

Crypto Short-Horizon Reversal: Two Decisive Negative Trials

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Abstract

Two historical identities test whether crypto perpetual-futures returns reverse after common movement is removed. One uses a 24-hour residual signal; the other combines 24- and 72-hour residuals. Both are strongly negative in the implemented direction. Their immutable annualized Sharpe summaries are -2.1527 and -2.1140 across 1,574 observations. The result rejects the tested reversal rule, but it does not automatically establish the opposite momentum trade. Exact curves, maximum drawdowns, costs, funding attribution, and current-union DSR are not preserved at the family level. The family contributes zero sleeves and remains in the trial union as a negative result.

Hypothesis and estimand

Residual reversal asks whether an asset-specific price move over a short horizon predicts an opposite-signed subsequent return. The intended estimand is the net return to a rank portfolio that is long recent residual losers and short recent residual winners, measured out of sample under the recorded rebalance and portfolio rules.

Short-term reversal has precedent in conventional equities. Lehmann documents weekly return reversals and considers whether they reflect market inefficiency or compensation for risk ([Journal of Finance](#)). That literature is a prior, not a transport theorem. Crypto trades continuously; perpetual funding transfers value between long and short positions; liquidations can create directional cascades; and venue-specific microstructure can dominate a short-horizon signal. A residual estimated from historical returns does not remove these channels.

Frozen configurations

Both identities use rank allocation, a 24-bar rebalance interval, a 10-basis-point no-trade band, a 6,048-bar training window, a 1,512-bar test window, and the same 58-instrument configuration universe. This common construction makes the two rows related specifications of one mechanism.

Identity	Signal set	Observations	Sharpe	Skew	Kurtosis
7d65785e1ea4789e	mr_res_24	1,574	-2.1527	-0.0875	7.0956
9d39062d6525fdbb	mr_res_24 , mr_res_72	1,574	-2.1140	-0.6294	8.8195

Adding the 72-hour component does not rescue the hypothesis. It changes the shape of the negative return distribution, including more negative skew and higher kurtosis, while leaving the central conclusion intact. Both identities are charged. Rounded similarity is not used to erase one trial, and the

horizon blend is not relabeled as a separate sleeve.

Interpretation of the negative sign

A strongly negative reversal return is compatible with several explanations: short-horizon continuation may dominate; residualization may remove the wrong common component; funding or turnover may overwhelm gross mean reversion; or the universe and rebalance design may expose liquidation trends rather than temporary dislocations. The summaries cannot distinguish among these explanations.

Multiplying the return by minus one would create a new, selected momentum hypothesis. It would need a new preregistration, config hash, trial charge, cost model, and out-of-sample test. The negative result therefore remains a falsification of reversal, not evidence for an untested opposite trade.

Statistical and execution boundary

Only immutable first-summary moments are bound family-wide. The exact daily curves are not available in this packet, so maximum drawdown, autocorrelation, clustered uncertainty, funding exposure, and event concentration cannot be reconstructed. No artifact-era DSR survives for either identity, and no current-union DSR is estimated from incomplete moments. Capacity is also unmeasured. A 24-bar rebalance schedule could create substantial turnover and market impact, but the family record does not contain enough execution detail to quantify them.

There is no broker-reconciled forward record and no Alpaca return attributed to this family. The absence of forward evidence does not weaken the historical rejection. It limits the explanations that can be defended.

Reproduction and decision

`crypto_reversal_family.json` publishes the hypothesis keys, configuration hashes, recorded signal sets, result moments, immutable ledger hash, and evidence grade. `trial_packet_manifest.json` keeps both identities in the full research accounting.

Decision: FAIL / zero sleeves. The implemented residual-reversal direction failed twice. A future study may test a different residual model or a separately preregistered continuation rule, but it cannot rewrite these observations. The research and decision record were directed by **Arhan Canli**.

References

1. NARASIMHAN JEGADEESH (1990). *Evidence of Predictable Behavior of Security Returns*. The Journal of Finance. <https://doi.org/10.1111/j.1540-6261.1990.tb05110.x>