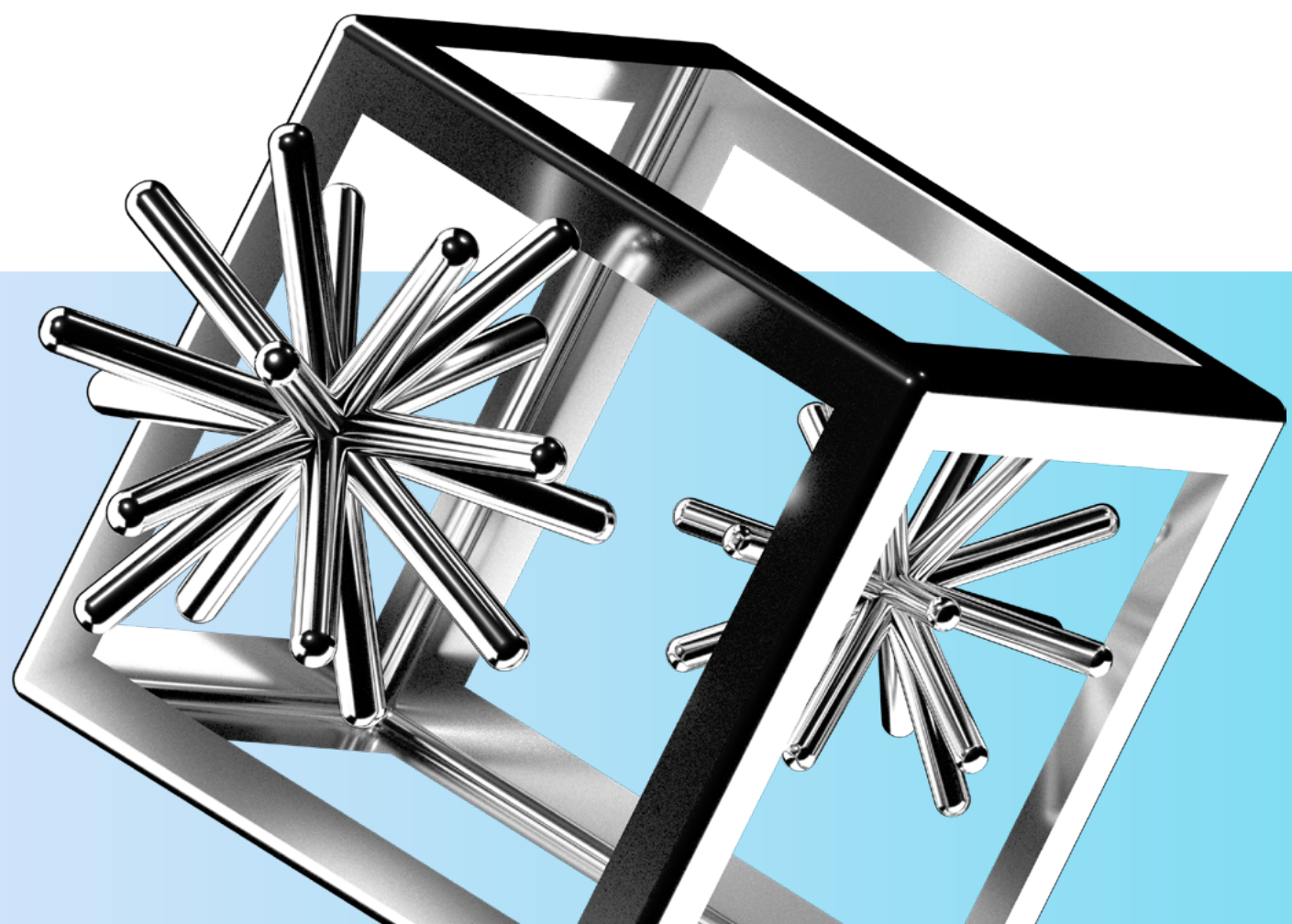
Conclusion

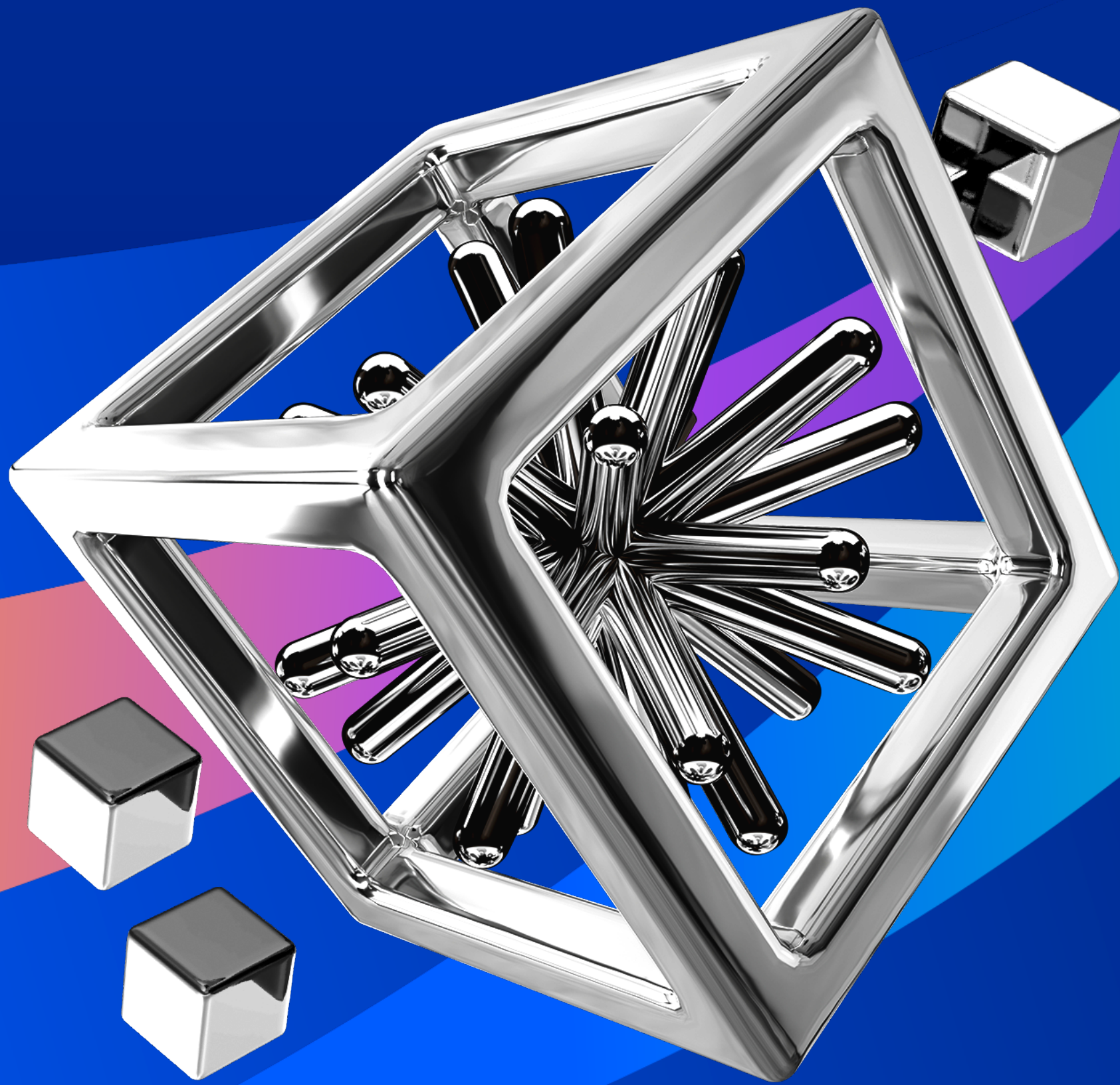
Structured DeFi products represent an evolution in onchain finance, offering passive access to optimised yield strategies through mechanisms like staking, lending, and liquidity provisioning.

As we touch on in this report, products like SuperUSDC, EtherFi's eETH vault, and Gauntlet's hJLP 2x vault illustrate the wide range of opportunities available to users, from stablecoin-based yield aggregation to non-custodial validator ownership and algorithmic hedging. However, each product also introduces distinct risks tied to smart contracts, mechanism design, or protocol dependencies, making it difficult to make informed investment decisions.

Exponential's data-driven risk framework addresses this gap by standardising how users evaluate yield products across technical, economic, and operational dimensions. By translating these variables into intuitive risk ratings, Exponential empowers users to align their investment strategies with their individual risk profiles. As structured DeFi products become increasingly composable and complex, risk-aware investing will become essential.

The ability to navigate risk with more clarity, using tools like Exponential will be foundational to investor confidence, capital efficiency, and long-term resilience.





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Evaluating Risk in DeFi

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