

ON-CHAIN ANALYSIS

What Is MVRV in Bitcoin?

The cost-basis ratio that has flagged every Bitcoin top and bottom since 2011 — how it is built, what it is signaling in mid-2026, and the one flaw every analyst now has to price in.

BY ALAIN AI LAB · RESEARCH DESK · PUBLISHED JULY 3, 2026

MVRV Z-SCORE 0.20 Neutral · Jul 1	REALIZED PRICE ~\$54K Aggregate cost basis	REALIZED CAP ~\$1.1T Record high	SPOT VS BASIS +13% ~\$61.3K spot
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THE BOTTOM LINE

MVRV compares what Bitcoin is worth today with what the entire market actually paid for its coins. Above 1, holders are collectively in profit; below 1, underwater. Its normalized cousin, the **MVRV Z-Score**, has marked every cycle top (deep red, above ~7) and every cycle bottom (deep green, below ~0.1) since 2011. At **0.20** today, Bitcoin trades just above aggregate cost basis — historically cheap, but not yet the capitulation-grade green that stamped past floors. The bigger story is that the signal bands are shrinking every cycle, and that changes how you read the number.

01 What MVRV actually measures

MVRV stands for **Market Value to Realized Value**. It is a single ratio: the current market capitalization of Bitcoin divided by its *realized* capitalization. In plain terms, it asks one disciplined question — **how far is the price today from the average price the market paid for every coin in existence?**

The metric was introduced on October 2, 2018 by analysts **Murad Mahmudov and David Puell**, building on the realized-capitalization concept presented earlier that year by **Nic Carter and Antoine Le Calvez** of Coin Metrics. It was one of the first tools to reframe Bitcoin valuation away from pure price charts and toward the actual on-chain cost basis of holders.

The elegance is in the interpretation. When MVRV is **greater than 1**, the aggregate market is sitting in profit — coins are worth more than they were last acquired for. When MVRV falls **below 1**, the average holder is underwater, which historically only happens in the depths of a bear market. That single line in the sand is why MVRV became a cornerstone of cycle analysis.

What makes this powerful is that it sidesteps the two things that make Bitcoin notoriously hard to value: it has no earnings, no dividends, and no cash flows to discount. Traditional valuation models simply do not apply. MVRV replaces them with a behavioral anchor — the collective memory of what holders paid — and measures price against that memory. It is less a valuation of the asset than a valuation of the crowd's position in it, which is precisely why it turns sharp at emotional extremes.

02 The two halves: market value and realized value

To use MVRV honestly, you have to understand its two inputs, because they measure very different things.

Market Value is the familiar figure: the current price multiplied by the circulating supply. Every coin is marked at today's price, whether it last moved yesterday or in 2013. It reflects sentiment in real time and swings hard.

Realized Value — the innovation — is calculated differently. Instead of pricing every coin at today's quote, it values each coin at the price it **last moved on-chain**, then sums those values across the entire supply. A coin last transacted at \$8,000 is counted at \$8,000, not at spot. The result approximates the **aggregate cost basis** of the network: what the market, in total, genuinely paid.

Because realized value only updates when coins actually move, it is far smoother than market value. Dormant and long-lost coins — an estimated three to four million BTC — are effectively frozen at old, low prices, which anchors the metric. As of mid-2026, Bitcoin's **realized cap sits near a record \$1.1 trillion**, having continued to climb even as spot price fell through the year. That divergence — rising cost basis, falling price — is itself a signal: long-term holders kept accumulating while the market sold.

03 The MVRV Z-Score: the version analysts actually use

The raw MVRV ratio is useful, but it has a problem: its extremes drift over time, making a fixed threshold unreliable. The fix came in late 2018 from an analyst known as **Awe & Wonder**, who created the **MVRV Z-Score**.

The formula normalizes the gap between market and realized cap by Bitcoin's own volatility:

COMPONENT	DEFINITION
MVRV Z-Score	$(\text{Market Cap} - \text{Realized Cap}) \div \text{standard deviation of Market Cap}$
Red zone (top)	Z above ~7 — extreme overvaluation, distribution territory
Green zone (bottom)	Z below ~0.1, dipping under 0 at capitulation — deep undervaluation

By dividing by the standard deviation, the Z-Score expresses how **statistically stretched** price is from cost basis. A crucial distinction for analysts: the **green bottom band is Z below ~0.1**, not below 1. "Below 1" belongs to the plain MVRV *ratio*; conflating the two is a common and costly error. The Z-Score is the version that appears on Glassnode, CryptoQuant, and Bitcoin Magazine Pro, and it is the one that built MVRV's reputation as a top-and-bottom detector.

Read practically, a Z-Score near 7 means market cap has stretched roughly seven standard deviations above its cost basis — a statistical rarity that has only ever coincided with mania. A reading near zero means price and cost basis have converged, which historically happens only when sellers are exhausted. The score does not predict the future; it measures how far sentiment has traveled from what the network actually paid, and mean-reversion does the rest.

04 The track record: tops and bottoms

MVRV earned its following because its signals lined up with the largest turning points in Bitcoin's history. The pattern is consistent, with one important trend hiding inside it.

EVENT	PRICE	MVRV Z-SCORE	MVRV RATIO
Dec 2017 top	~\$19,700	~8.8 (red)	~4.0
Dec 2018 bottom	~\$3,200	~-0.5 (green)	~0.85
Nov 2021 top	~\$69,000	~6.8-7.1 (red)	~3.7
Nov 2022 bottom	~\$15,500	below 0 (green)	~0.72
2024-25 rally peak	~\$126,000	~3.8-4.2 only	~2.9

Read the table top to bottom and the discipline is obvious: every major top printed a red Z-Score and an MVRV ratio above ~3.5; every major bottom printed a green Z-Score and a ratio below 1. On the plain ratio, readings **above ~3.5** have reliably flagged overvaluation, while readings **under 1** have flagged capitulation.

But notice the final row. The 2024-25 advance carried Bitcoin to a record \$126,000, yet the Z-Score peaked at only **~3.8 to 4.2** — nowhere near the 7-plus of prior cycle tops. This is the single most important nuance in modern MVRV analysis, and we return to it below. For where this sits on the larger structure, our [Bitcoin cycle map](#) plots each phase against these on-chain bands.

05 What MVRV is signaling right now

As of early July 2026, with Bitcoin trading near **\$61,300** after a roughly 50% drawdown from its October 2025 high, the on-chain picture is coherent and worth reading carefully.

The **MVRV Z-Score sits at 0.20** (July 1), having compressed from ~0.24 in early June. The **realized price — aggregate cost basis — is near \$54,000**. With spot around \$61,300, the market as a whole is roughly **13% above its cost basis**: modestly in profit, far from euphoric, and far from the deep losses that define a true floor.

The realized-cap trend adds important texture. Even as spot fell through 2026, realized cap pushed to a fresh record — meaning coins were, on net, migrating into stronger hands at higher cost bases rather than capitulating at the lows. That is the on-chain signature of accumulation, not distribution, and it is one reason several desks describe the current zone as a floor-building phase rather than the opening of a deeper leg down.

In zone terms, Bitcoin is **neutral and drifting toward the accumulation band**, but it has not yet entered capitulation-grade green. A Z-Score of 0.20 is low and historically cheap — every past bottom emerged from this neighborhood — but prior floors saw the score dip to or below zero before reversing. On-chain analysts describe the current setup as a bottoming *process* that is underway but unconfirmed: short- and long-term holder cost bases have not fully converged, the classic fingerprint of a completed capitulation. We laid out the full floor framework in [When Will Bitcoin Bottom?](#), and MVRV is one of the core signals it tracks.

06 Where MVRV breaks

No single metric is a crystal ball, and MVRV has three documented weaknesses that matter more in 2026 than they did in 2018.

The bands are shrinking. Peak Z-Scores have fallen every cycle — roughly 8.8 in 2017, near 7 in 2021, and only ~4 at the 2024–25 high. As Bitcoin’s market cap grows into the trillions, each new dollar of inflow moves the ratio less, so the old “above 7 equals top” rule may never trigger again. Treating a fixed 7 as gospel could keep an analyst waiting for a signal that mathematics no longer permits. This decay in once-reliable thresholds is exactly what we examined in [Bitcoin cycle indicators that stopped working](#).

It lags, and it is an average. MVRV confirms turning points; it does not time them to the day. It identifies statistically likely zones, not precise entries or exits, and it can sit in a band for months. As an aggregate, it also masks the difference between long-term holders and recent buyers.

The ETF era distorts the inputs. Roughly three to four million permanently lost coins bias realized cap upward, and the rise of spot ETFs means large volumes of Bitcoin now change hands through custodial and off-chain structures that on-chain flow data captures imperfectly. When ownership moves off-chain, the cost-basis picture blurs.

None of this makes MVRV useless — it still flagged the 2022 bottom and the 2024–25 froth in real time — but it does mean the raw number now demands interpretation rather than blind obedience. Analysts who use it well treat it as one instrument in a panel and re-anchor the reference bands cycle by cycle, rather than clinging to thresholds calibrated when Bitcoin was a billion asset.

THE ANALYST'S TAKEAWAY

MVRV is a valuation compass, not a trigger. It tells you whether Bitcoin is cheap or expensive relative to what the market paid — and today it says cheap, but not yet capitulation-cheap. Use the direction of travel, not a fixed number, and never trade it alone.

07 How to actually use it

For a disciplined investor, MVRV works best as a **context gauge** rather than a signal generator. Three practical rules follow from its track record and its flaws.

Read the trend, not the threshold. Because the bands are compressing, a Z-Score falling toward zero is more informative than any single “magic” level. Direction and rate of change carry the signal.

Confirm with company. MVRV is strongest when it agrees with independent metrics — the 200-week moving average, realized-price support, NUPL, and long-term-holder behavior. When several align in the green, the probability of a durable low rises. When only one flashes, treat it as a hypothesis.

Respect the zone, ignore the noise. The value of MVRV is that it keeps you buying fear and selling greed — accumulating when the score is low and the crowd is despondent, trimming when it is stretched and the crowd is euphoric. At 0.20, the metric is not telling you the exact bottom is in. It is telling you that, on a cost-basis measure, Bitcoin is trading at a level from which every previous cycle eventually recovered — a fact worth more to a patient allocator than to a trader hunting the tick.

“The plans of the diligent lead surely to abundance, but everyone who is hasty comes only to poverty.” —

Proverbs 21:5

METHODOLOGY & SOURCES. Data verified as of July 3, 2026 against Glassnode, CryptoQuant, Coin Metrics, Bitcoin Magazine Pro, and CoinDesk. MVRV and realized-cap concepts attributed to Mahmudov & Puell (2018), Carter & Le Calvez / Coin Metrics (2018), and the MVRV Z-Score to Awe & Wonder (2018). Z-Score readings are provider-dependent and vary by tenths; figures are labeled approximate. Realized-price estimate (~\$54K) reflects late-June to July 2026 reporting; older 2026 snapshots cited higher figures and were excluded. This report is research and education, not investment advice.

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