

Random Harvester — EU Test Report

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Important Notice — Simulated Results

All results in this report are based on a historical simulation (backtest) using historical price data for the submitted assets and evaluation dates. Trades are driven by a Phase Wave detector: a strictly backward-looking, single-pass mechanism. The outcome is subject to the following remarks:

- The Random Harvester configuration is fixed before the customer request and is not adjusted to the submitted assets or evaluation dates. This prevents parameter-search overfitting within the customer backtest. The result applies to the submitted portfolio and period; evidence beyond them comes from tests across other market regimes and from live forward testing.
- Universe selection: the customer selected the assets before the simulation. The report therefore describes that submitted portfolio and does not claim that it represents every investable asset.
- Fixed cost model: broker fee, transaction tax, sales margin, and skimming rate are held constant. Real-world slippage and fill uncertainty may differ, particularly in less liquid markets or during stress periods.
- Adjusted historical prices: when vendor adjusted-close data is used, OHLC prices are transformed into a prepared research series. The detector remains causal on that prepared series, but the series itself may reflect retrospective corporate-action adjustments rather than a raw point-in-time market tape.
- Past simulation performance does not predict future live results.

Inputs

Ticker stats workbook: RH-2026-9132-EU-stocks_data.xlsx

Benchmark tickers: ^N100, IEAA.L

Universe tickers: ASML Holding N.V. (ASML.AS), SAP SE (SAP.DE), Bayerische Motoren Werke Aktiengesellschaft (BMW.DE), BNP Paribas SA (BNP.PA), Shell plc (SHEL.L)

Evaluation window (basket): 2025-10-02 — 2026-09-29. Only dates on which all tickers have data contribute to the basket (require_full_participation). If tickers have different histories, the basket window may be shorter than the requested simulation period.

Purpose

Random Harvester is a wealth-protection tool for retail investors managing long-only portfolios. The user selects a universe of assets he/she choose to trade; the system applies a causal, single-pass regime detector that segments each price series without lookahead or hindsight into predictable (trend-like) and unstable (chaotic) regimes using statistical metrics (likelihood-based phase identification, variance-ratio diagnostics, binomial-evaluator framework). If the user had selected a skimming percentage > 0, the detector is run again and the effect of the banked profit on all performance indicators is recalculated.

The benchmarks used throughout this report are included as a reference for prevailing market conditions, not as targets to track.

The banked-profit mechanism converts realised gains into protected cash. It is analogous to a dividend policy: it reduces compounding in exchange for certainty. The report also provides an analysis of asset performances that allows the investor to critically assess the composition of his/her portfolio.

This is not a classical technical analysis, no pattern-recognition heuristics applied to price charts are used. Every trade decision follows from statistical phase identification and a transparent risk-management framework (banking, bear-mode suppression, stop-losses),

Economic Background

- Benchmark: constant-mix 60/40 using ^N100 (Euronext 100 equity index) and IEAA.L (iShares Core € Corp Bond ETF, EUR investment-grade) over the period 2025-10-02 to 2026-09-29.
- Universe: ASML.AS, SAP.DE, BMW.DE, BNP.PA, SHEL.L (each simulated as an independent account; results aggregated at basket level) over the period 2025-10-02 to 2026-09-29.

Bear Mode Distribution

An investment strategy that works solely with long positions assumes a rising market and is vulnerable when asset prices fall for too long. In such a situation, it is best to hold cash.

Asset (Ticker)	BearMode Days	% of Simulation	Buys Suppressed
Bayerische Motoren Werke Aktiengesellschaft (BMW.DE)	191	76.10%	10
Shell plc (SHEL.L)	188	74.90%	6
BNP Paribas SA (BNP.PA)	127	50.20%	5
SAP SE (SAP.DE)	125	49.80%	7
ASML Holding N.V. (ASML.AS)	72	28.46%	5
Average	140.6	55.89%	6.6

Investor Outcome

Total investor wealth at any point in time is the sum of two components: the capital still invested in the market, and cumulative banked profit held as protected cash. Banked profit is permanent, it can be spent or held, but is not exposed to future market moves. The metrics below describe how that total wealth behaved over the evaluation window, alongside a no-skimming baseline, the identical strategy run with all capital left at risk (skimming = 0). It makes the real effect of the banking policy explicit.

Investor Wealth vs No-Skimming Baseline

While the return of a benchmark remains 100% at risk until the last day of this simulation, Random Harvester protects the initial investment by gradually withdrawing capital from market risk via the banked-profit mechanism. Adding the cumulative banked profit (€1,912) as a protected floor to the equity curve gives a total-wealth series $W(t) = equity(t) + banked(t)$, from which the following metrics are derived:

Metric	No-Skimming	Investor Wealth (W)
Total Return	5.45%	21.31%
CAGR	5.56%	21.52%
Annualized Volatility	9.58%	10.30%
Max Drawdown	5.10%	5.04%
Calmar Ratio	1.090	4.273
Sharpe Ratio	0.163	1.547
Sortino Ratio	0.224	2.585
Ulcer Index	2.44%	1.50%
Martin Ratio	2.274	14.326

- Skimming impact on total return: +15.9 pp (investor wealth vs no-skimming baseline); CAGR +16.0 pp.
- Skimming impact on max drawdown: -0.1 pp (negative = shallower drawdown under the banking policy).
- Protected cash moved out of market risk by skimming: €1,912 (10.5% of total wealth). The no-skimming baseline banks nothing; all capital stays at risk.
- Wealth permanence at end of window: 10.5% of total wealth is in protected cash and is no longer subject to market risk. The remainder is the capital still invested in the market.
- Time underwater on total wealth: longest streak 59 days, mean streak 9 days (benchmark longest streak 63 days).

Comparison Panel

Strategy outcome shown alongside three passive alternatives over the same window. Capital-gains tax is treated on a tax-deferred basis: it is levied only on cash actually withdrawn (banked) from the portfolio. The passive comparators and the no-skimming baseline withdraw nothing during the window. As no tax applies to them their After-Tax return equals their Gross.

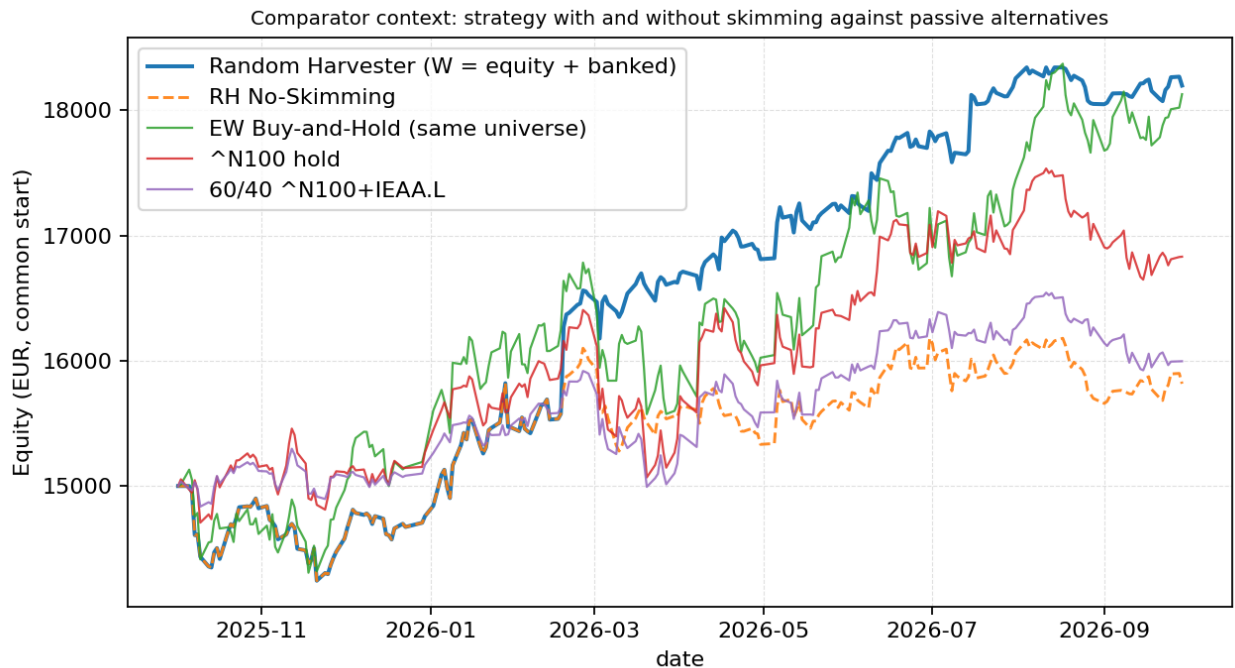
Key: TR = Total Return; W = total investor wealth (capital invested + cumulative banked profit, the investor view); Unskimmed = the same strategy run with skimming at 0% (all capital left at risk); Vol = annualised volatility; MDD = maximum drawdown; EW B&H = equal-weight buy-and-hold of the same universe with no rebalancing; ^N100 200DMA = hold ^N100 when above its 200-Daily Moving Average, otherwise hold cash (Faber, 2007).

Series	TR (Gross)	TR (After-Tax)	CAGR	Volatility	MDD	Sharpe	Sortino
Random Harvester (W)	25.13%	21.31%	21.52%	10.30%	5.04%	1.547	2.585
Random Harvester (No-Skimming)	5.45%	5.45%	5.56%	9.58%	5.10%	0.163	0.224
EW B&H (same universe)	20.85%	20.85%	21.31%	16.15%	7.20%	1.010	1.511
^N100 hold	12.20%	12.20%	12.47%	12.65%	8.14%	0.651	0.973
60/40 reference	6.64%	6.64%	6.78%	8.50%	5.81%	0.308	0.456
^N100 200DMA	-1.19%	-1.19%	-1.22%	4.50%	5.06%	-1.206	-1.531

Verdict

Random Harvester produced a total investor-wealth return of 21.31%. It beat the 60/40 reference (6.64%). It beat the Euronext 100 Index (^N100) holding comparison (12.20%). It beat equal-weight buy-and-hold of the same assets (20.85%). Maximum drawdown was 5.04%, compared with 5.81% for 60/40, 8.14% for ^N100 hold, and 7.20% for equal-weight buy-and-hold. The simulation banked €1,912 as protected cash and ended with €16,284 still invested and exposed to market movements.

Random Harvester paid €574 in capital-gains tax on the cash it banked. This is reflected in its TR(After-Tax) column and added back in the TR(Gross).



Random Harvester (W) and Random Harvester (No-Skimming) alongside Equal-Weight Buy-and-Hold of the same universe, pure ^N100 hold, and the 60/40 benchmark reference. No line is the target. The comparison shows wealth realised by a hypothetical perfectly-disciplined investor using each approach.

Trading Activity

The timeline shows executed positions, not signals. Decisions made on bar t are executed on the next available trading bar. A right-pointing marker is a purchase, a left-pointing marker is a regular exit, an X is a stop-loss, and a dashed line ending in a diamond is a position still open at the end of the window.

Recorded activity: 14 completed round trip(s), 7 stop-loss exit(s), and 3 position(s) still open at the end of the evaluation window.



Invested periods and execution markers by customer asset. The complete recorded explanations appear in the accompanying execution ledger.

Asset Performance Analysis

- Asset performance history: 14 completed trade(s) across all tickers. The binomial quality assessment starts at 20 completed trades, so this section is descriptive only.
- Observed portfolio win rate: 50% with 95% CI: [27%, 73%]. This is a sample observation, not a reliable long-term quality conclusion.
- Observed stop-loss exits: 7 of 14 completed trade(s).
- Reward-to-risk, break-even probability, edge verdicts, and cross-asset homogeneity tests are suppressed until the portfolio has enough completed trades.

Asset	Trades	Stop-Losses	Win Rate	95% CI	SL p95 Upper
BNP.PA	2	0	100%	[34%, 100%]	≤77.6%
SHELL	1	0	100%	[21%, 100%]	≤95.0%
ASML.AS	7	3	57%	[25%, 84%]	—
SAP.DE	2	2	0%	[0%, 66%]	—
BMW.DE	2	2	0%	[0%, 66%]	—

Asset Evaluation

Of the 5 portfolio tickers, the detector produced positive active PnL on 3 and negative active PnL on 2.

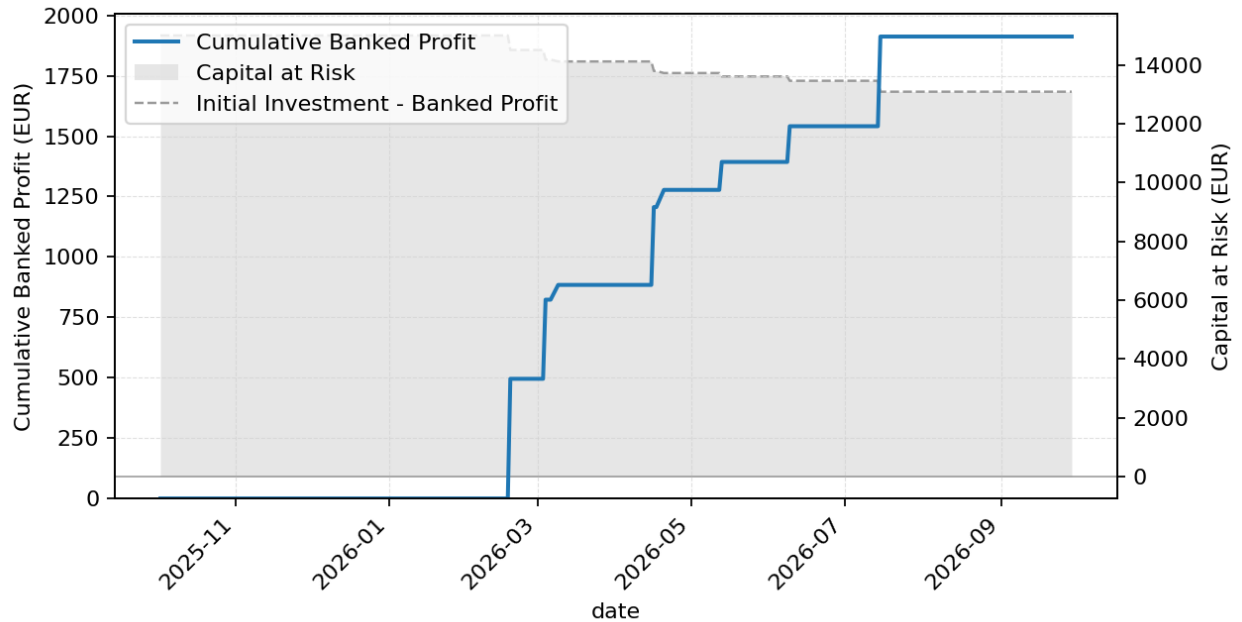
- Detector worked on top 3 contributors (with positive PnL): BNP Paribas SA (BNP.PA) (€1,442), ASML Holding N.V. (ASML.AS) (€1,406), Shell plc (SHELL.L) (€1,197).
- Detector struggled on top 2 drags (with negative PnL): SAP SE (SAP.DE) (€-1,085), Bayerische Motoren Werke Aktiengesellschaft (BMW.DE) (€-760). These tickers contributed to the active drag vs the benchmark. Either the detector did not find reliable predictable phases, or it identified phases that broke down before a profitable exit.
- Net detector contribution to active PnL: €2,200 positive. On balance the tool found enough predictable phases in this portfolio to overcome the drag from tickers it could not handle.

Active Attribution (vs 60/40 ^N100+IEAA.L)

Active PnL is the asset's total-wealth contribution versus the benchmark: $\text{StartEquity} \times \text{TotalReturn_Active} + \text{banked profit} + \text{capital-gains tax paid}$. Banked profit is realised investor wealth, and the strategy pays capital-gains tax that the benchmark does not. $\text{Contribution} = |\text{ActivePnL}| / \Sigma|\text{ActivePnL}|$. Concentration diagnostic: Top-2 share of active PnL = 48.35%.

Asset (Ticker)	Active PnL	Contribution	Sharpe	MDD	Banked Yield	Round Trips	Profit Factor
BNP Paribas SA (BNP.PA)	€1,442	24.48%	1.552	12.90%	23.30%	2	All winners (2/2); PF undefined.
ASML Holding N.V. (ASML.AS)	€1,406	23.87%	0.848	15.31%	29.71%	7	2.169
Shell plc (SHELL.L)	€1,197	20.32%	1.648	11.62%	10.74%	1	All winners (1/1); PF undefined.
Bayerische Motoren Werke Aktiengesellschaft (BMW.DE)	€-760	12.91%	-2.449	18.70%	0.00%	2	0.000

Harvested Cash (Banked Profit)



Total harvested (cumulative banked profit): €1,912.

Capital-safety milestone: cumulative banked profit reached 0.13× the initial seed by end of the evaluation period. The original investment was not fully repaid into protected cash at this point.

In the 1-year simulation (2025–2026), the system banked €1,912 across 5 tickers starting from €3,000 per ticker (€15,000 total capital). Banked gains have recovered 13% of the original €15,000 outlay, leaving €13,088 of that seed not yet recovered as protected cash. This is not the amount still invested: the simulated account's ending market value is €16,284, which remains exposed to market movements. Note: this is a raw cumulative ratio over the full simulation period, not an annualized yield.

Top contributors to harvested cash:

Asset (Ticker)	Banked Profit	Share
ASML Holding N.V. (ASMLAS)	€891	46.61%
BNP Paribas SA (BNP.PA)	€699	36.54%
Shell plc (SHELL)	€322	16.85%
Bayerische Motoren Werke Aktiengesellschaft (BMW.DE)	€0	0.00%
SAP SE (SAP.DE)	€0	0.00%