Silver-To-Inflation Coupling Regime Shift As A Silver Signal

Why the trend in wavelet coherence between silver and 10-year inflation breakevens captures regime shifts in silver inflation-hedge behavior with counter-intuitive Phase minus-1 edge.

David Stendahl · Market Lab Analytics · November 6, 2026

What this signal is

Silver is widely treated as an inflation hedge but the actual coupling to realized inflation signals waxes and wanes across market regimes. The 2010s saw silver decouple from inflation expectations; the 2020s saw strong recoupling. This signal measures the trend in that coupling.

The engine computes wavelet coherence between silver returns and 10-year inflation breakevens at approximately 170-day cycles, takes 5-year rolling first-difference to extract the strengthening or weakening trend, and bounds through tanh. A composite near plus one is sustained coherence strengthening. A composite near minus one is coherence weakening.

On February 23, 2009 the composite reached its series maximum plus 0.993 as silver-inflation coherence strengthened into the early-QE regime. Silver rallied through the 2009-2011 bull market. On June 23, 2015 the composite reached its series minimum minus 0.995 as silver decoupled from inflation during the strong-dollar window.

Today the composite reads near minus 0.86, in deep coherence-weakening territory.

Across 23 years Phase –1 weakening-coherence state has delivered plus 2.39 percent mean forward 60-day silver return, Phase 0 Normal plus 0.46 percent, and Phase +1 strengthening plus 1.75 percent. The counter-intuitive pattern: silver decoupling from inflation delivers the strongest forward returns because other drivers (positioning, momentum, safe-haven flows) take over.

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How the inputs compose

The engine computes Welch-DFT coherence between silver daily returns and T10YIE 10-year inflation breakevens in the D7 wavelet band approximately 170-day cycles. The 5-year rolling first-difference captures the strengthening or weakening trend, z-scored and bounded through tanh with scale 1.5.

Per SI_T047 source spec the 2010s coherence 0.478 to 2020s coherence 0.926 (Delta +0.449). The signal captures the analogous 5-year rolling trend.

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What the state-conditional returns have actually done

The silver forward-60-day return baseline (unconditional) is mean plus 1.77 percent, median plus 0.85 percent.

> **Reference baseline (5,992 silver-aligned forward-60-day windows from January 2003 through November 2026)**
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> Silver forward-60-day return baseline: mean plus 1.77 percent, median plus 0.85 percent. Phase 0 source: Z5727 engine parquet joined with COMEX silver back-adjusted continuous closes.

Weakening-coherence state (Phase −1), 1,856 trading days, delivered mean plus 2.39 percent.

Normal (Phase 0), 819 trading days, delivered mean plus 0.46 percent.

Strengthening-coherence state (Phase +1), 3,317 trading days, delivered mean plus 1.75 percent.

The pattern is counter-intuitive: both extremes beat Normal, and weakening-coherence beats strengthening. 193 basis-point spread between phases.

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Three cases that frame how to read the signal

Case 1: February 2009 early-QE coherence strengthening series maximum

On February 23, 2009 composite plus 0.993 as silver-inflation coherence strengthened into early-QE. Silver rallied through the 2009-2011 bull market.

Case 2: June 2015 dollar-strength decoupling series minimum

On June 23, 2015 composite minus 0.995 as silver decoupled from inflation during strong-dollar window.

Case 3: March 2020 COVID coherence regime

COVID shock drove violent recoupling as both silver and inflation breakevens repriced on Fed intervention.

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How to use the signal today

This is a cross-asset coherence regime detector on a 60-day forward horizon.

Three best uses. First, as a regime-shift detector. Second, as a cross-check against inflation-based direction signals. Third, as a counter-intuitive filter: weakening coherence has historically preceded stronger silver returns.

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Methodology notes

Tanh of z-scored 5-year rolling first-difference of Welch-DFT coherence between silver returns and T10YIE in D7 wavelet band (approximately 170-day cycles).

The 2003 start reflects reliable T10YIE and silver data overlap after engine warmup.

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What this signal does not cover

Four caveats. Wavelet methodology is sensitive to window choices. The D7 band is one specific cycle choice; others would give different signals. The coherence TREND is captured, not the absolute coherence level. Pair with direction signals.

Not investment advice. Signal readings and empirical statistics are derived from publicly available data (COMEX silver back-adjusted continuous settles; FRED T10YIE 10-year inflation breakevens). (c) 2026 David Stendahl.