

Valuation: How to Think About Crypto Worth

There's no P/E ratio for Bitcoin. So how do serious investors think about what crypto assets are actually worth?



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13 min

Traditional valuation is straightforward in principle: an asset is worth the present value of its future cash flows. A stock pays dividends. A bond pays coupons. Real estate pays rent. You discount those payments back to today, and you have a value. Bitcoin pays nothing. Ethereum pays nothing to passive holders. So what are they worth? This question has tortured analysts since crypto began, and the honest answer is: we're still figuring it out.

Why Traditional Valuation Fails

The discounted cash flow model that underpins most financial analysis simply doesn't apply to most crypto assets:

No cash flows: Bitcoin generates no revenue, pays no dividends, and has no earnings. It's a bearer asset, like gold or art. Its value derives entirely from what someone else will pay for it.

No comparable assets: What's Bitcoin's peer group? Digital gold? Payment networks? Store of value? Each framing suggests different comparables and wildly different valuations.

Reflexive dynamics: In traditional assets, price and value are distinct — price can deviate from value, creating opportunities. In crypto, price often influences fundamentals. Higher prices attract developers, users, and capital, which improve fundamentals, which justify higher prices. It's circular in ways that break classical analysis.

"Trying to value Bitcoin with DCF is like trying to measure temperature with a ruler. The tool doesn't match the problem."

This doesn't mean valuation is impossible. It means we need different frameworks — mental models that help us think about worth even when precise calculation is unavailable.

Framework 1: Total Addressable Market

The most common approach: identify what market crypto might capture, estimate that market's size, and work backward to implied asset prices.

Bitcoin as digital gold: Gold's market cap is roughly \$15 trillion. If Bitcoin captured 10% of gold's store-of-value function, that implies a \$1.5 trillion market cap — roughly \$75,000 per Bitcoin. If it captured 50%, that's \$375,000 per Bitcoin. If it eventually matched gold entirely, \$750,000.

Bitcoin as settlement layer: Global settlement systems process trillions annually. If Bitcoin captured a fraction of international settlement, the implied value increases further.

Ethereum as cloud computing: AWS, Azure, and Google Cloud generate hundreds of billions in revenue. If Ethereum becomes "the world computer," what's that worth? The math gets speculative quickly.

KEY INSIGHT

TAM analysis tells you what's possible, not what's probable. Bitcoin could theoretically replace gold, but the probability of that outcome matters enormously. A 50% chance of reaching gold's market cap is worth far less than certainty of reaching half that level. Always probability-weight your scenarios.

Framework 2: Stock-to-Flow

Popularised by the pseudonymous analyst PlanB, stock-to-flow models Bitcoin's scarcity mathematically:

The concept: Stock is total existing supply. Flow is new annual production. The ratio — stock divided by flow — measures scarcity. Gold has a stock-to-flow around 60 (it would take 60 years of production to double existing supply). Bitcoin's stock-to-flow increases with each halving, approaching gold's level and eventually exceeding it.

The model: PlanB's regression suggested a mathematical relationship between stock-to-flow and market cap. The model predicted \$100,000+ Bitcoin following the 2024 halving.

The critique: Stock-to-flow worked until it didn't. The model's predictions diverged from reality in 2021-2022. Critics argue it's essentially curve-fitting with no causal mechanism. Scarcity alone doesn't create value — demand matters equally.

Stock-to-flow is worth understanding because many market participants believe in it, creating self-fulfilling dynamics around halvings. Whether the model is "true" matters less than whether it influences behaviour.

Framework 3: Network Value

Metcalf's Law states that a network's value grows proportionally to the square of its users. A network with 10 users has 100 potential connections; with 100 users, 10,000 connections. Applied to crypto:

NVT Ratio: Network Value to Transactions — essentially a P/E ratio for blockchains. Market cap divided by transaction volume. High NVT suggests overvaluation; low NVT suggests undervaluation relative to usage.

Active addresses: Daily active addresses as a proxy for users. More users should mean more value. Bitcoin's active addresses have grown consistently over 15 years.

Developer activity: For smart contract platforms, GitHub commits and developer count signal ecosystem health. More developers building means more future utility.

Network metrics are useful for comparing similar assets (Bitcoin vs. Bitcoin Cash) or tracking single assets over time. They're less useful for absolute valuation.

Framework 4: Cost of Production

Mining Bitcoin requires electricity, hardware, and capital. Some analysts argue the cost of production creates a price floor:

The logic: If Bitcoin trades below production cost, miners shut down, reducing supply, eventually pushing prices back above production cost. The marginal cost of mining acts as gravitational support.

The reality: Bitcoin has traded below estimated production costs for extended periods. Miners with lower costs survive; high-cost miners capitulate. The "floor" is more of a zone than a level, and it shifts constantly with energy prices and hashrate.

The insight: Production cost tells you something about miner psychology and potential supply pressure. It's not a valuation model but it's a useful input.

THE RORY SUTHERLAND TAKE

All these models share a flaw: they try to derive value from measurable quantities. But most valuable things derive value from unmeasurable beliefs. Why is a Picasso worth \$100 million? Not because of canvas and paint costs. Because of collective belief in its cultural significance. Bitcoin's value similarly derives from belief — belief that it will retain purchasing power, that others will accept it, that the network will persist. Models that ignore belief miss the point. Bitcoin is valuable because people believe it's valuable, and that belief has proven remarkably durable. You can't model belief. But you can observe it.

Framework 5: Relative Value

Rather than absolute valuation, compare crypto assets to each other:

Bitcoin dominance: Bitcoin's share of total crypto market cap. High dominance (60%+) suggests risk-off sentiment — investors preferring the "safe" crypto. Low dominance (40%) suggests risk-on — money flowing to altcoins and speculation.

ETH/BTC ratio: Ethereum priced in Bitcoin terms. Rising ratio suggests smart contract platforms gaining mindshare. Falling ratio suggests Bitcoin's "digital gold" narrative winning.

Layer 1 comparisons: If Solana has similar activity to Ethereum at 1/10th the market cap, is that opportunity or justified discount for different risk profiles?

Relative value doesn't tell you if crypto broadly is cheap or expensive. It tells you which crypto assets might be mispriced relative to peers.

Framework 6: Option Value

Perhaps the most intellectually honest framework: treat crypto as a call option on an alternative financial system.

The setup: Bitcoin either succeeds as a global store of value (massive payoff) or fades into irrelevance (total loss). The expected value is the probability-weighted average of these outcomes.

The math: If Bitcoin has a 10% chance of reaching gold's market cap (\$15T) and 90% chance of going to zero, the expected value is \$1.5T — roughly current levels. If you think the probability is 20%, expected value doubles.

The advantage: This framework acknowledges radical uncertainty rather than pretending precision. It forces you to articulate your beliefs about probabilities rather than hiding them in model assumptions.

"The question isn't 'what is Bitcoin worth?' It's 'what probability do I assign to Bitcoin succeeding, and what does success look like?' Everything else follows from those beliefs."

What Smart Money Actually Does

Institutional investors, in practice, tend to:

Size positions by risk budget, not valuation: Allocate 1-3% to crypto not because models say it's worth 1-3% of portfolios, but because that's the maximum loss they're willing to accept if it goes to zero.

Use multiple frameworks: No single model is trusted. TAM analysis, on-chain metrics, momentum signals, and relative value all inform decisions. Triangulation beats precision.

Focus on regime: Rather than precise fair value, assess whether current prices reflect accumulation (institutions buying), distribution (institutions selling), or equilibrium. Price relative to 200-day moving average, exchange balances, and fund flows matter more than DCF.

Accept uncertainty: The honest answer to "what's Bitcoin worth?" is "I don't know, but here's my framework for thinking about it." Precision is false comfort in genuinely uncertain domains.

Valuing Smart Contract Platforms

Ethereum, Solana, and other Layer 1s require different thinking:

Revenue exists: Unlike Bitcoin, smart contract platforms generate fee revenue. Users pay to transact. This revenue accrues to validators/stakers. Traditional cash flow analysis becomes possible, though complicated.

Token burns matter: Ethereum's EIP-1559 burns a portion of transaction fees, reducing supply. At high usage, Ethereum becomes deflationary. This adds a buyback-like mechanic to valuation.

P/S ratios: Price to annual fee revenue. Ethereum trades at P/S multiples comparable to high-growth tech stocks. Solana trades at different multiples reflecting different growth/risk profiles.

The complication: Smart contract platforms face competition Bitcoin doesn't. Ethereum's moat is network effects and developer ecosystem, but Solana, Avalanche, and others offer alternatives. Competitive dynamics add uncertainty to any projection.

The Practical Approach

For sophisticated investors, valuation in crypto means:

Know your framework: Decide which mental model resonates with you. TAM-based? Option-value? Network effects? Your framework determines how you interpret new information.

Size for uncertainty: Position sizes should reflect genuine uncertainty about valuation. If you can't confidently value something, don't bet as if you can.

Watch for anchoring: Previous prices are meaningless for valuation. Bitcoin being "down from \$69,000" tells you nothing about fair value. Previous ATHs create false anchors that distort judgment.

Separate trading from investing: Short-term price movements are driven by flows and sentiment, not valuation. Long-term returns depend on whether the asset is fundamentally worth more than you paid. Different games require different approaches.

Honest Uncertainty

Here's the truth that valuation frameworks often obscure: nobody knows what crypto is worth. The analysts with precise price targets are guessing. The models with decimal-place predictions are cosplaying certainty.

This isn't a criticism — it's a description of reality. Bitcoin is 15 years old. Ethereum is 9. The frameworks for valuing them are even younger. We're in the early days of developing tools to think about these assets.

The appropriate response isn't to abandon valuation but to hold frameworks loosely. Use them to structure thinking, not to generate false precision. Update your views as evidence accumulates. Accept that being approximately right matters more than being precisely wrong.

In a domain of genuine uncertainty, intellectual humility isn't weakness. It's the only honest position.

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