SI Solar PV Capex Cycle Top Inv Z

Melek TDS thesis (L8229 canonical): PV silver demand is 150M oz/yr but 2025 FELL due to aggressive thrifting (Ag/W down 20% y/y) + first Cu-metallised modules shipped (LONGi/Jinko/SunDrive from 2025). Sustained generat

David Stendahl · Market Lab Analytics · November 6, 2026

What this signal is

Melek TDS thesis (L8229 canonical): PV silver demand is 150M oz/yr but 2025 FELL due to aggressive thrifting (Ag/W down 20% y/y) + first Cu-metallised modules shipped (LONGi/Jinko/SunDrive from 2025). Sustained generation growth above capacity growth signals oversupply to capex-cycle top to PV silver demand collapse.

The composite is bounded between minus one and plus one through tanh. On 2025-01-03 it reached its series maximum plus 0.995 and on 2026-04-02 its series minimum minus 0.971.

Today the composite reads near −0.82. See live page for current state.

• • •

How the inputs compose

Melek TDS thesis (L8229 canonical): PV silver demand is 150M oz/yr but 2025 FELL due to aggressive thrifting (Ag/W down 20% y/y) + first Cu-metallised modules shipped (LONGi/Jinko/SunDrive from 2025). Sustained generation growth above capacity growth signals oversupply to capex-cycle top to PV silver demand collapse.

The engine also computes four confirming features: five-day velocity, 60-day volatility regime, 60-day correlation with silver returns, 63-day lag-1 autocorrelation.

• • •

What the state-conditional returns have actually done

The silver forward-60-day return baseline (unconditional) is mean plus 3.65 percent, median plus 0.93 percent.

> **Reference baseline (1,410 silver-aligned forward-60-day windows over the live engine window)**

> Silver forward-60-day return baseline: mean plus 3.65 percent, median plus 0.93 percent. Phase 0 source: Z102095 engine parquet joined with COMEX silver back-adjusted continuous closes.

Solar capex expansion (Phase +1), 411 trading days, returned on average plus 0.36 percent.

Normal (Phase +0), 6,464 trading days, returned on average plus 0.85 percent.

Solar capex contraction (Phase −1), 793 trading days, returned on average plus 5.31 percent.

• • •

Three cases that frame how to read the signal

Case 1: 2025-01 composite series maximum

On 2025-01-03 the composite reached its series maximum plus 0.995. Silver subsequent 60-day behavior aligned with the solar capex expansion regime pattern.

Case 2: 2026-04 composite series minimum

On 2026-04-02 the composite reached its series minimum minus 0.971. Silver subsequent 60-day behavior aligned with the solar capex contraction regime pattern.

Case 3: March 2020 COVID shock window

The March 2020 COVID liquidity shock drove violent regime shifts across silver drivers. The composite oscillated as the underlying mechanism repriced.

• • •

How to use the signal today

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

Three best uses. First, as a regime filter for silver exposure (Phase +1 equals solar capex expansion). Second, as a cross-check against positioning and price-momentum signals. Third, as a transition-window warning, pairing with price-based signals for conviction.

• • •

Methodology notes

Melek TDS thesis (L8229 canonical): PV silver demand is 150M oz/yr but 2025 FELL due to aggressive thrifting (Ag/W down 20% y/y) + first Cu-metallised modules shipped (LONGi/Jinko/SunDrive from 2025). Sustained generation growth above capacity growth signals oversupply to capex-cycle top to PV silver demand collapse.

The 1996 start reflects the earliest reliable source coverage.

• • •

What this signal does not cover

Four caveats. The signal is a regime detector, not a timing signal. State-conditional means hold on average, not for every individual window. Regime persistence varies with macroeconomic backdrop.

Individual windows can run much longer or shorter than mean sample. State-conditional edges are backward-looking empirical averages. Future regimes may differ. The baseline is COMEX silver back-adjusted continuous (SI_1240BD).

Not investment advice. Signal readings and empirical statistics are derived from publicly available data sources. (c) 2026 David Stendahl.