Momentum with prior-close risk control

> **Strategy evaluated** · **Nivel de evidencia** Histórico · Development · Sample 2011-02-02 21:00:00+00:00 to 2024-12-31 21:00:00+00:00

N/A marks an undefined or missing value. Return and risk fractions are shown as percentages. The JSON evidence preserves the original precision of the results.

Assessment limits

Survivorship bias. Not assessed. Historical universe membership is missing (SURVIVORSHIP_BIAS_NOT_CONTROLLED).

Look-ahead bias. Not assessed. The report does not verify when signals became available.

Multiple testing. DSR and PBO cannot be assessed from the evidence supplied.

Costs and execution. Gross and net returns were reconciled with recorded costs. Cost sensitivity and actual execution were not assessed.

Use of AI. The evidence does not say whether Strateva used AI in the review.

Advice. This report does not constitute investment advice.

Performance and risk

Absolute performance · Strategy and benchmark

Metric	Strategy	Benchmark
Observations `n_obs`	3501	3501
Periods per year `annualization`	252	252
Annual risk-free rate `risk_free_annual`	0%	0%
Cumulative return `total_return`	-24.7228%	-32.2799%
Annualized compound return (CAGR) `cagr`	-2.02341%	-2.76667%
Annualized arithmetic return `annual_return_arithmetic`	-0.895541%	-1.56908%
Annualized volatility `annual_volatility`	15.1178%	15.6818%
Sharpe `sharpe`	-0.0592376	-0.1000568
Sortino `sortino`	-0.07933191	-0.133269
Maximum drawdown `max_drawdown`	-42.7615%	-46.6174%
Periods to the maximum drawdown trough `max_drawdown_underwater_periods`	1406	1406
Periods from the previous peak to recovery `max_drawdown_recovery_periods`	N/A	N/A
Calmar `calmar`	-0.04731849	-0.05934846
Share of positive periods `positive_period_rate`	52.1851%	52.1851%
Alias for the share of positive periods `hit_rate`	52.1851%	52.1851%

Absolute performance · Strategy and benchmark		
Metric	**Strategy**	**Benchmark**
Skewness `skewness`	-0.7622252	-0.8013372
Excess kurtosis `excess_kurtosis`	7.741154	7.334895

Active performance · Strategy versus benchmark	
Field	**Value**
Observations `n_obs`	3501
Periods per year `annualization`	252
Annual risk-free rate `risk_free_annual`	0%
Annualized active return `active_return_annual`	0.673534%
Annualized tracking error `tracking_error_annual`	2.40654%
Information ratio `information_ratio`	0.279877
Correlation with the benchmark `correlation`	0.9884567
Beta `beta`	0.9529024
Annualized regression alpha `regression_alpha_annual`	0.599635%
Annualized Jensen alpha `jensen_alpha_annual`	0.599635%
Strategy Sharpe ratio `strategy_sharpe`	-0.0592376
Benchmark Sharpe ratio `benchmark_sharpe`	-0.1000568

Statistical uncertainty

Strategy · Mean excess return · HAC	
Field	**Value**
Status `status`	evaluated
Observations `n_obs`	3501
Lags `lags`	8
Weighting kernel `kernel`	bartlett
Estimate per period `estimate`	-0.00355373%
Annualized estimate `annualized_estimate`	-0.895541%
Standard error `standard_error`	0.0155264%
Annualized standard error `annualized_standard_error`	3.91266%

Strategy · Mean excess return · HAC	
Field	**Value**
t-statistic `t_stat`	-0.2288831
Two-sided p-value (normal) `p_value_two_sided_normal`	0.8189597

Strategy · Sharpe ratio interval · block bootstrap	
Field	**Value**
Observations `n_obs`	3501
Block length `block_length`	15
Replications `repetitions`	1000
Seed `seed`	20261117
Confidence level `confidence`	95%
Lower-tail probability `lower_probability`	2.5%
Upper-tail probability `upper_probability`	97.5%
Replications attempted `attempted_repetitions`	1000
Valid replications `valid_repetitions`	1000
Replications with no defined estimate `undefined_repetitions`	0
Status `status`	evaluated
Point estimate `point_estimate`	-0.0592376
Standard error `standard_error`	0.2595124
Lower interval bound `ci_lower`	-0.5566427
Upper interval bound `ci_upper`	0.4504438

Benchmark · No uncertainty estimate supplied.

Active performance · Mean active return · HAC	
Field	**Value**
Status `status`	evaluated
Observations `n_obs`	3501
Lags `lags`	8
Weighting kernel `kernel`	bartlett
Estimate per period `estimate`	0.00267275%

Active performance · Mean active return · HAC	
Field	**Value**
Annualized estimate `annualized_estimate`	0.673534%
Standard error `standard_error`	0.00264634%
Annualized standard error `annualized_standard_error`	0.666879%
t-statistic `t_stat`	1.00998
Two-sided p-value (normal) `p_value_two_sided_normal`	0.3125047

Active performance · Information ratio interval · block bootstrap	
Field	**Value**
Observations `n_obs`	3501
Block length `block_length`	15
Replications `repetitions`	1000
Seed `seed`	20261117
Confidence level `confidence`	95%
Lower-tail probability `lower_probability`	2.5%
Upper-tail probability `upper_probability`	97.5%
Replications attempted `attempted_repetitions`	1000
Valid replications `valid_repetitions`	1000
Replications with no defined estimate `undefined_repetitions`	0
Status `status`	evaluated
Point estimate `point_estimate`	0.279877
Standard error `standard_error`	0.2382714
Lower interval bound `ci_lower`	-0.1810927
Upper interval bound `ci_upper`	0.7345813

Subperiods and robustness

Additional metrics · No evidence supplied.

Verification and configuration

Engine checks	
Field	**Value**
Schemas valid `schema_valid`	Yes
Evidence hash valid `hash_valid`	Yes
Signature verified `signature_verified`	No
Confirmatory provenance verified `confirmatory_provenance_verified`	No
`reconciliation.tolerance`	1e-09
Status `reconciliation.status`	reconciled
Metric paths checked `reconciliation.checkedPathCount`	96
Hash bindings valid `hash_bindings_valid`	Yes
Metrics reconciled `metrics_reconciled`	Yes
Simulations reproduced `simulations_reproduced`	Yes
`kernelVersion`	1.1.0

Decision thresholds · No evidence supplied.

Engine configuration	
Field	**Value**
Periods per year `annualization`	252
Annualization method `annualizationMethod`	declared by StrategyTrace.frequency.periodsPerYear
Annual risk-free rate `riskFreeAnnual`	0%
`allowPositional`	No
`timezone`	UTC
`calendar`	NYSE
Confidence level `uncertainty.confidence`	95%
`uncertainty.hacLagPolicy.kind`	sample-size-bartlett-v1
`uncertainty.timeBasis.kind`	session-grid
Expected calendar hash `uncertainty.timeBasis.expectedEndsHash`	`58a263376bd6cff970b4e97f8ca6f5c62d546df038feb2d9cbe8b4e942427763`
Block length `uncertainty.blockLength`	15
Replications `uncertainty.repetitions`	1000
Seed `uncertainty.seed`	20261117

Monte Carlo

Observed path

Field	Value
Terminal wealth (multiple) `terminalWealth`	0.7527725
Cumulative return `totalReturn`	-24.7228%
Maximum drawdown magnitude `maximumDrawdown`	42.7615%
Longest stretch below the peak (periods) `longestUnderwaterStreakPeriods`	1654
Share of periods below the peak `timeUnderWaterFraction`	99.086%
Longest losing streak (periods) `longestLosingStreak`	10
Ruin threshold reached `ruined`	No

Circular block bootstrap

Metric	Minimum	Mean	Maximum	Quantiles
Terminal wealth (multiple) `terminalWealth`	0.1325084	0.8673445	3.461704	5% = 0.2960834 · 50% = 0.7578247 · 95% = 1.891046
Cumulative return `totalReturn`	-86.7492%	-13.2656%	246.17%	5% = -70.3917% · 50% = -24.2175% · 95% = 89.1046%
Maximum drawdown magnitude `maximumDrawdown`	20.1993%	52.6583%	89.5399%	5% = 30.337% · 50% = 52.4938% · 95% = 76.4175%
Longest stretch below the peak (periods) `longestUnderwaterStreakPeriods`	485	2524.562	3501	5% = 1043.9 · 50% = 2753.5 · 95% = 3492
Share of periods below the peak `timeUnderWaterFraction`	92.4307%	98.5342%	100%	5% = 95.9726% · 50% = 98.8575% · 95% = 99.9143%
Longest losing streak (periods) `longestLosingStreak`	7	10.167	18	5% = 8 · 50% = 10 · 95% = 13
Probability of reaching the ruin threshold `ruinProbability`		37.8%		

Return-order permutation

Metric	Minimum	Mean	Maximum	Quantiles
Maximum drawdown magnitude `maximumDrawdown`	33.831%	52.8899%	73.6568%	5% = 41.1522% · 50% = 52.8946% · 95% = 65.0355%
Longest stretch below the peak (periods) `longestUnderwaterStreakPeriods`	687	2605.836	3501	5% = 1437.95 · 50% = 2693 · 95% = 3482.05
Share of periods below the peak `timeUnderWaterFraction`	95.3442%	98.8274%	100%	5% = 97.3708% · 50% = 98.9432% · 95% = 99.8572%
Longest losing streak (periods) `longestLosingStreak`	7	10.472	18	5% = 8 · 50% = 10 · 95% = 13
Probability of reaching the ruin threshold `ruinProbability`		15.8%		

Simulation settings and bindings

Field	Value
`simulationSchemaVersion`	strateva-simulation-evidence/v2

Simulation settings and bindings	
Field	**Value**
`engineVersion`	0.9.0
`kernelVersion`	1.1.0
`observationCount`	3501
`strategyTraceHash`	`a6f5011c22be4911a5e2127e4c855ada1fedc218bdf8341532879bde3b8c2201`
`contentHash`	`584271547ff57bef88173775244e03c0606efdc1d3c4894f7b7b4be126de39e9`
Replications `configuration.repetitions`	1000
Seed `configuration.seed`	20261117
Block length `configuration.blockLength`	15
Initial wealth `configuration.initialWealth`	1
Ruin threshold (share of initial wealth) `configuration.ruinWealthFraction`	50%
`configuration.quantiles`	5% · 50% · 95%
`classic.method`	CIRCULAR_MOVING_BLOCK_BOOTSTRAP
`classic.sampling`	WITH_REPLACEMENT
`permuted.method`	FISHER_YATES_RETURN_ORDER_PERMUTATION
`permuted.sampling`	WITHOUT_REPLACEMENT
Terminal wealth invariant `permuted.terminalWealthInvariant`	Yes
Terminal wealth (multiple) `permuted.terminalWealth`	0.7527725

Provenance and traceability

Evidence and input hashes	
Field	**Value**
`bundleSchemaVersion`	strateva-evidence-bundle/v3
`artifactId`	`urn:strateva:strategy-trace:a6f5011c22be4911a5e2127e4c855ada1fedc218bdf8341532879bde3b8c2201`
`engineVersion`	0.9.0
`kernelVersion`	1.1.0
`generatedAt`	2026-11-17T17:19:44Z
`contentHash`	`9481d9e6d0b0b2da523d321420addddaea8783f75ffd71c1d6a82567cb95cefd`
Strategy return series hash `inputHashes.strategyReturns`	0c2c01c41c117cb47d45bc7c33b760d64ecd59e583ea5828c826220e7619010b
Benchmark return series hash `inputHashes.benchmarkReturns`	9f3778159066cfa2dbccdf195ac37582fb9eaabd183c87e8102db754f3373412

Evidence and input hashes	
Field	**Value**
`lineage`	strategyTrace:a6f5011c22be4911a5e2127e4c855ada1fedc218bdf8341532879bde3b8c2201 · scope:0c8688cf8fe1a3829262d953abd8481c506e98793c21e722e1c973c1339dde12 · artifact:13f9e7f6e9b13cc3a40349099d7696e12bfbf964954d1c5f8321233fe30bd7b5 · data:c5343ef1c9864202a69685d16920e9026bdda3ea6ceae8cb4be0863f9b3498f1

Provenance statement	
Field	**Value**
`claim`	development
`runId`	N/A
`freezeHash`	N/A
`engineCommit`	N/A
`containerImageDigest`	N/A

Evidence signature · No evidence supplied.

StrategyTrace · Identity, frequency, conventions and benchmark	
Field	**Value**
`traceSchemaVersion`	strateva-strategy-trace/v1
`engagementId`	eng-94298aec
`runId`	momentum-crash-risk-prior-close
`generatedAt`	2026-11-17T17:19:44Z
`scopeContentHash`	`0c8688cf8fe1a3829262d953abd8481c506e98793c21e722e1c973c1339dde12`
`artifactContentHash`	`13f9e7f6e9b13cc3a40349099d7696e12bfbf964954d1c5f8321233fe30bd7b5`
`dataContentHash`	`c5343ef1c9864202a69685d16920e9026bdda3ea6ceae8cb4be0863f9b3498f1`
`frequency.barInterval`	1d
Periods per year `frequency.periodsPerYear`	252
`frequency.calendar`	NYSE
`frequency.sourceTimezone`	America/New_York
`conventions.returnType`	SIMPLE
`conventions.returnUnit`	FRACTION
`conventions.timestampMeaning`	UTC_PERIOD_END
`conventions.turnover`	SUM_ABSOLUTE_POSITION_CHANGES
`conventions.exposure`	FRACTION_OF_EQUITY
`conventions.costs`	RETURN_FRACTION
`benchmark.kind`	SERIES
`benchmark.symbol`	MOMENTUM-BASE
`contentHash`	`a6f5011c22be4911a5e2127e4c855ada1fedc218bdf8341532879bde3b8c2201`

Notes included in the evidence	
Field	**Value**
`disclosures`	The engine recomputed the metrics from verified StrategyTrace net returns. · Monte Carlo has its own hash. It affects criteria only if preregistered for that purpose.