SIGNAL RESEARCH NOTE

Generalized Roughness Rank

Medium-horizon price roughness and persistence across liquid equities.

Long Memory Roughness Subdiffusion | Secondary research | 63d preferred horizon

Executive Summary

This note summarizes historical rank evidence for Generalized Roughness Rank. Metrics are reported as research diagnostics under the source-run assumptions and should be read as evidence about ranking behavior, not as a live recommendation.

Preferred horizon	63d
Top-bottom spread	0.53%
Rank IC	0.011
Long-leg return	n/a
Average turnover	54.19%

1. The preferred diagnostic horizon is 63d, where the recorded rank spread is 0.53%.
2. Spread evidence is strongest around the 252d horizon in the available comparison set.
3. Rank IC is positive in the reported research run at 0.011.

Data and Research Setup

UNIVERSE

Broad liquid equity universe used by the source research run.

INPUTS

Daily closing-price histories and dated price-roughness features.

CADENCE

Cross-sectional ranking review across medium and long research horizons.

COMPARISON BASIS

Comparisons use the same universe and source assumptions inside each run. The note excludes instrument-level lists and live recommendations.

The source files were used for historical research extraction only. This note does not include instrument-level lists or position-level recommendations.

Signal Methodology

Without disclosing the exact functional, the construction proceeds along three conceptual steps.

1. **Signal measurement.** Measures relative roughness and persistence in recent price paths.
2. **Cross-sectional ranking.** Ranks equities by the cross-sectional state of that persistence measure.
3. **Horizon evaluation.** Evaluates whether the ordering is coherent across adjacent medium and long horizons.

> The description is intentionally conceptual. Formula details, exact construction rules and implementation parameters are not disclosed.

Results and Horizon Context

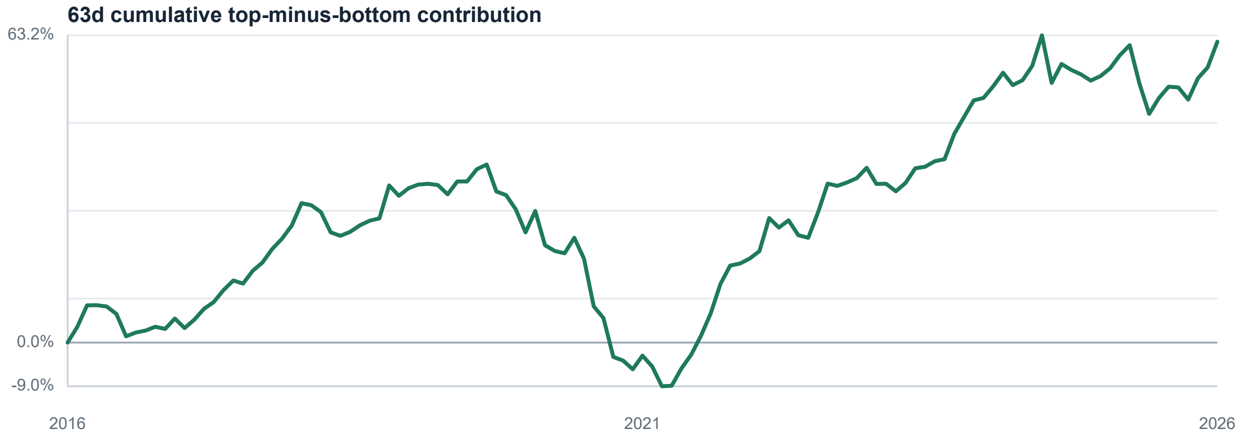

Figure 1. Cumulative 63d top-minus-bottom rank-spread contribution. Long-horizon forward observations can overlap, so the series should be read as a ranking diagnostic, not as a standalone portfolio NAV.

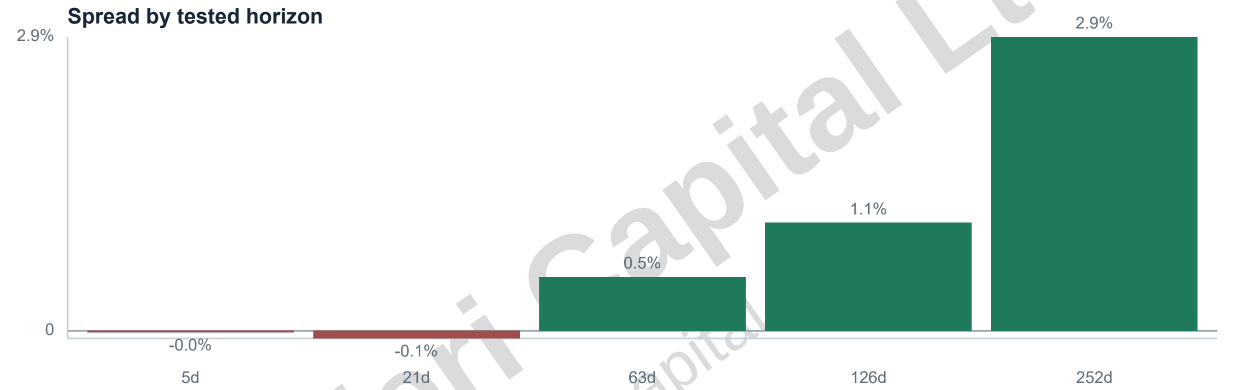

Figure 2. Spread profile across the tested horizons available in the source validation summary.

Horizon	Rank spread	Rank IC	Long-leg return	Turnover
5d	-0.01%	-0.000	n/a	54.19%
21d	-0.07%	-0.001	n/a	54.19%
63d	**0.53%**	**0.011**	**n/a**	**54.19%**
126d	1.06%	0.011	n/a	54.19%
252d	2.89%	0.014	n/a	54.19%

Stability and Robustness

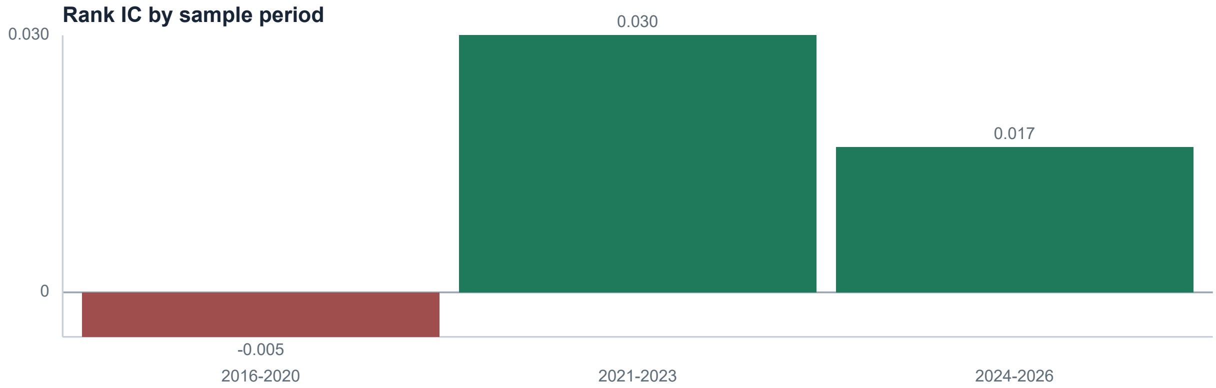

Figure 3. Rank-IC evidence across chronological sample periods from the source OOS audit.

Chronological sample splits provide the appropriate stability view for this diagnostic.

Positive-year fraction	**n/a**
Universe size	**3,000**
Validation dates	**121**

Research Interpretation

ROLE IN RESEARCH LIBRARY

Price-path persistence component inside the research library.

WHAT IT CAPTURES

Relative roughness and persistence in medium-horizon equity price paths.

KNOWN LIMITATIONS

The effect is horizon-dependent and weaker under some style controls, so it should be interpreted as a secondary ranking diagnostic.

The evidence supports retaining the signal in the research library where it can be compared with related components under the same assumptions.