Maximum-Sharpe portfolio with corrected valuation

Counterfactual · **Nivel de evidencia** Histórico · Development · Sample 2021-04-01 13:30:00+00:00 to 2023-12-29 14:30:00+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`	692	692
Periods per year `annualization`	252	252
Annual risk-free rate `risk_free_annual`	2%	2%
Cumulative return `total_return`	2.83882%	12.7942%
Annualized compound return (CAGR) `cagr`	1.0246%	4.48186%
Annualized arithmetic return `annual_return_arithmetic`	3.06297%	5.88497%
Annualized volatility `annual_volatility`	20.2179%	17.3228%
Sharpe `sharpe`	0.05354818	0.225404
Sortino `sortino`	0.07487782	0.3141875
Maximum drawdown `max_drawdown`	-33.4398%	-28.4857%
Periods to the maximum drawdown trough `max_drawdown_underwater_periods`	253	233
Periods from the previous peak to recovery `max_drawdown_recovery_periods`	N/A	N/A
Calmar `calmar`	0.03064016	0.1573372
Share of positive periods `positive_period_rate`	51.3006%	53.3237%
Alias for the share of positive periods `hit_rate`	51.3006%	53.3237%

Absolute performance · Strategy and benchmark

Metric	Strategy	Benchmark
Skewness `skewness`	-0.1332114	-0.1812921
Excess kurtosis `excess_kurtosis`	1.446317	2.083937

Active performance · Strategy versus benchmark

Field	Value
Observations `n_obs`	692
Periods per year `annualization`	252
Annual risk-free rate `risk_free_annual`	2%
Annualized active return `active_return_annual`	-2.822%
Annualized tracking error `tracking_error_annual`	15.2134%
Information ratio `information_ratio`	-0.1854947
Correlation with the benchmark `correlation`	0.6815442
Beta `beta`	0.795446
Annualized regression alpha `regression_alpha_annual`	-1.61821%
Annualized Jensen alpha `jensen_alpha_annual`	-2.02329%
Strategy Sharpe ratio `strategy_sharpe`	0.05354818
Benchmark Sharpe ratio `benchmark_sharpe`	0.225404

Statistical uncertainty

Strategy · Mean excess return · HAC

Field	Value
Status `status`	evaluated
Observations `n_obs`	692
Lags `lags`	6
Weighting kernel `kernel`	bartlett
Estimate per period `estimate`	0.00429615%
Annualized estimate `annualized_estimate`	1.08263%
Standard error `standard_error`	0.0466719%
Annualized standard error `annualized_standard_error`	11.7613%

Strategy · Mean excess return · HAC	
Field	**Value**
t-statistic `t_stat`	0.09204995
Two-sided p-value (normal) `p_value_two_sided_normal`	0.9266584

Strategy · Sharpe ratio interval · block bootstrap	
Field	**Value**
Observations `n_obs`	692
Block length `block_length`	9
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`	0.05354818
Standard error `standard_error`	0.5951107
Lower interval bound `ci_lower`	-1.088204
Upper interval bound `ci_upper`	1.235485

Benchmark · No uncertainty estimate supplied.

Active performance · Mean active return · HAC	
Field	**Value**
Status `status`	evaluated
Observations `n_obs`	692
Lags `lags`	6
Weighting kernel `kernel`	bartlett
Estimate per period `estimate`	-0.0111984%

Active performance · Mean active return · HAC	
Field	**Value**
Annualized estimate `annualized_estimate`	-2.822%
Standard error `standard_error`	0.0357219%
Annualized standard error `annualized_standard_error`	9.00192%
t-statistic `t_stat`	-0.313489
Two-sided p-value (normal) `p_value_two_sided_normal`	0.7539092

Active performance · Information ratio interval · block bootstrap	
Field	**Value**
Observations `n_obs`	692
Block length `block_length`	9
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`	-0.1854947
Standard error `standard_error`	0.5922356
Lower interval bound `ci_lower`	-1.30658
Upper interval bound `ci_upper`	0.997465

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`	2%
`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`	`af45ce042eeeb203b88fc9a1f8b4316c178bc440ac16c677e3b0f87fe4ac3092`
Block length `uncertainty.blockLength`	9
Replications `uncertainty.repetitions`	1000
Seed `uncertainty.seed`	20261117

Monte Carlo

Observed path

Field	Value
Terminal wealth (multiple) `terminalWealth`	1.028388
Cumulative return `totalReturn`	2.83882%
Maximum drawdown magnitude `maximumDrawdown`	33.4398%
Longest stretch below the peak (periods) `longestUnderwaterStreakPeriods`	537
Share of periods below the peak `timeUnderWaterFraction`	98.2659%
Longest losing streak (periods) `longestLosingStreak`	7
Ruin threshold reached `ruined`	No

Circular block bootstrap

Metric	Minimum	Mean	Maximum	Quantiles
Terminal wealth (multiple) `terminalWealth`	0.2985362	1.098095	3.556373	5% = 0.6017272 · 50% = 1.036217 · 95% = 1.816153
Cumulative return `totalReturn`	-70.1464%	9.80952%	255.637%	5% = -39.8273% · 50% = 3.6217% · 95% = 81.6153%
Maximum drawdown magnitude `maximumDrawdown`	11.6112%	30.935%	72.5399%	5% = 16.5689% · 50% = 29.5337% · 95% = 50.5211%
Longest stretch below the peak (periods) `longestUnderwaterStreakPeriods`	71	419.634	692	5% = 159.95 · 50% = 402 · 95% = 686
Share of periods below the peak `timeUnderWaterFraction`	82.0809%	95.3395%	100%	5% = 88.7283% · 50% = 96.0983% · 95% = 99.5665%
Longest losing streak (periods) `longestLosingStreak`	5	7.674	13	5% = 6 · 50% = 7 · 95% = 10
Probability of reaching the ruin threshold `ruinProbability`		2.8%		

Return-order permutation

Metric	Minimum	Mean	Maximum	Quantiles
Maximum drawdown magnitude `maximumDrawdown`	17.2771%	30.0096%	51.9985%	5% = 20.9459% · 50% = 29.2562% · 95% = 41.8663%
Longest stretch below the peak (periods) `longestUnderwaterStreakPeriods`	149	428.827	687	5% = 218 · 50% = 422 · 95% = 650
Share of periods below the peak `timeUnderWaterFraction`	91.185%	96.4199%	99.5665%	5% = 93.3454% · 50% = 96.6763% · 95% = 98.9884%
Longest losing streak (periods) `longestLosingStreak`	5	8.427	18	5% = 6 · 50% = 8 · 95% = 12
Probability of reaching the ruin threshold `ruinProbability`		0%		

Simulation settings and bindings

Field	Value
`simulationSchemaVersion`	strateva-simulation-evidence/v2
`engineVersion`	0.9.0

Simulation settings and bindings	
Field	**Value**
`kernelVersion`	1.1.0
`observationCount`	692
`strategyTraceHash`	`37ff27a07d447b168ff0bac0c6e7ed859588fb94759cf70e55e379d0613ee772`
`contentHash`	`0adf504b6307eb700df6e38abdf48a320aadb4257e9b873902f0696359f95d8c`
Replications `configuration.repetitions`	1000
Seed `configuration.seed`	20261117
Block length `configuration.blockLength`	9
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`	1.028388

Provenance and traceability

Evidence and input hashes	
Field	**Value**
`bundleSchemaVersion`	strateva-evidence-bundle/v3
`artifactId`	`urn:strateva:strategy-trace:37ff27a07d447b168ff0bac0c6e7ed859588fb94759cf70e55e379d0613ee772`
`engineVersion`	0.9.0
`kernelVersion`	1.1.0
`generatedAt`	2026-11-17T18:09:29Z
`contentHash`	`1d9a18c57dd7b61b461be27dd2b845d18245dfa141bcee9327c496ddfd0fea8f`
Strategy return series hash `inputHashes.strategyReturns`	a6c29b3d0f868c7879a20680f9740f07879a38bf907c6c2f196cf4c179d18ec0
Benchmark return series hash `inputHashes.benchmarkReturns`	f01c7284239965e9eb0f0a14005b205ac8aa0e556c37f7f7ac80a739d34e43ad

Evidence and input hashes	
Field	**Value**
`lineage`	strategyTrace:37ff27a07d447b168ff0bac0c6e7ed859588fb94759cf70e55e379d0613ee772 · scope:f29f1115630d5cbbd9af49c8f22f496858d5cadf5b17a1093f0075a929ffee62 · artifact:f0e1e221eb27f49cd04369dc26597f7ffcccb2a2d094e7de98cb4b990620d891 · data:55c7e5b74e00d15960158d873529e4672493afdb2c1ddd8ee51cfdbd16da3057

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-6ad4df96
`runId`	portfolio-allocation-maxsharpe-audited-funded-period
`generatedAt`	2026-11-17T18:09:29Z
`scopeContentHash`	`f29f1115630d5cbbd9af49c8f22f496858d5cadf5b17a1093f0075a929ffee62`
`artifactContentHash`	`f0e1e221eb27f49cd04369dc26597f7ffcccb2a2d094e7de98cb4b990620d891`
`dataContentHash`	`55c7e5b74e00d15960158d873529e4672493afdb2c1ddd8ee51cfdbd16da3057`
`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`	URTH
`contentHash`	`37ff27a07d447b168ff0bac0c6e7ed859588fb94759cf70e55e379d0613ee772`

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.