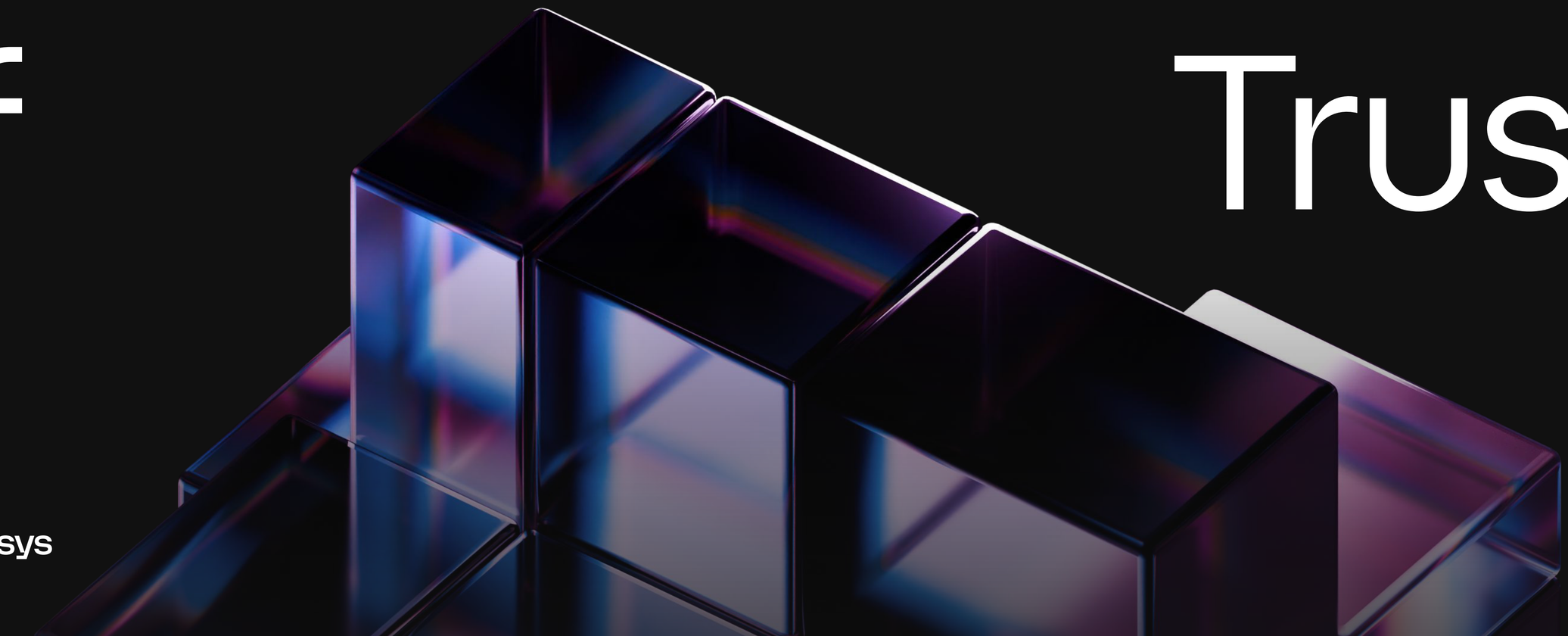
The Industrialization of Trust

Pricing truth-per-byte with Ethereum's Trust machine

V1.00



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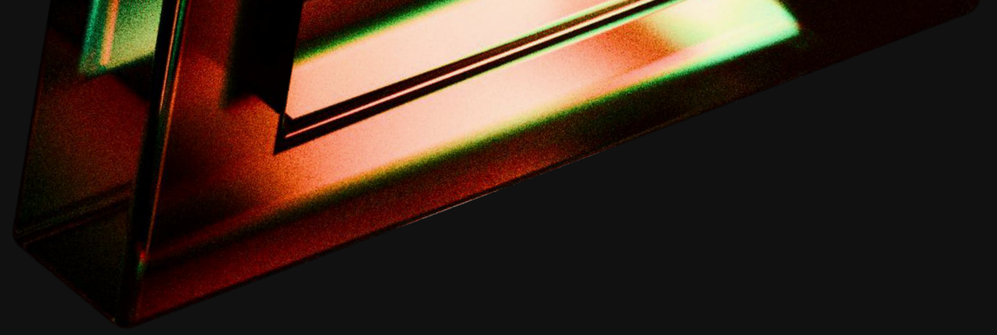
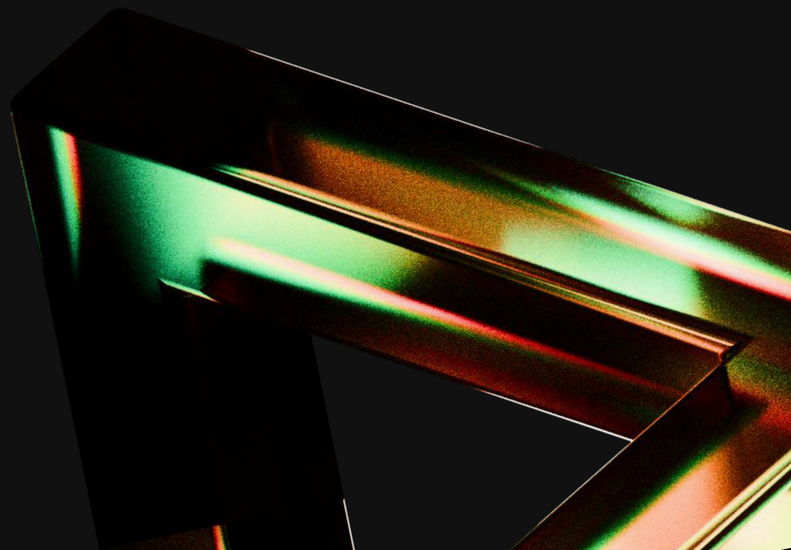


INTRODUCTION

We outline the investment case for Ether (ETH) from our in the trenches perspective, forged from our decade long experience building and operating on Ethereum since the Genesis Block. We contend that the Ethereum network is evolving beyond a simple smart contract platform into something more essential: **the apex provider of programmable, verifiable trust for the digital economy.** We term the product a commodity called "Trustware" and demonstrate that the onchain economy it enables will reach trillions of dollars. At current valuations, ETH represents ownership in this critical infrastructure at a fraction of its projected worth.

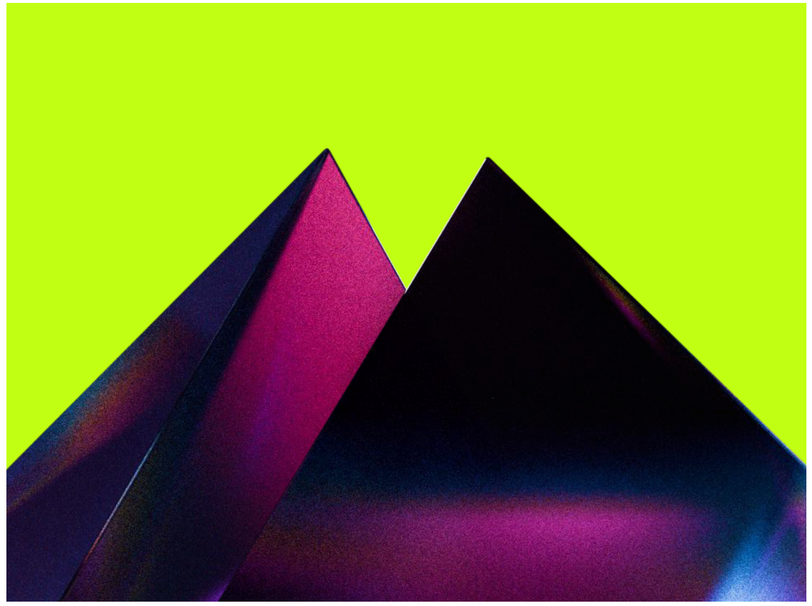
Every civilization rests on a foundation of trust. The Romans built theirs with legions and law. The British Empire constructed theirs through naval supremacy and sterling. The American century emerged in conjunction with Bretton Woods and the dollar's reserve status. Today, a new trust architecture is being erected in silicon and cryptography, and Ethereum has emerged as its cornerstone.



Disclaimer: Based on data available up to 31 May 2025. Projections involve significant assumptions and uncertainty. This is not investment advice. Ongoing monitoring should focus on the growth trajectory of key TDE components (Stablecoins, RWAs, L1/L2 Activity, Restaking) relative to the assumptions underpinning this valuation.

Executive Summary

This report explains how Ethereum's evolution into the the world's digital trust infrastructure will make Ether's appreciation to multi-trillion dollar valuations not merely possible but economically inevitable.



Over the past 10 years, Ethereum has quietly grown from first mover to global standard, consolidating the market for digital trust and digital asset technology generally, with a steady focus on safety, liquidity, and technical innovation.

Ethereum represents a fundamental turning point: The industrialization of trust. Just as the printing press and assembly line enabled the mass production of consumer goods, Ethereum enables the mass production of trust in digital form, through cryptography, consensus, and capital. Ethereum is the "**trustware**"[1] that will power a digital world economy.

Trustware is infrastructure that imbues ordinary data, such as financial transactions, with digital trust. This trust comes in the form of two key properties: validity and finality. Validity guarantees that the data is consistent and correct, with mathematical certainty. Finality guarantees that it is permanent, and cannot be changed except at immense cost.

The Ethereum platform, using its powerful public network and breakthrough cryptoeconomic algorithms, provides the highest grade of digital trust on-demand, 24/7, at immense scale and without intermediaries, to any person or program in the world.

Our valuation mathematics are straightforward. Global trust infrastructure encompasses insurance, legal systems, audit and compliance which consume ~$9.3+ trillion annually[2], representing one of humanity's largest operating expenses. Ethereum has demonstrated it can provide equivalent or superior trust guarantees, and these will continue to improve as the protocol matures and adoption continues.

Our analysis indicates that the economic demand for Ethereum's trustware provides a defensible valuation floor for ETH. Simply put, as the value secured by Ethereum increases, so will the market capitalization of ETH as more stakeholders participate in securing the platform and the digital assets issued and transacted upon it.

The Cost-to-Corrupt valuation model, validated against historical data with a correlation coefficient of 0.78, suggests a required security capitalization significantly below observed market pricing. This persistent gap reflects an empirically justifiable Market Premium, with a historical median of approximately 2.33 times above the theoretical floor, attributable to ETH's utility as gas facilitating the payment of transaction fees, its role as apex collateral, and its monetary properties. Incorporating conservative forward assumptions for the Ethereum Trustware-Dependent Economy (ETDE) and this Market Premium within a probabilistic framework yields **Year-End 2025 and 2028 target prices of $4,900 and $15,800 respectively.**

Digital trust can be thought of as a new kind of virtual commodity. Rather than digital crude oil, ETH represents the global reserve of economic security set to power the world's most important trustware: the Ethereum platform, the base layer of the future global economy.

Ethereum can manufacture vast quantities of digital trust at low cost and in near-real time. Every alternative blockchain will either make use of Ethereum's trustware, or will settle for a lesser degree of assurance.[3] Mainnet is the only place you can acquire pure censorship-resistant finality, verifiable computation, and radical transparency at scale. Every L2 or alternative smart contract chain merely rents Ethereum's security or settles for a lesser degree of assurance.

The investment case rests only on the continued execution of visible trends. As traditional finance recognizes the efficiency gains from digital trust, demand for Ethereum will grow. For institutions seeking exposure to the digitization of global finance, ETH offers participation in the foundational layer rather than speculation on specific tokens or applications. As demand for digital trust scales to meet the demands of the digital economy, those who own the means of producing it stand to benefit disproportionately.

[1] Orca coined the term "trustware" in 2022, we build and iterate on their frameworks https://orca.mirror.xyz/T70CmuhX95ubkw_JHOxSEy8d_EFeYXgtJnF13mPtaZE

[2] Proxied as Insurance Premiums $8T p.a., Legal Services $1T p.a., Audit $0.29T p.a.
https://www.statista.com/topics/6529/global-insurance-industry
https://www.polarismarketresearch.com/press-releases/legal-services-market
https://www.researchandmarkets.com/report/auditing

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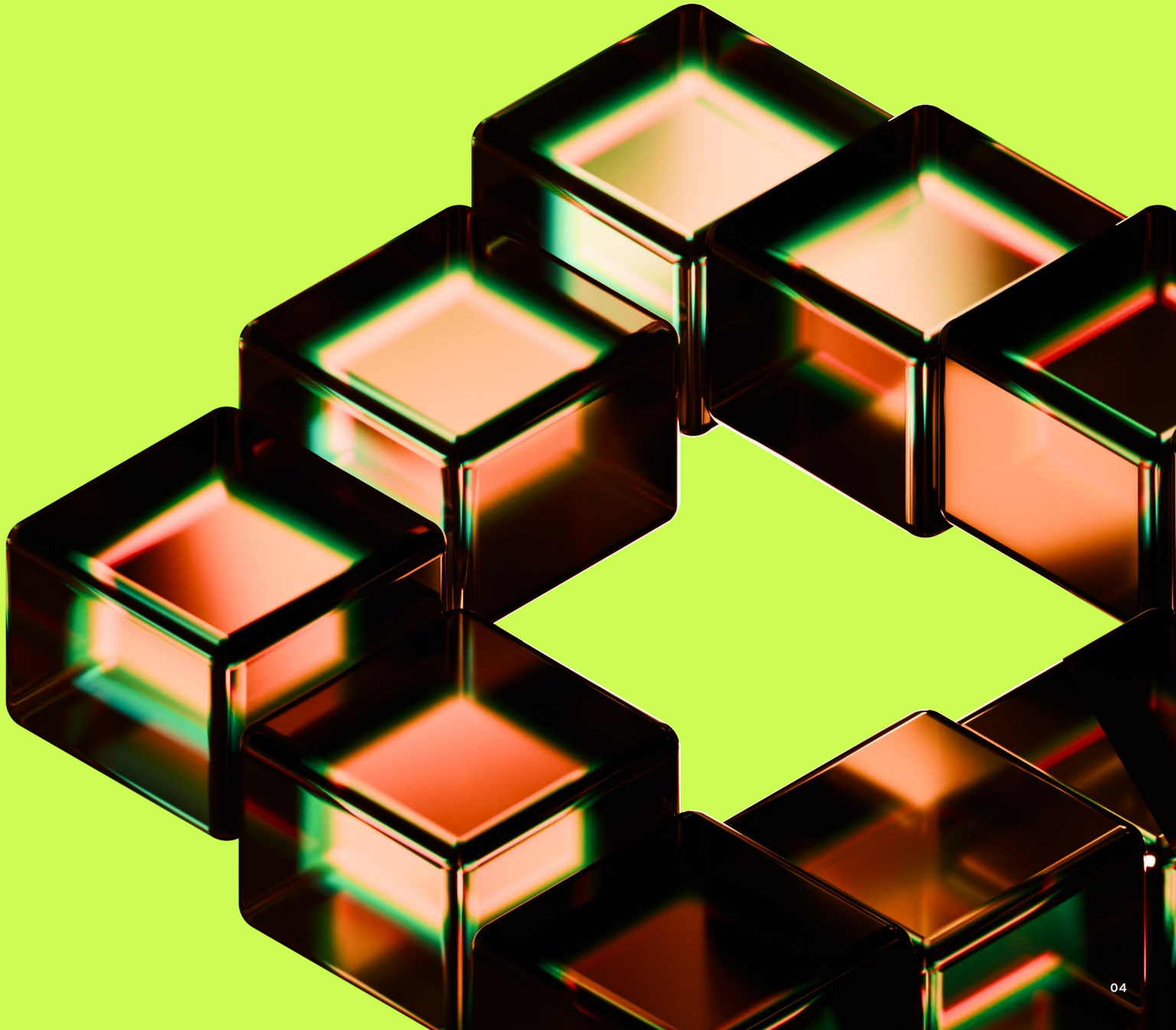
Part One

Core Economic Thesis: Ethereum is the Global Trustware Provider



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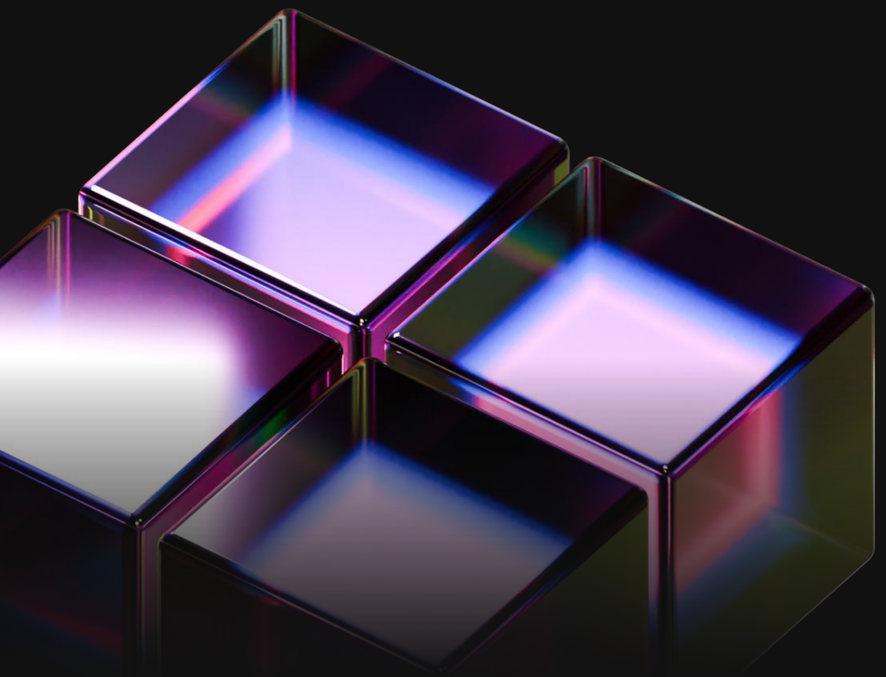
The $10 Trillion Problem Nobody Talks About

Trust is arguably the world's largest yet least explicitly priced commodity. As Nobel laureate Kenneth Arrow observed, *every commercial transaction contains within itself an element of trust*. This requirement is so implicit and fundamental that it often goes unexamined. Trust is civilization's dark matter, invisible yet holding everything together.



Trust is civilization's dark matter, invisible yet holding everything together. Every morning, eight billion people wake up confident their money has value, their contracts will be honored, and their property rights exist. This confidence costs approximately $9.3 trillion annually to maintain. Insurance companies collect $8.0 trillion to transform uncertainty into manageable risk. Legal systems burn $1.0+ trillion enforcing promises. Auditors extract $290 billion verifying what should be transparent. Credit agencies, compliance departments, and notaries add hundreds of billions more. Humanity spends close to or more on trust than on food, energy, or healthcare. Collectively the capital and human effort to refine these top down forms of trust represents a colossal and continuous economic expenditure.

This expense is not optional. Thomas Hobbes understood this in 1651 when he envisaged an ungoverned society or rather life without trust infrastructure as *"solitary, poor, nasty, brutish, and short."*[4] Modern economists have quantified Hobbes' insight. Stephen Knack and Philip Keefer demonstrated that a 10 percentage point increase in societal trust correlates with 0.8% higher annual economic growth.[5] Nations where high degrees of trust exist,[6] exemplified by Denmark (74% trust), maintain approximately 6x the per capita GDP of those below 10%, such as Brazil (7% trust). Trust is the foundation upon which all economic activity and social progress rests.

The architecture of trust has evolved through three great ages. The first age relied on kinship and proximity; you trusted your tribe because survival depended on mutual cooperation. This scaled to perhaps 150 individuals, Dunbar's number. The second age invented institutions, governments, banks, corporations that could manufacture trust among strangers through force and reputation. This scaled to nations of millions. The third age, beginning with Bitcoin and advancing with Ethereum, creates trust through cryptography, mathematics and economics. This **digital trust** scales to billions without borders, intermediaries, or violence. It excels precisely where previous forms of trust have struggled. It enables near-instant settlement between parties who have never met, across any distance. It provides guarantees that cannot be revoked or undermined by changing beliefs, political winds or institutional integrity. It is available continuously, globally, and operates with perfect determinism.

Digital trust allows us to imagine the world's economy not as a tangle of banking mainframes, fragmented ledgers, and midnight batch jobs, but as a single piece of software. Money moves across it the way data packets move across the internet: instantly, permissionlessly, and according to open standards that anyone from a teenager in Nairobi to a treasury desk in New York can plug into with a few lines of code. This is the future of the global economy, and it runs on Ethereum.

[4] Leviathan; or the Matter, Form, Power of a Commonwealth, Ecclesiastical and Civil, Thomas Hobbes (1651)
[5] Knack & Keefer (1997, Quarterly Journal of Economics, vol. 112, no. 4, p. 1260)
[6] World Values Survey, Trust Levels https://ourworldindata.org/trust

Defining: Trustware

noun /ˈtrʌstˌwɛər/
The layer of digital infrastructure that provides digital trust: a guarantee that state transitions are valid (consistent and correct with mathematical certainty) and final (permanent and unalterable except at immense cost).

Trustware is the layer that industrializes trust itself, turning the verification of transactions and enforcement of agreements from a social process into a programmable, cryptographically secured service.

1. Wetware moves thoughts
2. Hardware moves electrons
3. Software moves instructions
4. Trustware moves value

Emerging in the early 21st century as a solution to the "double-spend problem", evolving from simple immutable ledgers to programmable trust frameworks capable of supporting complex economic systems without centralized authorities.

Guaranteed Integrity

Finalized state is protected by making alterations prohibitively expensive, while the verifiable nature of the platform's data structures ensure that any such attempt is both publicly detectable and objectively attributable.

Quantifiable Economic Security

Ethereum's digital trust is generated using capital: binding ETH to secure honest computation which allows the "truth"—or integrity of the ledger's history—to be priced like a commodity.

No Intermediaries

Unlike previous 'wares' which require external systems and authorities for security, Ethereum's trustware can secure itself through its own cryptoeconomic mechanisms, creating safe, neutral infrastructure that functions like a public utility.

Highly Available

Any number of assets and applications can access Ethereum's trustware system, making use of its properties for a fraction of the cost compared to generating it from scratch.

Credibly Neutral

No privileged administrator can override the outcome of a transaction once finalized.

Examples

A public blockchain like Ethereum settling stablecoin transfers. A roll-up that inherits security from its base chain while offering cheaper block space. A decentralized oracle network whose collateral is slashed if it reports false data.

The Ethereum Breakthrough

Ethereum represents an incredible technological leap for the financial industry, a public platform like the internet that is able to make the verification of financial transactions radically better in speed, in cost, in safety, and in scale, all at the same time.

While the real economy has digitized and accelerated, the financial system faces a speed limit. There are millions of different ledgers in the world, costing trillions to validate and secure, and it can take days, weekdays, 9-to-5, to settle even simple transfers between them.

The Ethereum system consists of a ledger, a set of rules, a constant flow of transaction requests, and a decentralized network of validators that execute, validate, and finalize the transactions, updating the ledger according to the rules. Validators must deposit, or “stake,” Ether (ETH), the platform's native digital asset, in order to be recognized by the network.

The staked ETH acts as collateral, securing honest computation. If validators attempt to update the ledger in a way that breaks the rules, they lose their stake. If they update the ledger in a way that follows the rules, their stake will grow. This simple idea, called “Proof-of-Stake,” is the basis of Ethereum’s trust architecture, enabling it to manufacture digital trust bottom-up, at massive scale.

The Ethereum “ledger” is laid out like computer storage, and the “rules” for updating it define the Ethereum Virtual Machine. This means that not only are data and digital assets issued on Ethereum verifiable and secure, they are programmable, and these programs and all resulting computations are verifiable and secure, too.

Bitcoin asks "how do we create money without banks?" Ethereum asks "how do we create an economy powered by digital trust?"

The fundamental economic output of the Ethereum protocol is digital trust.

Digital trust represents the strongest and purest form of trust, and the only form suitable for the global scale of digital finance. It contrasts sharply with legacy trust systems, which typically rely on intermediary institutions (banks, legal systems, service platforms) and subjective human-led enforcement mechanisms that introduce significant cost and effort overheads, counterparty risks, and geographical limitations.

Ethereum's trustware transforms trust from a service to a commodity. Traditional trust requires continuous human intervention: judges interpreting contracts, bankers approving loans, insurers evaluating claims. Ethereum automates these functions through smart contracts that execute exactly as programmed, every time, forever. A loan protocol doesn't need loan officers. A decentralized exchange doesn't need brokers. An insurance pool doesn't need adjusters. The humans are replaced by code, the institutions by protocols, the trust by economics and cryptography.

TRUSTWARE GUARANTEE	A commitment that "state = truth".
IRREDUCIBLE FINALITY	L1 checkpoints provide unalterable settlement guarantees for vast sums of cross-chain & stablecoin value (>$14.26 T/yr[7]).
VERIFIABLE COMPUTATION AND DATA ANCHORING	Deterministic outcomes. Roll-ups, bridges and AVSs rely on transparent and auditable L1 anchoring for state roots/blobs that must be immutable for decades.
NEUTRAL EXECUTION	Smart contracts run under a globally, accessible, permissionless and objective ruleset.

This transformation achieves something economists thought impossible: trust with near zero marginal cost. Adding another user to Ethereum's trust network costs nothing. Processing the billionth transaction costs the same as the first. Securing a trillion dollars requires the same infrastructure as securing a million. Conventional trust systems scale linearly: more activity means more judges, auditors, compliance officers, and police. Ethereum, by contrast, scales through a self-reinforcing network effect: each additional participant adds economic value, that value funds stronger security, and stronger security attracts the next wave of participants.

Societies that can **lower the unit-cost of reliable coordination** unlock surplus growth. Robert Putnam's and others' empirical work on social-capital estimates a ~0.5 ppt annual GDP lift for communities with higher baseline trust.[8] By industrializing trust, Ethereum makes that dividend portable and programmable: every basis-point shaved from settlement latency, escrow overhead or compliance duplication compounds across the $100T+ global economy, creating value that dwarfs the transaction fee revenue captured in in gas.

[7] Stable Coin Volumes, Visa Analytics - https://visaonchainanalytics.com/transactions
[8] Local reference, John F. Helliwell & Robert D. Putnam, "Economic Growth and Social Capital in Italy," Eastern Economic Journal 21, no. 3 (1995), Global reference, Paul J. Zak & Stephen Knack, Trust and Growth, Economic Journal 111 (470), 2001

Ethereum's trustware secures

$220 Billion

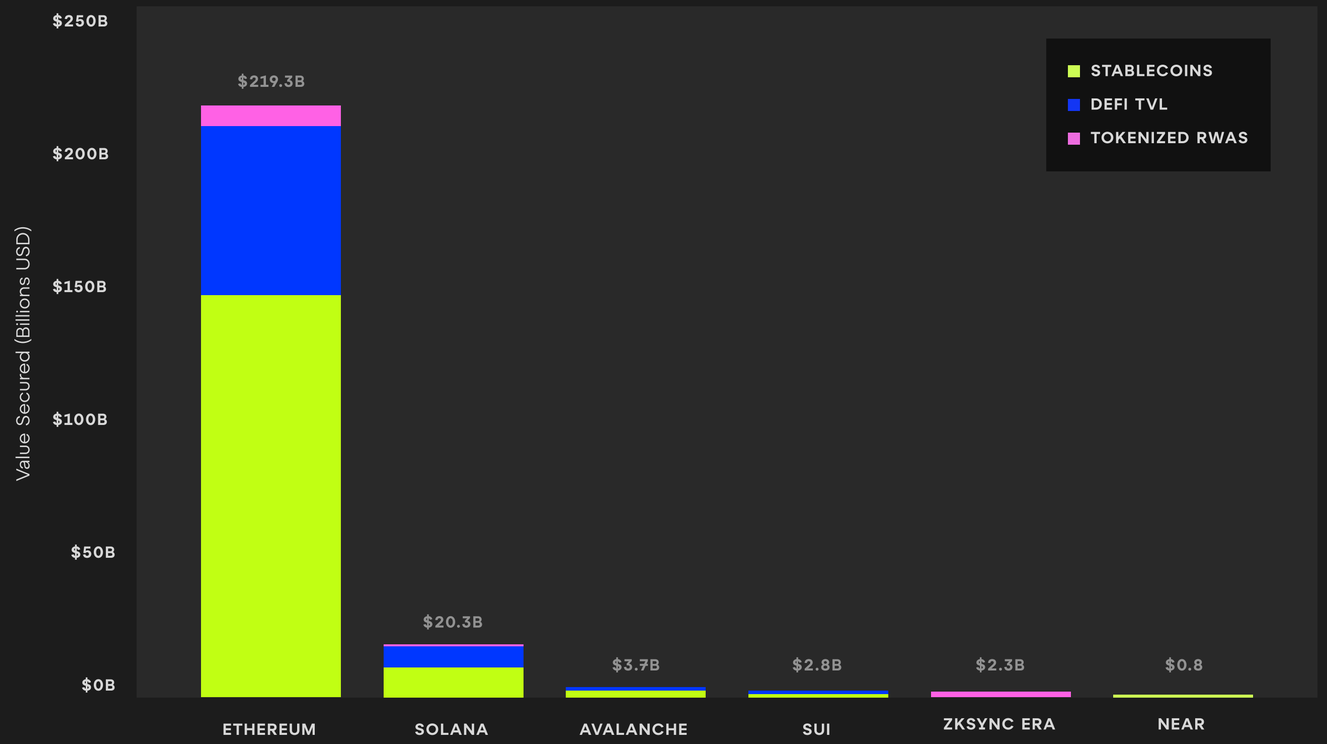
in HQLA*, the most of any blockchain.

*High quality liquid assets, also referred to in this report as the Ethereum Trust-Dependent Economy (ETDE), consisting of stablecoins, tokenized real world assets (RWAs), and DeFi total value locked (TVL).
Data from https://defillama.com/chains

HQLA Secured By Chain

High Quality Liquid Assets composed of stablecoins, DeFi total value locked (TVL), and tokenized real world assets (RWAs) as of 31 May 2025

FIGURE 1. ASSET COMPOSITION OF SELECTED CHAINS



DATA AS AT MAY 31, 2025, SOURCE: DEFILLAMA AND RWA.XYZ

Ethereum’s Moat Is Social, Technical, Political and most importantly Economic

The empirical evidence for Ethereum's dominance is overwhelming. In CY 2024 Ethereum settled $14.26 trillion in stablecoin value, more than than the value settled by Mastercard ($7.8T) and close to Visa ($15.1T). This occurred with 100% uptime and zero protocol-related fund losses. No traditional financial infrastructure achieves comparable reliability. The New York Stock Exchange suffers multiple trading halts annually. SWIFT experiences outages affecting global commerce.[9] Large and significant banks fail with regularity; in 2023 Silicon Valley Bank vaporized $209 billion in deposits in 48 hours. Credit Suisse’s AT1 and equity holders are still embattled with a sovereign state to rectify perceived injustice.[10] Ethereum has never failed. Traditional trust architectures fail predictably across multiple criteria when confronted with digital-age demands.

Unmatched Economic Security

A $100B+[11] staked capital moat creates a formidable level of economic security that makes it prohibitively expensive for other platforms to compete on economic safety.

Compounding Network Effects

Ethereum hosts the deepest liquidity, the most developers, and the richest ecosystem of applications. Every major stablecoin uses Ethereum as its primary platform. 65%[12] of total value locked in DeFi applications, 60%[13] of all stablecoin marketcap, and 81%[14] of all tokenized RWA marketcap, resides on Ethereum or Ethereum Layer 2s. Ethereum is the #1 developer ecosystem on every continent, and the EVM is the dominant smart contract technology, with 3.6x the monthly active developers of its closest rival[15]. These network effects compound daily. Every token, application, or L2 blockchain that settles to Ethereum deepens, rather than dilutes, the moat.

Proven Adaptability

Ethereum boasts a formidable 10 year track record of continuous safe operation through dozens of global shocks, 21 network upgrades[16], and rapid growth in users, transactions, and smart contracts. To list the Ethereum ecosystem's innovations is to list the entire stack of digital trust technology: tokens, smart contracts, oracles, non-fungible tokens (NFTs), decentralized finance (DeFi), decentralized autonomous organizations (DAOs), proof-of-stake, optimistic and zero-knowledge rollups, stablecoins, tokenized real-world assets, and more.

Institutional Validation

BlackRock doesn't deploy $2.9 billion on experimental technology.[17] Franklin Templeton reported an order of magnitude reduction in middle office trade costs.[18] JPMorgan is upgrading its private Ethereum rails to interact with public Ethereum mainnet.[19] When firms managing $30+ trillion collectively choose Ethereum, it's a product of extensive due diligence. Their collective choice helps to further validate Ethereum's security model and reliability.

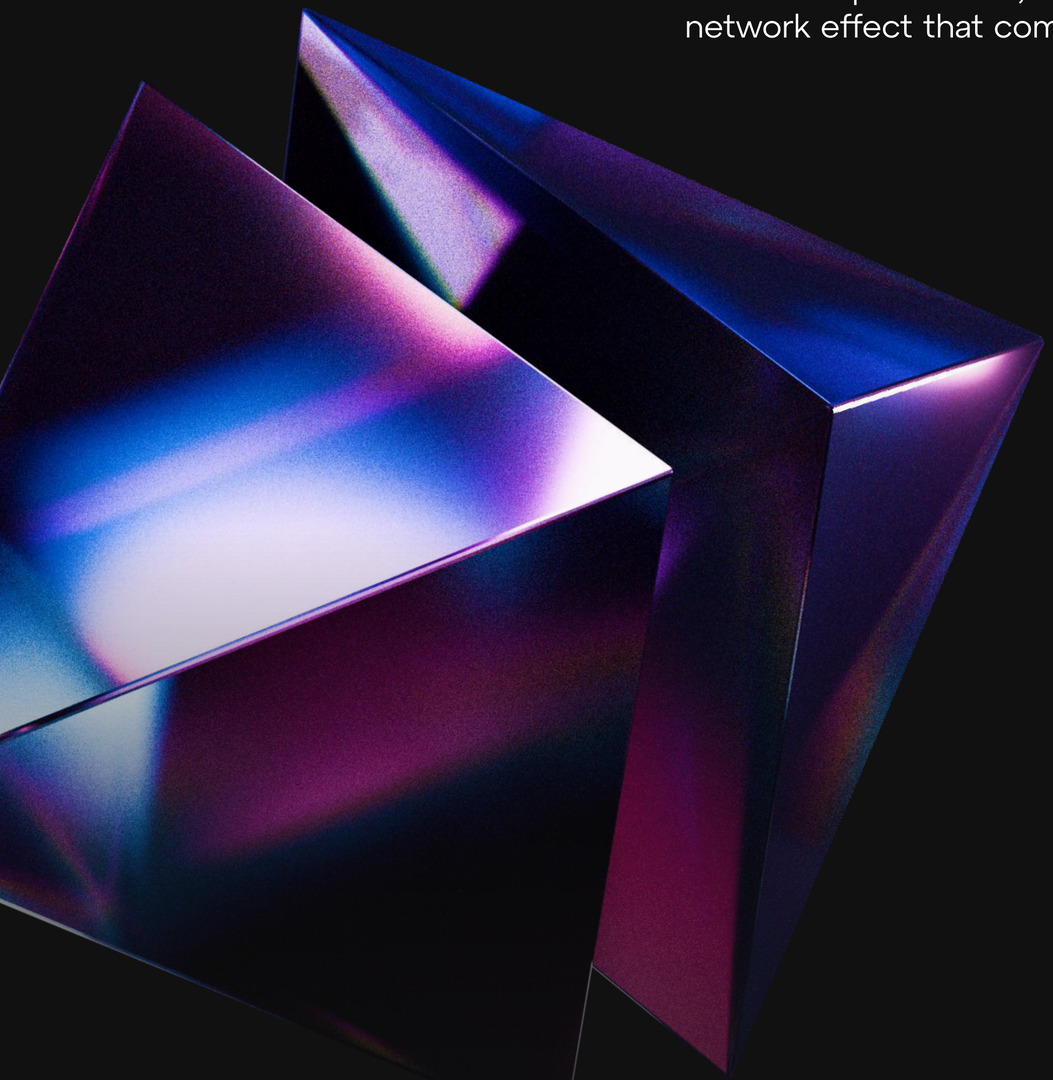
[9] Swift Outage, Financial Times, 2025 https://www.ft.com/content/33e04fd9-a32f-4757-8c8f-1f41160103bf
[10] Dozens more investors sue over €17bn Credit Suisse debt wipeout, Financial Times, 2025 https://www.ft.com/content/3ddb1baf-3fc6-4287-b132-97892fa58a82
[11] https://beaconcha.in/charts/staked_ether

[12] https://defillama.com/chains
[13] https://www.stablepulse.org
[14] https://app.rwa.xyz/networks
[15] https://www.developerreport.com/developer-report

[16] https://ethereum.org/en/history/

[17] Tokenized Treasuries Dashboard RWA.xyz, https://app.rwa.xyz/treasuries
[18] https://www.bloomberg.com/news/videos/2024-05-10/johnson-etf-mutual-funds-will-all-be-on-blockchain
[19] JPM Tokenized Treasury Trade, DeCrypt https://decrypt.co/319744/jpmorgan-settles-first-tokenized-treasury-transaction-public-blockchain-chainlink-ondo-finance

Ethereum dominates because of the quality of its trustware. The highest quality digital trust attracts the highest quality capital. Applications and developers follow, creating a network effect that compounds daily.



Alternative blockchain platforms persist in market segments where trust requirements remain minimal: gaming tokens, retail speculation, experimental applications. When sovereign wealth funds tokenize treasury reserves, when central banks architect digital currencies, when systemically important institutions deploy billions in securities, they converge unanimously. Ethereum alone has proven operationally antifragile across every dimension institutions require: continuous uptime, credible decentralization, predictable monetary policy, and battle-tested security.

The market for digital trust is winner-take-all. The market has rendered its verdict: L2s built atop Ethereum command higher valuations than entire alternative L1s, suggesting investors value Ethereum's overflow capacity above competitors' primary networks. When trust is the product, "good enough" isn't good enough. Only the apex provider survives.

Consider what competitors must overcome. They need to convince $90+ billion of staked assets to abandon Ethereum and its closely associated L2 ecosystems simultaneously. They would have to persuade persuade tens of thousands of Ethereum developers[20] to abandon the tooling they already know and start over on a new stack. They would need thousands of protocols to rebuild their systems. They need millions of users to switch platforms. They need to do this while Ethereum continues improving.

The Merge reduced energy consumption 99.95% without downtime, even while increasing decentralization. The Dencun upgrade cut costs 99% while maintaining security, and the Pectra upgrade recently enhanced staking and security mechanics.

Catching a moving target is hard. Catching one accelerating away is impossible. Ethereum is civilization scale trustware. It is in a class of one.

The security gap becomes existential when examining operational reality. Ethereum has maintained 100% uptime and block production continuity since the Merge, processing trillions of dollars without a single interruption. Alternative 'high-performance' chains reveal their weaknesses under stress: Solana has suffered 15 major outages totaling 150+ hours of downtime since 2021, including a 20-hour complete halt in February 2023 when a single validator's misconfiguration brought down the entire network. No institution deploying nine-figure positions can or will tolerate a platform where one node error equals total system failure. This explains why 100% of tokenized treasury products exceeding $100 million have been issued on Ethereum, while Solana continues to host primarily retail speculation and gaming tokens.

The Lindy effect creates temporal dominance. Every day that Ethereum persists, its life expectancy increases. Surviving the DAO hack proved resilience. Surviving crypto winter proved durability. Surviving DeFi summer stress tests proved scalability. Surviving the Terra and FTX collapses proved independence. Surviving the Biden Administration's hostility proved its decentralization. Ethereum and its best-in-class researchers and community are antifragile. Each crisis that doesn't kill Ethereum makes it stronger. New platforms must not only match current capabilities but also survive their own black swans. Those black swans are hiding in the reeds waiting for immature protocols to saunter by. Ethereum has survived them all—without blinking.

[20] https://www.developerreport.com/developer-report?s=developer-report

SAFETY FROM DECENTRALIZATION:

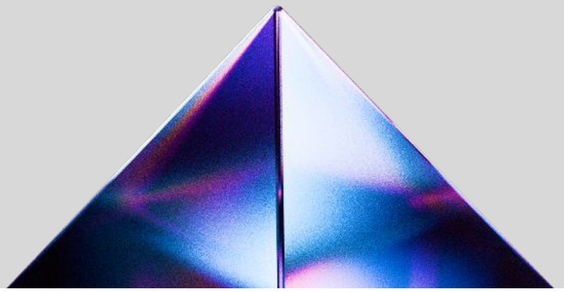
Why Architecture Determines Destiny

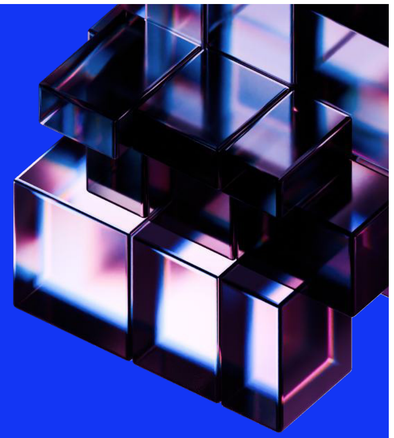
Ethereum's validator set is geographically distributed, which contributes to its extraordinarily high availability while also keeping it safe, by putting the orderly functioning of the network beyond the reach or influence of any entity.

Ethereum Proof-of-Stake uses capital to generate trust, not authority, or energy. This allows validators to be distributed all over the world, making the network safer and more decentralized.

ETHEREUM'S

1,056,000[21] validators





OPERATE ACROSS

84 countries

AND ARE

Diversified across every metric,

compared to Solana's 1,950 validators, with 33% hosted on just two cloud providers. The Solana Foundation controls validator selection through stake delegation, creating political risk absent in Ethereum's permissionless system. Hetzner banned Solana nodes in November 2022, causing the network to lose 22% of stake instantly, equivalent to a financial system losing a quarter of its banks overnight.

Over the past 10 years, the Ethereum platform has survived many global shocks, including shocks to its own network, such as China's 2021 ban of crypto mining, with zero downtime, proving its antifragility. For institutions managing billions in global capital, concentration risk is unacceptable. Because of Ethereum's decentralized architecture, local, regional, even global shocks stand little chance of impacting the platform's liveness or consensus, ensuring the continuous safe operation of the digital global economy.

Private networks are effective at optimizing for trust between a small number of parties, but they are inefficient for interacting with new counterparties, tapping global liquidity, or settling with global finality. When a transaction needs to touch the broader financial "internet", it requires a global, credibly neutral platform for settlement, and this is Ethereum's structural role. Private networks, such as appropriately configured Ethereum L2s, are not competitors but components, tributaries, in the same way a corporate WAN ultimately relies on the public internet's BGP[22] to be useful. Ethereum's increasingly unified liquidity, deep well of economic security, proven neutrality, and public, open-source code, creates a gravitational pull that cannot be replicated.

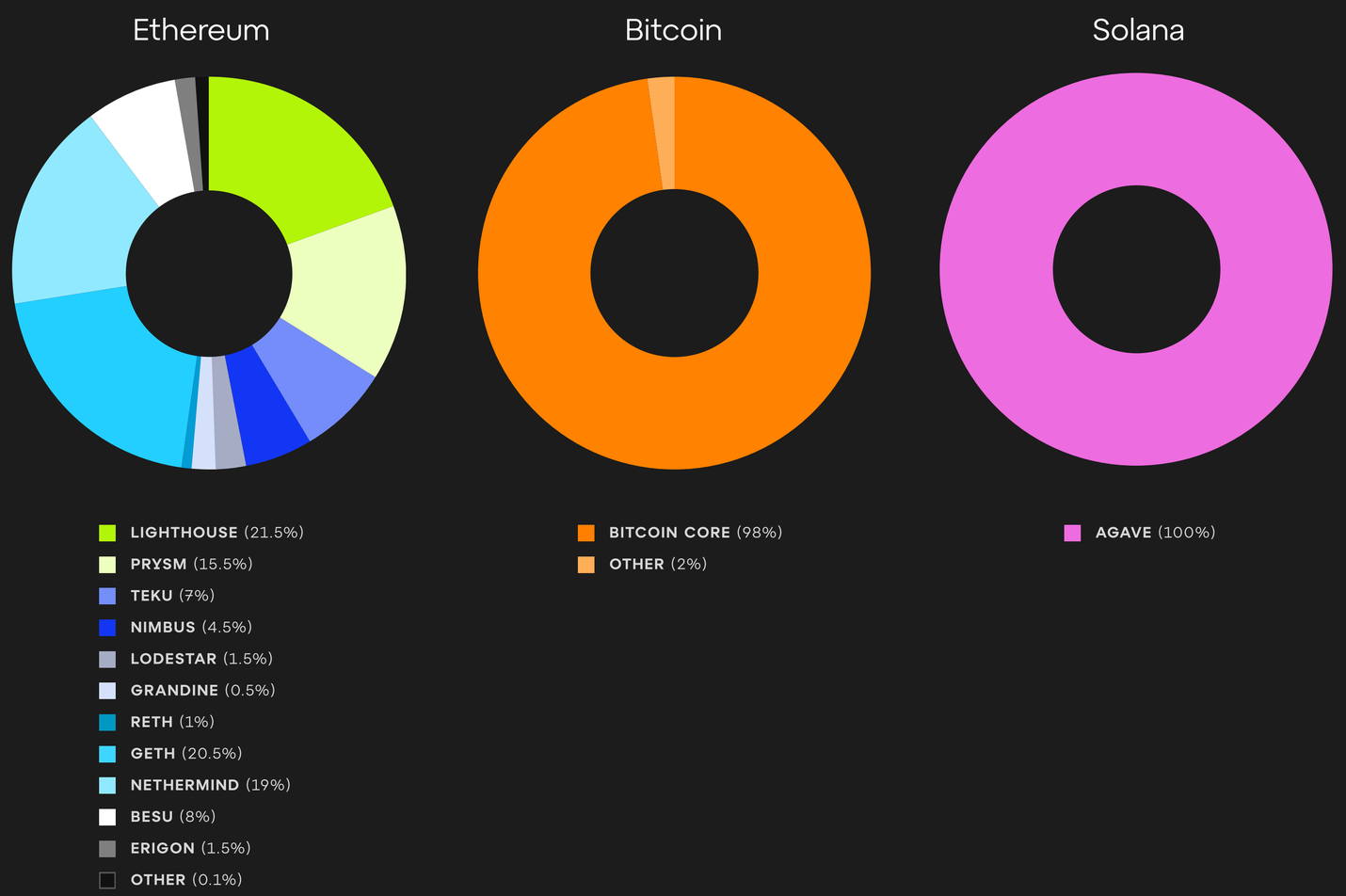
[21] Validator Count, https://beaconcha.in/charts/validators
[22] https://simple.wikipedia.org/wiki/Border_Gateway_Protocol

No Single Point of Failure

Ethereum has more than 12 independently-developed execution and consensus clients (like Geth, Nethermind, Erigon, Besu, Lighthouse, Prysm, Teku). This unprecedented degree of client diversity greatly reduces systemic risk by making the network less vulnerable to software bugs or attacks affecting any single implementation.

By contrast, 98% of the Bitcoin network runs a common client: Bitcoin Core, and its related fork Bitcoin Knots. Solana relies exclusively on the Agave client, developed by Solana Labs.

FIGURE 2. NETWORK CLIENT DIVERSITY



ETH: The Asset That Eats Finance

Ether (ETH) is the world's second largest digital asset by market cap and the asset that powers Ethereum. ETH is defined by the Ethereum protocol, where it serves three purposes:

1. Validators stake ETH to join the network and validate transactions, creating digital trust via the proof-of-stake algorithm.
2. Users spend ETH to pay transaction fees. The platform burns a portion of these fees, and distributes the rest to the validators of the transactions as yield.
3. The platform mints new ETH and distributes it to validators as a base yield.

ETH has also naturally emerged as the dominant liquidity within DeFi applications, fulfilling a similar foundational role in digital finance to the one US Treasuries fulfill in traditional finance. When viewed relative to other assets, ETH has evolved into something unique: an asset that combines the best properties of commodities, currencies, and capital assets while exhibiting the weaknesses of none. Like gold, it is scarce and has no counterparty risk. Like dollars, it functions as a medium of exchange, store of value and numeraire. Like bonds, it generates yield. Like equity, it appreciates with network growth. Unlike all of them, it is natively digital, with no central issuer, beneficiary, or linked entity, and is available continuously and globally.

The bottom line is simple and intriguing: a safe, highly liquid asset with rising demand, constrained supply, generating a real yield of 3.3%, that offers category-wide exposure to growth in stablecoins, tokenized RWAs, and the rest of the digital finance transformation.

ETH VS COMPARABLES

PROPERTY	US TREASURIES	GOLD	BTC	ETH
YIELD	4.5% (dilutive)	0%	0%	3.3% (productive)
AVAILABILITY	Market hours	Market hours	24/7	24/7
SETTLEMENT	T+1	T+2	10-60 min	12 seconds
PROGRAMMABILITY	None	None	Limited	Full
SUPPLY DYNAMICS	Inflationary	1.8% inflation	Fixed	Deflationary
COUNTERPARTY RISK	Government	Custodian	None	None
UPTIME	24/5	N/A	100.00%	100.00%
INSTITUTIONAL RWA ON CHAIN	N/A	N/A	N/A	$7.3B
VALIDATOR REQUIREMENTS	N/A	N/A	ASIC farm	$200 computer
VALIDATOR SOFTWARE	N/A	N/A	98% of network run on a single client (Bitcoin Core)	12+ independently-developed clients with significant network share.

Unlike traditional commodities where higher prices reduce demand, Ethereum exhibits positive price-utility feedback. The more valuable ETH becomes, the more secure its digital trust becomes, making the network more useful and attracting the issuance of digital assets. More assets issued results in higher network usage, driving more transaction fees and more ETH burn, attracting capital to hold and stake ETH, further securing the network. Each turn of the flywheel strengthens Ethereum.

Ethereum's 3.3% yield on staked ETH is the risk-free rate of the emerging digital global economy, and adds a dimension to ETH not seen in traditional finance. Ethereum's 3.3% yield doesn't come from seigniorage, lending or leverage but from validators providing services in the production and consumption of digital trust. It is "real yield" in the economic sense as it represents productive value creation rather than value transfer.

Currently 28% of ETH is staked, this is on track to approach 40% by 2028, shrinking the liquid supply of ETH and creating structural appreciation pressure independent of speculation. Combined with staking, ETH is also burned according to EIP-1559[23], which to date has resulted in 23 5 million ETH ($13.3 billion) being destroyed.[24]

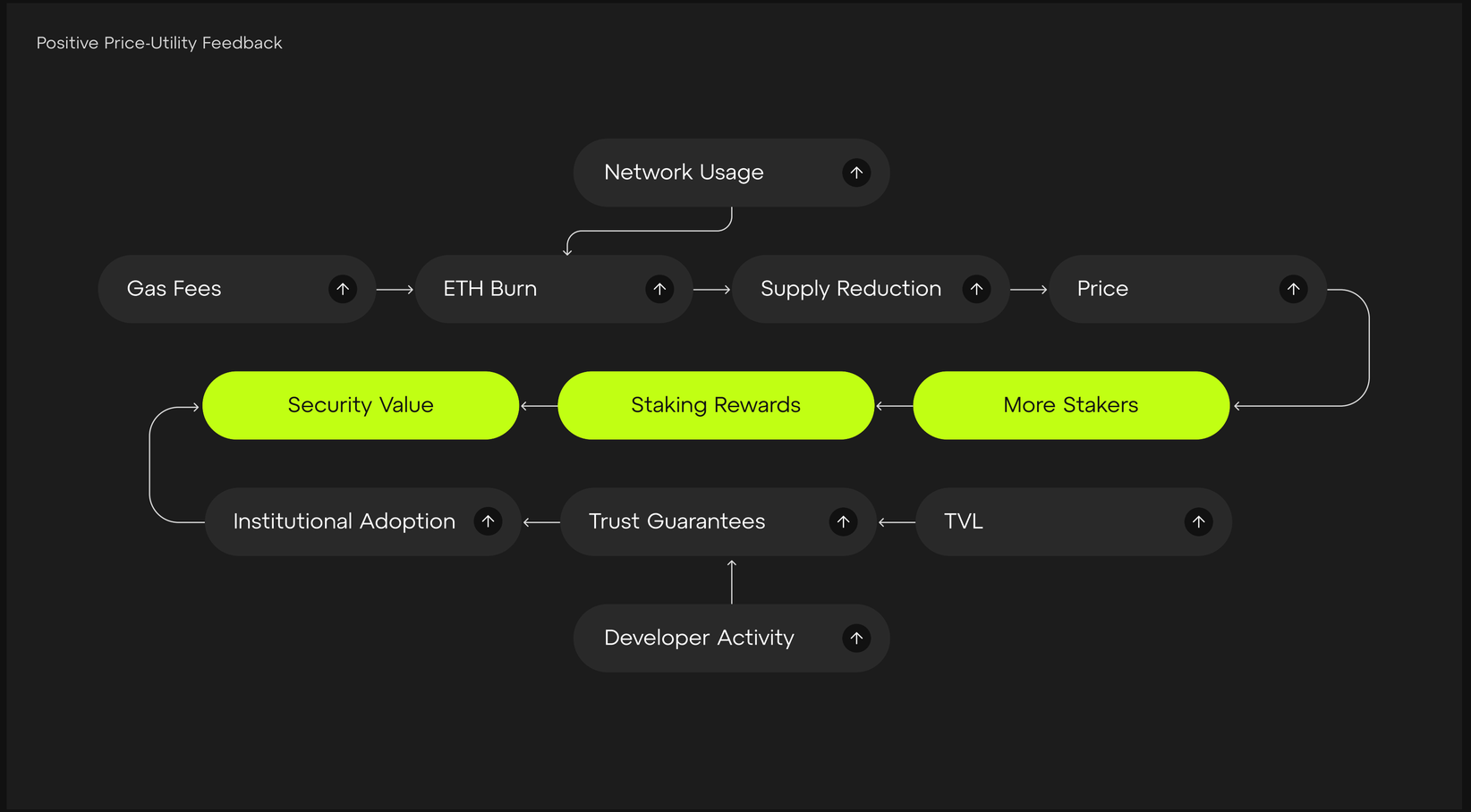


FIGURE 3: THE ETH VALUE FLYWHEEL

[23] https://consensys.io/blog/what-is-eip-1559-how-will-it-change-ethereum
[24] Ethereum Burn Mechanics http://beaconcha.in/burn

Why Now Is Still Early

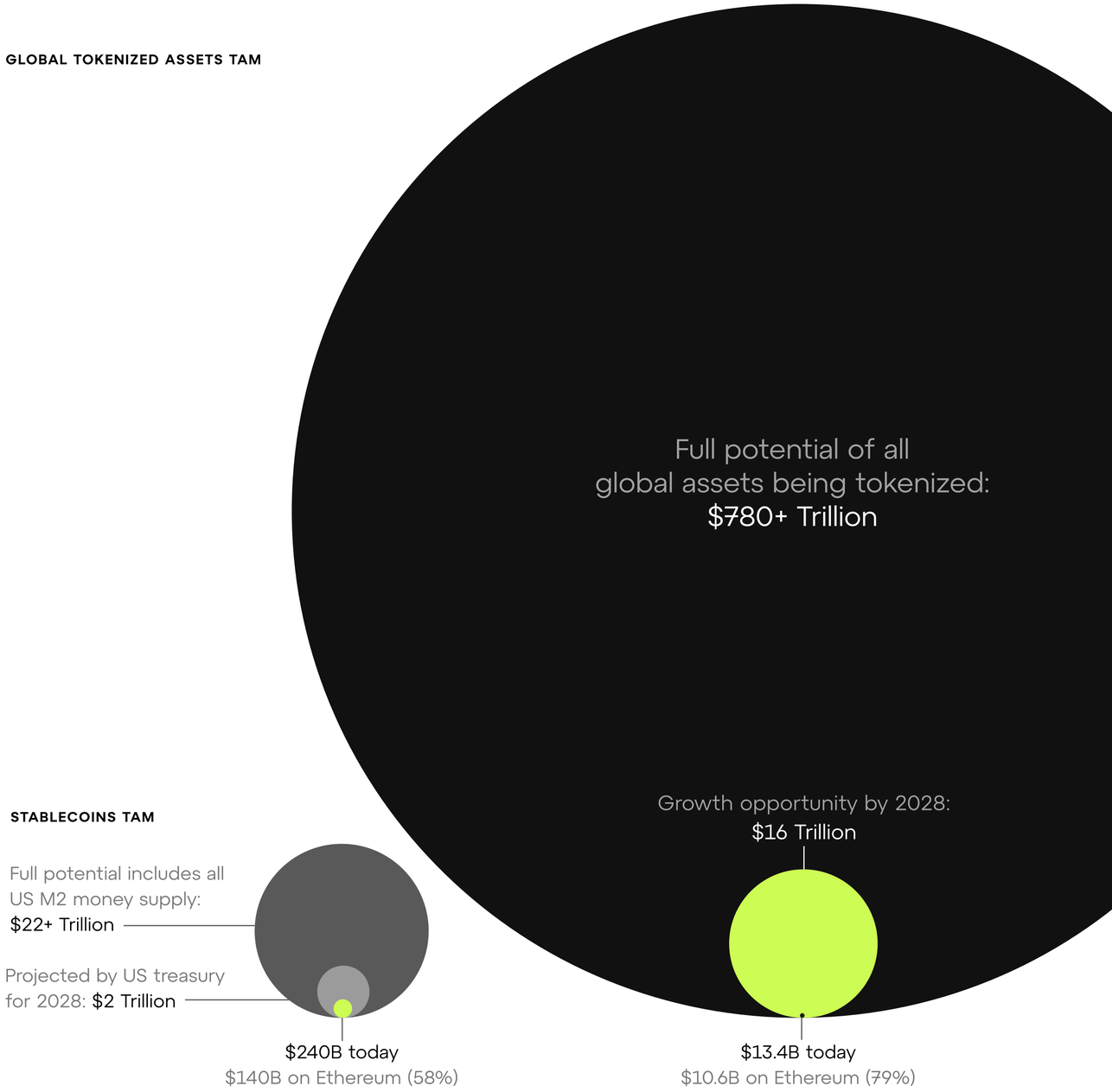
Increased regulatory clarity accelerates adoption. Europe's MiCA framework is live. The United Kingdom's digital asset sandbox is live. Despite Ethereum's maturity, we remain in the dial-up era of programmable trust. Total crypto market cap represents 0.3% of global wealth. Stablecoin volume equals 0.1% of foreign exchange. DeFi holds under 0.01% of banking assets. Tokenized securities capture 0.001% of capital markets. By any measure, penetration remains nascent. The internet analogy is instructive. In 1995, skeptics questioned why anyone needed email when fax machines worked fine. By 2005, the question was absurd.

The United States has performed a full 180 degree pivot, in just 6 months creating a Working Group on Digital Asset Markets, establishing a Digital Asset Stockpile, setting up a Crypto Task Force at the SEC, and bringing landmark legislation like the Guiding and Establishing National Innovation for U.S. Stablecoins (GENIUS) Act and the Digital Asset Market Clarity (CLARITY) Act to the brink of passage into law.

Eventually the world became a programmable open marketplace, running on a global economic computer.

This future arrived as the world's economic rails were rebuilt, piece by piece, on Ethereum, merging traditional assets with the security, speed, and composability of a decentralized web.

Joe Lubin, Founder and CEO of Consensys and Chairman of SharpLink



The transition from analog to digital trust is not theoretical but measurably underway. Stablecoin circulation has exploded from $5 billion in January 2020 to $246 billion today, with 61% of total stablecoin marketcap residing on Ethereum and Ethereum Layer 2s. This 50x growth over four years represents the most successful product-market fit in the history of digital assets. Stablecoins collectively hold more US Treasury bills than Germany, South Korea, or Saudi Arabia, making them a top-20 creditor to the government of the United States. According to US Treasury Secretary Scott Bessent, “$2 trillion is a very, very reasonable” market cap for dollar-backed stablecoins by 2028, and he “could see it greatly exceeding that”.[25]

Tokenized real-world assets crossed $2 billion within 12 months of serious institutional engagement, recognized institutional RWA’s are now at ~$13 billion with 83% sitting on Ethereum's rails. This figure is growing at an extraordinary 6.75% a month.[26] Franklin Templeton reports that putting BENJI share-ownership on a public blockchain cut record-keeping and middle office costs by an order of magnitude.[27] External studies[28] corroborate sub-cent costs across competing chains, implying two-to-three orders of magnitude savings versus legacy middle and back office rails. Hamilton Lane recently democratized private equity access by reducing minimum investments from $5 million to $10,000 through tokenization. KKR, Apollo, and other alternative asset managers have announced tokenization initiatives totaling $50 billion in potential assets, and Robinhood have announced their intention to tokenize U.S. Equity markets.[29]

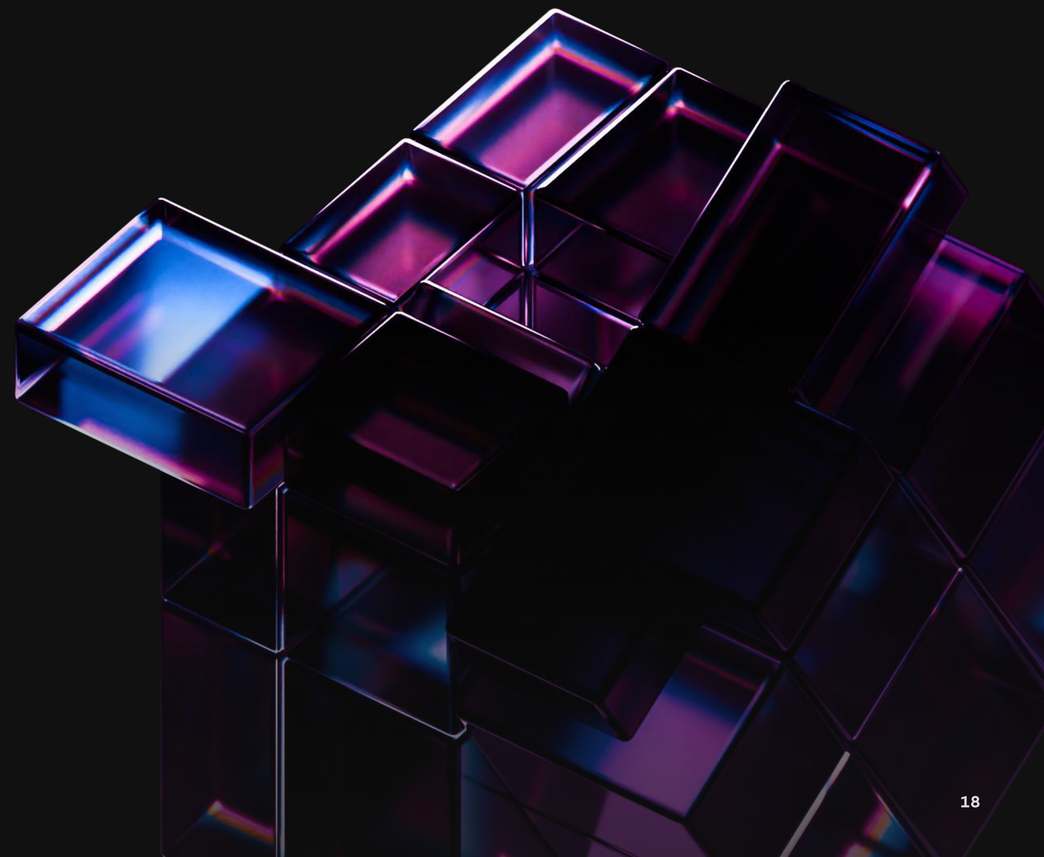
This is just the start of a transformative realignment of the financial markets and its happening almost exclusively on Ethereum and its tributaries.

McKinsey projects $4 trillion in tokenized RWAs by 2030[30], others have gone further, with BCG projecting $16T by 2030.[31]

The convergence of artificial intelligence and blockchain creates unprecedented demand for trustless infrastructure. AI agents require deterministic execution environments, cryptographic identity verification, and programmable money capabilities only mature blockchain infrastructure provides. The AI agent economy, projected by PWC to add $4.4 trillion in Global GDP uplift by 2030,[32] will necessarily operate on rails that enable machine-to-machine transactions without human intermediation. These rails will need to be credibly neutral. Ethereum's proven capacity, established network effects, and institutional trust position it as the default platform for this emerging economy. Trust execution bottlenecks on existing “Fintech” rails. Banking rails already frustrate humans, but become increasingly untenable for everything that moves faster than our existing systems. Machines need to transact at machine speed, not human speed—the difference is at least several orders of magnitude.

Lastly the emergence of Ethereum treasury companies provides a nascent catalyst for sustained growth and interest. Bitcoin’s path offers a clear parallel: in 2020 MicroStrategy diverted US $425 million of idle cash[31] into 38,250 BTC and has continued to add aggressively, amassing roughly 580,250 BTC today. The move normalised the idea of a listed company holding a crypto-asset as primary treasury reserve; since then the number of publicly traded firms with Bitcoin on balance-sheet has risen from a handful to 134.[33]

On 27 May 2025 SharpLink Inc. announced a US $425 million private placement led by Consensys to adopt an “Ethereum Treasury Strategy”, holding ETH as its core reserve asset. MicroStrategy showed that a single, well-publicized corporate allocation can unlock analyst coverage, attention and new financial products around the underlying asset, catalyzing wider treasury adoption. SharpLink’s programme was the first large-scale serious attempt to replicate that playbook for Ethereum; even if the proposed balance sheet weight is modest relative to network size, the signaling effect is material and creates a factual, near-term catalyst for other corporates, municipals and investment-grade treasuries to evaluate ETH alongside traditional reserves.



[25] https://www.bloomberg.com/news/articles/2025-06-11/bessent-says-2-trillion-reasonable-for-dollar-stablecoin-market
[26] ttps://app.rwa.xyz/networks
[27] https://www.bloomberg.com/news/videos/2024-05-10/johnson-etf-mutual-funds-will-all-be-on-blockchain
[28] Boston Consulting Group - Tokenization Report 2024, https://www.bcg.com/press/29october2024-tokenized-funds-the-third-revolution-in-asset-management-decoded
[29] https://www.bloomberg.com/news/articles/2025-07-08/robinhood-discussing-tokenized-equities-with-regulators
[30] https://www.assettokenization.com/resources/why-mckinsey-believes-asset-tokenization-is-the-future-of-finance
[31] https://finance.yahoo.com/news/ripple-bcg-project-18-9t-200946663.html
[30] PWC Agentic Playbook - https://www.pwc.com/m1/en/publications/documents/2024/agentic-ai-the-new-frontier-in-genai-an-executive-playbook.pdf
[32] https://www.wsj.com/finance/investing/cash-is-trash-so-lets-bet-425-million-on-bitcoin-11604070071
[33] Crypto Treasuries: https://bitbo.io/treasuries/

ETH: AS MONEY

Beyond its role in securing the network, ETH functions increasingly as money within the Ethereum economy. When protocols need collateral, they prefer ETH. When treasuries need reserves, they hold ETH. When bridges need security, they stake ETH.

This preference reflects ETH's unique properties. Unlike wrapped Bitcoin or stablecoins, ETH has no counterparty risk or external dependencies. It generates yield through staking while becoming scarcer through fee burning. Over $50 billion in DeFi loans use ETH as collateral, while protocol treasuries increasingly denominate their reserves in ETH rather than stablecoins.

The monetary properties of ETH create additional demand beyond security needs. As the Ethereum economy grows, demand for its native currency should grow proportionally. This dynamic resembles traditional economies where GDP growth drives currency demand, but with programmatic monetary policy that responds directly to usage.

ETH: From Utility to Monetary Premium— A Floor, But Not The Limit

The Cost-to-Corrupt framework outlined in Part Two establishes ETH's utility floor as the minimum value required for network security. But this represents only the beginning of ETH's value proposition, not its terminus. Monetary history shows that once an asset proves its usefulness, a separate “monetary premium” can lift its value many-fold.

Gold is the classic example, its $22 trillion market capitalization[34] dwarfs its ~$127 billion[35] annual industrial and other demand (investment/jewelry/other) uses, standing 173x above its barebones utility value. Similarly, ETH's evolution from utility token to monetary asset unlocks value multipliers that security requirements alone cannot capture.

The monetary premium manifests through observable behaviors:

- Protocol treasuries increasingly denominate reserves in ETH rather than stablecoins (Lido: 67% ETH)[36]
- Many DeFi protocols price native yields in ETH terms, establishing it as the numéraire
- Validators commit capital knowing it isn’t instantly redeemable (possibly weeks or months to liquidity), signalling long-term confidence in ETH as a store of value
- Trading pairs consolidate around ETH denominations (83% of DeFi volume touches (W)ETH pairs on Uniswap[37])

This transition from utility to money follows Menger's regression theorem: *assets become money by first demonstrating utility, then evolving into media of exchange, units of account, and ultimately stores of value*.[38] ETH has progressed further along this monetization path than any cryptocurrency except Bitcoin, while maintaining explicit utility which Bitcoin lacks.

[34] Gold Market Cap - https://8marketcap.com/
[35] Gold Demand, World Gold Council https://www.gold.org/goldhub/research/gold-demand-trends/gold-demand-trends-full-year-2024
[36] Lido Treasury Breakdown, Defilama, https://defillama.com/protocol/treasury/lido - excluding native token holdings
[37] https://dune.com/ganoji_demanto/uniswap-unchained
[38] The Regression Theorem: Summary, American Institute for Economic Research, https://aier.org/article/the-regression-theorem-summary

The Trillion Dollar Inevitability

Ethereum's path to trillion-dollar valuation will be driven by accelerating issuance of HQLA on to the platform as the world's premium provider of digital trust.

~$220 billion in HQLA today

$140B stablecoins, ~$10B tokenized RWAs, ~$70B DeFi total value locked

PROJECT CONSERVATIVELY TO 2028:

$1 trillion stablecoins, $500 billion tokenized RWAs, $300 billion DeFi total value locked, this sums to

$1.8 trillion in HQLA by 2028

secured by Ethereum's digital trust. These amounts are an extrapolation of growth rates realized since 2020.

Our valuation model presented in the next section, validated against five years of data and following the networks requirements for securing trust, implies an ETH valuation of:

$15,000-20,000 ETH by EoY 2028

This assumes no breakthroughs. *No AI agent economy. No central bank digital currencies. No further tokenization of the $400 trillion global wealth outside of a small sliver of Equities and Treasuries. No replacement of SWIFT. No disruption of insurance.* Simply continuing current trends reaches a trillion-dollar scale. Including probable innovations makes it highly conservative.

Investment Implications

For institutional allocators, Ethereum represents a singular opportunity: ownership in the foundational infrastructure of the digital economy at a fraction of terminal value. The network's current market cap of $450 billion prices Ethereum like a large technology company. However, ignoring this background shift is akin to valuing Amazon in 2005 based solely on its book-selling margins, missing the AWS revolution already underway. But really, there has never been anything like Ethereum: it is a start-up global tokenized economy.

The asymmetry is profound. Downside appears limited given institutional adoption, regulatory clarity, and proven resilience. Upside extends 5-10x based solely on continuation of current trends. Including optionality on AI agents, tokenized assets, and trust infrastructure replacement suggests 20-50x potential. Few assets offer such skewed risk-reward with fundamental support. The truth is, we probably can’t imagine the upside of a global economy supercharged by AI and running on Ethereum’s trust rails.

At a $1 trillion market cap

Ethereum equals Visa + Mastercard combined, reasonable given it already processes comparable volume

At a $2 trillion market cap

Ethereum approaches cloud infrastructure leaders, justified by hosting the compute layer for autonomous economic agents

At a $10 trillion market cap

Ethereum becomes the trust backbone for 10% of global commerce, still leaving 90% untapped

Each level becomes self-fulfilling as greater market cap increases security, enabling more valuable use cases, justifying higher valuations. The reflexivity that drove tech platform valuations operates even more powerfully when the platform itself is money.

Portfolio construction benefits from ETH's unique properties. Unlike Bitcoin's pure store-of-value narrative, ETH generates cash flow through staking. Unlike equities, it operates outside traditional financial systems. Unlike commodities, it appreciates with network effects rather than supply-demand imbalances. The correlation matrix shows ETH improving Sharpe ratios in any diversified portfolio.

The investment case rests not on revolutionary breakthroughs but on continued execution of visible trends. As traditional finance recognizes the efficiency gains from digital trust, demand for Ethereum's trustware will grow. At current valuations, ETH represents ownership in this critical infrastructure at a fraction of its projected worth.

For institutions seeking exposure to the digitization and tokenization of global finance, ETH offers participation in the foundational layer rather than speculation on specific applications. As trust becomes the scarce commodity of the digital age, those who own the means of producing it stand to benefit disproportionately.

The New Foundation

We stand at an inflection point. The institutions that manufactured trust for the industrial age cannot serve the digital age. They are too slow, too expensive, too fragmented, too corruptible. Ethereum offers an alternative: trust that is instant, global, transparent, and incorruptible. Alternative platforms will persist in market segments where trust requirements are minimal: gaming, memecoins, retail speculation. But when trillion-dollar institutions require cryptographic certainty for securities settlement, when central banks explore digital currency infrastructure, when Fortune 500 companies tokenize real assets, their own equity even, they will converge on a single choice. Not because Ethereum is perfect, but because it alone has proven antifragile across every dimension that matters: security, reliability, decentralization, and institutional trust. In the trust economy, there is no second place, only Ethereum, and a chorus of other experiments that don't make the grade.

The last time humanity invented a new way to manufacture trust at scale was the joint-stock corporation in 1602. That innovation created $100+ trillion in enterprise value. Ethereum is the next such innovation.

The investment case reduces to a simple question: Do you believe the digital economy will grow? If yes, it needs trust infrastructure. That infrastructure needs economic security. That security manifests as ETH value. The logic chain is inescapable. The only variables are timing and magnitude.

The trust machine has been built. It runs continuously, improving itself, securing ever more value, attracting ever more users. The question is not whether you believe in Ethereum. The question is whether you believe in the digitization of coordination. If you do, the investment case writes itself. In a world moving toward programmable money and tokenized assets, owning the primary settlement layer is a generational opportunity.

Part Two

Core Quantitative Valuation Framework: Cost-to-Corrupt Floor & Market Premium

Disclaimer: Based on data available up to 31 May 2025. Projections involve significant assumptions and uncertainty. This is not investment advice. Ongoing monitoring should focus on the growth trajectory of key ETDE components (Stablecoins, RWAs, L1/L2 Activity, Restaking) relative to the assumptions underpinning this valuation.

To translate the demand for Ethereum's Trustware, we employ a Cost-to-Corrupt[39] framework to arrive at a floor price for ETH. This model is grounded in the economic principle that a Proof-of-Stake network's value must be sufficient to secure the economic activity reliant upon it. Specifically, the cost to attack the network (primarily driven by the market value of staked ETH) must significantly outweigh the potential illicit gains, ensuring network integrity.

Our model captures this relationship mathematically. The required market capitalization equals the value secured by the network multiplied by a security ratio, divided by the staking rate. Historical analysis reveals that markets consistently demand a security ratio around twenty percent, meaning the value of staked ETH should equal at least one-fifth of the total value it secures.

We define the Ethereum Trustware-Dependent Economy (ETDE) as the sum of decentralized finance locked value on Ethereum layer one and layer two networks, plus stablecoin market capitalization, plus value locked in restaking protocols. This deliberately conservative definition excludes many forms of value that benefit from Ethereum's security but don't directly require it, meaning our estimates understate true economic dependence.

[39] STAKESURE: Proof of Stake Mechanisms with Strong Cryptoeconomic Safety https://arxiv.org/abs/2401.05797

The core relationship is:

Implied ETH Market Cap (Floor) = (ETDE * RSR) / SR

Extending this:

Implied ETH Market Cap (Observed) = [(ETDE * RSR) / SR] * MP

ETDE (ETHEREUM TRUSTWARE-DEPENDENT ECONOMY)

Represents the aggregate economic value directly reliant on Ethereum L1's security and finality. For this analysis, we define ETDE using readily available, aggregated metrics: *ETDE = L1 DeFi TVL + L1 Stablecoin Mcap + L2 DeFi TVL + L2 Stablecoin Mcap + Restaking TVL*. This definition (*ETDE Proxy*) captures core on-chain HQLA capital and stable value requiring L1 security. Notably, this definition conservatively excludes most non-stablecoin bridged assets (whose primary value originates elsewhere) and the value of ETH itself (to avoid circularity), meaning our ETDE estimate likely understates the total economic throughput secured.

RSR (REQUIRED SECURITY RATIO)

The necessary ratio of total Staked ETH Value relative to the ETDE. Theoretical models analyzing attack costs (specifically the >33% threshold for potential short range and double spend attacks) suggest a minimum deterrence level requires Staked ETH Value to be **15% - 25%** of ETDE. We utilize the midpoint **RSR = 20.0%**, as the conservative assumption for calculating the minimum required security floor capitalization.

SR (STAKING RATE)

The percentage of total ETH supply locked in staking contracts, providing the network's economic security. Based on current levels (~28%) and expectations for growth balanced by liquidity needs, we assume a long-term stabilized **Staking Rate = 40**, representing modest growth.

MP (MARKET PREMIUM)

A scalar representing additional value the market assigns to ETH beyond the minimum security floor. Historical analysis shows a post-Merge market premium median of approximately 2.35x, reflecting ETH's utility as gas for transactions, apex DeFi collateral, and monetary properties including deflationary dynamics.

HISTORICAL MODEL FIT VALIDATION

Before projecting forward, we validate this framework against historical data since 2020 and (post-Merge) and find it has strong explanatory power.

Correlation

Regressing actual historical ETH Market Cap against the historical ETDE Proxy demonstrates a strong positive relationship ($R^2 \approx 0.78$), confirming that network value scales significantly with this measure of secured economic activity. This core premise holds both associatively and empirically.

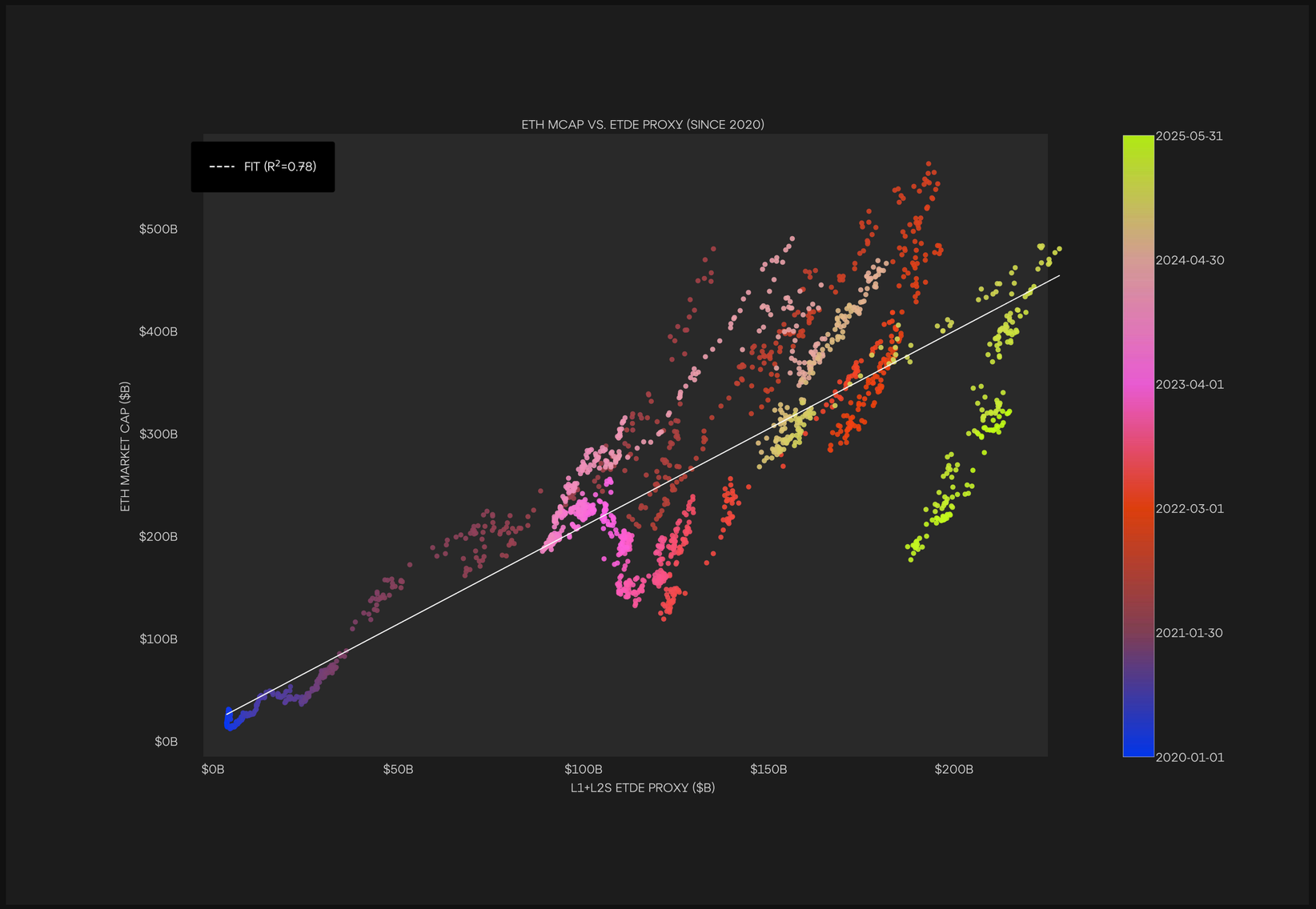


FIGURE 4: MEASURE OF FIT BETWEEN ETHEREUM MCAP AND THE ETDE PROXY - R^2 = 0.78

Best-Fit Historical RSR

Security Floor & Market Premium: Backtesting the model using the theoretical RSR floor (15-25%, Base 20%) consistently results in an implied market cap below the actual historical market cap, particularly post-Merge. This confirms the model calculates a floor value.

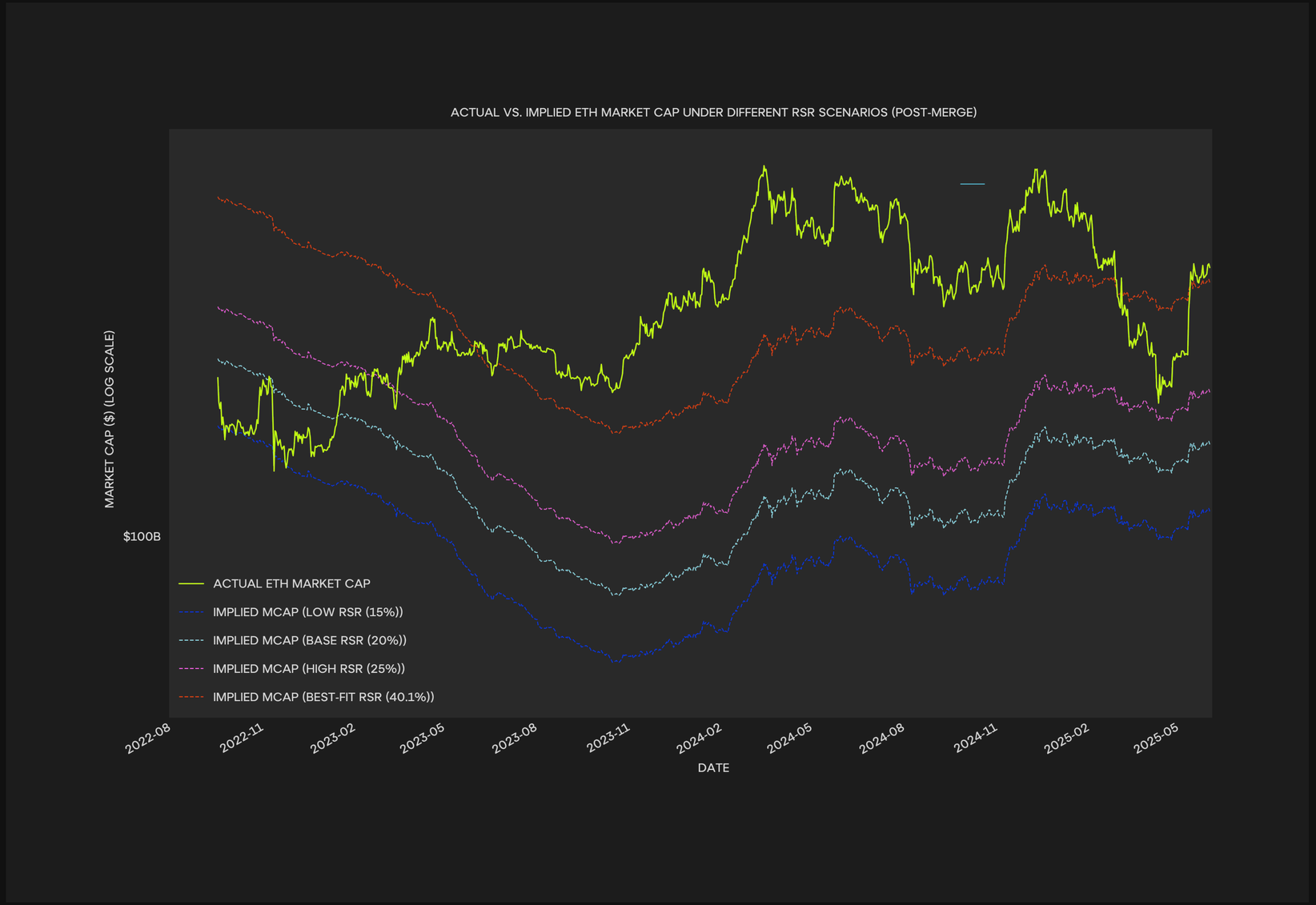


FIGURE 5: FITTED RSR AND RSR SENSITIVITY SINCE THE MERGE

Best-Fit: Model Market Cap vs. Realized Market Cap

To quantify the historical relationship implied by the market, we regress actual market cap directly onto (ETDE Proxy / SR) without an intercept. This yields a best-fit RSR of ~40% . This empirical RSR, significantly above the 20% theoretical floor, reflects how the market actually priced security plus other factors historically.

The historical data strongly supports the linkage between ETDE and Market Cap. The Cost-to-Corrupt Floor model, using a theoretically grounded RSR (20%), consistently calculates a value floor below the actual market price. The market implicitly demands prices in an effective security ratio closer to 40%, incorporating factors beyond the minimum deterrence cost such as trustware's utility or monetary properties described in section one. This validates the model's structure as a floor calculation and necessitates considering the market premium. Figure 6 shows the outcomes of our Cost-To-Corrupt Floor Model forecasting ETH market cap and observed market cap with a realized fit of 0.81 R^2.

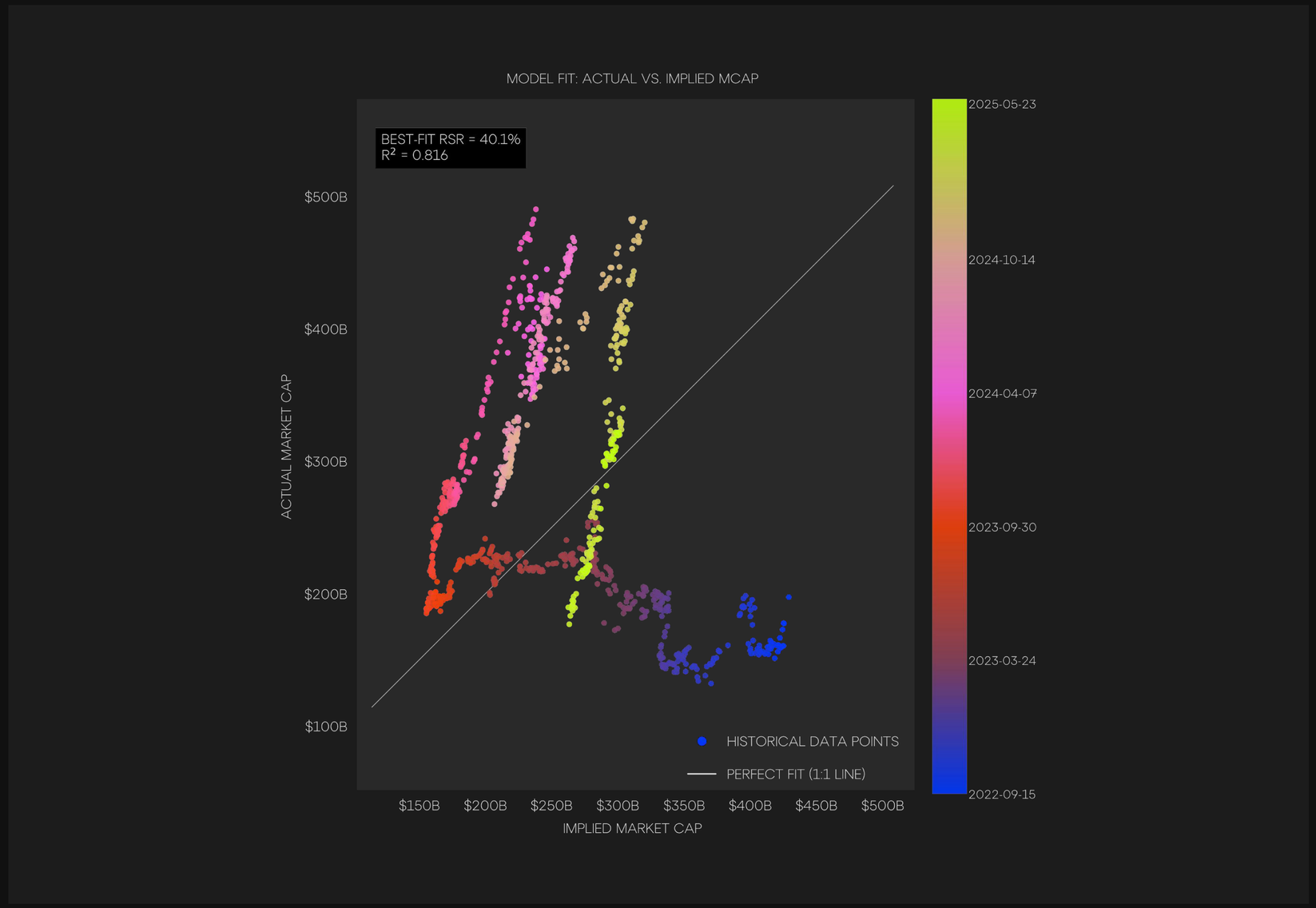


FIGURE 6: MODEL HISTORICAL FIT - PREMIUM RATIO (ACTUAL MCAP / IMPLIED FLOOR MCAP @ 20% RSR)

Forward-Looking Assumptions, Year-end 2028

Achieving target valuations requires maintaining ETDE growth at or just over historical trends (realized ~45% post-Merge CAGR or realized 117% since 2020). Ethereum's ETDE as measured by our proxy stands today at approximately $210 billion. We are simply saying there is a range of growth scenarios possible as evidenced empirically.

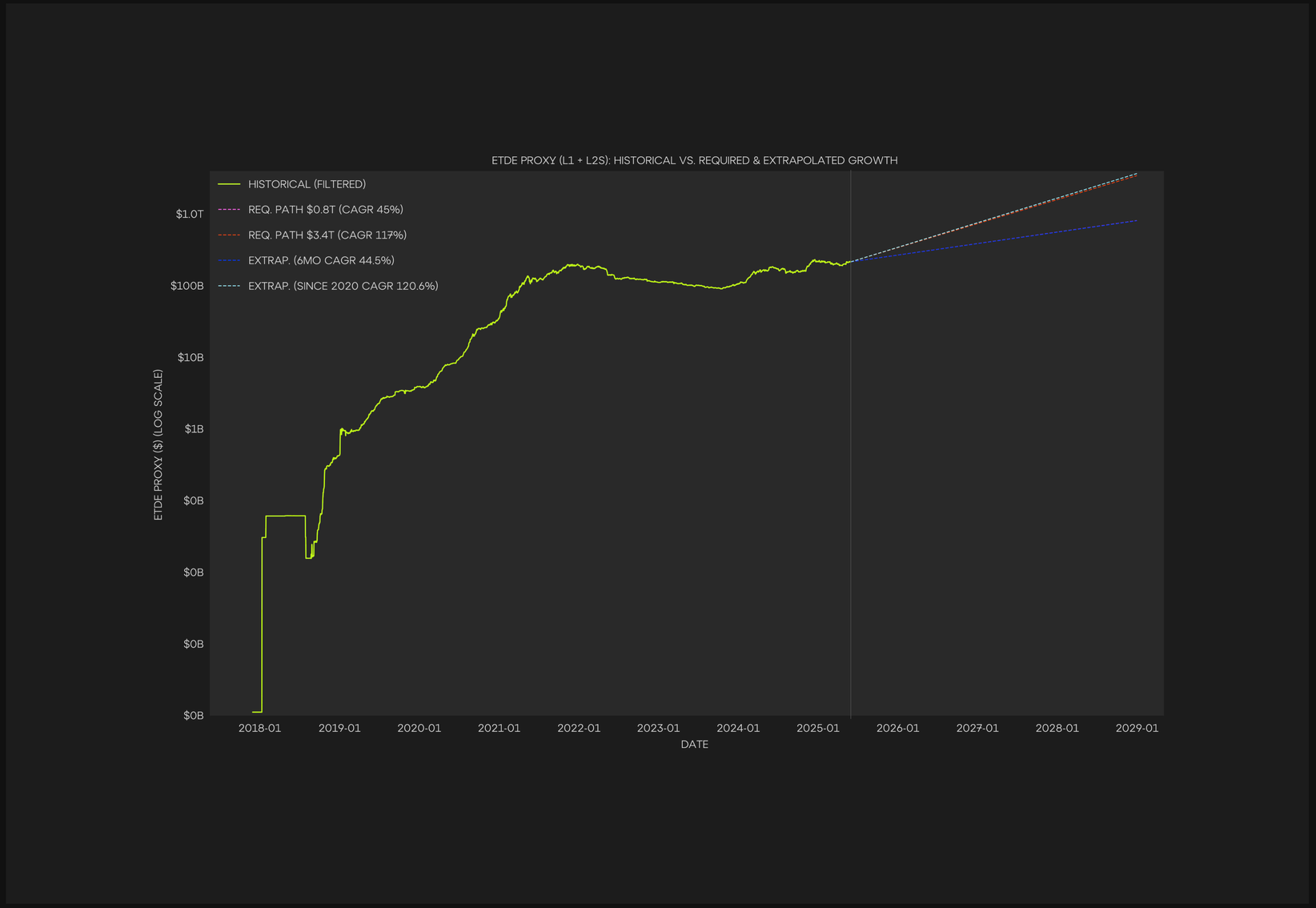


FIGURE 7: REALIZED ETDE GROWTH (LOG) AND COMPOUNDED GROWTH EXTRAPOLATIONS

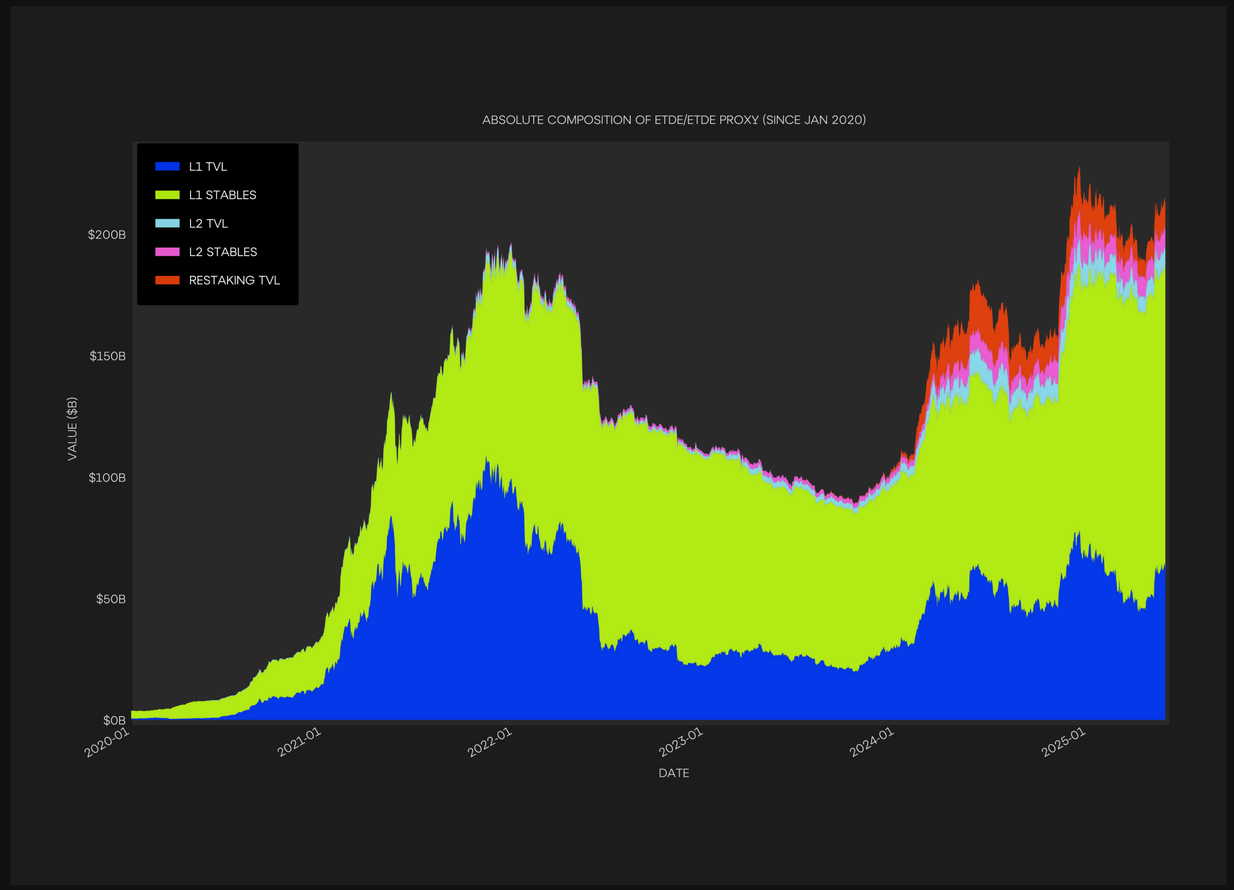


FIGURE 8: REALIZED ETDE GROWTH (ABSOLUTE)

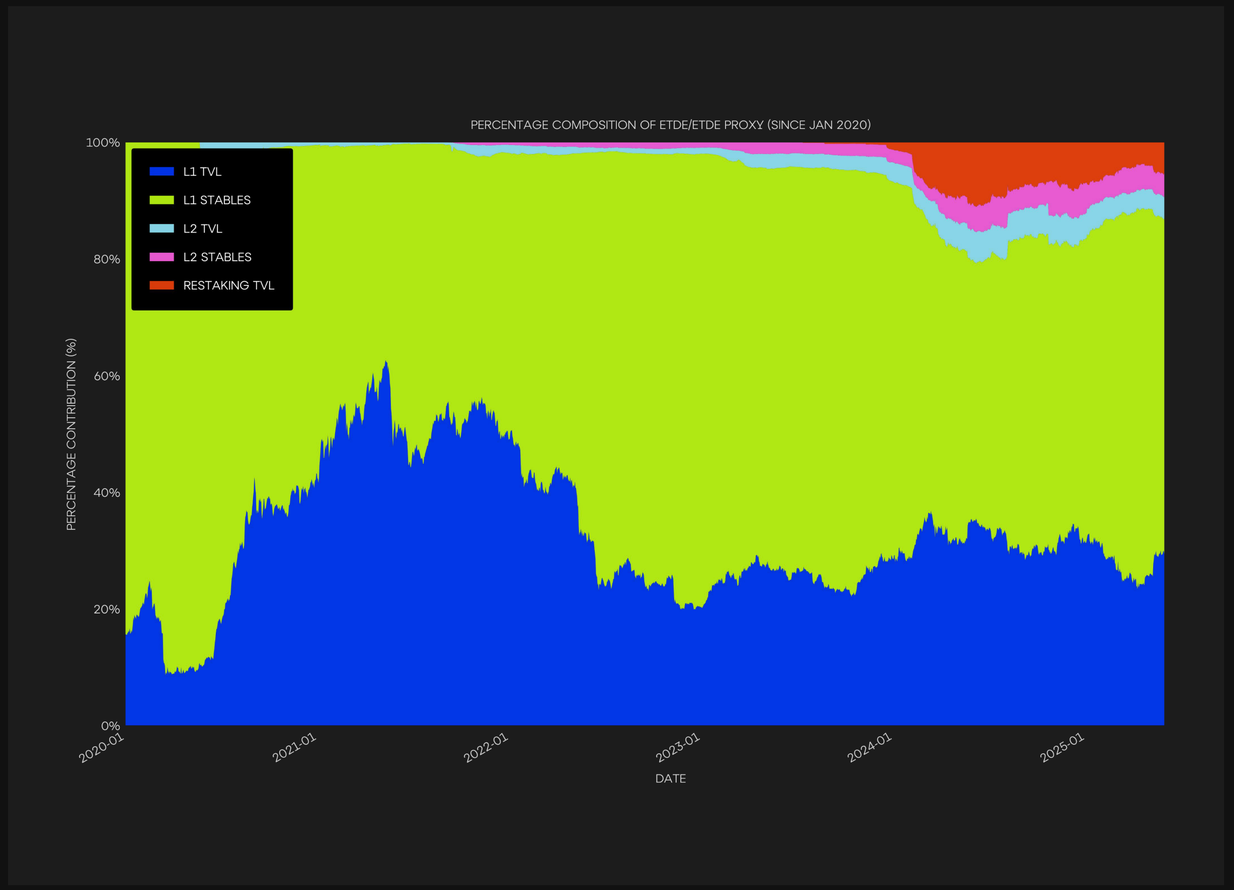


FIGURE 9: REALIZED ETDE GROWTH (PROPORTIONAL)

THE MARKET PREMIUM:

Bridging Theory and Market Reality

The Cost-to-Corrupt Floor model, utilizing a theoretically derived Required Security Ratio (RSR) of ~20%, consistently calculates an implied market capitalization floor below Ethereum's historically observed market value (demonstrated in Figure 4). This persistent gap necessitates acknowledging a Market Premium, the additional value ascribed by the market to ETH beyond the bare minimum cost of securing the network state represented by our ETDE proxy.

Our analysis empirically quantifies this premium. The historical median ratio of Actual Market Cap to the Implied Security Floor (using the 20% RSR base) stands at approximately **~2.33x** since the Merge (see Appendix A.1.6). Furthermore, the regression yielding the best historical fit required an effective RSR of **~40%**, mathematically implying market pricing consistently doubled the theoretical 20% security floor assumption (40% / 20% = 2.0x).

This Market Premium is not an arbitrary degree of freedom; it reflects the economic roles ETH fulfills within its ecosystem, which generate demand beyond simply securing the ETDE:

GAS & TRANSACTION UTILITY
ETH is the mandatory medium of exchange for all L1 transactions and frequently for L2 transactions (e.g., on Base, Optimism, Arbitrum). This creates a non-speculative, utility-driven demand sink directly proportional to network activity across the entire ecosystem, including L2s settling to L1.

APEX DEFI COLLATERAL & RESERVE ASSET
ETH remains the apex collateral asset underpinning billions in DeFi loans, derivatives, and stablecoins. Its neutrality, liquidity, and increasing yield (via staking/restaking) make it the preferred reserve asset for DAOs and protocols operating within the Ethereum economy.

MONETARY PROPERTIES & SCARCITY
Post-Merge, ETH's net issuance became significantly lower and often deflationary during periods of high network activity, driven by the EIP-1559 burn mechanism. This contrasts sharply with inflationary fiat currencies or fixed-supply assets lacking active consumption. Combined with the ~28% supply locked in staking, these dynamics create structural scarcity. See part one for further details.

GROWTH & INNOVATION EXPECTATIONS
A portion of the premium undoubtedly reflects market expectations for future growth in ETDE, application adoption, and the overall value of the Ethereum ecosystem.

For our YE 2028 valuation, we apply a **Market Premium range of 1.5x - 2.0x** (Base Case: 1.75x) to the calculated Security Floor Mcap. This range is intentionally below the observed historical median (~2.33x), incorporating a degree of conservatism to account for potential premium compression as the market matures, regulation clarifies, and alternative assets gain traction. However, the historical data strongly supports the existence of a significant premium, making a 1.0x assumption (i.e., market cap equals only the security floor) appear overly conservative based on past market behavior.

This applied premium bridges the gap between the theoretical security requirement and a realistic market valuation reflecting ETH's broader economic functions.

Valuation Results & Probabilistic Outlook

YE 2025 & YE 2028

Combining the Cost-to-Corrupt Floor with the justified Market Premium allows us to project potential future valuations.

The final model is:

Target Market Cap = ((Projected ETDE * RSR) / SR) * MP
Target Price = Target Market Cap / Projected ETH Supply

Given the significant uncertainty surrounding the required ETDE growth acceleration and the precise future Market Premium, we utilize a Monte Carlo simulation (500,000 iterations) to generate a probabilistic distribution of outcomes for Year-End 2025 and 2028. This simulation uses probability distributions for terminal target ETDE (mean $1.8T, std dev $0.6T) and Market Premium (mean 2.33x, std dev 0.6x), reflecting our base case and uncertainty ranges.

Probabilistic Outlook:
Year-End 2028

The simulation yields a distribution of potential price outcomes, visualized below. The price heatmap (left) shows the resulting ETH price ($K) for different combinations of achieved ETDE and Market Premium, while the density map (right) illustrates the likelihood of those input combinations based on our assumptions.

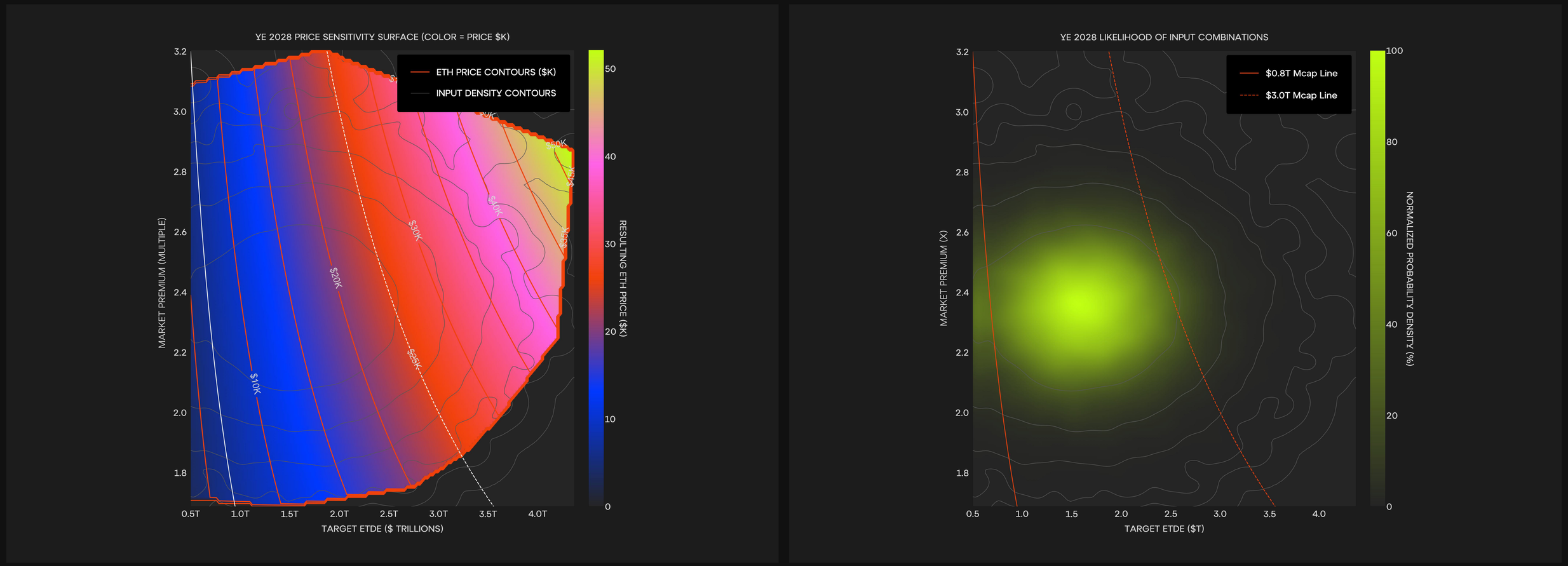


FIGURE 10. LEFT: SCENARIO ANALYSIS OF YE 2028 ETDE VS. PREMIUM AND RESULTANT ETH PRICE, RIGHT: PROBABILITY MASS OF INPUT COMBINATIONS FOR ETDE VS. PREMIUM

Simulation Results:
Key YE 2028

Mean Outcome (Base Case):	**~$15.8K**
Central 50% Range (IQR):	~$11.6K - $19.7K
Central 80% Range (10th-90th %ile):	~$8.1K - $23.5K
Implied MC:	~$1.89T

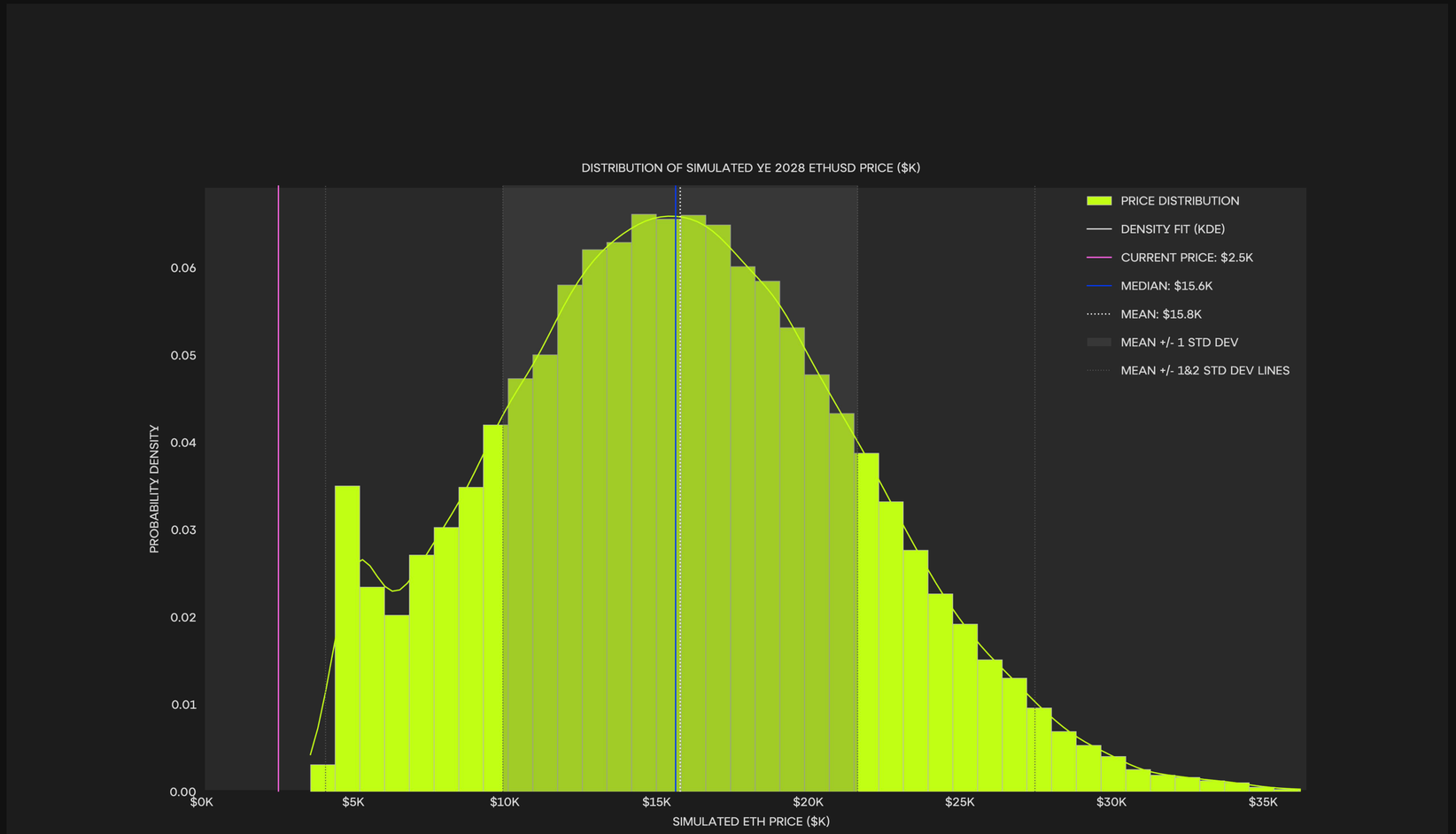


FIGURE 11: DISTRIBUTION OF SIMULATED YE 2028 ETH PRICES

Year End 2025 Outlook

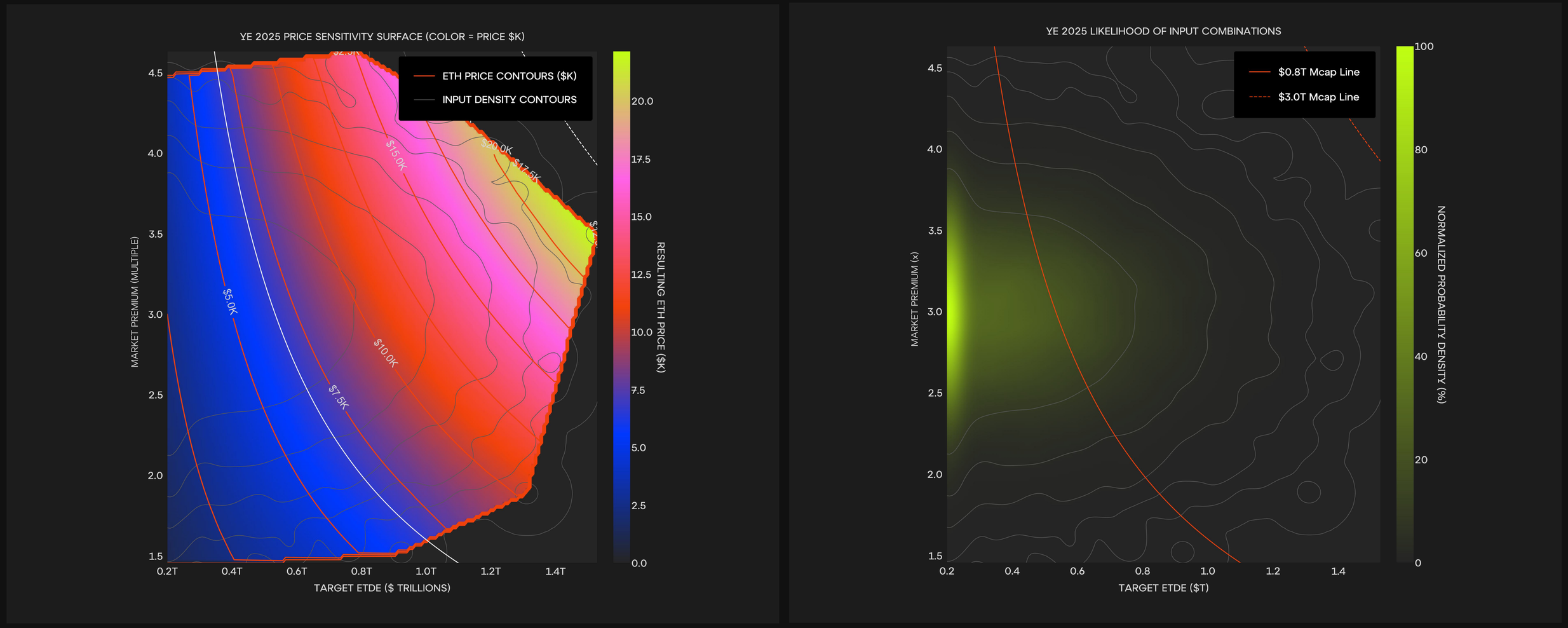


FIGURE 12. LEFT: SCENARIO ANALYSIS OF YE 2025 ETDE VS. PREMIUM AND RESULTANT ETH PRICE, RIGHT: PROBABILITY MASS OF INPUT COMBINATIONS FOR ETDE VS. PREMIUM

Simulation Results:
Key YE 2025

Mean Outcome (Base Case):	**~$4.9K**
Central 50% Range (IQR):	~$2.2K – $6.3K
Central 80% Range (10th-90th %ile):	~$1.9K – $9.1K

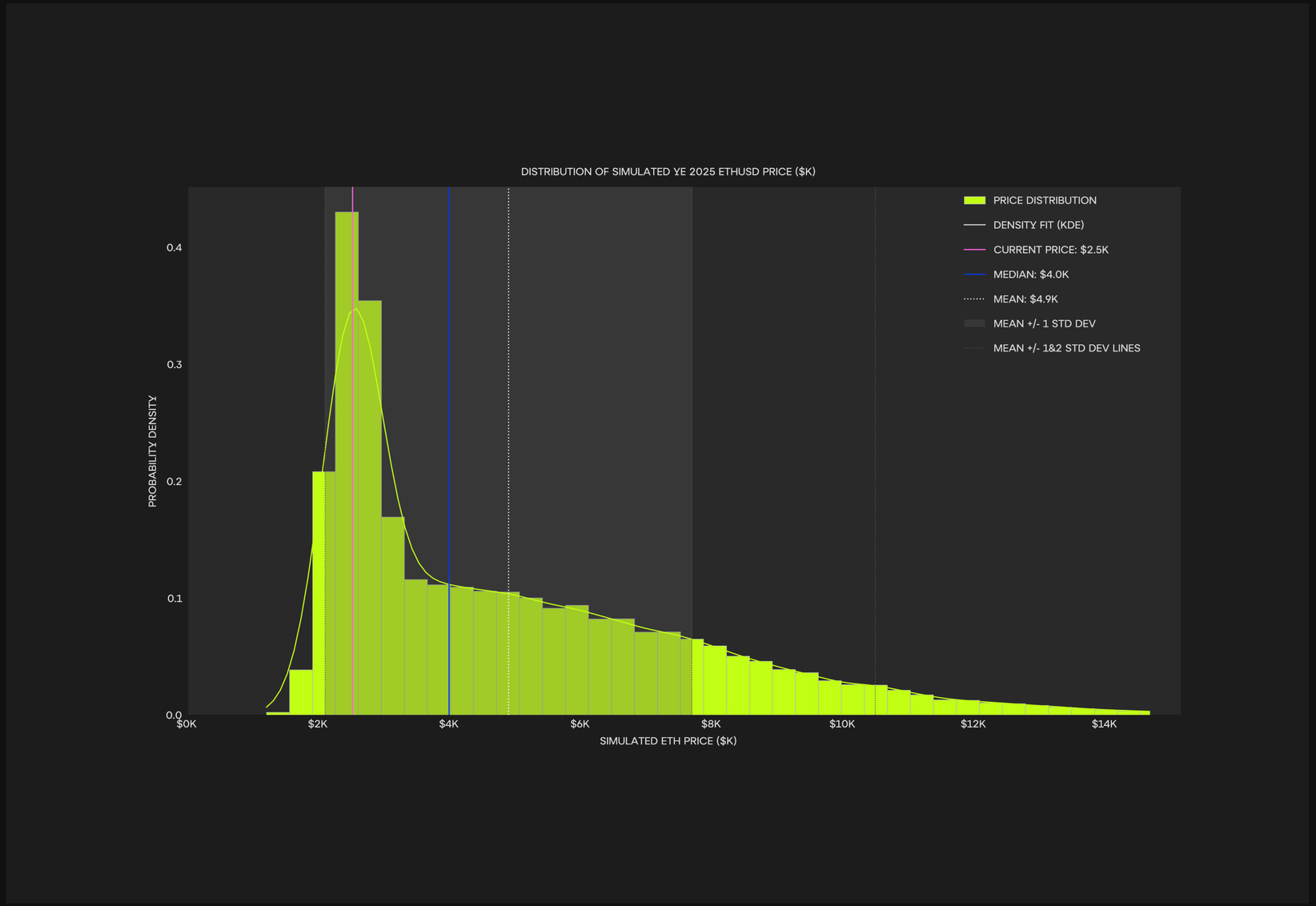


FIGURE 13: DISTRIBUTION OF SIMULATED YE 2025 ETH PRICES, NOTE SIGNIFICANT POSITIVE SKEW AND THAT THE CURRENT ETH PRICE IS LOWER THAN THE 90TH PERCENTILE IMPLIED RANGE, INDICATING SIGNIFICANT ASYMMETRY

Price Call Summary Table

Metric	YE 2025 Target (Probabilistic Sim)	YE 2028 Target (Probabilistic Sim)
Base Case Price	~$4.9K	~$15.8K
Central 50% Price Range (IQR)	~$2.2K – $6.3K	~$11.6K – $19.7K
Central 80% Price Range (10–90)	~$1.9K – $9.1K	~$8.1K – $23.5K

Conclusion

Ethereum is undergoing a fundamental transition, maturing from a speculative platform into the indispensable layer of underlying trust provision for an increasingly digital global economy. Our analysis, centered on the Cost-to-Corrupt Floor framework, demonstrates a clear, quantifiable link between the economic value secured on Ethereum (ETDE) and the required capitalization of ETH to maintain network integrity. Historical data strongly validates this relationship and reveals a persistent market premium above the theoretical security floor, reflecting ETH's multifaceted utility.

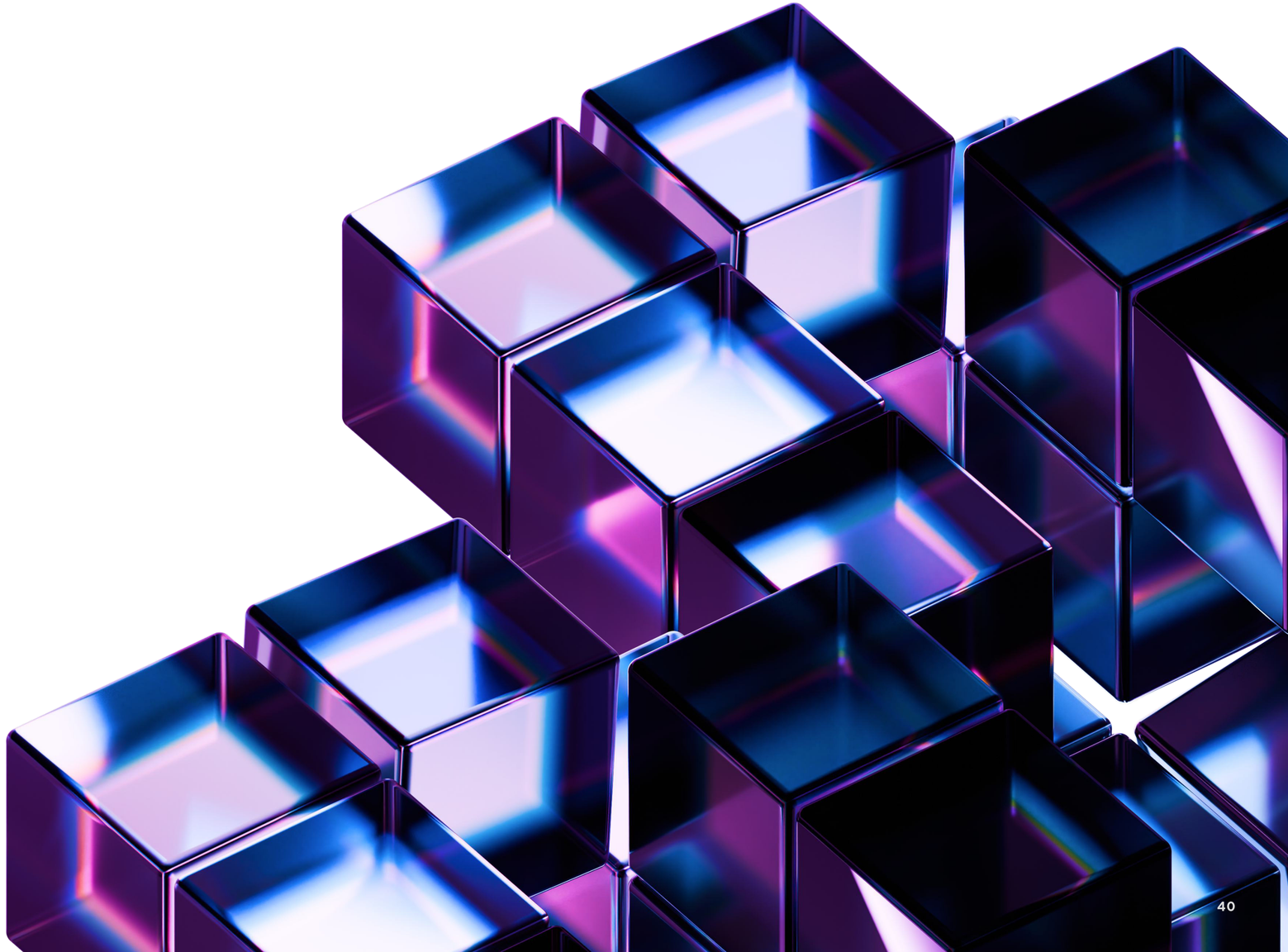
The resulting valuation hinges critically on the future growth trajectory of the Ethereum Trustware-Dependent Economy. While our model requires acceleration compared to recent historical trends (requiring >100% CAGR vs. ~20% post-Merge), this should be viewed within the context of powerful secular tailwinds. The tokenization of real-world assets (RWAs) is gaining steady traction and is an active process, with major institutions deploying solutions and respected analysts and consultancies projecting multi-trillion dollar markets far above and inside our forecast horizon (i.e. forecasts from BCG[40]). Concurrently, stablecoin utility is expanding beyond DeFi into payments and treasury management, suggesting addressable settlement volumes far exceeding current levels. The continued expansion of L2 ecosystems and novel primitives like restaking further contribute to ETDE growth potential. While achieving the ~$1.8T ETDE mean assumption by YE 2028 demands successful execution and adoption, the underlying drivers represent some of the most significant growth vectors in modern finance and technology.

Therefore, the YE 2028 price target of ~$15.8K derived from our probabilistic analysis represents a rational, but conservative economic endpoint contingent on these broader trends materializing on Ethereum's rails, a platform uniquely positioned due to its track record, security, network effects, and neutrality.

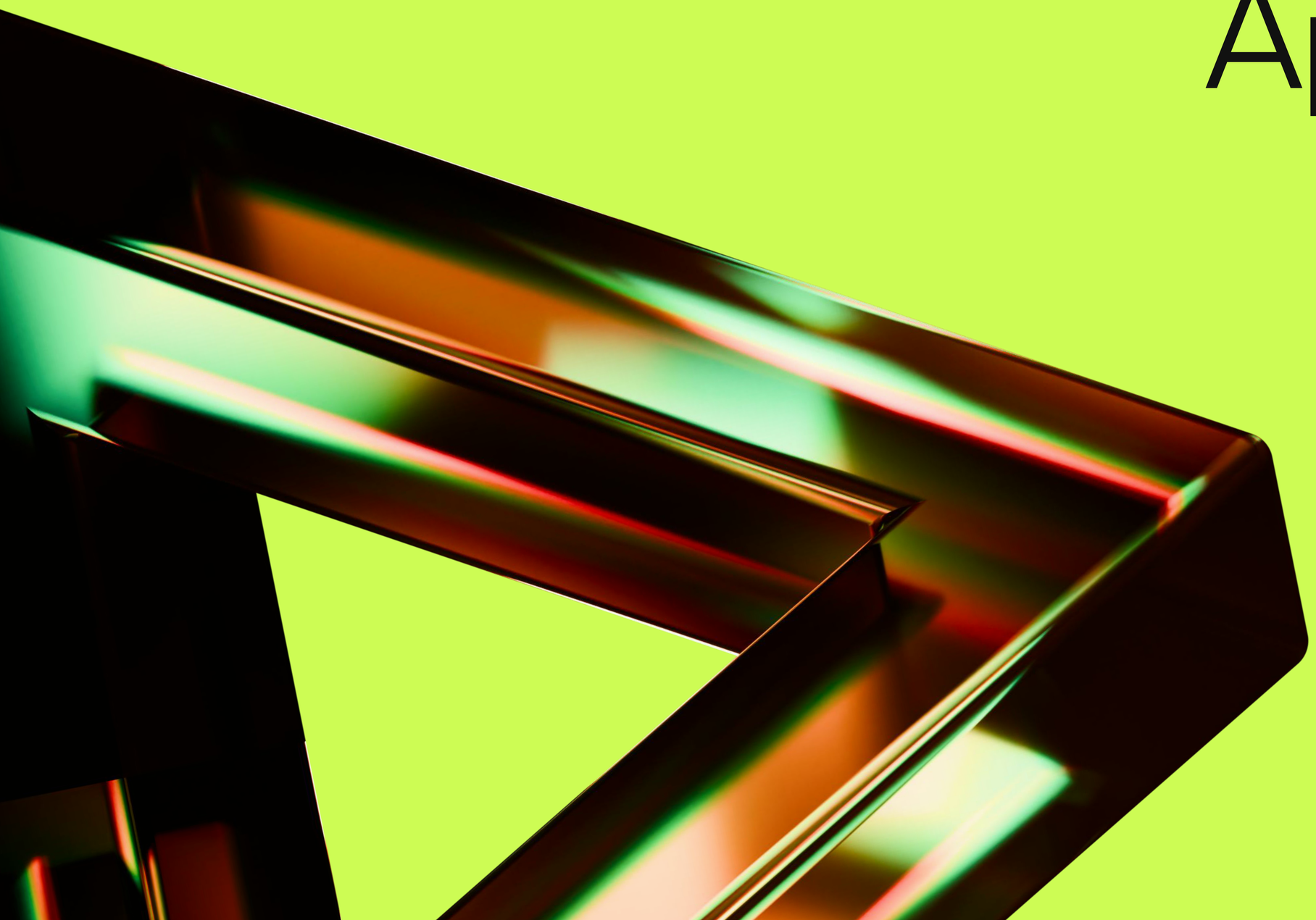
[40] https://www.coindesk.com/markets/2025/04/07/ripple-bcg-project-usd18-9t-tokenized-asset-market-by-2033-but-obstacles-remain

Strategic Recommendation

As with previous commodities and industrial revolutions, owning the source of the critical new commodity is where strategic advantage lies and where the outsized gains accrue. For investors, that means treating Ether less like a tech equity proxy and more like a strategic reserve asset. Ethereum's role as global trustware and the premium provider of digital trust, positions it to capture significant value from the ongoing digitalization of finance and commerce.



Appendix



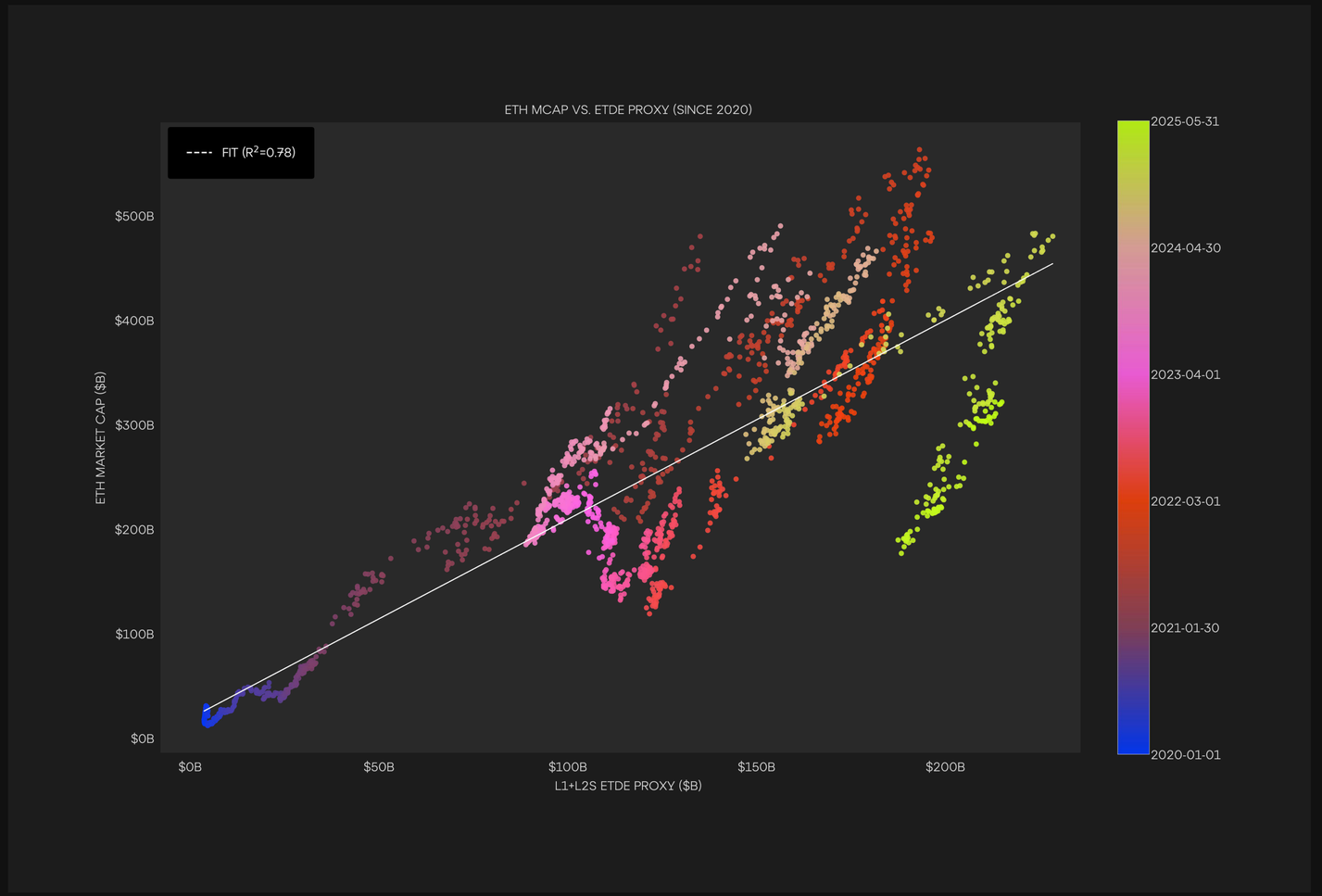
A.1 — Model Validation

A.1.0

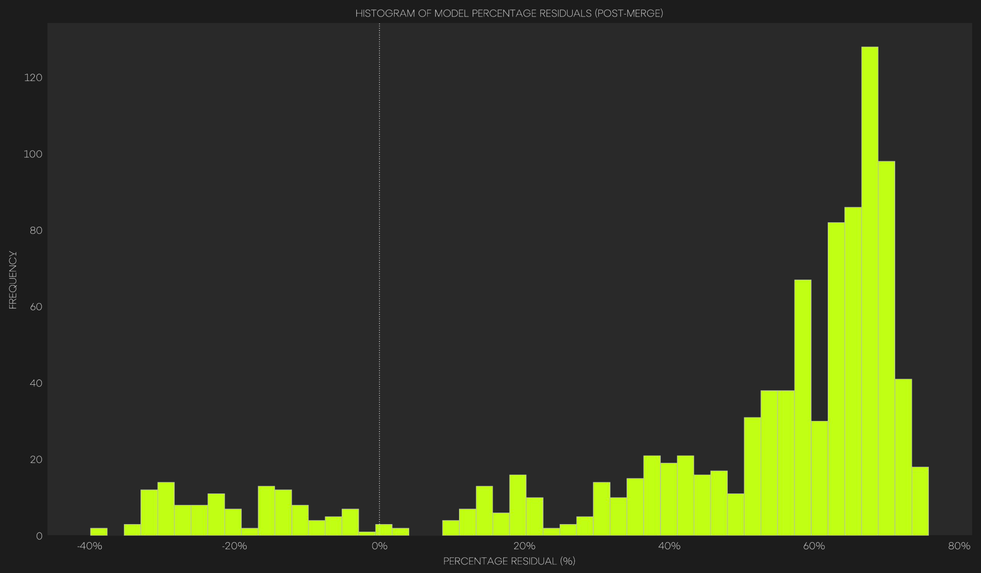
A robust valuation framework requires not only a sound theoretical basis but also empirical validation against historical data. Our analysis confirms the structural integrity of the Cost-to-Corrupt Floor model while highlighting key sensitivities.

Core Relationship Confirmed (Mcap associatively tied to ETDE): Historical data demonstrates a strong, statistically significant positive correlation between ETH Market Cap and our primary Ethereum Trustware-Dependent Economy proxy (ETDE Proxy) its primary feature (~0.78 post-Merge). Indicates that variations in secured economic value have historically explained a large portion of Market Cap variations, validating the model's central premise.

A.1.1



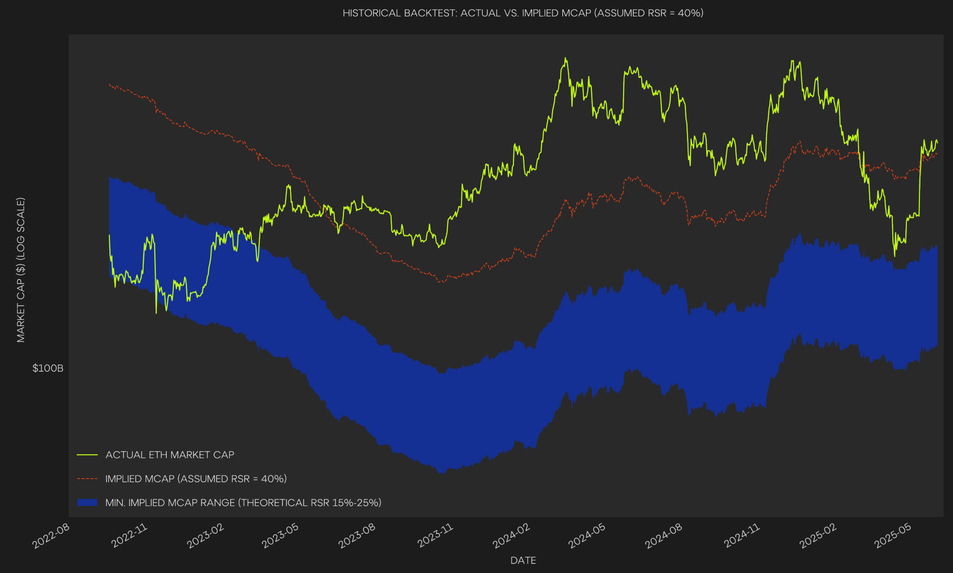
A.1.4



Distribution of model fit residuals post merge to present

C2C model fit residuals since the merge, high values indicate conservative model fit results.

A.1.5



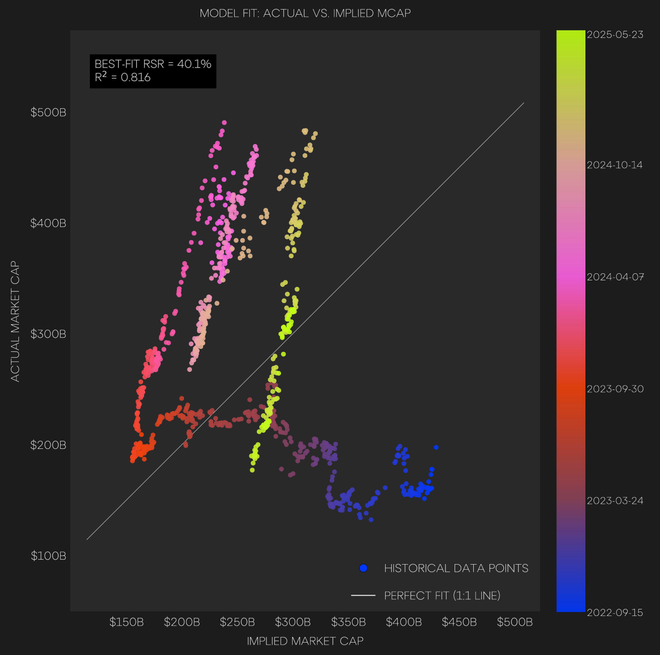
Actual ETH Market Cap vs. Implied Security Floor (using RSR=20%). The gap represents the market premium.

Calculating the historical ratio of Actual Mcap to this Implied Floor reveals a persistent Market Premium, with a post-Merge median of ~2.33x. This empirical finding directly supports the application of our 1.5x-2.0x Market Premium assumption in the forward valuation.

A.1.6

Historical Market Premium Ratio (Actual Mcap / Implied Floor at RSR=20%). Median 2.33x aligns with the assumed forward premium range.

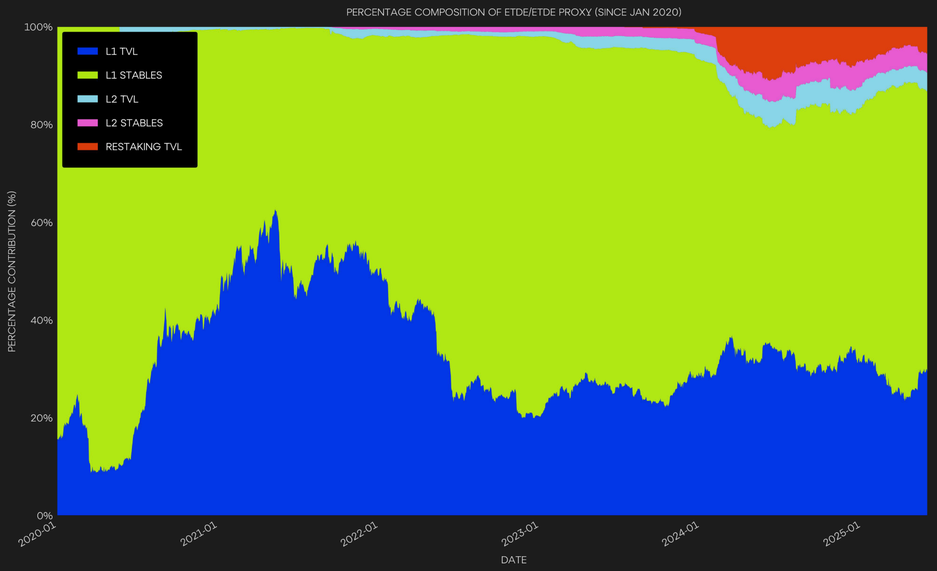
A.1.7



Model Fit using Best-Fit Historical RSR (~40%). Points cluster closer to the 1:1 perfect fit line.

Best-Fit Empirical RSR: Regressing Actual Mcap onto the model's output yields a best-fit historical RSR of ~40%. This empirically derived ratio, while higher than our theoretical floor, results in a closer fit to historical data and implicitly incorporates the average market premium.

A.1.8



Composition of ETDE Proxy (L1+L2s) Post-Merge. Shows relative contribution of L1/L2 TVL, Stables, and Restaking.

ETDE Composition & Growth Drivers: Decomposing the ETDE Proxy reveals that post-Merge growth was significantly influenced by L2 TVL, L2 Stablecoins, and nascent Restaking TVL, often compensating for relative stagnation in L1 DeFi TVL. This highlights the ecosystem's successful pivot towards Layer 2 scaling.

Analysis Conclusion

This analysis confirms the Cost-to-Corrupt Floor model provides a structurally sound framework linked to empirical data. The strong correlation between market cap and secured value, combined with the persistent historical premium (quantified near our assumed range and corroborated by the best-fit RSR), lends credibility to the core valuation approach as being a useful framework for investment allocation decisions. The primary sensitivity remains the forward projection of ETDE, requiring significant growth acceleration beyond historical component trends.

A.2 — Deriving Required Security Ratio (RSR) Ranges

A.2.0

The relevant critical attack thresholds:

Liveness Attack (>33% Stake):

An attacker controlling >1/3 of the stake can prevent the chain from finalizing. This is highly disruptive but not directly profitable unless used for extortion or combined with other exploits during the disruption

Finality Reversion/Censorship Attack (>51% or >66% Stake):

Controlling a majority (or supermajority, depending on specific fork rules) allows for reorgs (potential double spends) and transaction censorship. This is potentially profitable but extremely costly to acquire and almost certainly destroys the value of the acquired stake.

The core idea is that the cost to acquire the stake needed for a critical attack must be significantly greater than the maximum plausible profit from such an attack over a given timeframe.

Modelling max profit from an attack is challenging so estimating the maximum profit from an attack is difficult and speculative. It depends on the specific exploit (DeFi hack, bridge drain, double spend) and market conditions during the attack.

We can however use ETDE as a proxy for "Attack Surface" and for the overall economic importance and magnitude of potential attack targets available on the network. A higher ETDE implies larger potential single points of failure or higher value transactions that could be targeted. Therefore, a defensible RSR relates the cost of acquiring the stake for a critical attack (e.g., 33% or 51% of staked ETH) to the overall ETDE. The market implicitly demands that this attack cost represents a sufficiently high barrier relative to the value potentially at risk.

A.2.1 — FIGURE 14: ATTACK VECTORS AND THRESHOLDS FOR PERFORMANCE

STAKE HELD BY THE ATTACKER	WHAT CAN BE DONE IN PRACTICE	WHY IT WORKS / LIMITS	COST & PENALTIES
< ⅓ (~0-33 %)	• Nothing that endangers finality or chain selection. • Can only play "lucky-proposer" games (e.g.. reorder a few txs in the one block they propose) or try network-layer attacks (eclipse, DoS) that are independent of stake.	• Casper-FFG needs ⅔ of the total stake to finalize checkpoints, so an honest ⅔ majority always exists. LMD-GHOST fork-choice gives more weight to the honest chain.	• The attacker still earns/loses rewards like any honest validator; deliberate equivocations would be slashed.
≥ ⅓ BUT < ½ (= 33.4 %-50 %)	• Liveness / finality-halt: by abstaining or voting on both sides of a partition the attacker makes it impossible to reach the ⅔ super majority, so the chain stops finalizing.	• With ≥ ⅓, a ⅔ link cannot form. The inactivity-leak slowly bleeds stake from offline or contradictory validators; after ~21 days their weight drops below ⅓ and the chain finalizes again. Reference: One	• The leak plus any slashing for double-votes gradually burns the attacker's ETH, so the attack is time-limited and expensive.
= 34 % (DOUBLE-VOTING ATTACK)	• Double finality / "1-slashable-third" attack: by signing conflicting votes the attacker can finalize two different forks once each fork collects an additional honest 34% of votes. • This yields two incompatible "finalized" histories.	• Only 34 % is needed because those votes appear on both chains, so each side sees ≥ ⅔. Reference: Two	• Guaranteed slash: every conflicting vote is provably slashable, so the attacker's entire stake (and any colluding stake) is burned when evidence is broadcast.
≥ ½ (50 %+)	• Majority / 51 % attack: the attacker controls the head of the chain. • Censor or reorder any txs ("MEV reorgs", sandwiching, etc.) • Arbitrary short-range re-orgs (≤ 2 epochs) for double spends on fresh txs. • Force minority validators onto the attacker's fork.	• Fork-choice uses the heaviest chain (most attesting stake). With > 50 %, every slot carries more weight than the honest minority, so the attacker's view dominates. Reference: Three	• Social layer can coordinate to slash and adopt an honest minority fork, instantly destroying the majority's deposit. The cost is the market value of > 50% of all staked ETH.
≥ ⅔ (66.7 %+)	• Safety failure / finality reversion: the attacker alone can (re-)finalize any checkpoint they like, rewrite history arbitrarily far, and double-spend on already-finalized transactions.	• A checkpoint is finalized as soon as ≥ ⅔ of effective stake votes for it. With sole control of that super-majority, the attacker can finalize their preferred fork and later finalize an incompatible one. Reference: Four	• No automatic slashing if they stay on one fork; but if two finalized checkpoints conflict, ≥ ⅓ of someone's stake must have double-voted and is slashable. In practice the community would coordinate a hard fork to burn the attacker's ETH.
LONG-RANGE (> ⅔ AT SOME PAST EPOCH)	• Historic rewrite ("long-range" attack) against nodes that have been offline longer than the weak-subjectivity period.	• Past validators can sign an alternative history after withdrawing; naïve nodes cannot tell which chain is canonical. Ethereum requires users to sync from a recent weak-subjectivity checkpoint precisely to defeat this. Reference: Five	• Defended socially: clients refuse to follow any chain that conflicts with a checkpoint they obtained from a trusted, recent source.

[1] https://ethereum.org/en/developers/docs/consensus-mechanisms/pos/attack-and-defense, [2] https://ethresear.ch/t/dynamic-finalization-considering-51-attacks/21112, [3] https://ethereum.org/en/developers/docs/consensus-mechanisms/pos/faqs/, [4] https://ethereum.org/en/developers/docs/consensus-mechanisms/pos, [5] https://ethereum.org/en/developers/docs/consensus-mechanisms/pos/weak-subjectivity/

A.2.2

Deriving a Credible Floor RSR Range: Let's start with the cost to acquire >51% of the staked ETH (the threshold for producing an economically valuable outcome for an attacker) as a key economic deterrent (Cost_Attack).

We can argue that the market requires this Cost_Attack to be a meaningful percentage (let's call this the Deterrence Factor, DF of the (ETDE)). What's a "meaningful" percentage? Significantly more than typical operating costs or insurance premiums, reflecting the catastrophic potential of a consensus failure. A plausible conservative floor range for DF might be 5% to 10%.

Deterrence Principle

We assume the cost to mount a critical attack (Cost Attack) must be at least a certain fraction (the Deterrence Factor, DE) of the total economic value being secured (ETDE).
Cost_Attack > DE * ETDE

Attack Cost Definition

For a >33% finality attack, the minimum cost is acquiring ~ one-half of the value of all staked ETH (Value of Staked ETH).
Cost_Attack = (1/3) * Value_of_Staked_ETH

Equating Costs

Setting the minimum attack cost equal to the required deterrence value:
(1/2) * Value_of Staked ETH = DF * I

Solving for RSR

The Required Security Ratio (RSR) is defined as Value_of_Staked_ ETH / IDE. Rearranging le equation from step 3 to find this ratio:

- Divide both sides by IDE: (1/3) * (Value of Staked ETH / IDE) = DE
- Substitute RSR for (Value_of_ Staked_ETH / ETDE): (1/3) * RSR = DE
- Multiply by 3: RSR = 3 * DF

Now, using our plausible Deterrence Factor (DF) range of 5% to 10%:

- Low DF (5%): RSR = 3 * 0.05 = 15%
- High DF (10%): RSR = 3 * 0.10 = 30% -> 25%

We further haircut the high RSR back to 25% and use the midline 20% as our baseline floor in the model. Empirically the market prices RSR at 40.2%. This adds additional conservatism to our forecast and projections.

Acknowledging Risks

We would be remiss to state that the future is certain and that headwinds do not exist, even if we view them as ultimately surmountable:

Technical execution risk remains non-zero.

While Ethereum has successfully delivered every major upgrade, future improvements like sharding and statelessness involve unprecedented complexity. Delays could provide windows for competitors, though Ethereum's ten-year head start and $90 billion security moat make displacement increasingly improbable.

Regulatory uncertainty persists in key jurisdictions.

While the trend toward clarity is unmistakable with MiCA live, the UK sandbox operational, and the US pivoting toward engagement, adverse regulatory action remains possible. However, Ethereum's geographic decentralization and institutional adoption create powerful constituencies opposing restrictive measures.

Competitive pressure from well-funded alternatives continues.

Solana's speed, and other emerging chains offer differentiated approaches. However network effects in trust infrastructure tend toward monopoly users needing one source of truth, not many. Ethereum's ₹0% developer share and 59% stablecoin dominance suggest the competitive window is closing, not opening.

Macroeconomic shocks could delay adoption timelines.

Recession, geopolitical conflict, or financial crisis might slow institutional deployment. Paradoxically, such crises often accelerate adoption of non-sovereign monetary assets, as 2020's money printing drove DeFi's explosive growth. Ethereum offers antifragility against disorder and strengthens the case for neutral, programmable infrastructure.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