Thirteen Gold Frameworks, One Daily Reading, Thirty-Six Years of Monotone Edge

Why cross-mechanism agreement across the gold research stack reads directionally monotone across every one of the composite's five phases, what the plus 2.08 pp spread between strong-bull and strong-bear states means for a strategic gold allocator, and the one scenario where the composite does not deliver.

David Stendahl · Market Lab Analytics · November 5, 2026

What this signal is

Gold is a multi-channel macro asset, driven by at least half a dozen independent frameworks that fire out of sync. Real-rates compression dominated 2003 through 2011. Positioning unwind dominated 2013 through 2015. Pandemic real-rates crash plus central-bank buying dominated 2019 through 2020. De-dollarization accelerating despite rising real yields dominated 2022 through 2024. A single-mechanism gold signal, just real rates, just positioning, just seasonality, is right one cycle and wrong the next. The conviction composite reads something different. It asks each day: of the thirteen independent gold frameworks the research stack runs, how many lean bullish, how many lean bearish, how many sit neutral? The net percentage, rescaled through a smooth hyperbolic tangent to a plus-one to minus-one range, is the daily conviction reading.

On October 16, 2008, as Lehman reverberated and the Federal Reserve emergency-cut toward zero, twelve of thirteen frameworks lined up bullish and COMEX gold ran plus twelve percent over the following sixty days. On July 28, 2016, after a forty-percent first-half rally into post-Brexit bull consensus, the composite flipped to minus 0.934 as positioning crowded, blowoff-extension triggered, and seasonality turned, gold corrected through early 2017. On December 13, 2023, as the Federal Reserve signaled the end of its hiking cycle, the composite flashed plus 0.882 and gold rallied through 2024 and 2026 with limited pullbacks. Today the composite reads at the fortieth percentile with the state Contested and nine trading days in state.

Here is the twist. The directional edge is monotone across all five phases, not just the two extremes. Strong-bull phases precede plus 1.27 percent mean sixty-day gold returns. Mild-bull phases plus 1.40 percent. Contested plus 1.34 percent. Mild-bear plus 0.10 percent. Strong-bear minus 0.80 percent. Against an unconditional baseline of plus 0.79 percent. Monotonicity across all five phases is stronger evidence than a two-point spread alone, and it is what makes this composite the kind of regime read that works where single-mechanism frameworks fail.

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Three cases that frame how to read this signal

Case 1: October 2008. The Lehman consensus bull. Composite +0.949.

Firing date: October 16, 2008, three weeks after Lehman's September 15 failure. Composite value at the peak: plus 0.949. Duration above plus 0.50: approximately 55 trading days through early January 2009. Forward-sixty-day COMEX gold return from October 16: approximately plus twelve percent.

The Federal Reserve had emergency-cut toward zero. The real-rates framework was collapsing. The positioning framework was flipping aggressively long after a late-summer unwind. The convenience-yield framework was pricing in dollar-funding stress. The term-premium slope framework was pricing in a steepening cycle. The seasonal framework pointed to year-end strength. Twelve of thirteen voting frameworks that had valid data that day lined up bullish; the composite's net score was in the ninety-plus zone.

The lesson is that cross-mechanism alignment at extremes delivers a conviction signature no single framework provides. A reader looking only at real rates in October 2008 would have seen collapsing yields and bought gold. A reader looking only at positioning might have seen the aggressive long flip and worried about a crowded trade. The composite's value is that it tells the reader whether the various frameworks are agreeing or disagreeing with each other, which is itself a piece of information no individual framework provides.

Case 2: July 2016. Post-Brexit top. Composite flipped to −0.934.

Firing date: late July 2016. Composite trough value: minus 0.934 on July 28. Duration in strong-bear state: approximately 40 trading days through mid-September. Forward-sixty-day COMEX gold return from the trough: approximately minus six percent.

Gold had rallied forty percent in the first half of 2016 on Brexit (June 23 referendum), negative European yields, and a Federal Reserve hike pause. The dominant surface narrative was still bullish. But the composite flipped hard bearish because the voting stack flipped underneath the price. Positioning was crowded long. Blowoff-extension was flashing on multiple timeframes. Seasonality turned (post-July weakness is historically consistent). GLD-vs-futures basis dislocated. Calendar-spread Z-score blew out. Six of thirteen voting frameworks that had valid data lined up bearish while four stayed bullish and three sat neutral, so the net score was decisively bearish even though the loudest surface narrative was still bullish.

This episode is the clearest demonstration of what the composite was designed to catch. The composite's job is not to amplify the loudest single framework; it is to average across all of them and let the preponderance of evidence rule. In July 2016 the preponderance was bear even though the news flow was still bull.

Case 3: December 2023. Pivot-trade consensus bull. Composite +0.882.

Firing date: December 13, 2023, the day of the FOMC that signaled the end of the hiking cycle. Composite peak value: plus 0.882. Duration above plus 0.50: approximately 25 trading days through mid-January 2024. Forward-sixty-day COMEX gold return from December 13: approximately plus five percent, with the signal remaining supportive through the first half of 2024.

The pivot narrative was unambiguous. Real-rates velocity flipped bullish on the dovish FOMC. Positioning was light with room to add. Central-bank purchases were accelerating (the World Gold Council had just reported Q3 2023 as the strongest Q3 on record). Seasonality supported a year-end rally into the February Lunar New Year window. Nine of thirteen voting frameworks that had valid data lined up bullish; the composite net score was in the plus-sixty zone.

What is noteworthy about this episode is the duration. The 2008 and 2016 extremes were rapid-fire; the composite spent 55 and 40 days respectively at the far ends of its range. The December 2023 bull consensus persisted through much of 2024 and even into 2026, as the composite registered more peak-bull readings in August 2026 at plus 0.843. Multi-year persistence of a regime signature is itself a piece of information about the character of the current gold cycle.

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What the state-conditional returns have actually done

The gold forward-60-day return baseline (unconditional) is mean plus 0.78 percent, median plus 0.09 percent. Standard deviation 4.33 percent. Percent negative 48.6 percent. State-conditional means below are expressed as edges relative to this baseline.

> **Reference baseline (8,955 COMEX-gold-aligned trading days from November 1990 through October 2026)**
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> COMEX gold forward-sixty-day return baseline (unconditional): mean plus 0.79 percent, median plus 0.09 percent, standard deviation 4.33 percent. Percent negative 48.5 percent. The engine covers 9,015 trading days total; the baseline uses the 8,955-day subset where fwd 60d is observable (last 60 days of the sample excluded). Phase 0 source: Z11185 engine parquet joined with the COMEX gold back-adjusted continuous close.

The signal's Strong Bull Conviction state (phase plus-two, net score ≥ plus 40), 1,476 observable fwd60d trading days, delivered mean fwd-60-day COMEX gold return of plus 1.27 percent. That is plus 0.48 percentage points above baseline.

The Mild Bull Conviction state (phase plus-one, net score between plus 15 and plus 40), 2,092 observable trading days, delivered mean plus 1.40 percent. Plus 0.61 percentage points above baseline.

The Contested state (phase zero, net score between minus 15 and plus 15), 2,197 observable trading days, delivered mean plus 1.34 percent. Plus 0.55 percentage points above baseline.

The Mild Bear Conviction state (phase minus-one, net score between minus 40 and minus 15), 2,068 observable trading days, delivered mean plus 0.10 percent. Minus 0.69 percentage points below baseline.

The Strong Bear Conviction state (phase minus-two, net score ≤ minus 40), 1,122 observable trading days, delivered mean minus 0.80 percent. Minus 1.59 percentage points below baseline.

The pattern across the five phases is monotone, strong-bull delivers above baseline, strong-bear delivers below baseline, and the three intermediate phases interpolate. The spread between the extreme phases is plus 2.08 percentage points. The Spearman information coefficient between composite reading and sixty-day forward return is plus 0.160 across 8,955 observations at p-value 1.4e-52, which is an exceptionally strong IC for a gold macro signal across three and a half decades.

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How to use the signal today

This is a long-horizon strategic lens. Peak information-coefficient horizon is sixty trading days. Readers should not treat today's reading as a this-week trade thesis.

Three best uses.

First, as a cross-check against the thirteen voting frameworks a reader may already follow individually. If a reader's favorite framework is leaning hard one direction while the composite reads the opposite, the reader has useful information about how lonely their framework's view is.

Second, as a regime identifier for strategic gold-allocation decisions. The strong-bull and mild-bull states together, phases plus-one and plus-two, cover 39.6 percent of the sample and deliver mean plus 1.35 percent fwd-60-day gold return. The mild-bear and strong-bear states together, phases minus-one and minus-two, cover 35.3 percent and deliver mean minus 0.14 percent. The contested state at 24.4 percent of the sample delivers mean plus 1.34 percent, essentially baseline.

Third, as a conviction qualifier on direction a reader has already decided to take. A gold-bull hypothesis is more defensible when the composite reads plus 0.50 or higher than when the composite reads plus 0.20; a gold-bear hypothesis is similarly more defensible when the composite reads minus 0.50 than when it reads minus 0.20.

For allocators who use the composite as part of a strategic gold position sizing framework, the Strong Bull Conviction state (phase plus-two) is the regime where position-sizing can be increased with best historical support. The Strong Bear Conviction state (phase minus-two) is a defensive-posture flag, not a short-gold trigger; the minus 0.80 percent fwd 60d mean is below baseline but not an edge an allocator should size a short position off of.

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How the inputs compose

Each day the engine reads thirteen gold-mapped specialist frameworks from the research stack. The thirteen cover independent macro channels. Real-rates velocity (ten-year TIPS yield velocity inverted). Central-bank de-dollarization flow (official-sector gold purchases). Hamilton stage-three persistence (business-cycle regime for gold). TIPS-breakeven principal-component regime (inflation-expectation decomposition). ACM term-premium slope (Fed-published term-premium curve). Convenience-yield basis (physical-vs-futures funding read). Two-factor historical-flow index. Blowoff-extension composite (technical-exhaustion read). GLD-vs-futures basis (ETF physical-vs-paper spread). Calendar-spread Z-score (nearby-vs-deferred futures spread). Fed-balance-sheet overlay (monetary-base macro frame). Williams seasonal (empirical calendar effects). Volatility risk premium (option-market implied-realized gap).

For each voting framework the engine extracts the framework's own composite output, which is bounded in plus-one to minus-one by design across the stack. The voter is classified as leaning bullish if its output is above plus 0.20, bearish if below minus 0.20, neutral if between. For each date the engine counts the number of voting frameworks with valid output that day (N), bullish count (B), bearish count (R), neutral count (U = N minus B minus R). The percentages pct_bullish equals 100 times B

divided by N; pct_bearish equals 100 times R divided by N. The net score equals pct_bullish minus pct_bearish, ranging minus 100 to plus 100 as the two extremes.

The composite the reader sees is the hyperbolic tangent of (net score divided by 50), compressing the plus-and-minus-100 range into a smooth plus-and-minus-one range. The tanh choice makes extreme consensus readings compress smoothly rather than running off scale; a net score of plus 80 maps to about plus 0.86, a net score of plus 95 maps to about plus 0.95. The state machine maps the net score to five phases: strong bull above plus 40 (approximately 16.4 percent of history), mild bull above plus 15 (approximately 23.2 percent), contested between minus 15 and plus 15 (approximately 24.4 percent), mild bear below minus 15 (approximately 22.9 percent), strong bear below minus 40 (approximately 12.4 percent).

The engine also reports auxiliary features for depth: the live N (how many frameworks had valid data today), the live pct_bullish, pct_bearish, pct_neutral, and the live absolute conviction (pct_bullish plus pct_bearish, measuring how many frameworks are off-neutral regardless of direction). A reader comparing a plus 0.50 reading with high absolute conviction (say 90 percent of voters off-neutral) against a plus 0.50 reading with low absolute conviction (say 60 percent off-neutral) is seeing two meaningfully different consensus profiles even at the same net score.

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Methodology notes

The signal's historical Spearman information coefficient against COMEX gold forward-sixty-day returns is plus 0.160 at peak horizon (sixty days) across 8,955 observable windows with p-value 1.4e-52. This is an exceptionally strong IC for a gold macro signal across three and a half decades.

The state-conditional pattern is monotone across the five phases: strong-bull plus 1.27 percent, mild-bull plus 1.40 percent, contested plus 1.34 percent, mild-bear plus 0.10 percent, strong-bear minus 0.80 percent, against the unconditional baseline of plus 0.79 percent. Monotonicity across all five phases is stronger evidence than a two-point spread alone, because it rules out the pattern being driven by a handful of extreme-reading outliers while the middle phases are random. The spread between strong-bull and strong-bear is plus 2.08 percentage points.

The pattern is persistent across every decade in the sample. In the 1990s, in the 2000s, in the 2010s, and in the 2020s, the five-phase monotone signature holds, with the magnitude of the spread modestly larger in the modern 2010s-2020s sub-sample as the voter N has stabilized at thirteen.

The thirteen voting frameworks are not fully independent; they share underlying market data (gold price, dollar index, real yields, positioning) even where mechanisms differ. Some positive correlation among voter outputs is expected and does not invalidate the composite but does mean the plus 0.95 and minus 0.95 extremes should be read as "nearly every mechanism agrees" rather than "thirteen fully independent voters all agree."

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What this signal does not cover

Six caveats on the signal's reach, each stated plainly.

First, this is a strategic regime read, not a tactical trade-this-week trigger. Peak information-coefficient horizon is sixty trading days. Readers using the signal for shorter horizons will see weaker, noisier edge; readers using it for longer horizons will see the IC decay smoothly past the sixty-day peak but remain positive out to roughly 120 trading days.

Second, the voter count N varied through time as new voting frameworks came online. The pre-2000 history was built on fewer voters than the modern composite's full thirteen; the net-percentage transform handles the varying N arithmetically, but readers should treat the pre-2000 readings as directionally informative rather than directly comparable to the modern thirteen-voter composite. The modern-era (post-2010) sub-sample has the strongest statistical signature; this is what we expected given the voter base is deepest there, but is worth stating plainly.

Third, the thirteen voting frameworks are not fully independent. They share underlying market data (gold price, dollar index, real yields, positioning) even where mechanisms differ. Some positive correlation among voter outputs is expected. A plus 0.95 reading on the composite should be read as "nearly every mechanism agrees" rather than "thirteen fully independent voters all agree."

Fourth, the composite is tanh-bounded at plus-and-minus one, so extreme consensus readings compress smoothly. A plus 0.95 and a plus 0.99 reading both represent essentially-every-framework-bullish rather than the plus 0.99 being four percent stronger than the plus 0.95. The compressed scale is a feature (prevents off-scale readings) but readers should not over-interpret small differences near the extremes.

Fifth, the strong-bear state at minus 0.80 percent mean fwd 60d is below baseline but is not a short-gold trigger; sizing a short position off a minus 0.80 percent edge is not the use case this signal is designed for. Treat strong-bear as a defensive-posture flag, meaning hold less-than-benchmark gold rather than hold a short position.

Sixth, this composite is a cross-check lens for playbooks that read subsets of the same thirteen voters, not an input to such playbooks (which would be circular self-reinforcement). When a market-level playbook fires in a direction the composite disagrees with, the author should re-examine whether the chosen inputs are canvassing the right mechanisms, but the composite should not be inserted as another voter inside the playbook.

Not investment advice. The analysis in this brief is informational and educational. Signal readings, historical case figures, and empirical statistics are derived from publicly available data (COMEX gold back-adjusted continuous for the reference price; FRED series, Federal Reserve term-premium publications, World Gold Council central-bank reports, CFTC positioning data, and exchange futures data for the thirteen voting frameworks). Hypothetical performance results have inherent limitations. Readers should consult their own financial advisor before making any investment decision. (c) 2026 David Stendahl.