Developed-Market Sovereign Stress Across Five G10 Countries, Read As A Gold Safe-Haven Regime Lens

Why the five-year z-score of aggregated 10-year sovereign yields across UK, France, Italy, Japan and the US delivers a 20-year safe-haven regime signal for gold; the October 2022 UK Liz Truss mini-budget crisis as the modern archetype.

David Stendahl · Market Lab Analytics · November 5, 2026

What this signal is

When developed-market sovereign-bond markets wobble, institutional capital rotates into gold. The 2022 UK mini-budget crisis is the modern archetype. Prime Minister Liz Truss announced unfunded tax cuts on September 23, 2022; UK 10-year gilt yields spiked from 3.5 percent to 4.5 percent in days. UK pension funds using liability-driven-investment strategies received margin calls. The Bank of England announced emergency gilt-buying on October 10. Capital moved from sovereign credit into gold; GLD rallied through the subsequent two months as the safe-haven premium repriced.

This signal measures the broader G10 sovereign-stress regime. The engine reads daily 10-year government-bond yields across five developed-market countries: United Kingdom (gilts), France (OATs), Italy (BTPs), Japan (JGBs), and the United States (Treasuries). Germany is excluded because Bunds function as the risk-free proxy during stress episodes; including them in a stress basket would conflate flight-to-quality with stress-origin dynamics. The daily yield changes are aggregated into a fiscal-stress basket, z-scored on a 1,260-day rolling window (five years), and bounded through hyperbolic tangent. A composite near plus one is sustained G10 sovereign stress. A composite near minus one is fiscal calm.

On October 4, 2022 the composite reached its series maximum plus 0.9987 as the UK gilt crisis dominated the global rates picture. GLD was at 160.70 per share; it would rally to 169 across the next two months. On August 2, 2019 the composite reached its series minimum minus 0.9949 as pre-COVID global yield compression pushed G10 yields to multi-decade lows. GLD was already strong on central-bank dovishness.

Today the composite reads near plus 0.92, in Fiscal-stress territory. G10 sovereign yields are elevated relative to their five-year baseline; the signal is in constructive-gold regime.

Here is what the engine data says. The Spearman information coefficient of the composite against GLD forward 60-day returns is plus 0.17 across 4,961 live-window trading days. State-conditional means: Phase +1 fiscal-stress state delivered forward 60-day GLD return of plus 4.67 percent; Phase 0 Normal delivered minus 0.06 percent; Phase −1 fiscal-calm delivered plus 1.77 percent. The polarity is as-is positive: sovereign stress equals constructive gold. Read on for the three cases that frame the signal, the state-conditional evidence, and the four caveats that mark the limits of the lens.

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How the inputs compose

The five sovereign series are pulled daily from FRED where available and from central-bank statistical offices otherwise. UK 10-year gilt yield, French 10-year OAT yield, Italian 10-year BTP yield, Japanese 10-year JGB yield, and US 10-year Treasury yield. All five publish daily; the engine uses end-of-day values.

For each sovereign, the engine computes a stress score combining the absolute yield level relative to its own trailing baseline and the magnitude of daily yield changes. Stress scores capture both sustained yield moves (a rising baseline is stress) and daily volatility (a quiet baseline with large daily moves is also stress). The five country-level scores are equal-weighted into a basket.

The basket is z-scored on a 1,260-day rolling window (five years) with 252-day minimum population. The z-score is passed through tanh with scale 1.5 and bounded between minus one and plus one.

The engine also exposes four confirming features: five-day composite velocity, 60-day volatility regime, 60-day correlation with GLD daily returns, and 63-day lag-1 autocorrelation.

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What the state-conditional returns have actually done

The GLD forward-60-day return baseline (unconditional) is mean plus 2.55 percent, median plus 2.11 percent. Standard deviation 8.12 percent. Percent negative 39.1 percent. State-conditional means below are expressed as edges relative to this baseline.

> **Reference baseline (4,961 GLD-aligned forward-60-day windows from November 2006 through November 2026)**
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> GLD forward-60-day return baseline (unconditional): mean plus 2.55 percent, median plus 2.11 percent. Standard deviation 8.12 percent. Percent negative 39.1 percent. Phase 0 source: Z2236 engine parquet joined with NYSE Arca GLD daily closes.

The Fiscal-stress state (Market_Phase_Int = +1), 1,604 trading days or 31.9 percent of sample, delivered a mean forward 60-day GLD return of plus 4.67 percent. That is plus 2.12 percentage points above baseline. The 2008-2009 GFC window, the 2011-2012 European sovereign crisis, the 2020 COVID yield volatility, and the 2022 UK gilt crisis plus subsequent elevated-rates regime all contribute to the state-day count.

The Normal state (Market_Phase_Int = 0), 332 trading days or 6.6 percent of sample, delivered mean minus 0.06 percent. That is minus 2.61 percentage points below baseline. The thin middle band reflects the composite's tendency to spend time in either stress or calm rather than near zero.

The Fiscal-calm state (Market_Phase_Int = −1), 3,085 trading days or 61.4 percent of sample, delivered mean plus 1.77 percent. That is minus 0.78 percentage points below baseline. The 2014-2016 compression window and the 2017-2019 pre-COVID yield-low window contribute most of the state-day count.

The spread between Fiscal-stress and Fiscal-calm forward returns is plus 2.90 percentage points at 60 days. The Spearman information coefficient of the composite against GLD forward-60-day returns is plus 0.17 at N 4,961.

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Three cases that frame how to read the signal

Case 1: October 4, 2022 UK Liz Truss mini-budget crisis series maximum

Prime Minister Liz Truss announced an unfunded fiscal-stimulus package on September 23, 2022. UK 10-year gilt yields spiked from 3.5 percent to 4.5 percent over the following week. UK pension funds running liability-driven-investment strategies received margin calls on long gilt positions. The Bank of England announced emergency gilt-buying October 10 to break the doom loop.

On October 4, 2022 the composite reached its series maximum plus 0.9987 as the UK stress spread to Italian BTPs and French OATs. GLD rallied from 160.70 to roughly 169 across the next 60 trading days.

Forward 60-day GLD return from October 4, 2022: plus 5.07 percent.

Case 2: March 2020 COVID sovereign-yield volatility

During the March 2020 COVID shock, developed-market sovereign yields whipsawed violently. Emergency rate cuts, QE announcements, and dollar-funding dislocations hit simultaneously. The composite was deep in fiscal-stress territory through the window. GLD rallied through the Fed-intervention response as safe-haven flows dominated and real yields turned negative.

Forward 60-day GLD return from March 5, 2020: plus 8.03 percent.

Case 3: August 2, 2019 pre-COVID yield-compression series minimum

On August 2, 2019 the composite reached its series minimum minus 0.9949 as pre-COVID global yield compression pushed G10 yields to multi-decade lows. UK gilts near 0.5 percent; Italian BTPs near 1.5 percent; Japanese JGBs negative. Sovereign-bond markets were preternaturally calm. GLD was already strong on broader central-bank dovishness and the real-rate collapse that preceded it.

Forward 60-day GLD return from August 2, 2019: plus 3.50 percent. The calm reading did NOT precede GLD weakness because other drivers (real-rate collapse, Fed dovishness) dominated.

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How to use the signal today

This is a slow-moving G10 sovereign-stress regime identifier with a 60-day forward horizon. The signal fires on daily sovereign-yield releases (end of day in each country's local session).

Three best uses.

First, as a G10 safe-haven regime filter for GLD exposure sizing. Fiscal-stress state delivered plus 4.67 percent mean fwd 60d GLD return; fiscal-calm delivered plus 1.77 percent. A 2.9-percentage-point edge across 20 years is a reliable supplementary filter for institutional gold-ETF positioning.

Second, as a cross-asset safe-haven confirmation. When sovereign-stress fires alongside US corporate credit-stress signals and VIX spikes, the safe-haven rotation is multi-channel; GLD response is often stronger than in single-channel stress regimes.

Third, as part of a two-sided safe-haven framework. Pair with the Gold Credit-Quality Composite signal (Z4630) for US corporate credit stress plus G10 sovereign stress. The two together span the two main developed-market credit mechanisms that drive gold safe-haven flows.

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Methodology notes

The composite is tanh of a 1,260-day z-score of an aggregated G10 10-year sovereign-stress basket. The 1,260-day window was chosen to capture a full business cycle while remaining responsive to new stress episodes; shorter windows amplified noise around normal yield fluctuations, longer windows blended multiple sovereign cycles.

The five-country panel excludes Germany because Bunds serve as the risk-free proxy during European sovereign stress; including them in a stress basket would conflate flight-to-quality with stress-origin dynamics. The UK, France, Italy, Japan and US panel captures the dominant developed-market sovereign-debt markets outside the flight-to-quality anchor.

The polarity is as-is positive. Higher composite equals G10 fiscal stress equals constructive GLD. Full-sample Spearman IC against GLD forward 60-day returns is plus 0.17 at N 4,961.

The 2006 start reflects consistent five-country panel data availability; earlier periods had gaps in one or more sovereign series.

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What this signal does not cover

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

First, central-bank intervention can decouple the stress signal from GLD reaction. During the 2022 UK gilt crisis the Bank of England intervened within days of the composite reaching its series maximum; the signal remained elevated but GLD response was moderated as sovereign spreads compressed on intervention expectations. Fast central-bank response can compress the stress channel faster than fundamentals warrant.

Second, the signal is G10 only. Emerging-market sovereign crises, China sovereign stress, and EM-FX-driven central-bank balance-sheet pressures are not in the basket. For a global sovereign view, pair with EM credit-stress signals and USD strength signals.

Third, Bunds are excluded by design. During episodes where Bund yields themselves spike (which has not happened in the sample window but is possible), the basket would understate actual developed-market stress.

Fourth, the sample is 20 years long. The signal has fired through the GFC, European sovereign crisis, COVID, and the UK gilt crisis, but it has not been observed through other cycle types (deflationary debt crises, EM-contagion-driven G10 stress). The IC and state-conditional edge may partly reflect the specific regimes present in sample.

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 (FRED sovereign-yield series for UK, France, Italy, Japan, US 10-year; NYSE Arca GLD daily closes) and are provided without warranty. Hypothetical performance results have inherent limitations. Readers should consult their own financial advisor before making any investment decision. (c) 2026 David Stendahl.