SIGNAL RESEARCH NOTE

Eigenspace Persistence Risk Monitor

Factor-structure persistence as a diagnostic for future unspanned market variance.

Rmt Eigenspace Persistence Break Risk | Secondary research | 42d preferred horizon

Research note | Historical simulation | Not investment advice

Executive Summary

This note summarizes historical risk-state evidence for Eigenspace Persistence Risk Monitor. Metrics describe the relationship between the recorded state and subsequent realized volatility; they are diagnostics, not portfolio returns or live recommendations.

Preferred horizon	**42d**
Risk-state IC	**0.372**
Underlying universe	**2,998**
Historical observations	**117**

1. The preferred diagnostic horizon is 42d, where the recorded risk-state IC is 0.372.
2. The state score has a positive Spearman relationship with subsequent realized volatility at 0.372.
3. The signal is best read as a research-library ranking component, not as a standalone product.

Data and Research Setup

UNIVERSE

A broad global equity panel used to estimate the persistence of the market's common factor structure.

INPUTS

Daily closing-price histories and lagged covariance-state summaries available at each observation date.

CADENCE

Non-overlapping 42d forward-risk evaluation following a long trailing estimation window.

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. **Risk-state measurement.** Measures persistence in the common covariance structure of a broad equity panel.
2. **Historical state ordering.** Orders historical market states by the strength of that structural persistence.
3. **Forward-risk evaluation.** Evaluates the relationship with subsequent variance left outside the dominant common-factor space.

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

Results and Horizon Context

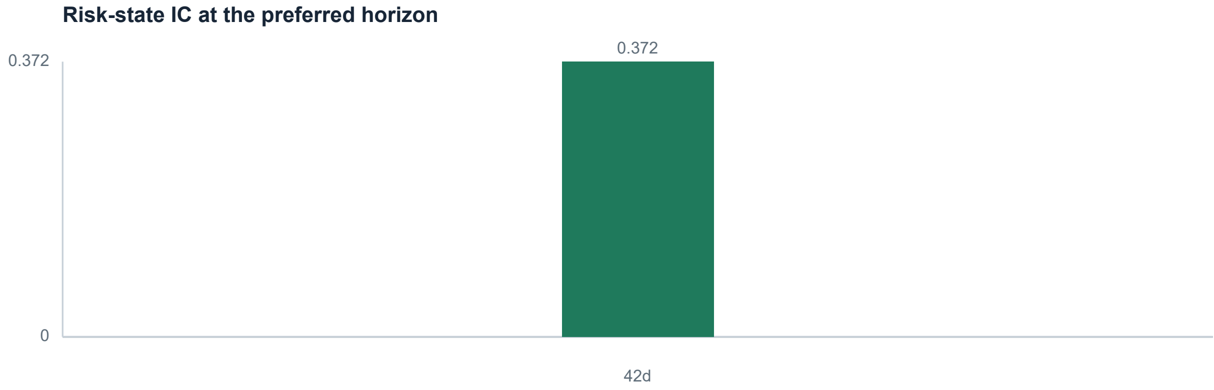

Figure 1. Spearman relationship between the eigenspace-persistence state and subsequent unspanned variance at the preferred 42d horizon. The figure is a structural-risk diagnostic, not a portfolio return.

Horizon	Volatility spread	State IC	High-state realized vol.	Turnover
42d	**n/a**	**0.372**	**n/a**	**n/a**

Stability and Robustness

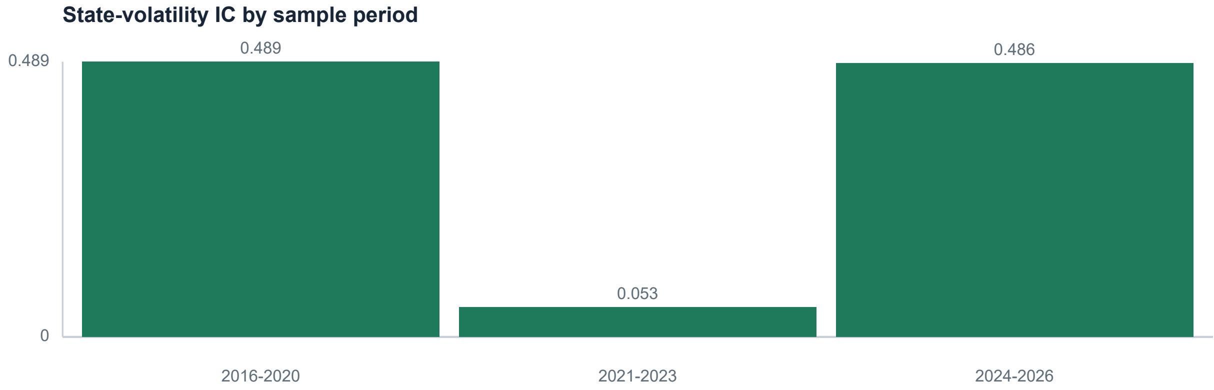

Figure 3. Spearman relationship between the risk-state score and subsequent 21d realized volatility across chronological sample periods.

The risk-state IC is positive in 3 of 3 chronological sample periods.

Positive-year fraction	**n/a**
Universe size	**2,998**
Validation dates	**117**

Research Interpretation

ROLE IN RESEARCH LIBRARY

Secondary market-structure risk monitor inside the research library.

WHAT IT CAPTURES

Persistence in the common equity covariance structure and its relationship with later unspanned variance.

KNOWN LIMITATIONS

The result is target-specific, based on non-overlapping 42d evaluations and intended as a structural-risk diagnostic rather than a return strategy.

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