The Heating Oil HO Reflexivity Random Walk Test Signal

Why HO Reflexivity Random Walk Test delivers a 13.84 pp spread on NYMEX Heating Oil forward 60-day returns via the Chow-Denning reflexivity statistical test channel.

David Stendahl · Market Lab Analytics · Nov 06, 2026

What this signal is

Chow-Denning joint variance-ratio statistical test captures whether NYMEX Heating Oil exhibits reflexivity (price feedback and self-reinforcing trends) or pure random-walk behavior. The full-sample verdict carries CD-statistic 1.224 below the 2.569 critical threshold, assigning a random-walk verdict that informs position-sizing discipline rather than directional entry.

The composite is bounded between minus one and plus one through tanh. Positive readings reflect the reflexivity detected regime state; negative readings reflect the random walk confirmed regime state.

Today the composite reads +0.633 in the Random Walk Active band after 160 trading days in the current phase.

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How the inputs compose

Chow-Denning joint variance-ratio statistical test captures whether NYMEX Heating Oil exhibits reflexivity (price feedback and self-reinforcing trends) or pure random-walk behavior. The full-sample verdict carries CD-statistic 1.224 below the 2.569 critical threshold, assigning a random-walk verdict that informs position-sizing discipline rather than directional entry. The signal applies Chow-Denning joint variance-ratio test to NYMEX Heating Oil returns, rolling window, with verdict thresholds at the 2.569 critical level. Full-sample verdict: random-walk (CD=1.224 below threshold).

State thresholds plus or minus 0.2 (moderate) and plus or minus 0.5 (extreme). Phase +1 at composite above +0.3, phase −1 below −0.3. Target: NYMEX Heating Oil front-month continuous.

What the state-conditional returns have actually done

Computed over 9,274 daily observations. Baseline Heating Oil forward 60-day return is mean plus 2.88 percent and median plus 1.55 percent.

> **Baseline NYMEX Heating Oil forward 60-day return:** mean plus 2.88 percent / median plus 1.55 percent.
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> **Phase-conditional pattern on NYMEX Heating Oil forward 60-day returns:** Phase +1 (Reflexivity detected, 7,509 days / 81 percent): plus 3.41 percent fwd60d, edge +0.54 pp. Phase 0 (Normal, 1,595 days / 17 percent): plus 1.79 percent fwd60d, edge −1.09 pp. Phase −1 (Random walk confirmed, 170 days / 2 percent): minus 10.42 percent fwd60d, edge −13.30 pp.
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> 13.84 pp spread via the Chow-Denning reflexivity statistical test channel.

Three cases that frame how to read the signal

Case 1: Reflexivity detected, 2008 supercycle bubble

HO reflexivity test registered reflexive behavior through 2007-2008 supercycle as price feedback loops drove self-reinforcing rally. Signal held Phase +1 territory before the bubble burst.

Case 2: Random walk, 2017 calm-regime

HO reflexivity test registered random-walk behavior through 2017 low-vol calm as price movements lacked persistent feedback. Signal held Phase −1 territory.

Case 3: Reflexivity detected, 2020 COVID crash

HO reflexivity test detected reflexive behavior through March-April 2020 COVID crash as forced-selling cascades drove self-reinforcing declines. Signal held Phase +1 territory.

How to use the signal today

Composite is currently reading +0.633. Phase Healthy firing for 160 trading days.

Pair with companion Heating Oil signals listed in the Related section.

Methodology notes

The signal applies Chow-Denning joint variance-ratio test to NYMEX Heating Oil returns, rolling window, with verdict thresholds at the 2.569 critical level. Full-sample verdict: random-walk (CD=1.224 below threshold). Target: NYMEX Heating Oil front-month continuous.

What this signal does not cover

Three limitations. Statistical test with academic basis; not a primary directional signal. Full-sample verdict is random-walk; use rolling-window readings for state discipline. Captures reflexivity presence but not direction. Daily IC not individually significant on all sampling windows.

Disclaimer

This brief and the signal it describes are for informational purposes only and do not constitute investment, legal, tax, or trading advice. Readers should consult a licensed financial professional before taking any trading action.

References

NYMEX Heating Oil futures daily settlement, CME Group. NYMEX HO contract trades Ultra-Low Sulfur Diesel No. 2 (ULSD, max 15 ppm sulfur) since the 2013 contract refactor.

CSI Data Corporation, Heating Oil front-month continuous (HO21120RD) series.