Chainalysis

The New Rails

How Digital Assets Are Reshaping the Foundations of Finance

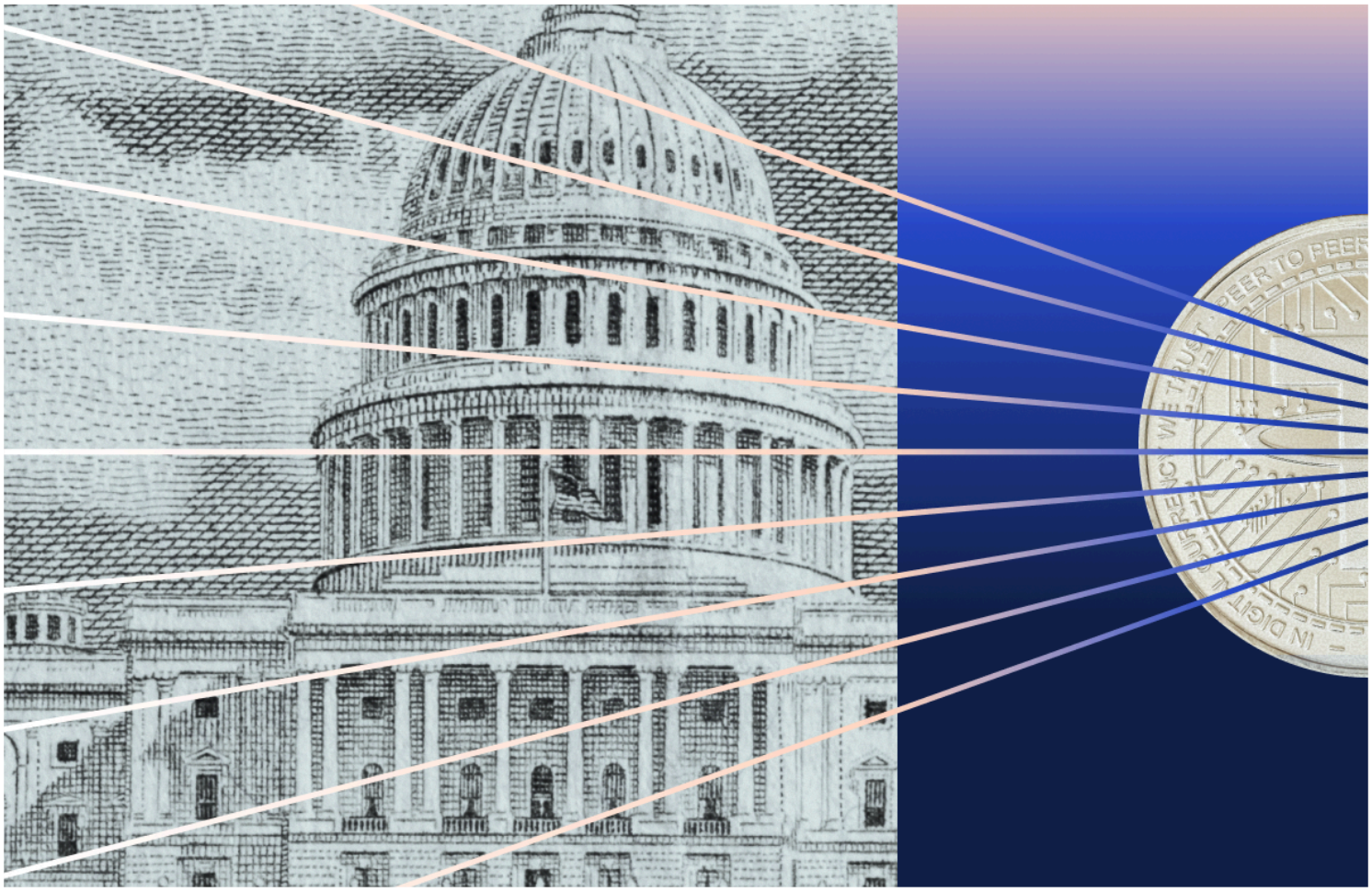


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Introduction

Cryptocurrency is reshaping traditional finance, with lawmakers writing new rules, banks issuing new products, and investors testing new ways to move money globally, cheaply, and fast. These New Rails are evolving faster than many business leaders are prepared to adapt. Consider the progress of stablecoins: once a niche category they processed $28 trillion in 2025, enough to challenge traditional payment tech. Too big to ignore, they became the first kind of crypto to receive true regulatory clarity with the passage of the GENIUS Act last summer. Now, banks are weighing what to do next.

Similar stories are playing out across Wall Street in once unthinkable ways. Major wirehouses like Morgan Stanley are making it easier than ever for their clients to trade crypto. Meanwhile, JPMorgan, the world's biggest bank, is issuing deposit tokens on public blockchains. As Congress weighs whether and how to further regulate crypto, the race is on for institutions to integrate this genuinely useful tech. All their activity generates useful data. Which is why we've decided to take a look.

In this report, you'll get a sense of the challenges, trends, and opportunities emerging on the New Rails of finance. It continues our 2024 conversation on the Crypto Maturity Journey: how financial institutions can think through standing up their crypto businesses. Back then it was a theory; now, it's really happening.

This report examines these dynamics across five areas:

1. Stablecoin payments are approaching a scale that puts them in direct competition with legacy card networks. The largest generational wealth transfer in history, with up to $100 trillion moving to crypto-native Millennials and Gen Z, will accelerate this trend. Institutions that fail to build stablecoin capabilities risk losing flows.
2. Tokenized real-world assets have moved beyond pilot programs. Institutional capital is arriving faster than retail, with asset managers and banks using RWAs as a powerful new distribution channel.
3. Blockchain infrastructure requires careful consideration. No single network offers optimal speed, cost, compliance, and governance solutions simultaneously. The choice of where to build depends entirely on what is being built.
4. Compliance standards have professionalized rapidly. Organizations onboarded into digital assets in 2026 are paying closer attention than ever before to their illicit exposure. But gaps remain in the industry.
5. Agentic payments are emerging as the next frontier. AI agents require payment support that legacy systems cannot provide: sub-cent transactions, instant settlement, and autonomous authorization. Early protocols are being stress-tested by speculative activity; they're increasingly adopted for broader use cases.

The data in this report are drawn primarily from Chainalysis's proprietary on-chain intelligence, covering transaction flows, wallet behavior, compliance configurations, and network dynamics across major blockchains. Our aim is to provide the empirical foundation institutions need to make informed decisions as the rails beneath global finance evolve.

The $100 Trillion Wealth Shift: Stablecoin Utility and the Future of Payments

In 2025, stablecoins processed $28 trillion in real economic volume. By 2035, that figure could reach $1.5 quadrillion, surpassing today's entire cross-border payments market.

The excitement around continued growth is warranted. Since the GENIUS Act signaled serious regulatory momentum in the U.S., stablecoins have dominated the conversation in financial services circles. But beneath the policy debates and market speculation lies a more fundamental question: What does the economic data actually tell us about the risk and opportunity stablecoins present for traditional financial institutions? For these firms, opportunities abound in unlocking faster, lower-cost, and programmable payments infrastructure. And those that fail to embrace on-chain rails may face a risk of disintermediation.

Unlike legacy payment rails — which rely on layers of intermediaries, batch processing, and multi-day settlement windows — stablecoins settle in seconds, operate 24/7, and move across borders without correspondent banking friction. For institutions and their customers, this translates to lower transaction costs, faster finality, and programmable money that can be embedded directly into software and workflows. Compared to legacy systems, stablecoin-powered payments can reduce reconciliation overhead, eliminate intermediaries, and enable transactions 24/7 across markets worldwide. These advantages are already driving adoption in remittances, B2B payments, and treasury operations.

In this report, the first in a series examining stablecoin use cases across financial products, we focus on payments: the sector where stablecoins have the clearest traction today. However, stablecoins are also likely to reshape financial products more broadly, from lending and capital markets to treasury and liquidity management. Two forces are converging to accelerate this shift: the largest generational wealth transfer in history (up to $100 trillion moving to crypto-native Millennials and Gen Z) and the quiet march toward stablecoin acceptance at the point of sale. Together, these catalysts could reshape the competitive landscape for payments in ways that traditional institutions can no longer afford to ignore.

Measuring utility: Adjusted stablecoin volume projections

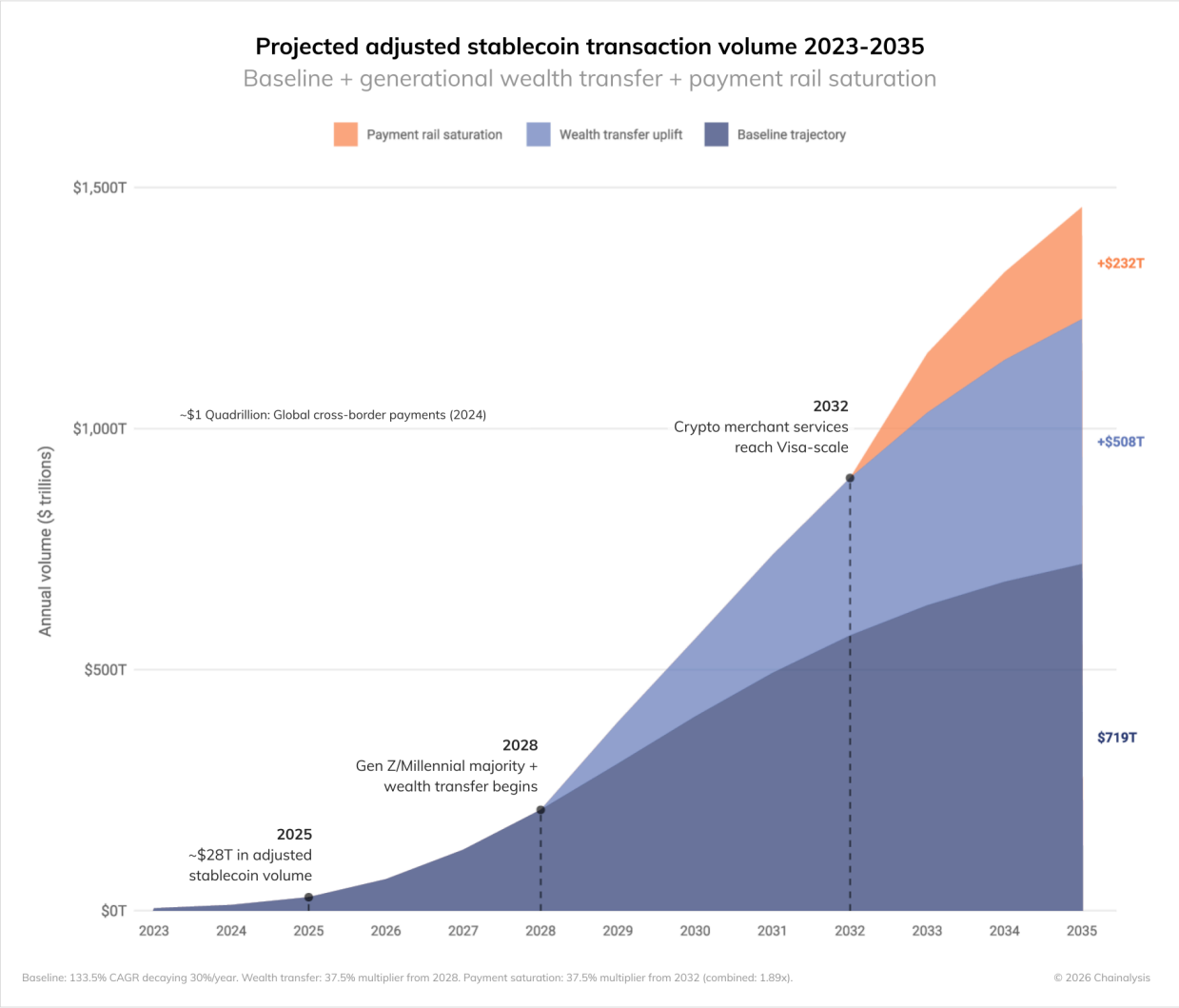
Raw stablecoin transaction data can be misleading. Liquidity provisioning, bot activity, and maximum extractable value (MEV) transfers inflate headline numbers without reflecting genuine economic use. To cut through this noise, we use adjusted stablecoin volume, a metric that filters for organic economic activity like payments, remittances, and settlement.

Adjusted volume has grown at a 133% compound annual growth rate since 2023, reaching $28 trillion in real economic activity in 2025. If this baseline growth continues with no additional catalysts, we project volumes could hit $719 trillion by 2035.

But baseline growth likely understates what's coming. Two macro inflection points are poised to accelerate adoption significantly:

1. Generational wealth transfer: $80-100 trillion will move over the coming decades from Boomers to Millennials and Gen Z, generations where nearly half have held or currently hold crypto, per 2025 Gemini survey results.
2. Point-of-sale saturation: As more merchants accept stablecoins, paying with crypto shifts from a deliberate choice to default payments infrastructure — the same transition credit cards made over cash.

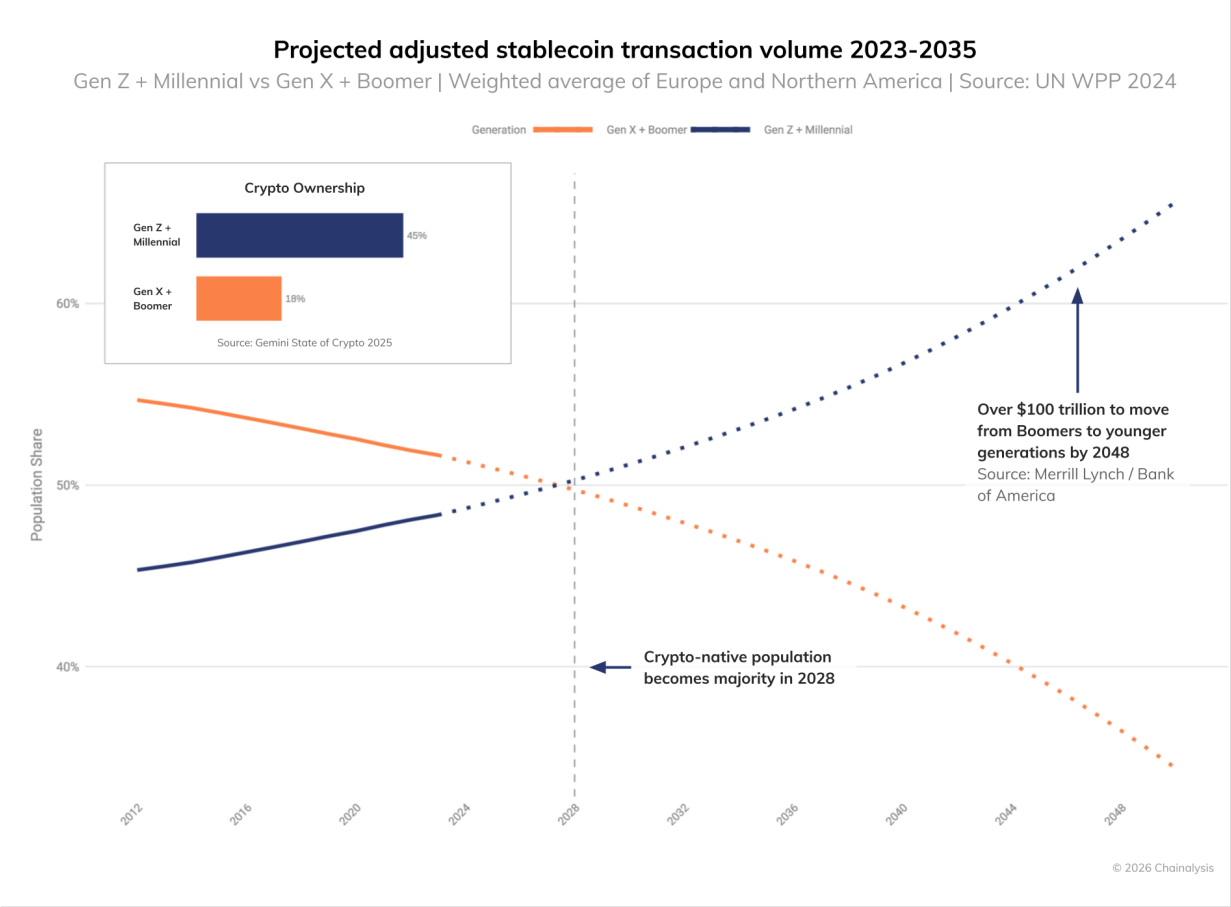
Factor in these catalysts, and our projections change: 2035 volumes could approach $1.5 quadrillion, a figure that would surpass the estimated $1 quadrillion in global cross-border payments today.



The possible $100 trillion transition

Starting around 2028, traditional financial institutions in North America and Europe will face a significant demographic shift. Millennials and Gen Z (generations where nearly half have held or currently hold crypto) will become a majority of the adult population, gradually displacing Gen X and Boomers as the dominant financial actors.

Alongside this shift is a massive movement of capital. Merrill Lynch estimates that by 2048, up to $100 trillion in wealth could pass from Boomers to their children and grandchildren.



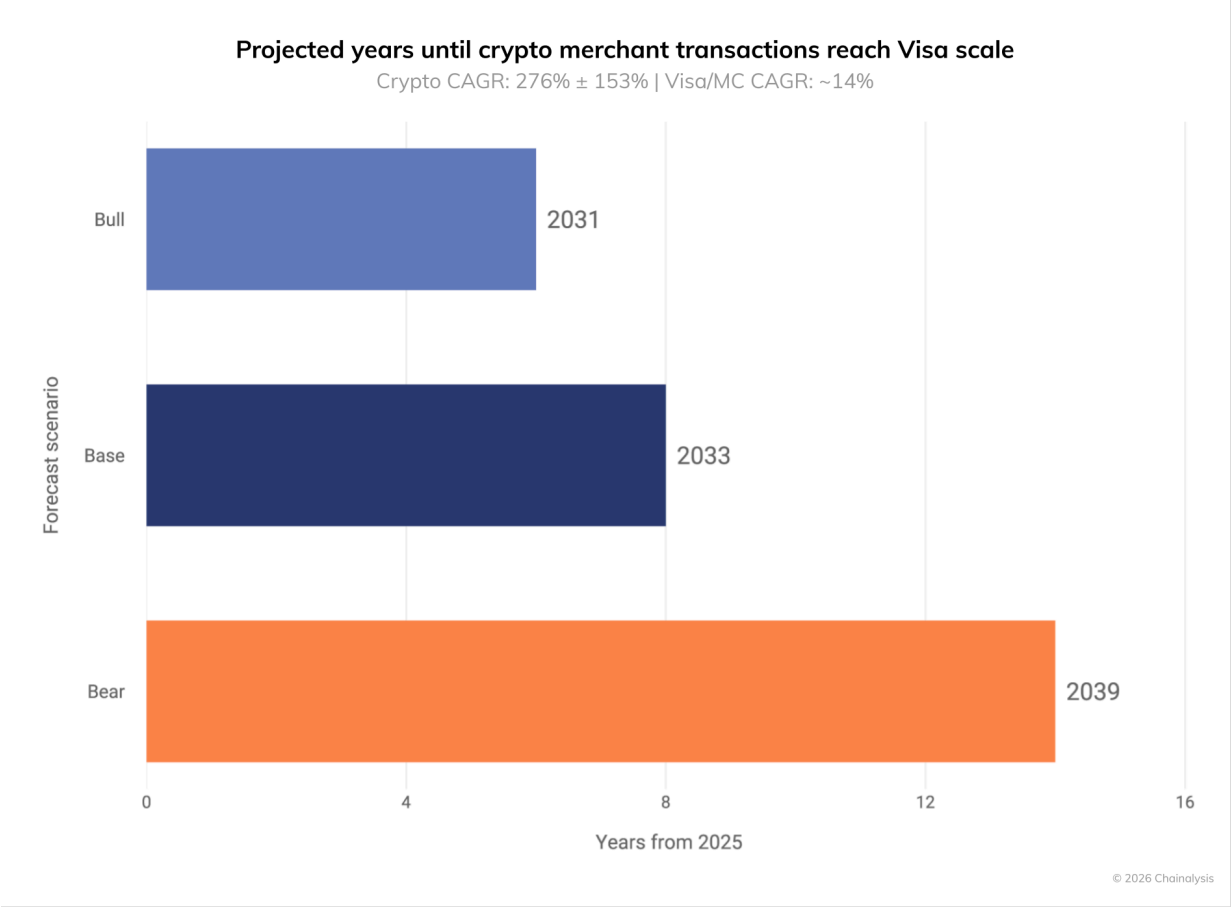
We estimate that this transition alone could add $508 trillion to annual stablecoin transaction volumes by 2035. It will also likely boost crypto asset adoption more broadly, with ancillary growth in on-chain prediction markets, tokenized real-world assets, and other TradFi-to-crypto hybrid products. For traditional institutions, this creates a dual imperative: capture flows from increasingly crypto-native clients or risk losing capital that migrates to on-chain ecosystems.

Crypto at every point of sale (POS)

The integration of stablecoins into merchant services represents the final stage of on-chain payment utility: a shift from specialized transfers to everyday commerce.

Today, paying with crypto is a deliberate choice. But when stablecoin acceptance becomes standard retail infrastructure, that distinction dissolves—"using crypto" and "buying something" become indistinguishable. The transaction feels no different than swiping a credit or debit card. This shift is already underway, with stablecoin payments quietly moving from a conscious consumer decision to a background settlement process. In stark contrast to legacy card networks, stablecoin rails can enable near-instant merchant settlement and reduce interchange-related costs.

If current trends in transaction count growth hold, on-chain stablecoin transactions could match Visa and Mastercard's off-chain transactions sometime between 2031 and 2039. But given that adoption curves in payment networks are rarely linear, on-chain transaction counts could intersect or surpass legacy rails before the 2030s.



We estimate that POS saturation alone could add $232 trillion in annual stablecoin volumes by 2035. Just as consumers learned to evaluate credit cards on fees and rewards, they'll begin weighing crypto rails

against traditional ones on the same terms: transaction costs, settlement speed, and cashback incentives. Stablecoin-linked cards will compete directly with legacy payment infrastructure. For incumbents like Visa and Mastercard, this isn't a distant threat. It's a countdown.

The institutionalization of on-chain finance

The generational wealth transfer is beginning, and POS saturation is approaching. Together, these forces signal a new financial baseline where stablecoin rails are a core part of the payments infrastructure.

The strategy of traditional financial institutions is evolving from regulatory positioning to active execution, with firms acquiring platforms, forming partnerships, and building the infrastructure needed to operate across both legacy and on-chain rails. For instance, Stripe's acquisition of Bridge and Mastercard's partnership with BVNK represent strategic bets on where payments are headed.

For incumbents, the calculus is becoming straightforward. The blockchain is now the essential plumbing for the next era of global payments. The institutions that build for this reality now will be positioned to define it, while those that wait may find themselves settling transactions on someone else's rails.

$30 Billion and Counting: How Tokenized RWAs Are Becoming a Mainstream Investment for Institutional Capital

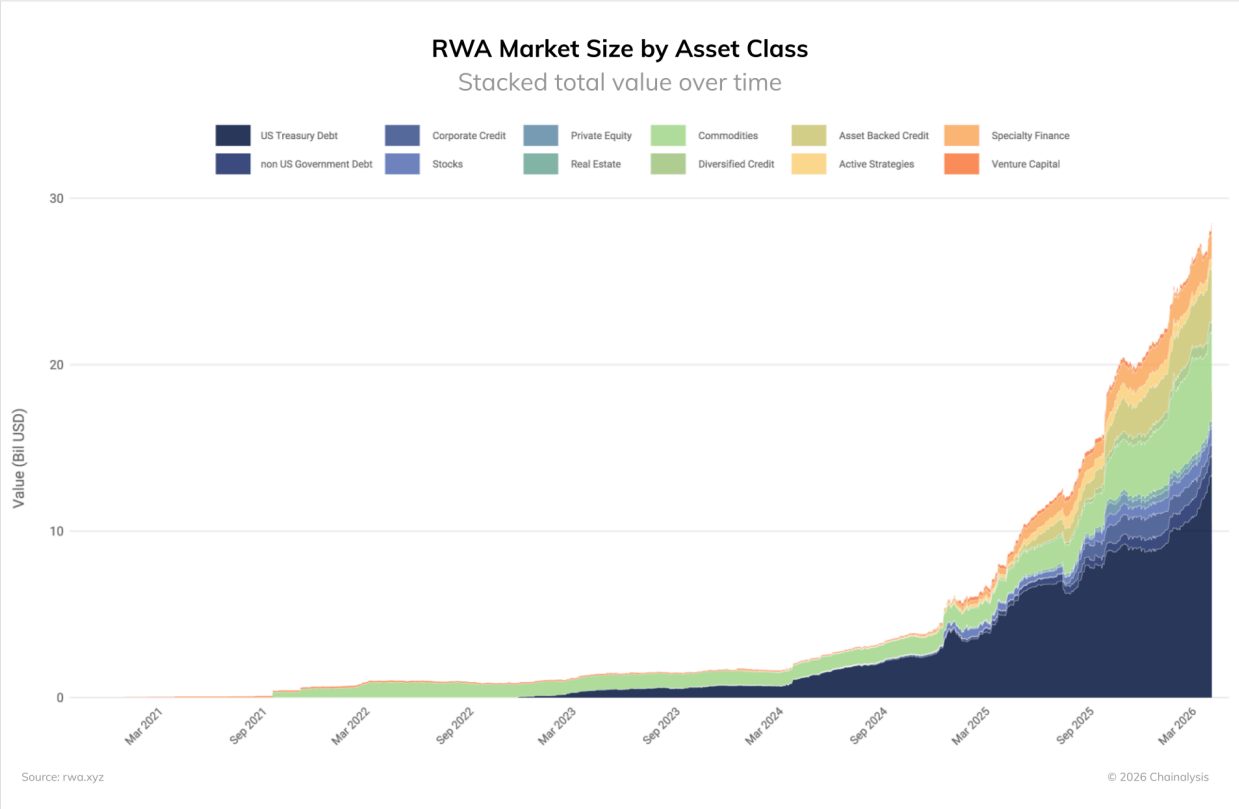
Tokenized real-world assets (RWAs) are digital representations of traditional financial instruments — such as bonds, equities, real estate, or commodities — issued and managed directly on a blockchain. For financial institutions, blockchains offer vastly superior rails compared to legacy systems, delivering 24/7 market access, near-instant settlement, and reduced intermediary costs. The appeal of these efficiencies has always been clear, but recent milestones have finally opened the floodgates for adoption.

The passage of the GENIUS Act in July 2025 provided a crucial foundation by establishing a federal framework and standardized settlement infrastructure for payment stablecoins. However, this legislation was just one element of a broader regulatory awakening over the past year. Spurred by progressive market structure dialogues, emerging mandates for on-chain capital markets, and updated compliance thresholds that clarify how institutions can safely custody and report digital assets, a massive surge of capital has entered the RWA space. Institutional confidence in this ecosystem is further strengthened by the inherent transparency of public ledgers; the ability to conduct real-time monitoring of asset flows and counterparties perfectly aligns with strict institutional compliance and risk management requirements. Ultimately, the data reveal that this growth pattern represents a fundamental departure from previous adoption cycles. Institutional capital is currently outpacing retail participation, driving market expansion far beyond basic payment use cases and embedding traditional financial instruments directly into blockchain infrastructure.

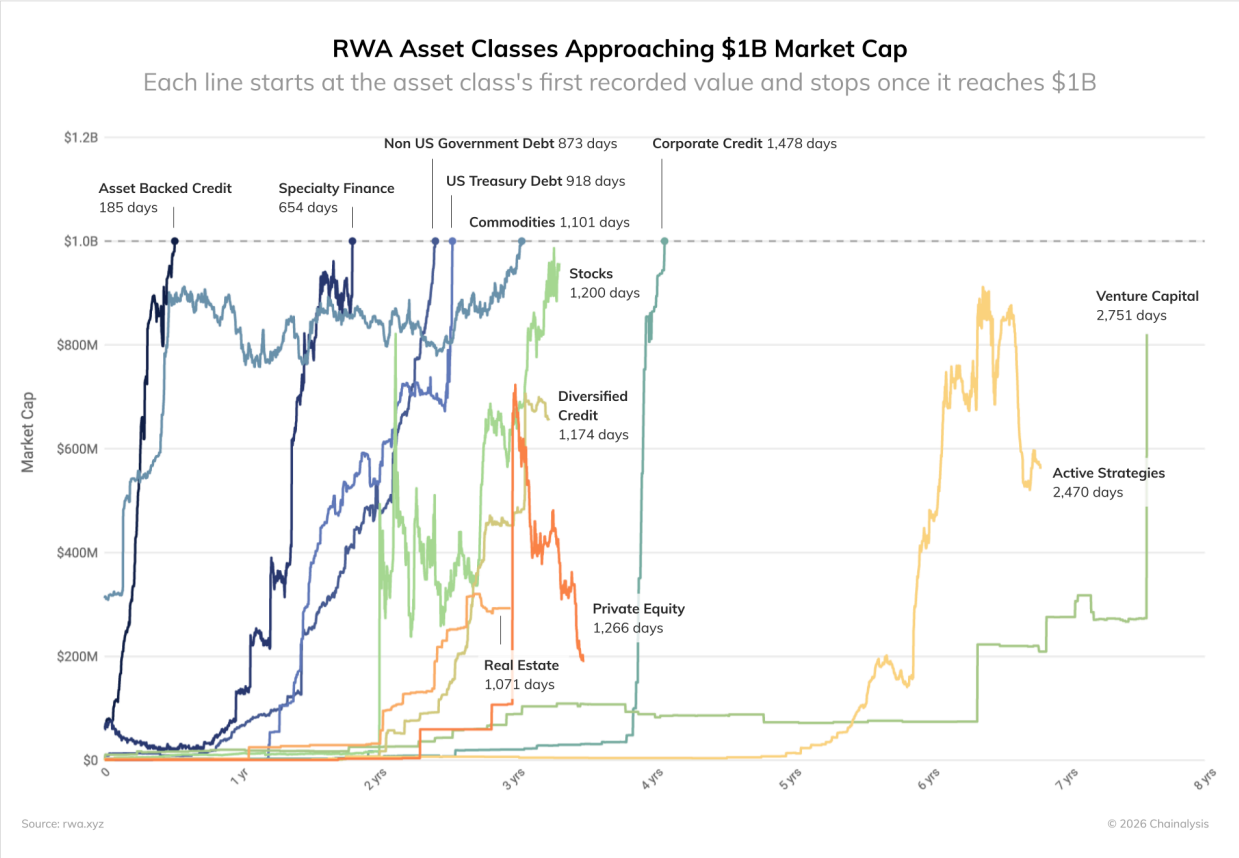
With the underlying infrastructure now operating at an institutional grade, the strategic question for market participants has shifted from whether to enter the space to how best to execute. Navigating this landscape requires understanding where traction is building and how these assets serve as a direct onboarding mechanism for new users. The following analysis explores these dynamics, detailing shifts in market sizing, participant demographics, and the evolving correlations between on-chain commodities and their traditional counterparts. While these trends point to accelerating institutional adoption, understanding how this growth manifests across specific asset classes provides a clearer picture of where capital is concentrating.

Size and growth: the race to $1 billion

While the total overall value of RWAs continues to climb and is approaching $30 billion in total assets under management (AUM), growth is not distributed evenly across categories. All major categories have seen uptrends since early 2024, but the market experienced a distinct acceleration into the latter half of 2025 following the passage and ongoing implementation of new regulatory frameworks.



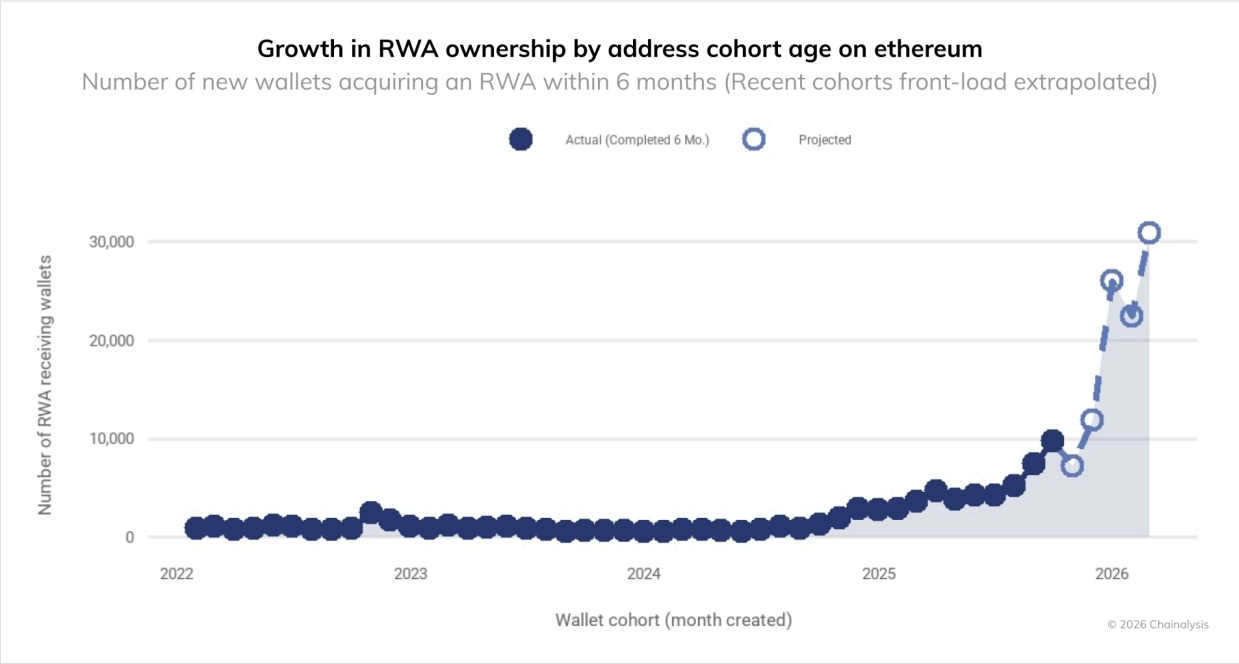
The primary data source for this analysis is rwa.xyz, a leading aggregator of tokenized asset metrics. When evaluating these data, it is important to note that the platform tracks tokens representing highly illiquid physical assets, such as real estate, alongside traditional paper holdings. Because these illiquid assets lack continuous secondary market trading, their exact present market value is inherently difficult to measure, meaning certain aggregate valuations should be treated as best-available estimates. Within the more liquid segments of the market, U.S. Treasury debt — epitomized by assets like BlackRock's $BUIDL and Circle's $USYC — currently represents the largest single RWA asset class on-chain, while tokenized commodities remain the largest consumer class.



To truly understand the velocity of this market expansion, we measured the time it took for different asset classes to reach $1 billion in valuation from their first on-chain issuance. Institutional categories such as asset-backed credit (6.1 months) and specialty finance (21.5 months) achieved this milestone significantly more quickly than what would commonly be considered retail-focused sectors, such as commodities (36.2 months) and stocks (yet to reach $1 billion). This rapid capital formation suggests that large financial entities are deploying capital at scale once regulatory and technical infrastructure permits. Market size alone, however, does not fully explain who is driving this expansion or how participants are entering the ecosystem.

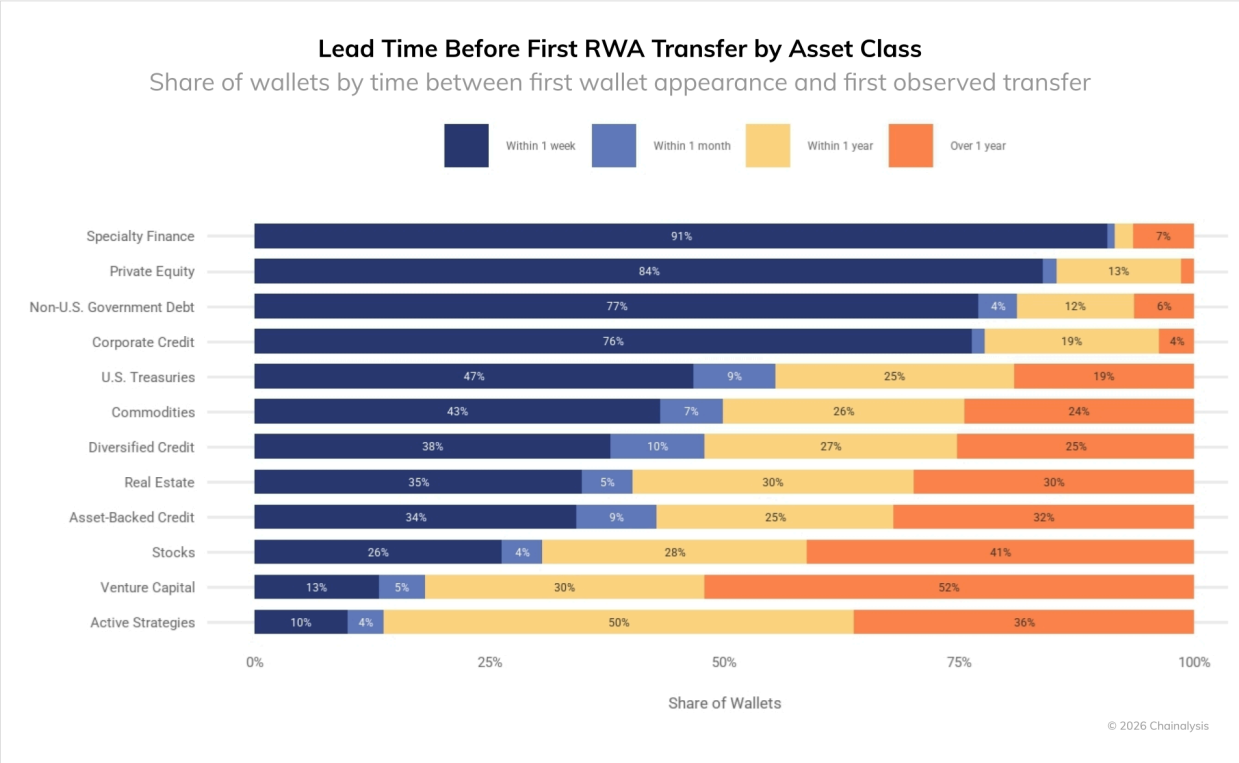
Wallet features: RWAs as the new top-of-funnel

To understand exactly who is driving this volume, we analyzed the wallet ages and transaction histories of RWA participants across our networks, covering almost 400,000 distinct RWA holding addresses. The data point to a structural shift in how users are entering the digital asset ecosystem — one that contradicts conventional assumptions about the sequencing of crypto adoption.



We tracked the number of Ethereum wallets that received a RWA token within the first six months of their creation. After years of flat activity from 2022 to late 2024, the data show an explosive growth curve sharply accelerating into 2026. This spike reveals a market inversion: RWAs aren't reserved for advanced users and use cases; instead, they are a key reason why institutions come on-chain in the first place.

This trend is observed on Ethereum, the largest network for both RWAs and total value locked (TVL), and we expect this pattern holds across other networks like Solana and BNB. Because the newest groups of users have been on-chain for less than six months, their data are still incomplete. To account for this, we extrapolated their current growth rates to project what their final adoption numbers will be at the six-month mark.



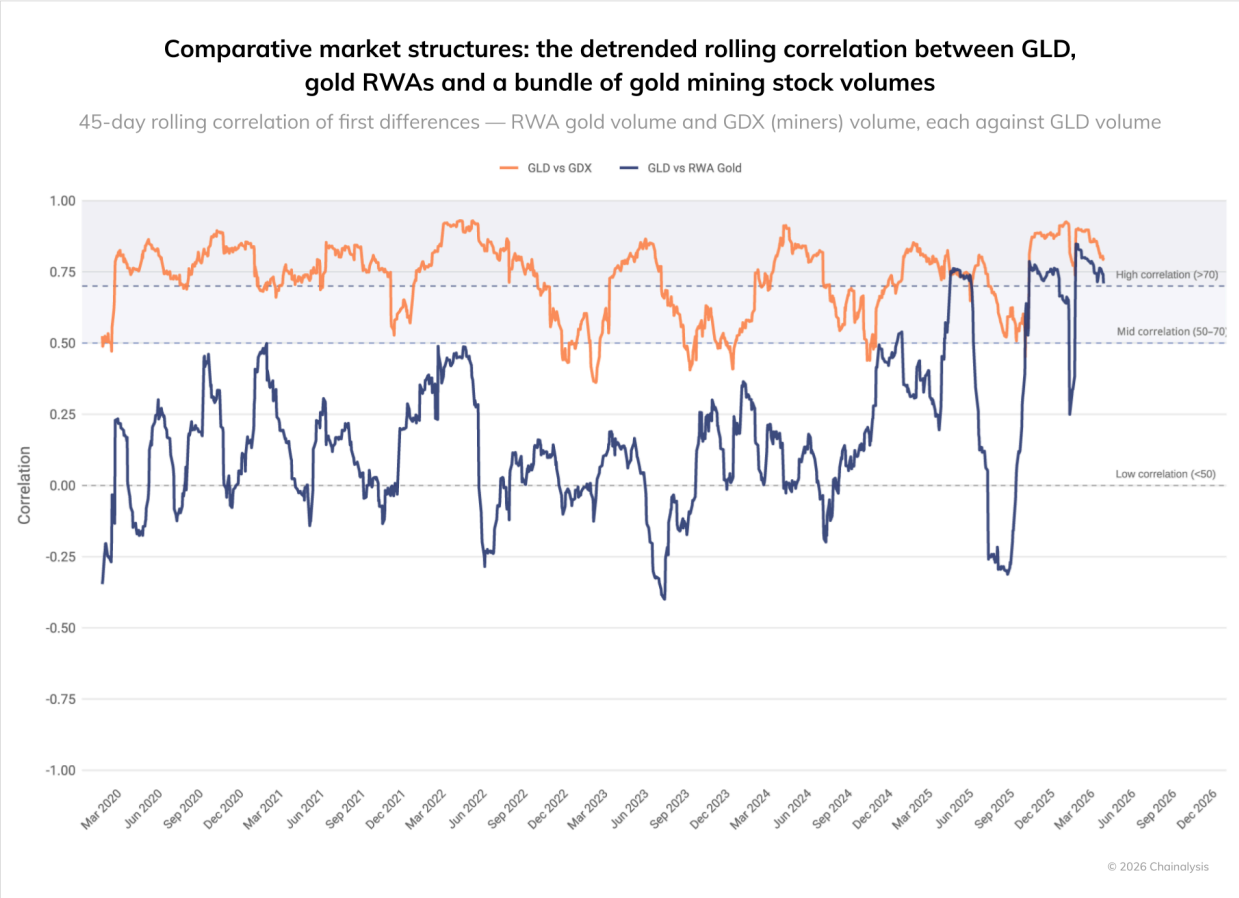
Note: The chart above visualizes the relative percentage share of wallets within each asset class. It is not a reflection of the total market size of each category, but rather the distribution of wallets within each category.

We can further segment these users by looking at the lead time before a wallet's first specific RWA transfer. Institutional-grade RWA categories are predominantly held by entirely new wallets. For example, nearly all addresses holding specialty finance or asset-backed credit received their first RWA token within one week of wallet creation. This suggests these addresses are purpose-built or explicitly whitelisted to manage institutional assets. The real question is: as on-chain adoption grows, will this isolated wallet behavior remain the industry standard, or will the lines eventually blur?

Retail-leaning categories like commodities, stocks, and actively-managed investment funds tell a different story: there is much broader participation from legacy crypto-native wallets that were active on-chain long before their first RWA transaction. Beyond participation and growth metrics, another test of market maturity lies in how closely on-chain assets behave relative to their traditional equivalents.

How on-chain trading is starting to mirror TradFi

As more institutions adopt RWAs, a crucial question for traditional financial institutions becomes whether tokenized RWAs actually trade like their legacy counterparts?



To test this, we analyzed the 45-day rolling correlation of trade volumes between tokenized gold and real-world gold (GLD), leveraging our cross-chain monitoring data that captured $40.5 billion in tokenized gold volumes. To establish a baseline for traditional market behavior, we also mapped the correlation between a bundle of approximately 57 gold mining stocks (GDX) and GLD.

The data reveal a stark contrast in historical market behavior. As expected, traditional mining stocks maintain a consistently tight correlation with GLD spot volumes, generally sustaining a mid-to-high correlation throughout the observation period. Tokenized RWA gold volumes, on the other hand, have historically shown almost no correlation to legacy gold markets, frequently decoupling entirely or dipping into negative territory.

But this may be changing. Beginning in Q2 2025, tokenized gold volumes broke out of this historically weak trend, spiking sharply into the territory of strong correlation (>0.70) to move in tandem with traditional mining stocks. Following high volatility since then, tokenized gold volume has remained steadily above the high correlation threshold in Q1 2026. In other words, despite being a price-pegged RWA asset, trading activity in on-chain markets related to gold has only recently begun to behave like the traditional marketplace as measured by the GLD ETF.

This historical disconnect is intuitive. Because the size of the tokenized gold market has long been only a fraction of the legacy market, its trading volume has historically been driven by crypto liquidity cycles and idiosyncratic volatility rather than macro commodity trends.

However, we are beginning to see signs of a structural shift. While on-chain volumes do not yet track traditional paper markets perfectly, the upward trend in correlation between tokenized gold and GLD indicates that the market is maturing. As tokenized RWAs achieve deeper liquidity and attract greater institutional participation, they are slowly starting to inherit the volume patterns of their underlying assets and respond to the same macro signals, such as inflation and geopolitical risk. For institutional desks, this trajectory suggests that risk models and hedging strategies developed for traditional gold exposure will become increasingly applicable to tokenized gold positions as the market continues to evolve. Taken together, these structural shifts in growth, user composition, and market behavior point toward a broader transformation in how financial infrastructure is being rebuilt on-chain.

The institutional imperative

The growth of the RWA market signals a broader evolution in the space: institutions are beginning to move beyond pilot programs, increasingly viewing on-chain infrastructure as a practical and integrated distribution channel for the future.

For traditional finance, the rapid scaling of this ecosystem suggests that on-chain infrastructure for trading, holding, and settling real-world assets is functioning efficiently. As this new generation of investors continues to grow, early entrants who integrate RWA tokenization into their core offerings stand to benefit disproportionately and capture significant market share.

Where to Build: A Data-Driven Guide to Blockchain Infrastructure for TradFi Tokenization

The tokenization of Real World Assets (RWAs) is no longer a speculative concept. It is a rapidly maturing sector of traditional finance (TradFi). But as banks, asset managers, and financial institutions transition from pilot programs to live deployments, they face a critical infrastructure dilemma: Where should we build?

The "perfect" general-purpose blockchain does not exist. Instead, building on-chain is an exercise in trade-offs across five axes: speed, cost volatility, contagion risk, illicit exposure, and governance. Using our data, we mapped the competitive landscape of nine major networks to show the tradeoffs among the networks without normative judgments. Financial institutions cannot rely on name brands alone. The underlying network architecture must suit the specific use cases of the asset being tokenized. On-chain data can act as a guide.

Here is what the on-chain data tells us about the current tokenization infrastructure landscape.

The Three Architectural Archetypes

Before diving into individual metrics, it helps to look at these networks' macro footprints. When plotting these blockchains on a multi-axis radar chart—where stretching toward the outer edge represents the superior business outcome—three distinct archetypes emerge:

1. The 'Lindy' Institutional Anchors (Bitcoin & Ethereum): These networks are crypto's oldest, with the longest proven track record. They heavily anchor the structural security and liquidity axes, but largely abandon the cost and throughput axes. They are not designed to execute high-volume, low-margin TradFi operations directly. They are the ultimate settlement layers, with the largest implicit strength being their tried and true nature. This is already playing out in practice. JPMorgan's Onyx platform, for instance, uses a private Ethereum fork for institutional repo and intraday settlement, leaning on Ethereum's architecture and familiarity while maintaining permissioned control.

2. The "Goldilocks" Scaling Swarm (Arbitrum, Base, and Polygon): These Layer-2 (L2) networks represent the most balanced "sweet spot" (hence 'Goldilocks') for general-purpose TradFi development, maximizing performance and cost efficiency with low current volumes of illicit flows.

3. The High-Frequency Engine (Solana, BNB, XRP Ledger, and TRON): Pushing the absolute outer boundaries for extreme throughput and negligible fees, Solana in particular is highly specialized. However, it pulls sharply inward on market concentration and historical fee volatility, reflecting the realities of its monolithic architecture.

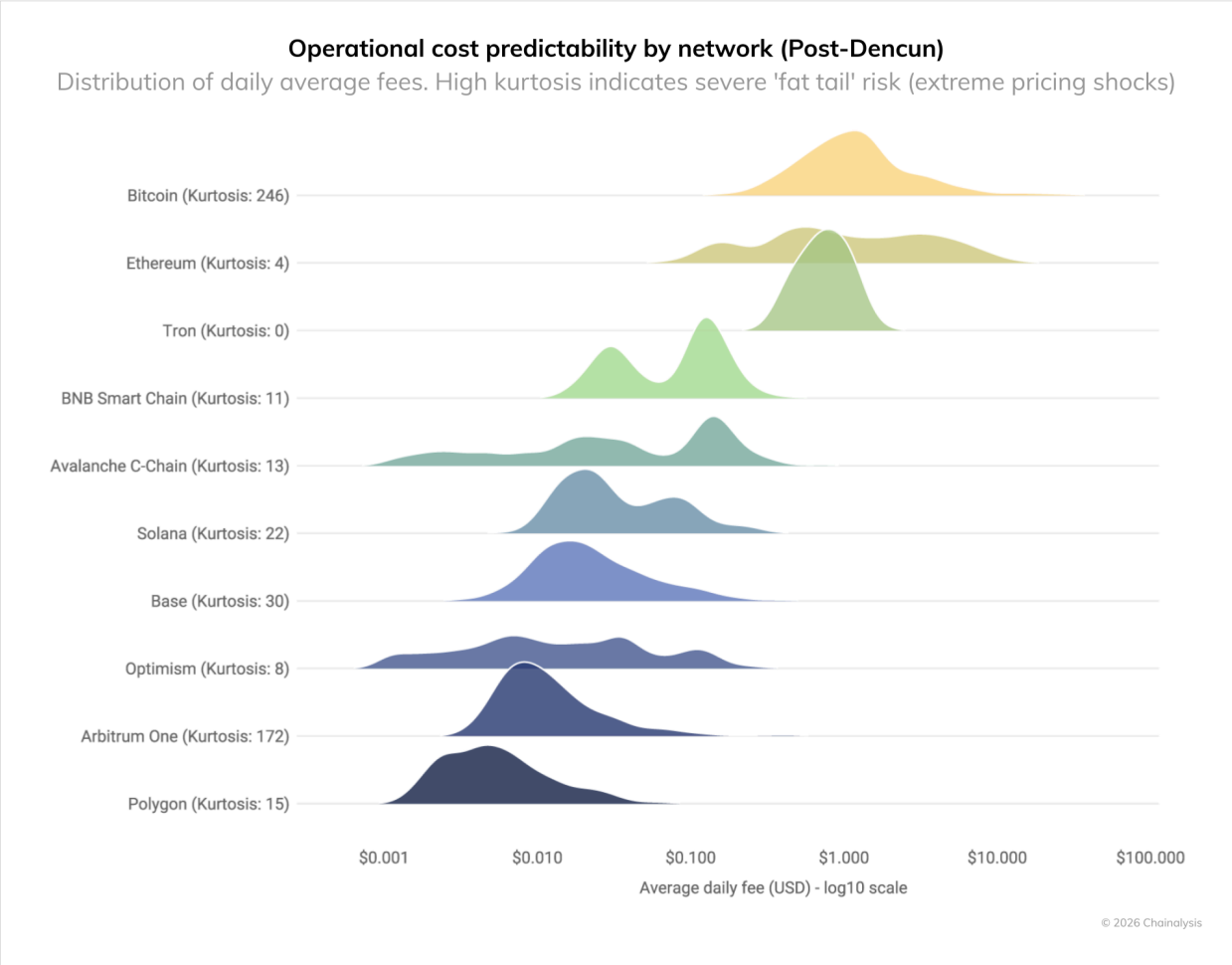


Blockchain architectures break down into three distinct models. Bitcoin and Ethereum (contracted shapes) act as secure "Institutional Anchors," prioritizing macro settlement over speed and cost. Ethereum Layer-2s such as Arbitrum, Base, Optimism, and Polygon (nonagon shapes) form a balanced "Goldilocks" sweet spot, maximizing performance, cost efficiency, and compliance. Meanwhile, high-throughput, low-fee networks such as Solana, BNB, XRP Ledger, and TRON (butterfly shape) act as a specialized "High-Frequency Engine," dominating throughput and negligible fees at the expense of market concentration and fee predictability.

With that macro perspective in mind, we now examine each axis in detail, starting with the one most directly affecting P&L: transaction costs.

Operational Costs: Predictability vs. Tail Risk

For financial institutions, low fees are important, but predictable fees are critical. To measure this, we analyzed daily average network fees and calculated their kurtosis — a statistical measure of "tail risk." A high kurtosis score means a network is highly susceptible to violent, unpredictable pricing shocks during periods of congestion. From this analysis, several dynamics emerge.



While TRON, Ethereum after the Dencun upgrade, and select L2s (Base, Optimism) offer highly stable daily fees, Bitcoin and Arbitrum carry tail risk (high kurtosis), and can expose operations to pricing shocks during network congestion.

The above chart is a density distribution (ridge plot) shown on a logarithmic scale, tracking daily average network fees since April 2024. The "peaks" or "mountains" show where a network's daily fee sits on a normal day. The long tails stretching to the right represent days when network congestion caused fees to spike. The "kurtosis" score quantifies this tail risk: a higher number means the network is highly susceptible to violent, unpredictable pricing shocks (tail risk fee events).

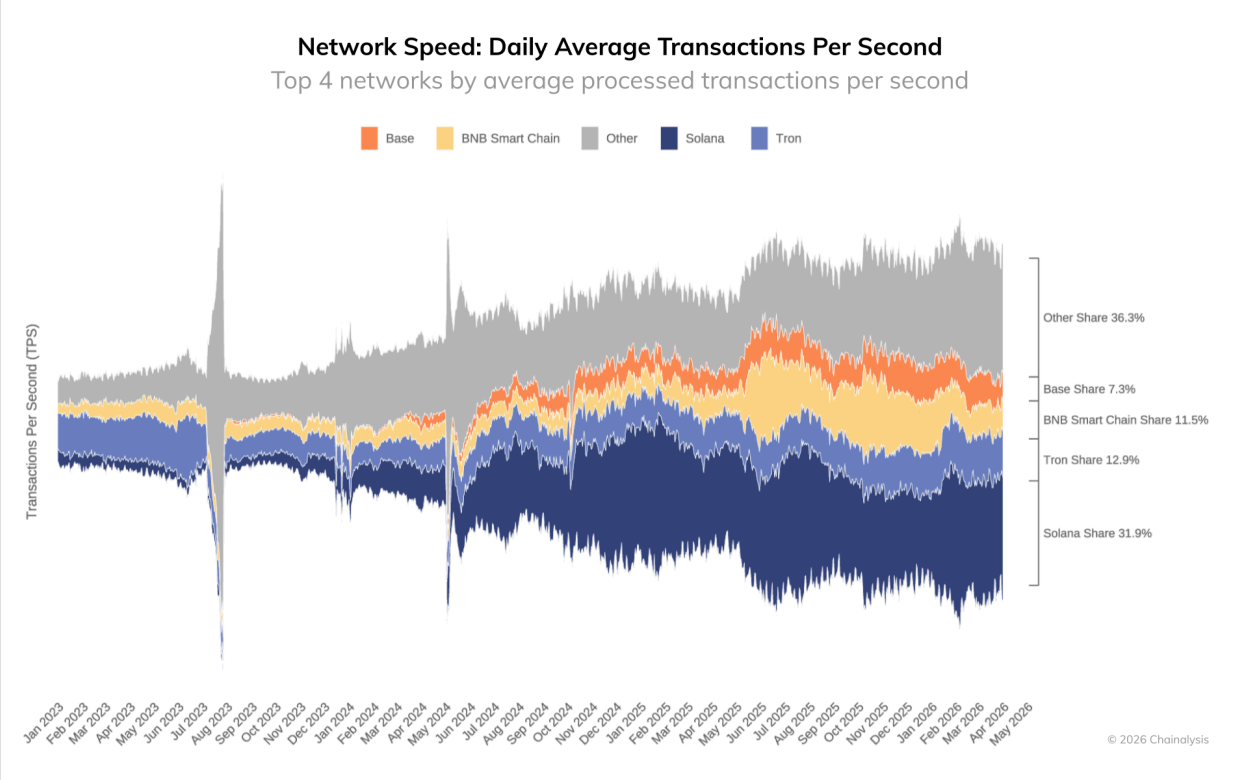
On the one hand, with a kurtosis of 0, TRON is the most predictable. Its tightly clumped distribution makes its operational costs highly predictable, explaining its dominance as a reliable rail for global stablecoin payments. Similarly, thanks to the Dencun upgrade offloading data to L2s, Ethereum Mainnet is currently experiencing highly stable daily average fees without the extreme gas spikes of previous cycles.

In contrast, Bitcoin carries extreme tail risk, with a kurtosis of 246, likely related to fee expansion during the runes and ordinal mania. Runes and ordinals are protocols allowing users to inscribe data (e.g., images, text, and tokens) directly onto the Bitcoin blockchain, and have triggered periodic surges in network demand that have little to do with financial settlement activity. While baseline fees are manageable, network congestion can cause fees to spike violently into the dozens or hundreds of dollars, posing

massive unpredictability for daily operations at scale. While L2 networks are broadly cheap, their volatility profiles differ. Base and Optimism showcase relatively tight predictability, making them ideal for retail-facing tokenization. Conversely, Arbitrum still occasionally experiences proportional fee spikes. The next operational constraint is throughput, because a cheap network that can't clear volume at scale is still a bottleneck.

The Need for Speed: Throughput vs. Finality

When evaluating network speed, TradFi must distinguish between how many transactions a network can handle (throughput) and how fast those transactions actually settle (time to finality).



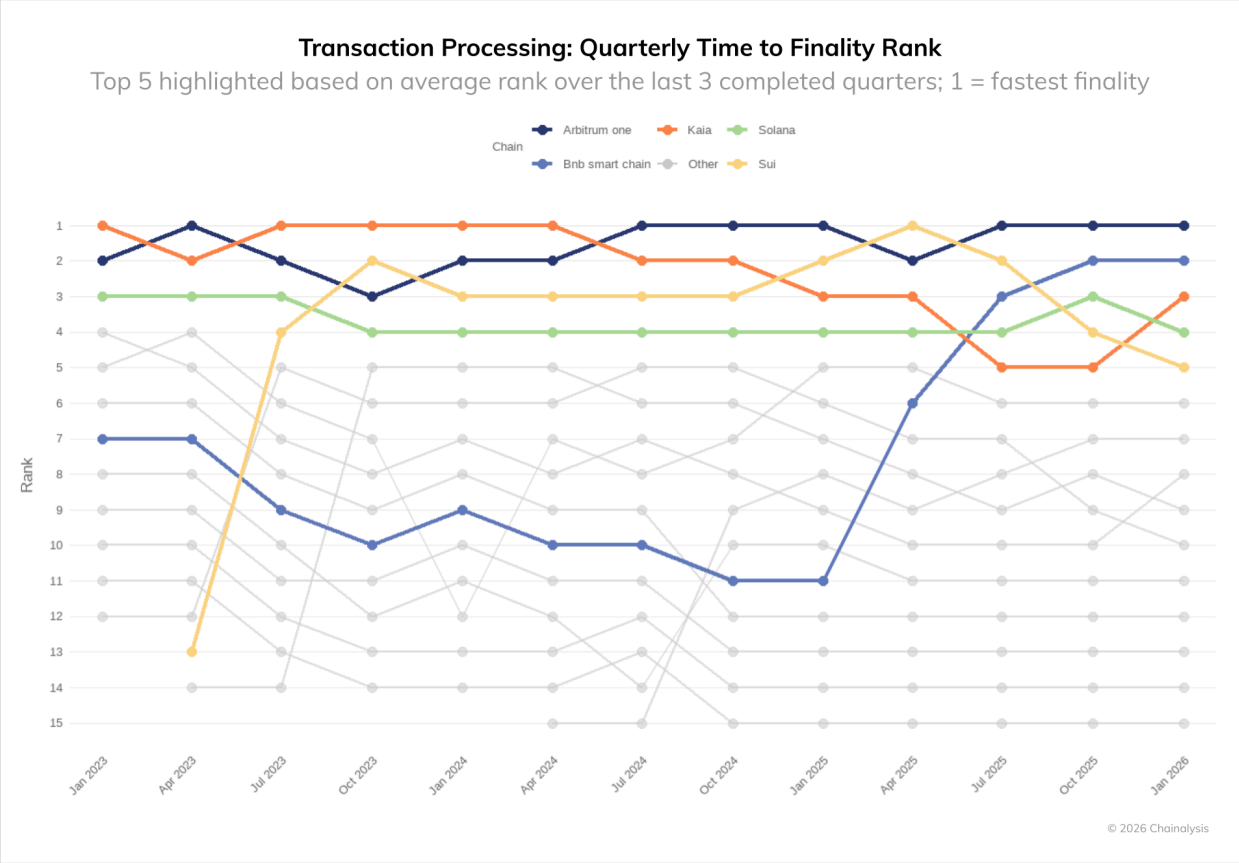
Solana processes more than twice as many transactions on a per-second time interval as TRON, the chain with the next-highest transactions per second (TPS). 'Other' includes networks with fewer processed TPS, including blockchains such as Bitcoin and Arbitrum. Shares show each network's percentage of total processed TPS across chains.

Solana is the undisputed leader in raw throughput, measured in transactions per second (TPS). It processes over twice as much on-chain volume as the second-highest chain (TRON). Its growing market share over the last year indicates an unparalleled ability to absorb massive transaction bursts, making it the natural home for high-frequency trading applications.

But throughput is meaningless if settlement lags. Arbitrum consistently holds the top spot for fastest block completion (time to finality), followed closely by BNB (bolstered by its recent Fermi upgrade) and TRON. Franklin Templeton expanded its OnChain US Government Money Fund (FOBXX) to Solana in February

2025, a decision rooted in the network's throughput profile. The firm had flagged its rationale months earlier, stating that 'Solana has shown major adoption and continues to mature, overcoming technological growing pains and highlighting the potential of high-throughput, monolithic architectures.'

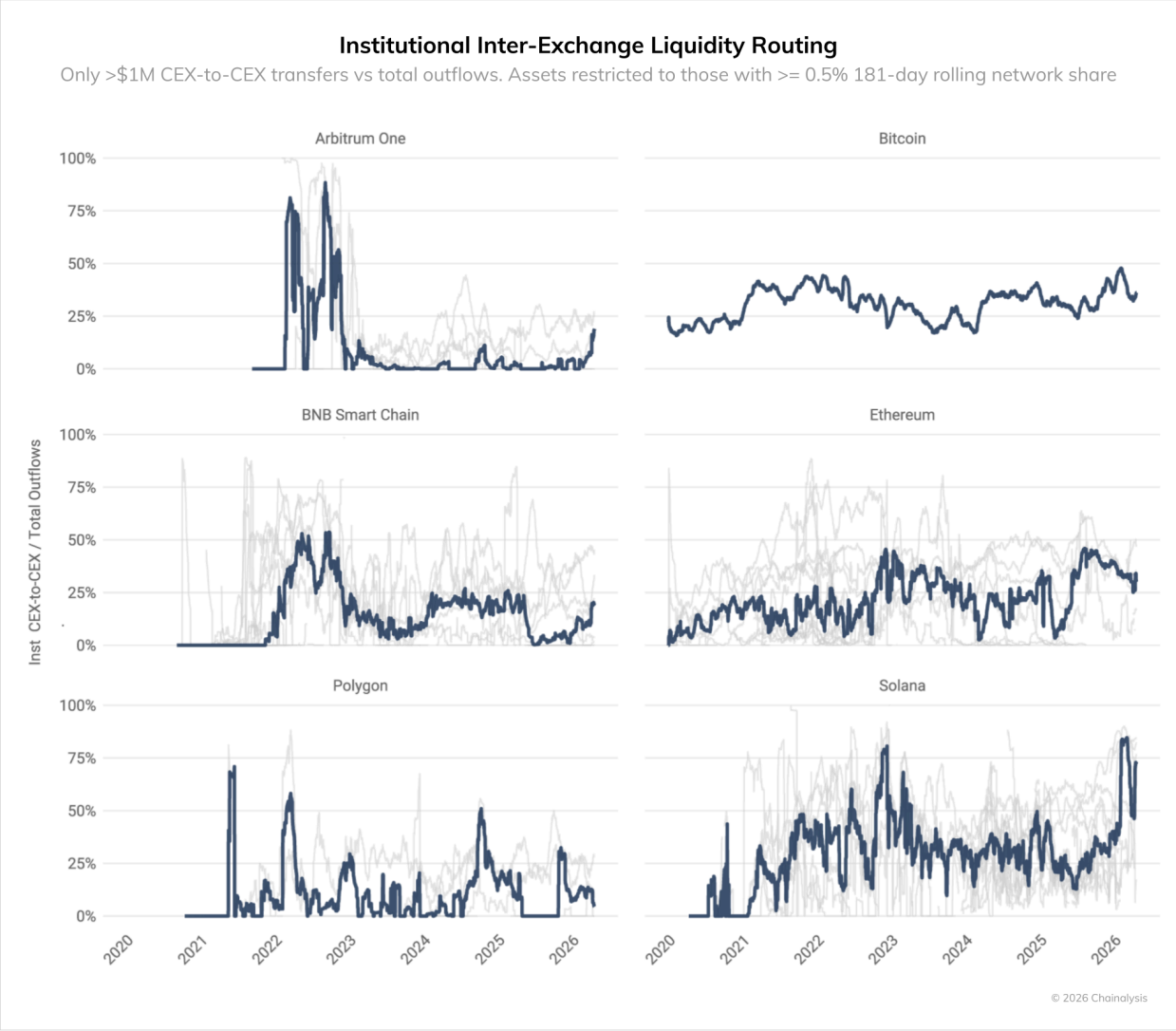
One important caveat is that our charts measure 'soft finality,' which refers to when a transaction is accepted, ordered, and processed by a network node (often on an L2), but not yet finalized on the base layer. This could be appropriate for some forms of transactions and inappropriate for others, such as transactions in the million-dollar range and beyond. For RWAs, true finality is paramount. Institutions building on L2s like Arbitrum must account for "L1 processing risk." That is to say, the additional time required for the L2 to communicate and finalize its transaction batch on the Ethereum Mainnet, which can take between 15 minutes and several hours, depending on proof generation. This resembles a regional clearing house that batches trades intraday, but only books final settlement with the central bank overnight: fast for most purposes, but not instant.



Arbitrum has the fastest time to finality, retaining the number one spot from July 2024 onward with the exception of April 2025. BNB saw its rank shift significantly as a result of multiple large network upgrades.

Contagion Risk: Institutional Dependency

To assess systemic risk, we looked at centralized exchange (CEX) dependency. Within the crypto ecosystem, CEXs routinely provide one another with crypto assets in order to facilitate the proper, liquid function of markets. For example, CEX 1 might send 100 BTC to CEX 2 in order to allow CEX 2 to cover withdrawals and, in the future, CEX 2 might reciprocate and send crypto assets back to CEX 1. This dynamic makes the crypto ecosystem more robust and agile, because it ensures that prices do not seize up on particular exchanges and lowers the risk that an exchange will experience the on-chain equivalent of a bank run and need to freeze withdrawals.



Solana has exhibited dramatic volatility, rebounding to a 60%+ institutional dependency after a complete post-FTX exodus. Meanwhile, Bitcoin and Ethereum maintain remarkably stable, resilient baselines across market cycles.

However, the proper functioning of this system can generate fragility, similar to [just in time logistics and shipping] where minor disruptions can cause massive ripple effects. In particular, if you take large direct inter-exchange flows by asset as a measure of liquidity provision, then you can determine how crucial that

inter-exchange liquidity is relative to the exchange's on-chain liabilities (i.e., withdrawals by users). When that ratio gets too high, the system is building up systemic risk, because absent others, on-chain liabilities cannot be covered and price can collapse.

The chart above maps this measure over time for 6 networks. For institutional dependency (direct CEX to CEX transfers >$1M as a share of on-chain liabilities), Solana tells the most dramatic story. High interconnectivity across a token's ecosystem can be a source of strength, but excessively high dependence on other exchanges can also bring with it a risk of contagion. For example, if CEX 1 depends on CEX 2 for all or almost all of its liquidity to cover withdrawals, problems could quickly emerge if CEX 2 experiences a run or sudden surge of withdrawal demand. This dynamic is illustrated by the ramp-up of Solana before the FTX debacle, wherein excessive dependency between CEXs primed the pump for a collapse. The data suggest that tokens on some newer blockchains are prone to excessive degrees of dependency (e.g. >50% of liabilities), while older networks like Bitcoin or Ethereum tend to run below this majority threshold, suggesting a lower risk of contagion. Solana's exchange outflows as a percentage of interexchange dependences have risen in 2025-2026, a trend we will continue to monitor.

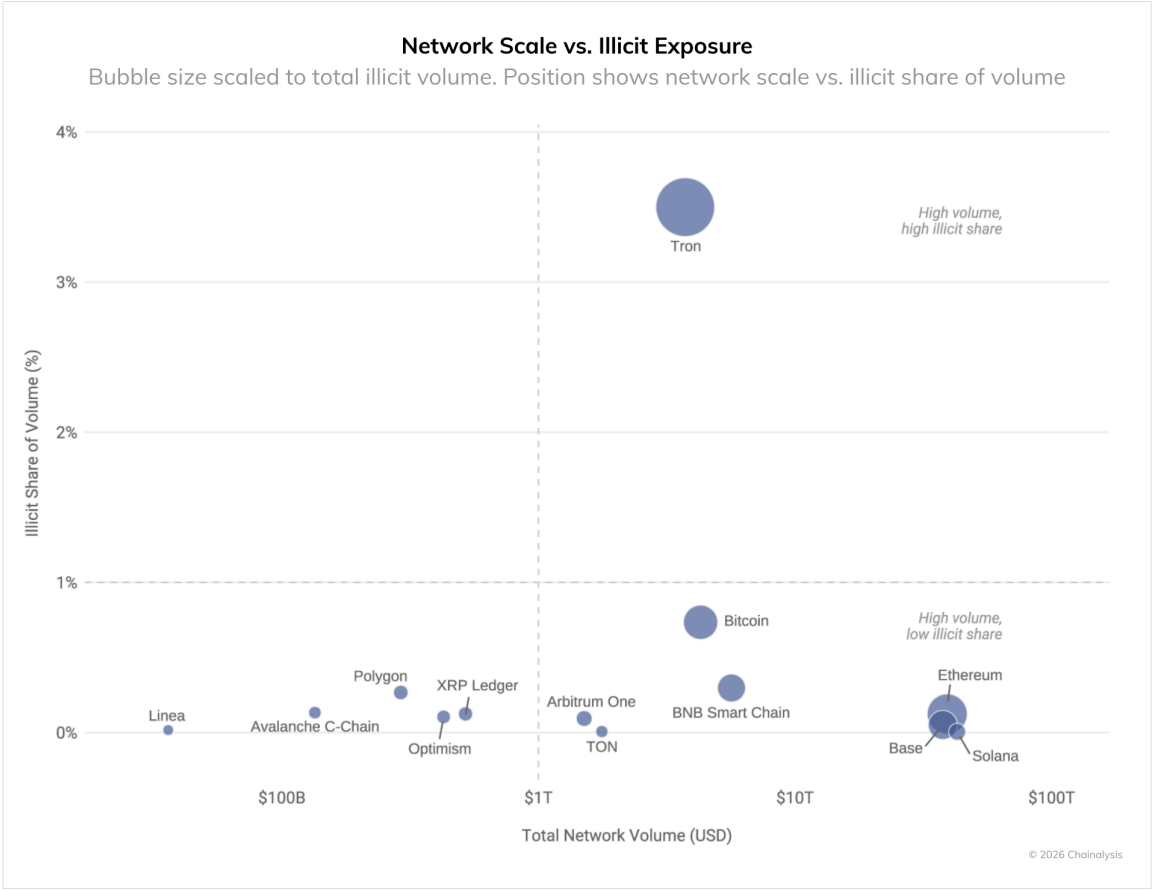
The Compliance Mandate: Liquidity vs. Illicit Exposure

For any regulated entity, compliance is an essential function and can protect revenue streams by mitigating and eliminating potentially high-risk and illicit exposure. We plotted total network liquidity against the percentage of that volume coming from known illicit entities to map networks to quadrants.

As depicted in the chart on the following page, which measures liquidity against illicit exposure as a share of total activity, the "green zone" is clear: Ethereum, Solana, and Base sit perfectly in the TradFi sweet spot (high-volume and low illicit exposure, in the bottom-right quadrant). These networks provide the multi-trillion-dollar liquidity required by institutions while maintaining lower illicit share (below 1%). BlackRock's BUIDL fund, the largest tokenized money market fund by AUM, was first deployed on Ethereum. This choice reflects this calculus: deep liquidity with a low illicit footprint.

BUIDL's multi-chain expansion — now spanning Ethereum, Solana, Polygon, Arbitrum, Avalanche, and beyond — reflects a deliberate strategy to maximize investor optionality and ecosystem reach. As BlackRock's CEO Larry Fink and COO Rob Goldstein wrote in The Economist, tokenization represents "the next major evolution in market infrastructure," one designed to enable instantaneous settlement and expand access to investable assets across digital ecosystems. Fink has been explicit about this ambition: "We need to be tokenizing all assets, especially assets that have multiple levels of intermediaries," a vision that demands presence across blockchains, not commitment to just one.

TRON occupies a unique position. It possesses massive institutional-scale liquidity, serving as the dominant global settlement layer for OTC desks moving popular stablecoins, but the proportion of that service inflow volume from illicit sources approaches 4%. This is not a reason to categorically avoid a network, but it does underscore the critical role played by compliance.



To be sure, every blockchain carries some degree of illicit exposure, and usually as overall volumes increase, so does illicit usage. The more consequential decision for regulated institutions is whether robust, reliable compliance tooling exists to monitor, identify, and mitigate it in real time. Solutions like Chainalysis KYT (Know Your Transaction) and Address Screening are designed precisely for this purpose, giving TradFi institutions the on-chain visibility necessary to expand across and between networks confidently while keeping pace with compliance controls.

Governance: Who's in charge during a crisis?

While charts perfectly plot quantitative on-chain realities, they cannot measure qualitative TradFi requirements. The final trade-off is governance. For financial institutions, a network's governance structure dictates two critical realities: its agility in executing essential technical upgrades—such as migrating to quantum-resistant cryptography—and its protocol for handling severe adverse events.

Data alone cannot quantify the value of decentralization structures. From a TradFi perspective, institutions must weigh the immutability of Bitcoin—where centralized intervention is impossible, acting as a double-edged sword—against the governance structures of Proof of Stake (PoS) ecosystems. For example, the existence of an oversight authority that can intervene in case of a catastrophe, such as the Arbitrum Security Council or DAO structures that can theoretically pause or reverse transactions during a hack. Institutions must decide which governance model aligns with their internal risk and legal frameworks.

Aligning Assets to Architecture

The data are clear: no single network dominates low illicit exposure, high speed, low fees, and perfect decentralization. Tokenization is the land of trade-offs. Take tokenized bonds: settlement finality and regulatory auditability make Ethereum the natural fit, as Société Générale's Forge platform illustrates, having issued structured products and digital bonds directly on Ethereum Mainnet. A high-frequency trading application, by contrast, optimizes for throughput and near-instant finality, pointing toward an L2 like Arbitrum, which consistently performs well in time-to-finality. The goal for TradFi is not to find the "best" single blockchain or combination of blockchains, but rather to optimize for the specific requirements of the assets being deployed.

By analyzing the on-chain data alongside their own requirements and preferences, financial institutions can bypass the hype and build infrastructure that aligns with their long-term strategic goals. More than anything, these five dimensions — cost stability, throughput, contagion risk, illicit exposure, and governance — form a decision matrix, not a ranking. The right architecture depends entirely on the asset. As institutions determine where to build for tokenized assets, the payment rails running beneath them are transforming at equal scale, with stablecoin volume projected to reach $1.5 quadrillion by 2035, a figure that reframes the infrastructure decision from purely technical to existential.

The New Compliance Floor: Organizations are Adopting Stronger Than Ever Monitoring Practices

The previous chapter in this series mapped where to build — the blockchains best suited for different asset classes based on speed, cost, contagion risk, and illicit exposure. But selecting the right chain is only half the equation. The other half is monitoring what happens next. Regulators increasingly view on-chain transparency as a baseline for compliance. That means traditional financial institutions must watch out for illicit flows when entering digital assets.

This chapter examines how the industry monitors illicit exposure using Chainalysis KYT (Know Your Transaction) across hundreds of organizations worldwide. The findings reveal an industry that is increasingly strict in its compliance alerting frameworks. Still, there are meaningful differences in terms of direct versus indirect inflow alerts, segment thresholds, and regional handling of alerts, likely reflecting different socio-legal compliance environments.

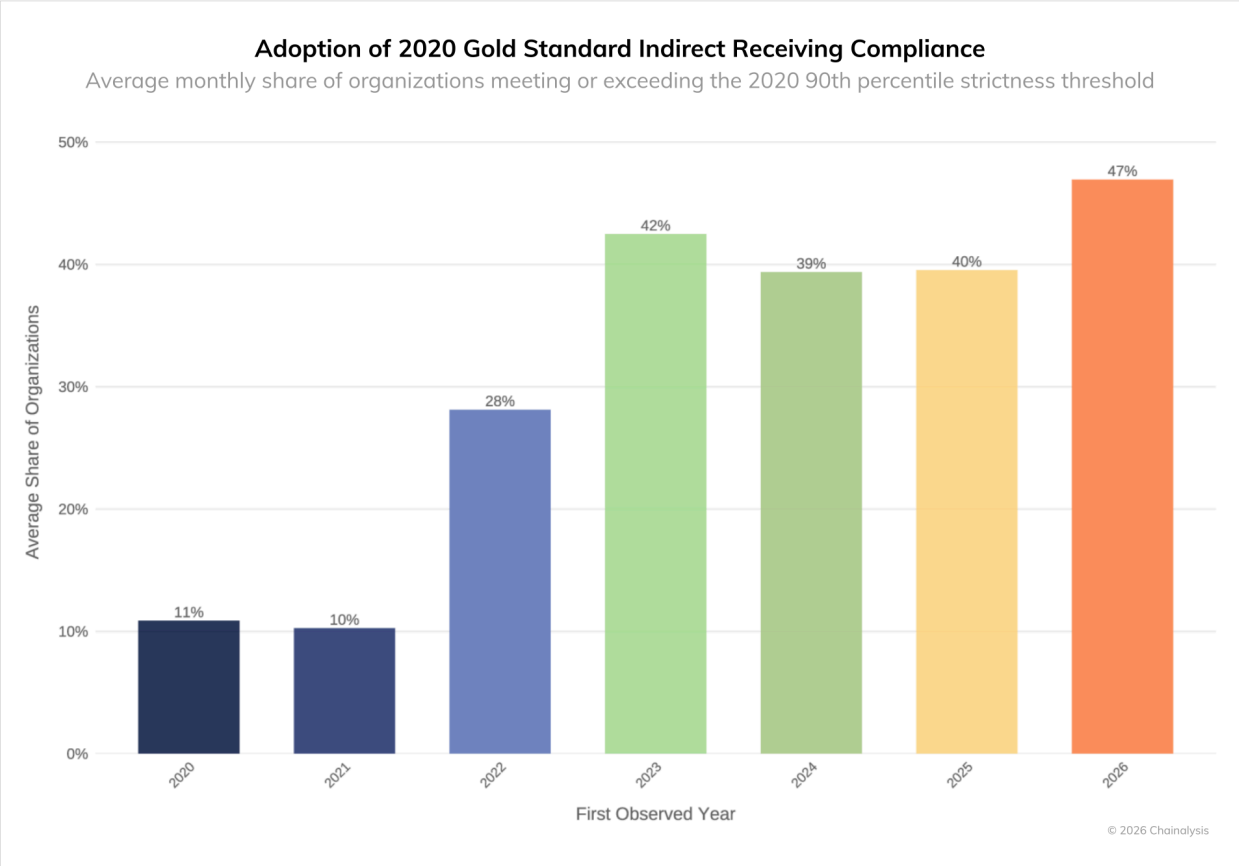
A note on terminology: Direct exposure refers to funds arriving immediately from a known illicit source, while indirect exposure refers to funds that pass through intermediary addresses first. Direct monitoring has become standardized; indirect is where ambiguity remains, since there's no universal answer for how aggressively to flag funds that touched an illicit source several hops back.

2026's average Is 2020's top decile

To understand where the industry stands today, we first need to establish how far it has come. We constructed a "compliance index" that combines alert severity, trigger sensitivity, and minimum dollar-detection floors to measure how strictly an organization configures its indirect illicit exposure alerts. We then benchmarked all organizations against the 90th percentile of strictness observed in 2020, which we call the "gold standard" threshold of that era.

Organizations onboarded in 2020 and 2021 joined an industry still establishing norms around indirect exposure. The data reflect this: only around 10% of them met the “gold standard” for alerting. In 2023, the bars inflected upward, and by 2026, just under half of newly onboarded organizations operate at or above alerting standards that previously represented only the top decile.

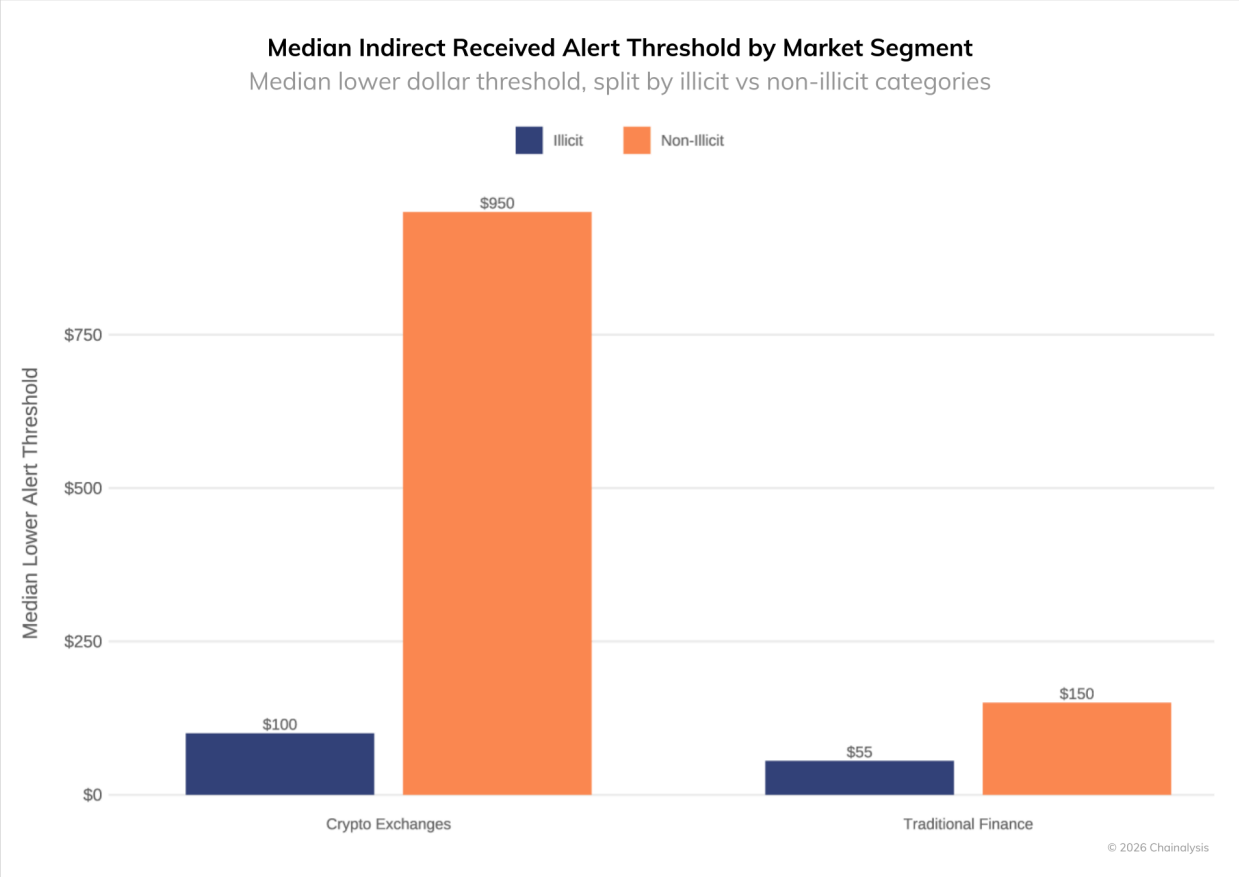
This is a sign of rapid ecosystem maturation. Standard compliance configurations today would have been considered industry-leading just five years ago. The industry financial institutions are joining has already built substantial compliance infrastructure, and the bar continues to rise.



Financial institution detection thresholds run two to five times tighter than crypto-native exchanges

The compliance posture gap varies across the industry. For example, traditional financial institutions exhibit a lower tolerance for receiving suspicious flows of any type than crypto exchanges do. We can see that by comparing their alerting thresholds. Financial institutions are setting lower triggering thresholds – meaning they'll be alerted for smaller sums – for indirect exposure to illicit and non-illicit fund flows. This is likely a function of their legacy businesses' heightened regulatory expectations.

The gap is especially pronounced in the two groups' treatment of indirect exposure to non-illicit flows. On average, crypto exchanges set much higher alerting minimums ($950) than traditional financial institutions ($150). Compare this to their much tighter gap on illicit funds. There, both market segments set relatively stringent alerting floors: exchanges set alerts for flows starting at $100, while financial institutions set the floor at $55.

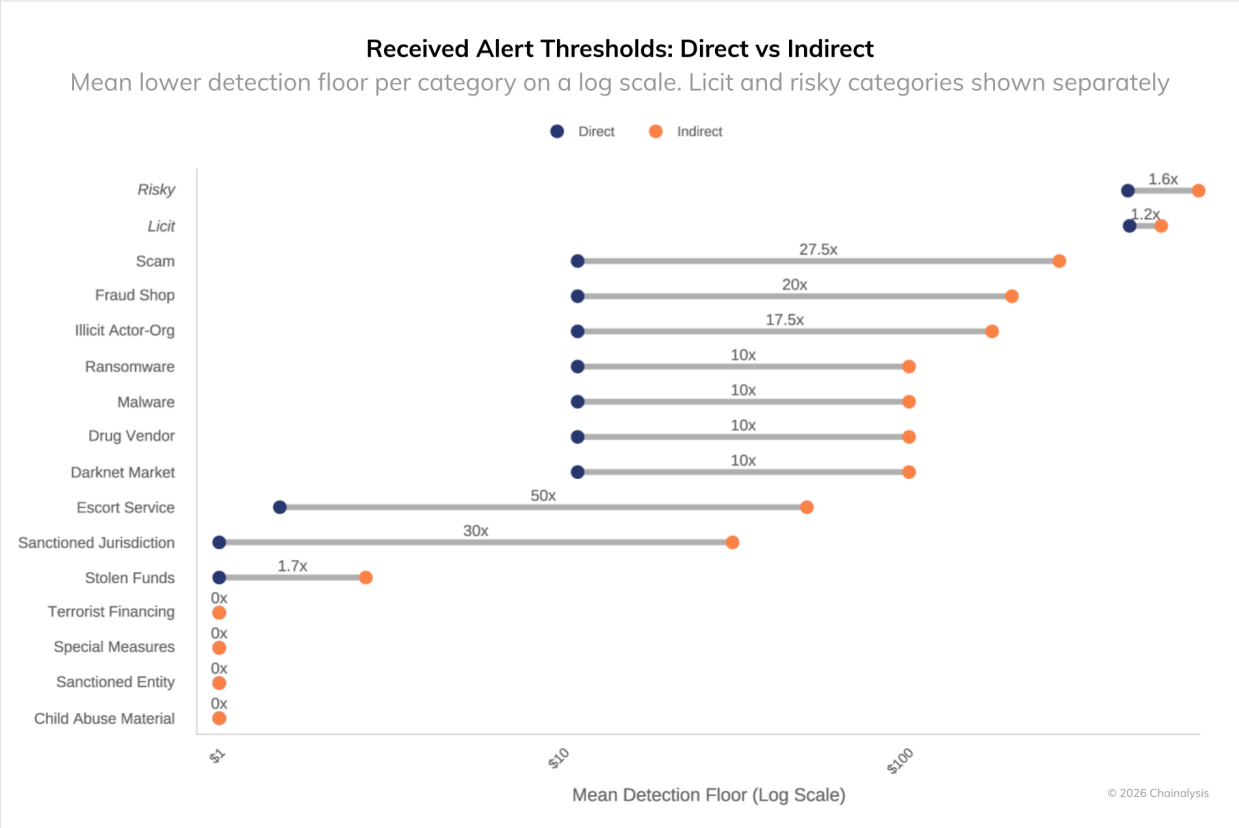


How direct and indirect thresholds diverge by category

We compared mean detection thresholds across dozens of illicit categories, measuring how much higher indirect thresholds are set relative to their direct equivalents. The results reveal that indirect exposure thresholds exceed direct thresholds across nearly every category, reflecting the wider ambiguity about alert calibration when inflows do not directly originate with a known source. The scale of the gap, however, varies due to the unique preferences of global compliance teams and regulatory ambiguity surrounding indirect exposure.

For the most sensitive categories, including child abuse material, sanctioned entities, special measures, and terrorist financing, organizations exhibit near zero-tolerance. They set stringent alerting thresholds — for both direct and indirect exposure — at even one penny's-worth of flows. This is expected, as exposure to these categories carries severe reputational and regulatory risk.

For categories such as ransomware, fraud shops, scams, darknet markets, and sanctioned jurisdictions, indirect thresholds often run 10 to 20 times higher than their direct equivalents. For example, an organization that alerts on $10 of direct ransomware exposure may not flag indirect ransomware exposure until it reaches $100.

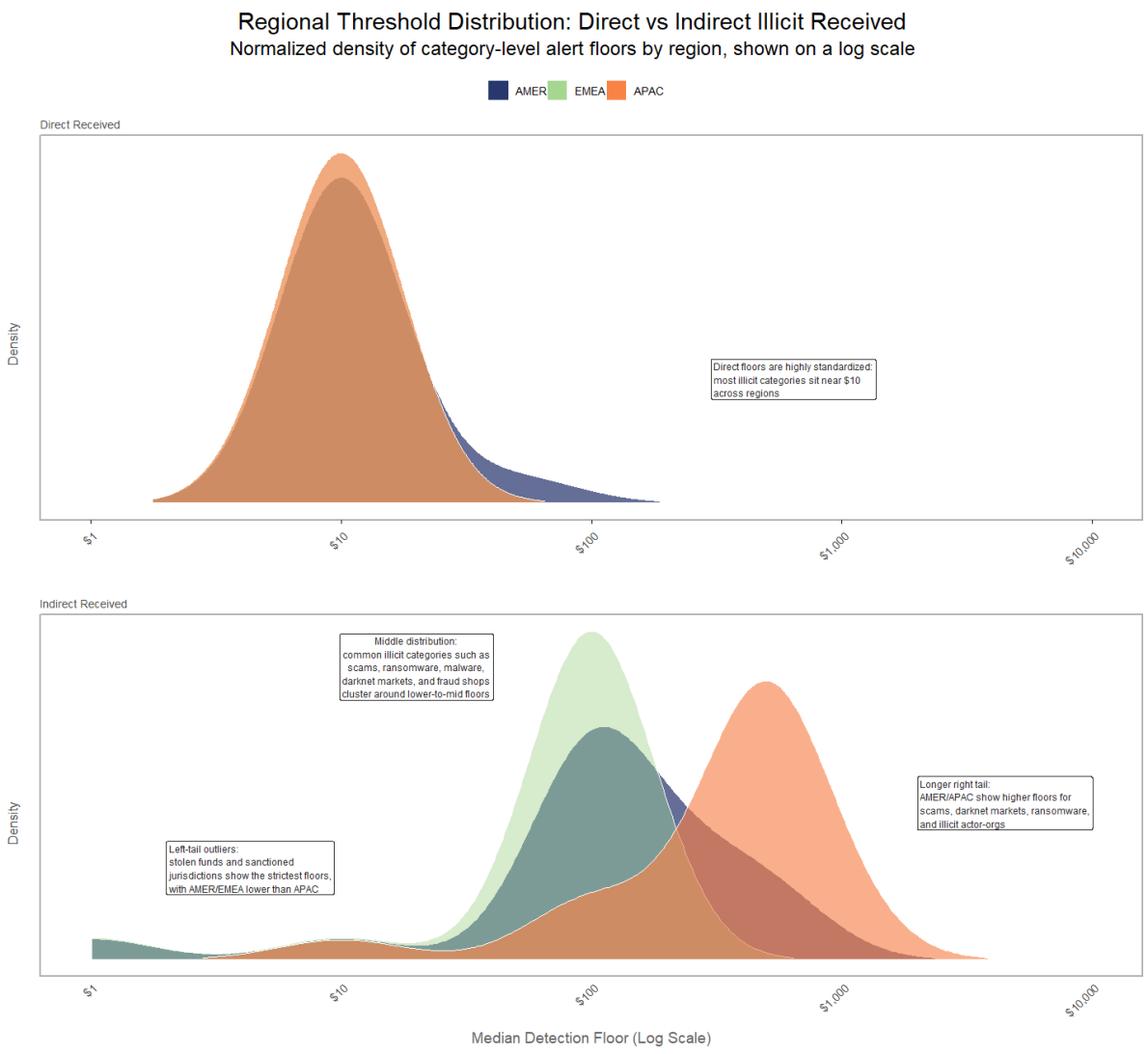


Illicit actors are aware of these discrepancies and design laundering strategies around them. Compliance programs that deprioritize indirect exposure may become all the more vulnerable to bad actors.

Direct monitoring is globally uniform, but indirect monitoring varies by region

Compliance programs operate within different legal frameworks, depending on where organizations are headquartered, licensed, and operate. We analyzed threshold distributions across three major regions, AMER (Americas), EMEA (Europe, Middle East, and Africa), and APAC (Asia-Pacific), to measure how geography shapes alerting behavior.

For direct exposure alerting (the top pane), standards are uniform across geography. Threshold distributions are tightly clustered and nearly identical across all three regions, with organizations worldwide treating direct illicit exposure as consistently high-risk, necessitating low-dollar threshold triggers. This convergence likely reflects the universal nature of direct exposure risk, as regulators everywhere expect organizations to catch funds flowing directly from sanctioned wallets or known illicit actors.



By contrast, indirect exposure thresholds vary by region. EMEA maintains the strictest and most concentrated distributions, with organizations setting relatively low alerting thresholds near the $100 level across common illicit categories such as scams, fraud shops, and ransomware. The left-hand tail of the EMEA distribution highlights zero-tolerance alerting for categories such as sanctioned jurisdictions and stolen funds. The AMER region has an identical left-hand tail distribution to that of EMEA, covering almost identical zero-tolerance categories. However, AMER's symmetry diverges, as a longer right-hand tail extends leniency for categories EMEA deem more sensitive, as listed above. Overall, AMER falls in the middle, combining moderate clustering with broader dispersion. APAC exhibits the most lenient configurations overall, with a long right-skewed distribution and secondary clustering at higher dollar values.

The implication: an APAC-headquartered counterparty may operate with different indirect monitoring standards than an EMEA-headquartered one, even if both use the same compliance tooling. For institutions

building cross-regional partnerships or evaluating global counterparty networks, this regional divergence deserves attention during due diligence.

What this means for financial institutions building on-chain

The data in this chapter point to an industry in transition, one that has professionalized its approach to direct exposure but which may not yet be treating indirect risk with equivalent rigor. For traditional financial institutions entering or expanding in digital assets, several implications follow.

1. Benchmark against peer institutions, not industry averages. As the data show, traditional financial institutions maintain stricter thresholds than crypto-native exchanges across both illicit and non-illicit categories. Institutions entering digital assets should calibrate to TradFi peers rather than industry-wide norms.
2. Treat indirect exposure as a first-class compliance priority. The industry's gap between direct and indirect monitoring creates an opening for illicit actors to exploit. Organizations that close this gap improve their regulatory defensibility and differentiate themselves as trustworthy counterparties.
3. Assess the quality of the analytics data that underpins the monitoring systems and processes. Alert thresholds and categorisation rely on blockchain analytics data, which fundamentally determine which addresses belong to which entities and which risk categories they fall into. If that foundation isn't robust, even well-calibrated configurations will miss real exposure or flag the wrong activity. Due diligence on providers should go beyond their headline coverage numbers; ask the hard questions and consider how their data performs in production and under scrutiny.

In an industry where institutional capital increasingly demands regulatory defensibility, the rigor of an organization's monitoring configuration becomes a competitive asset. Chainalysis KYT, Address Screening, and Reactor provide the foundation for that infrastructure, offering real-time transaction monitoring and investigative workflows for tracing complex fund flows. For institutions looking to benchmark their configurations against industry cohorts or identify gaps before regulators do, our advisory services can help.

Agentic Payments Cross the Threshold: Inside x402's Path to Meaningful Adoption

Machine-to-machine payments have been discussed for years, but mostly as a future state. The logic is simple: AI agents operating across commerce, financial services, and data analytics will eventually need their own payment rails, transacting autonomously at volumes and price points that legacy systems were not built to handle.

Currently, AI agents can analyze market data, assess credit risk, and monitor compliance at speeds no human team alone can match. But when those agents need to access a premium data feed, run a sanctions screening, or pull a credit bureau query, they stop and wait for human authorization. When an agent identifies a millisecond-long arbitrage window, for example, it waits for payment approval while the opportunity disappears. Traditional systems require account setup, API key management, and billing relationships that are incompatible with the speed of AI operations.

The x402 protocol offers one of the first live attempts to close this gap. Developed by Coinbase and named after HTTP status code 402 ("Payment Required"), x402 allows machines to pay for resources directly within web requests. When an agent requests a resource, the server responds with a payment specification. The agent evaluates the cost, executes a stablecoin micro-payment on-chain, and resubmits the request with a receipt. We identify agentic transactions by their on-chain signature: wallets interacting directly with the x402 protocol.

While x402 is compatible with other blockchains, such as Solana and Polygon, Base currently hosts the most active deployment. After three quarters of live activity, there is now enough on-chain history to evaluate early traction.

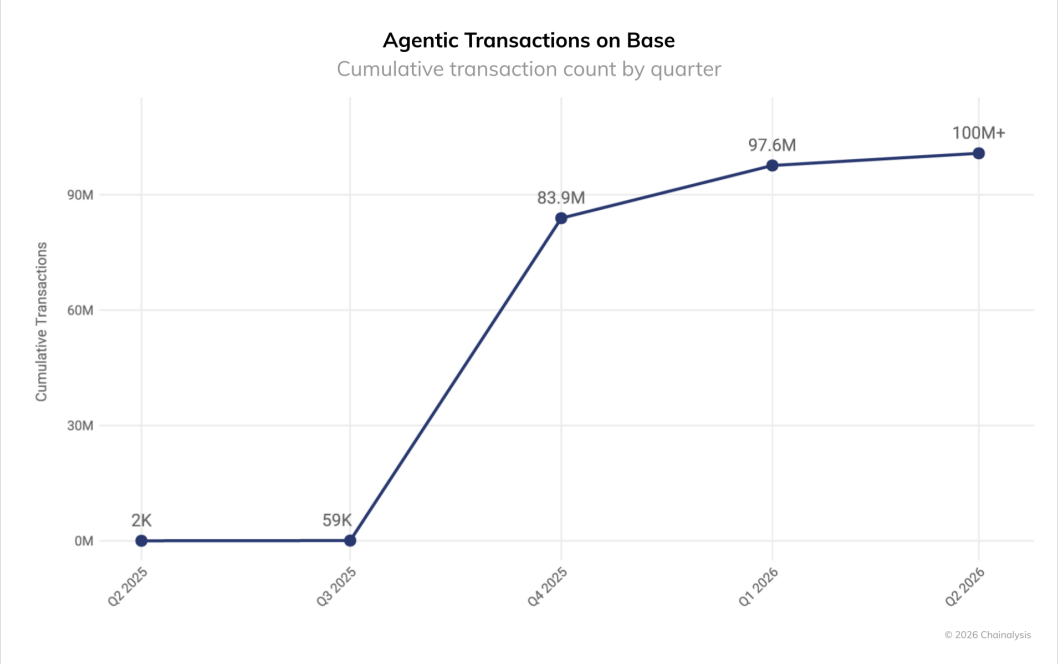
The adoption curve: 100 million transactions and counting

The most immediate signal is volume. x402 agentic transactions on Base went from near-zero in mid 2025 to well over 100 million cumulative transactions through Q1 2026.

Early quarters reflected low transaction counts and small transfer sizes. By Q4 2025, transaction volumes surged, driven in large part by meme coin activity, particularly PING. Launched as a "pay-to-mint" experiment, PING required users to query a URL, receive an HTTP 402 response, and pay 1 USDC to mint tokens. The mechanic turned x402 into a speculative game: transactions skyrocketed over 10,000% in a single week, with PING alone processing over 150,000 transactions in its first month. Base's near-zero gas fees allowed users to repeat the payment loop hundreds of times, stress-testing the protocol at scale.

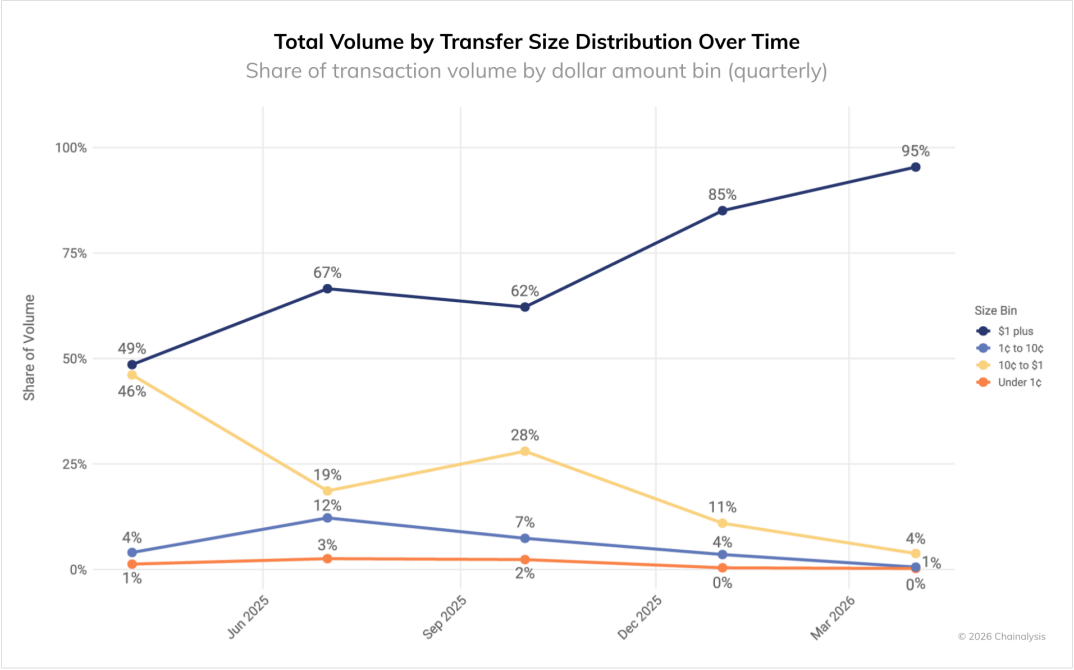
By Q1 2026, as shown in the below chart, growth moderated as speculative activity cooled. The current plateau, combined with rising concentration of volume in larger transactions, suggests that usage patterns are shifting. Whether this reflects sustainable adoption or simply a different cohort of users remains to be

seen. What PING did demonstrate is that x402 can handle high-concurrency transaction loads, a prerequisite for any infrastructure aiming to support autonomous agent commerce.



From micro-payments to meaningful value transfer

While x402 transactions largely remain low-value, they're growing in size fast.

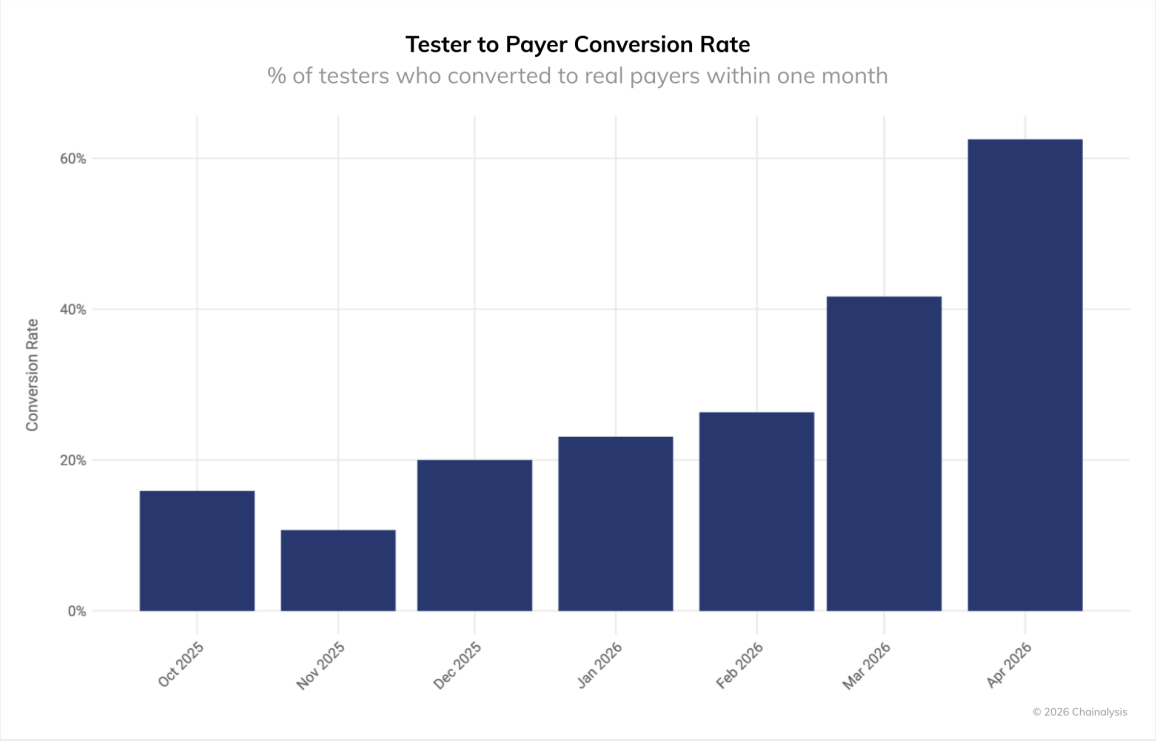


Take transactions of $1+, which represented 49% of volume in early 2025; by early 2026 they had 95% share. Meanwhile, transactions of between 10¢ and $1 collapsed from 46% to just 4% over the same time period.

The protocol still processes a large number of sub-cent transactions, but the economic weight has shifted decisively toward larger transfers. This concentration suggests that users are funding wallets to cover higher-value transactions and that agentic payments are finding use cases beyond micro-payment experimentation.

Testers are converting to spenders more than ever before

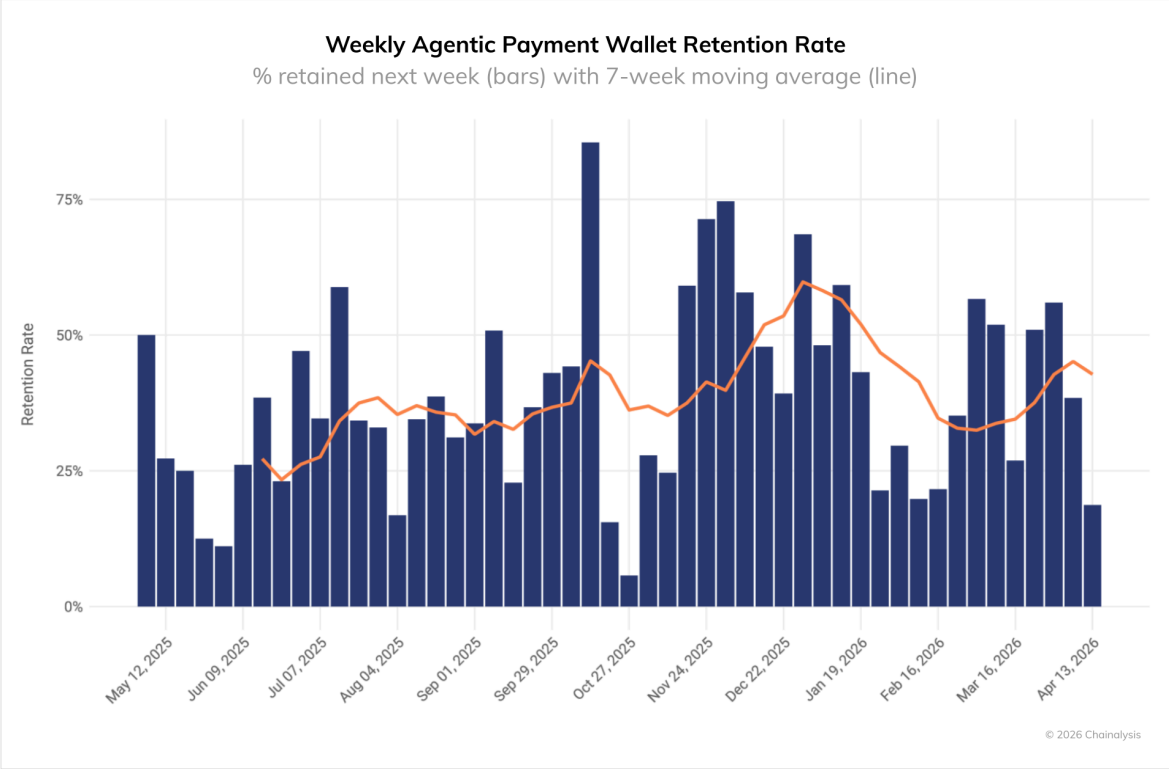
Shifting behavioral spending patterns show that x402 users are sticking around. This can be measured by examining tester-to-payer conversion: the percentage of wallets that made a single "send to self" transaction (testing the feature) and then converted to making real payments to other wallets within the same calendar month.



While early cohorts converted slowly, testers are now finding value faster than ever. The tester-to-payer conversion rate improved 4x in six months, suggesting that the friction to adoption has dropped.

Retention is drifting higher

Weekly wallet retention, defined as the percentage of wallets active in a given week that returned the following week, has been volatile but is trending upward.



Retention matters because it is the clearest signal that agentic payments are becoming infrastructure rather than a novelty. Transaction volumes and tester conversions show that the pool of users is growing wider, but retention shows whether adoption is growing deeper. High week-over-week return rates suggest that users are building agentic spend into recurring workflows rather than just kicking the tires.

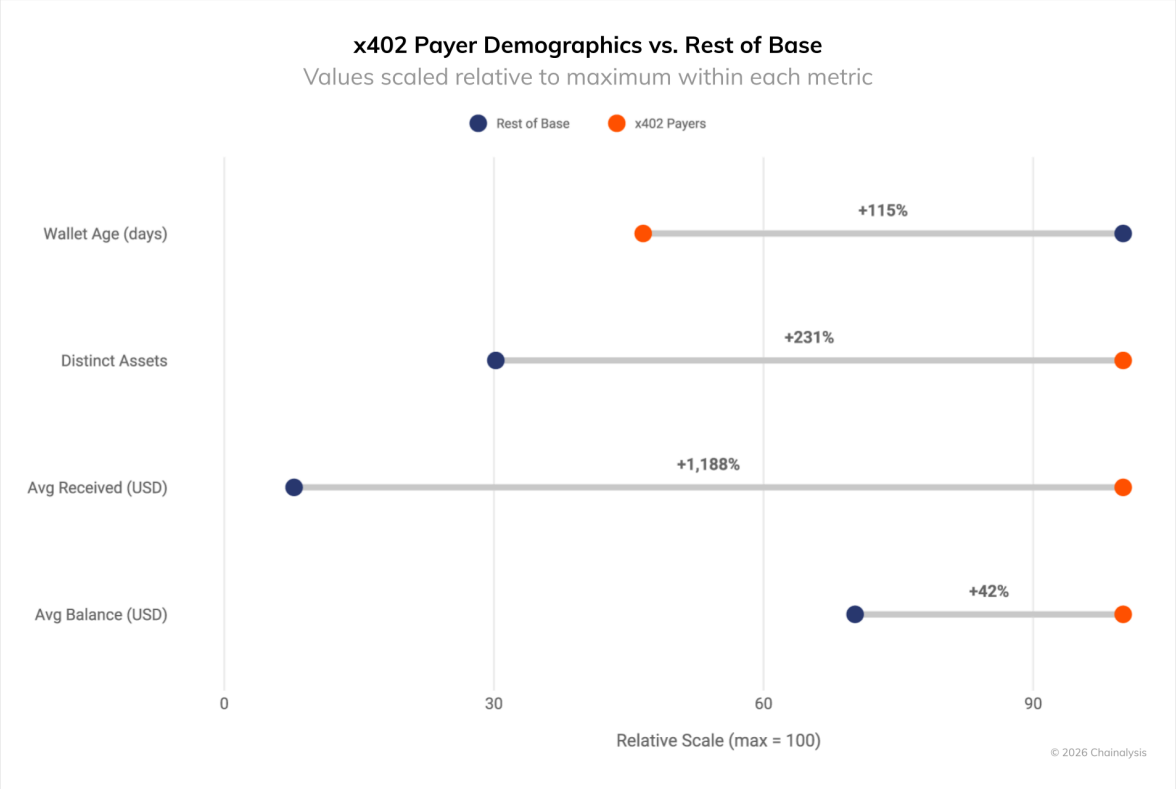
The volatility is partly due to the newness of x402. In the protocol's earliest days, there were too few wallets to draw meaningful conclusions, and singular events skewed overall results. In October 2025, for example, a rush of traders chasing PING temporarily inflated the wallet count. These memecoin farmers stuck around for a week (pushing the retention bar to 87%), then fell dormant, cratering weekly retention to 5%.

The recent drift higher is more telling. Wallets returning week-over-week, despite the absence of a speculative catalyst, suggests ongoing utility. Users do not fund wallets repeatedly unless they are getting value in return. For skeptics of agentic payments, this is the metric to watch.

A distinct demographic profile

Compared to the overall population of Base users, x402 payers are newer, more exploratory, and more actively funded.

- Younger wallets. x402 payers have an average wallet age of 197 days, compared to 423 days for the rest of Base.
- More exploratory behavior. x402 payers hold an average of 26 different tokens, compared to an average of 4 per payer for the rest of Base.
- Larger capital inflows. x402 payers have received more capital funding than the average Base wallet, with inflows roughly 12x higher. These wallets are being actively capitalized to support ongoing transaction activity.



Two implications follow. First, the younger wallet age indicates that some users may be creating wallets specifically to participate in the x402 ecosystem rather than discovering it through existing Base activity. If that pattern holds, x402 is attracting new users to Base, not just converting existing ones. Second, the higher inflows and balances suggest that participants are committing capital to agentic payments, a signal that the use case is generating perceived value worth funding.

Implications for institutional strategy

x402 on Base has moved beyond proof-of-concept. Transaction volume has reached scale, conversion rates are climbing, and a distinct user base has formed. But mass adoption remains distant. The current participants are crypto-native and actively funding their wallets, though the user base skews toward newer entrants rather than established institutional players. The window for early movers sits between first-mover advantage and waiting for further validation.

The broader takeaway extends beyond x402 itself. As AI agents become more prevalent across financial services, they will require payment infrastructure that can handle what traditional rails cannot: thousands of micro transactions per second, settled autonomously in real time. Traditional rails cannot serve this function. The early scaffolding for agentic payments is now in place, with real users, real volume, and real retention. What remains to be seen is whether this foundation can support the weight of institutional participation and the next wave of autonomous commerce.

On-chain intelligence already exists to monitor how these protocols develop. Chainalysis tracks adoption curves, wallet behavior, transaction concentration and counterparty exposure across networks like Base, providing the market ecosystem picture that institutions need before making infrastructure commitments. As agentic payment rails mature, the compliance question becomes less about whether to prepare and more about when.

Chainalysis

Building trust in blockchains

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Chainalysis is the blockchain data platform, making it easy to connect the movement of digital assets to real-world services. Organizations in the public and private sectors use our solutions to prevent hacks and fraud, investigate illicit activity, manage risk exposure, and develop innovative market solutions. Our mission is to build trust in blockchains, blending safety and security with a commitment to growth and innovation.

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