Mira risk engine: official report of the latest tests

Report MIRA-RPT-003. Frozen v1 model, tests run 2026-10-16. Backtest 2001-2026, 6-7% target check, 32-asset test. Research only. No real money. Not investment advice.

1. Summary

+5.5%
growth a year, Mira chain 60% after retail-estimate costs

-8%
worst fall, vs -51% for holding stocks

+6.3%
growth a year, v1 gate 60% (reaches 6%)

32 of 32
assets: chain gave a shallower worst fall

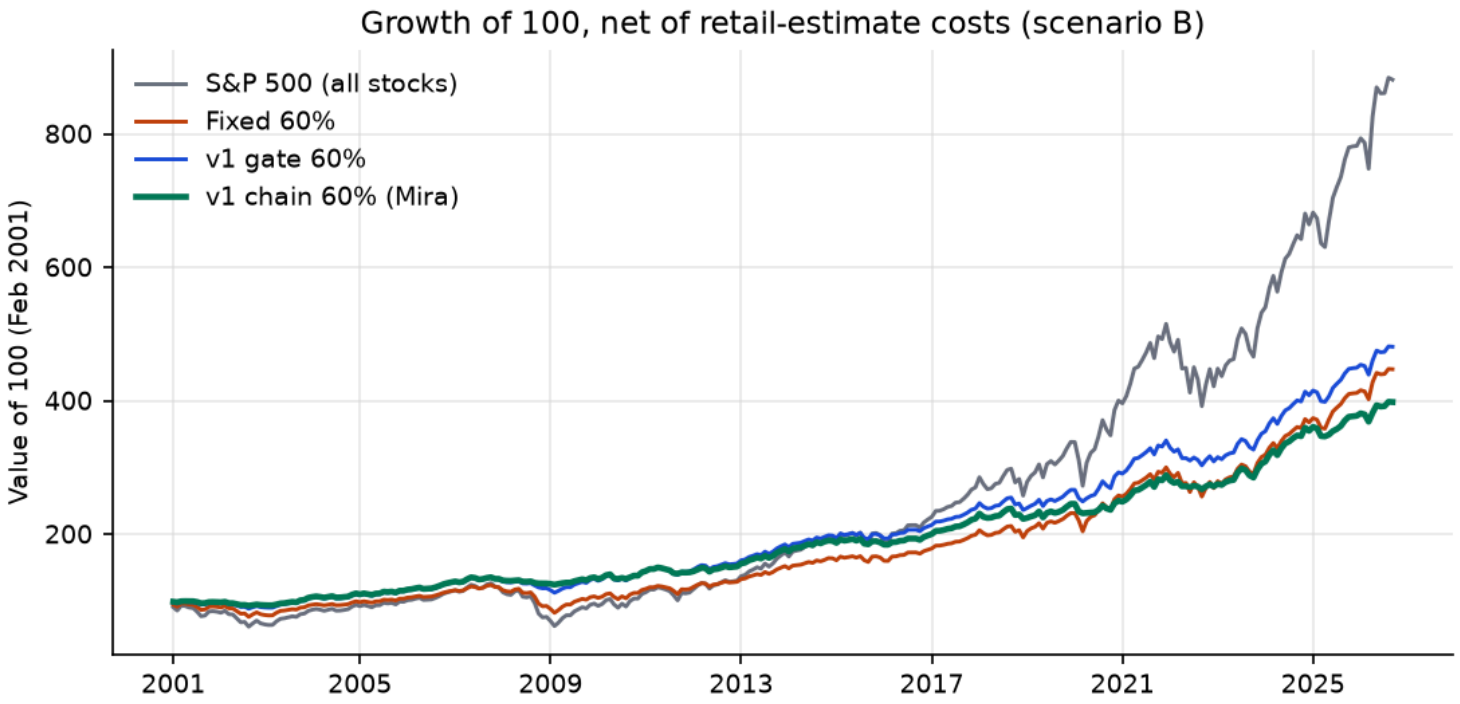
> **Straight answer on 6-7%.** The default chain at 60% stocks does **not** reliably reach 6-7%: it earned +5.9% before retail costs and +5.5% after. The gate at 60% reached +6.3%. The return comes from stocks (all stocks earned +8.8% in this period); the rules reduce falls, they add no return. In 2001-2007 the chain earned +4.2% a year.

60% base, net of retail costs (B)	Growth a year	Volatility	Sharpe	Worst fall	Worst 12 months	Up months	100 becomes
S&P 500 (all stocks)	+8.8%	15.1%	0.52	-50.8%	-43.4%	65%	881
Fixed 60%	+6.0%	9.0%	0.50	-33.6%	-28.1%	64%	447
v1 gate 60%	+6.3%	6.5%	0.70	-17.3%	-12.3%	64%	481
v1 chain 60% (Mira)	+5.5%	5.5%	0.69	-8.2%	-6.8%	65%	398

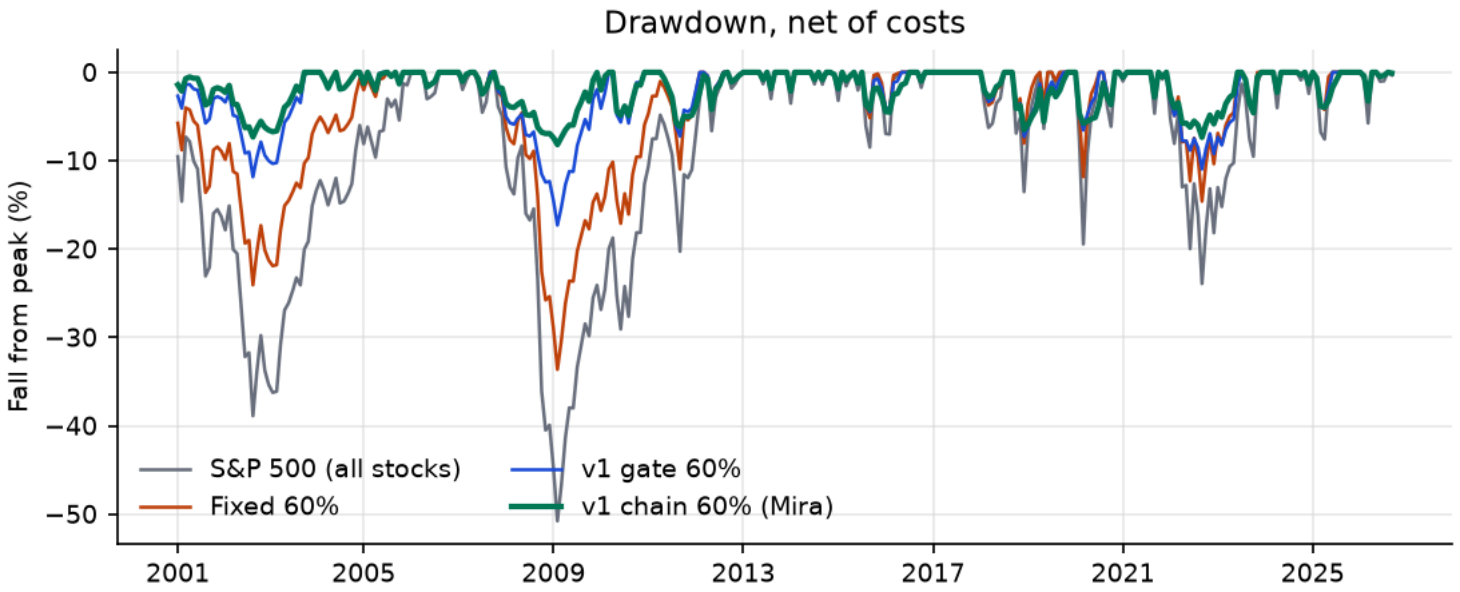
2. Test declaration (short form)

Item	Declared procedure
Model	v1, frozen; forward-test rule hash matches the code: **yes**
Data	S&P 500 total return (SPY) and 3-month T-bill, monthly; 32 daily price series for the multi-asset test; Yahoo Finance caches
Timing	decisions at month end from data to that day; the next month's return is earned
Information limit	signals slice data to the decision day; poison test (future prices replaced by garbage): S&P 24 of 24; 32 assets 64 of 64 (see test declaration v1.1)
Costs	A 0.10% per trade; B 0.30% per trade plus 0.20% a year; C 1.00% plus 1.00% a year (assumptions; no tax, no currency conversion)
Nothing tuned	thresholds, gate and costs were fixed before these runs
Not pre-registered	the 32-asset and return-target analyses were run once and reported; only the forward test and v2 were hashed before running
Full declaration	MIRA_SANDBOX_TESTING_DECLARATION.pdf, version 1.1 (20 of 20 test suites pass)

3. Results: S&P 500 plus cash, 2001-2026

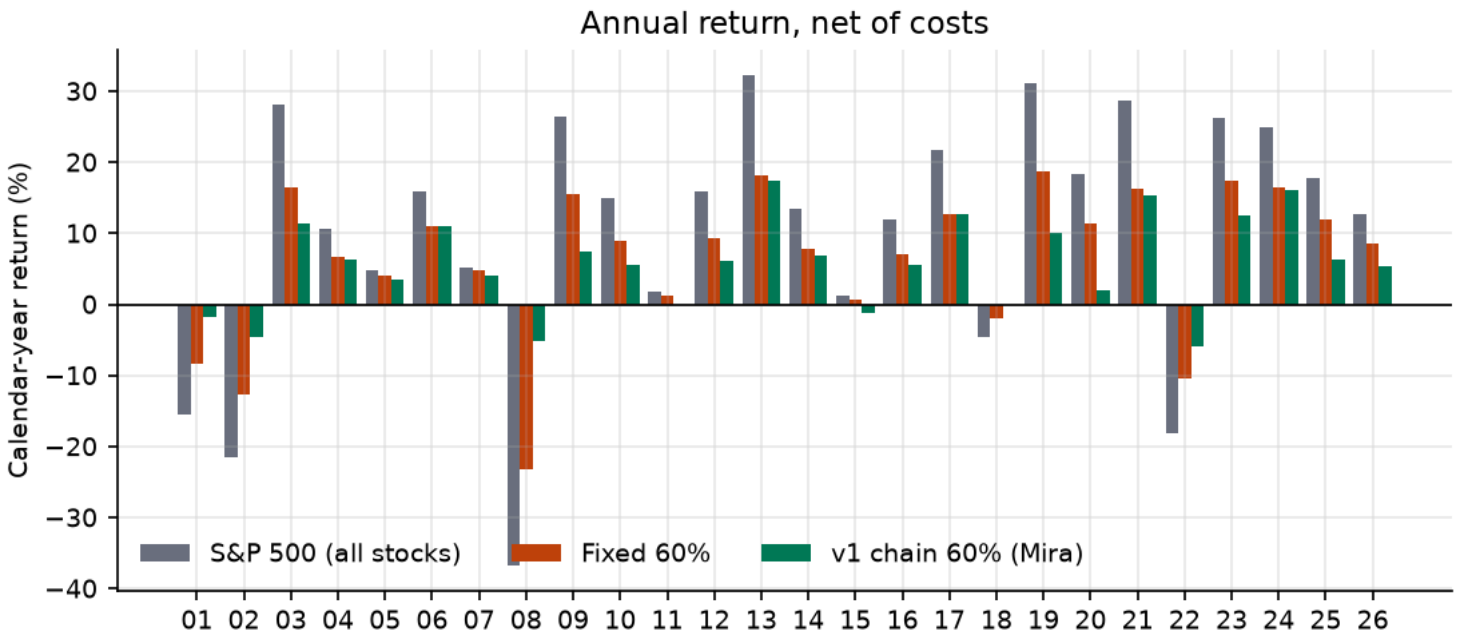


Growth of 100 after retail-estimate costs.



Drawdown: the chain falls far less than holding stocks.

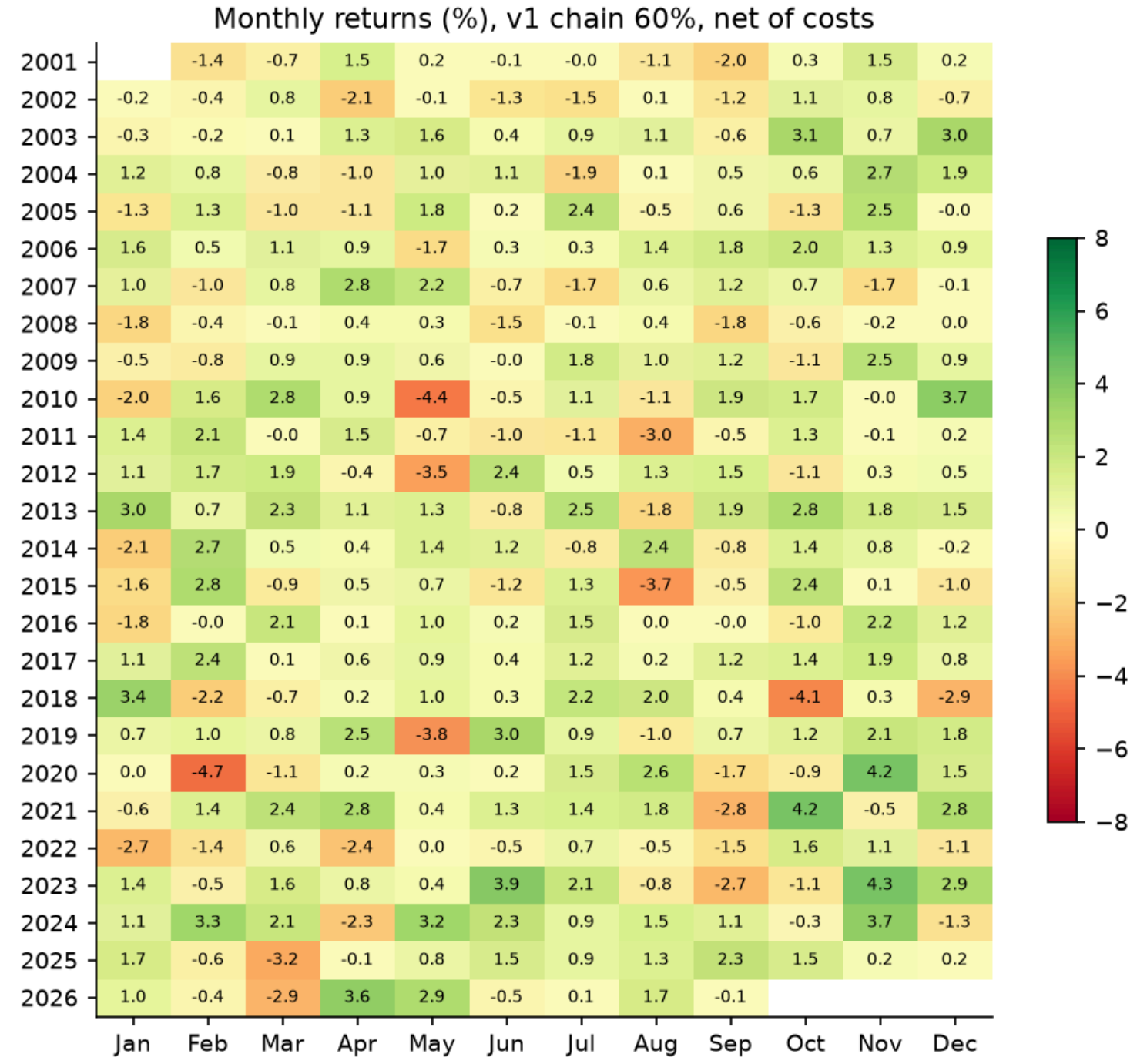
4. Annual and monthly returns



Calendar-year return, net of costs.

Year	S&P 500	Fixed 60%	v1 gate 60%	v1 chain 60%
2001 (Feb-Dec)	-15.5%	-8.4%	-2.7%	-1.7%
2002	-21.6%	-12.8%	-6.8%	-4.6%
2003	+28.2%	+16.5%	+14.1%	+11.5%
2004	+10.7%	+6.7%	+6.3%	+6.3%
2005	+4.8%	+4.0%	+4.0%	+3.6%
2006	+15.8%	+11.1%	+11.0%	+10.9%
2007	+5.1%	+4.8%	+4.4%	+4.0%
2008	-36.8%	-23.2%	-10.1%	-5.2%
2009	+26.4%	+15.6%	+11.9%	+7.4%
2010	+15.1%	+9.0%	+7.1%	+5.5%
2011	+1.9%	+1.2%	+1.0%	-0.0%
2012	+16.0%	+9.3%	+8.5%	+6.1%
2013	+32.3%	+18.2%	+18.2%	+17.4%
2014	+13.5%	+7.7%	+7.2%	+6.8%
2015	+1.2%	+0.7%	+0.1%	-1.3%
2016	+12.0%	+7.1%	+6.8%	+5.6%
2017	+21.7%	+12.7%	+12.7%	+12.7%
2018	-4.6%	-2.0%	-0.9%	-0.1%

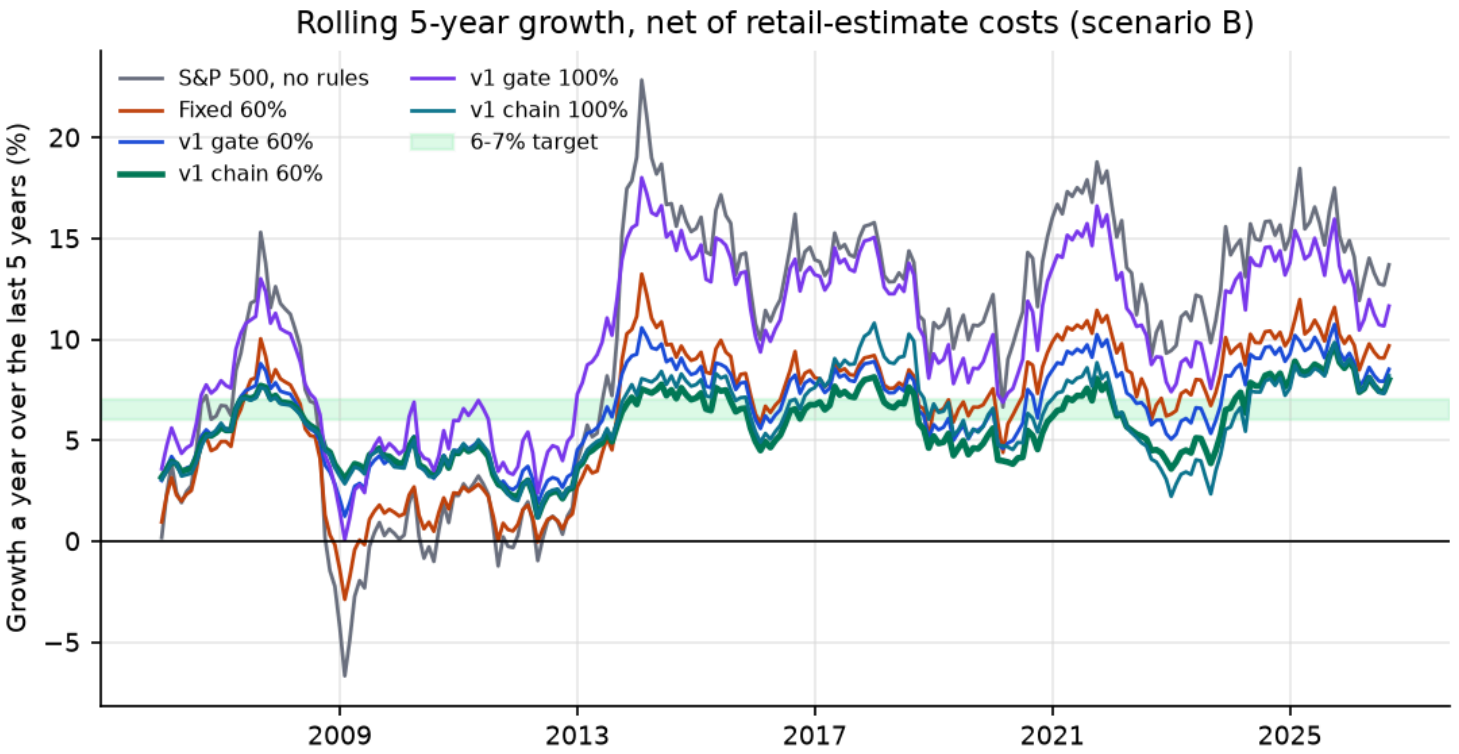
2019	+31.2%	+18.7%	+12.8%	+10.1%
2020	+18.3%	+11.4%	+9.8%	+1.9%
2021	+28.7%	+16.3%	+16.3%	+15.3%
2022	-18.2%	-10.4%	-9.2%	-5.8%
2023	+26.2%	+17.3%	+13.4%	+12.5%
2024	+24.9%	+16.5%	+16.5%	+16.2%
2025	+17.7%	+12.0%	+10.1%	+6.3%
2026 (Jan-Sep)	+12.7%	+8.6%	+7.0%	+5.5%



Month-by-month returns of the Mira chain (green gain, red loss).

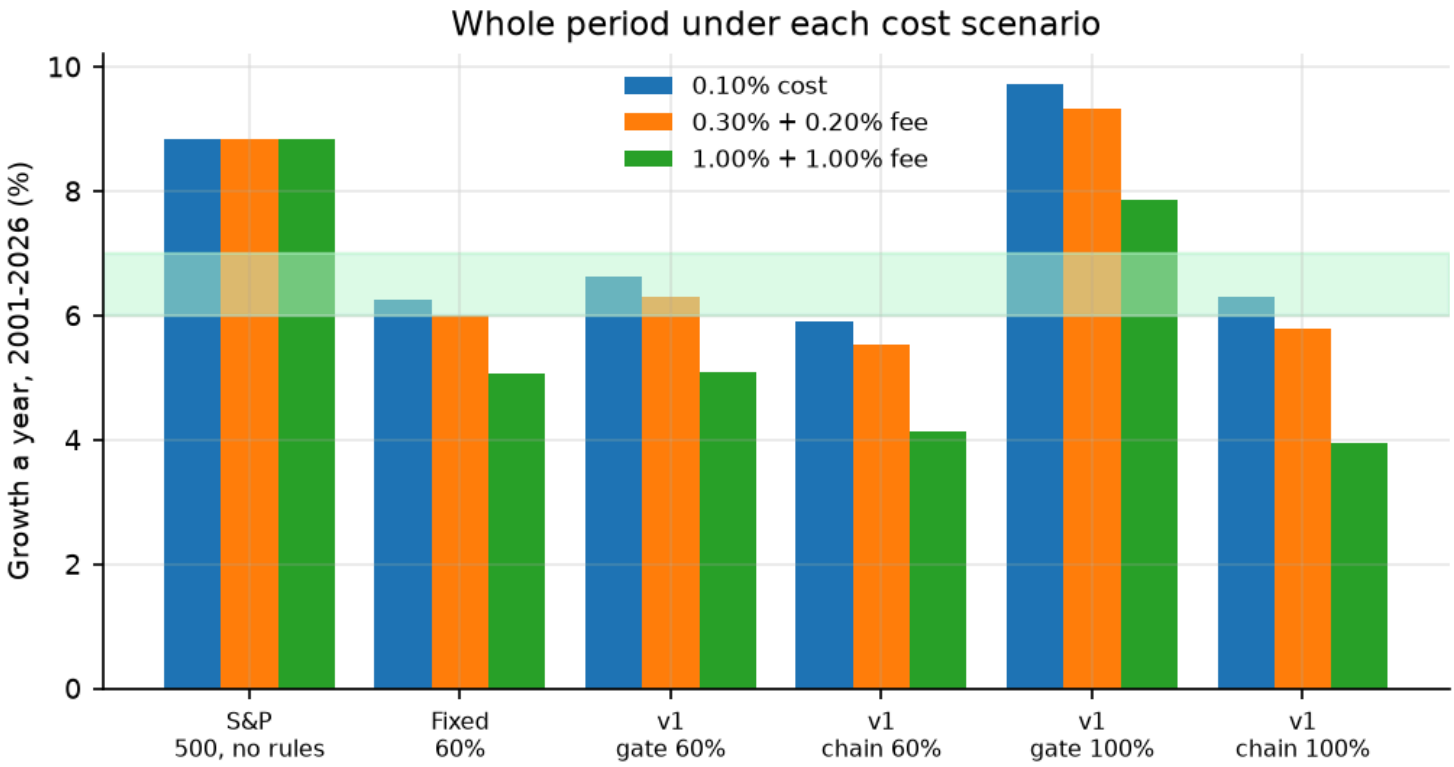
5. The 6-7% question

Net of retail costs (B)	5-year windows at 6%+	Worst 5-year	Median 5-year	10-year windows at 6%+
S&P 500 (all stocks)	74%	-6.7%	+11.6%	90%
Fixed 60%	66%	-2.9%	+7.4%	53%
v1 gate 60%	59%	+1.2%	+6.7%	69%
v1 chain 60% (Mira)	46%	+1.2%	+5.6%	34%



Rolling 5-year growth. The green band is 6-7%.

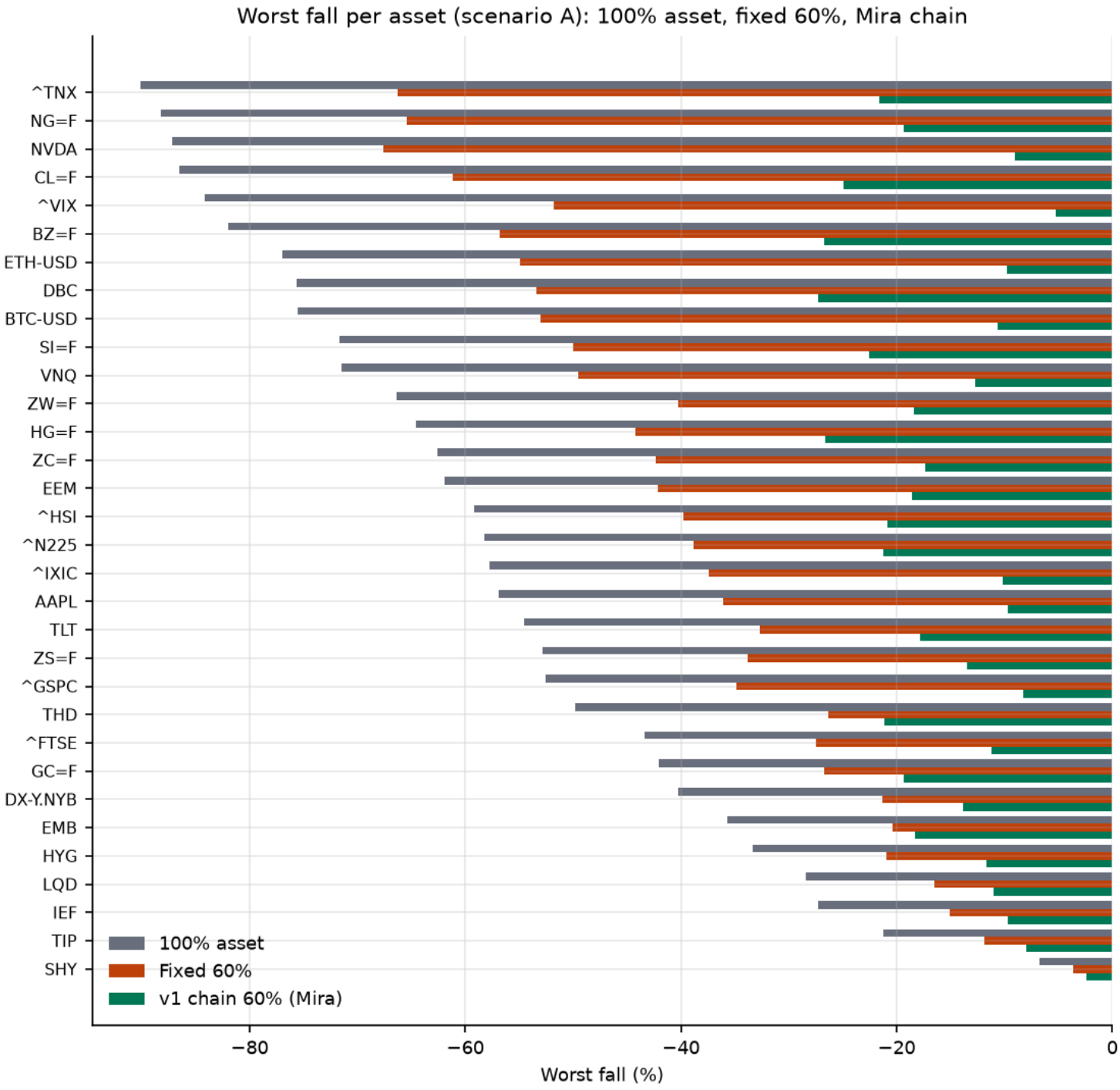
Growth a year by period (B)	2001-2007	2008-2016	2017-2026
S&P 500 (all stocks)	+2.7%	+7.1%	+15.2%
Fixed 60%	+2.7%	+4.4%	+10.0%
v1 gate 60%	+4.1%	+5.3%	+8.8%
v1 chain 60% (Mira)	+4.2%	+4.5%	+7.4%



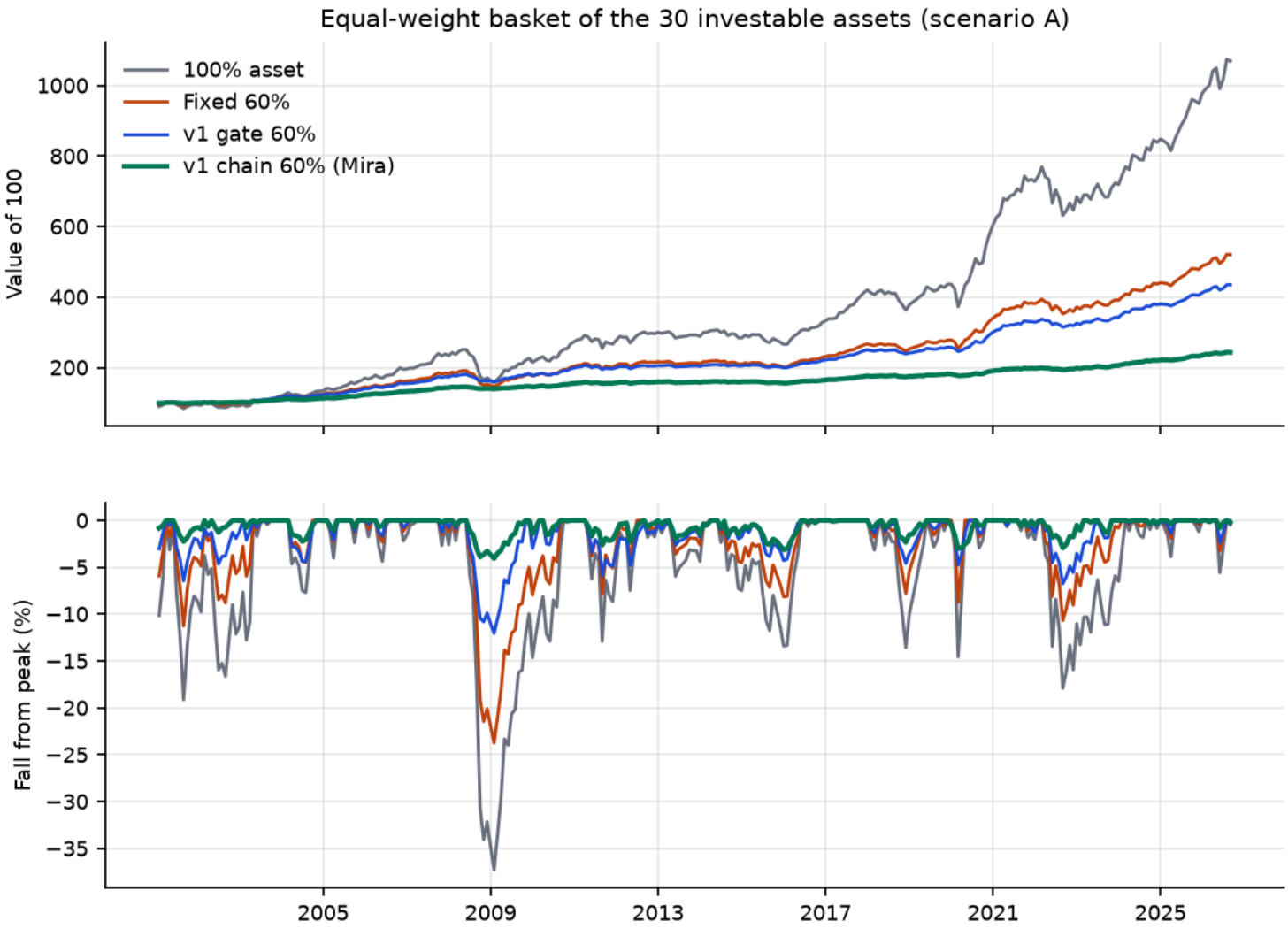
Whole-period growth under each cost scenario.

6. The 32-asset test

> Each of 32 cached assets was tested on its own price with the same frozen rule. The chain gave a shallower worst fall than a fixed 60% mix in **32 of 32** assets; the median asset gave up -0.8% of growth a year and its worst fall changed by +22.8 points. The declared rule: **11 PASS, 20 FAIL, 1 inconclusive** (most fails are a lower Sharpe from lost growth in strong uptrends).



Worst fall per asset: 100% asset, fixed 60%, Mira chain.



Equal-weight basket of the 30 investable assets (price closes only, so growth is understated).

7. Limits and what may be claimed

- Backtest on past data, one market regime, about four independent crises; the authors saw these results. Only the forward ledger (1 decision logged, first score about December 2026) is unseen.
- The 6-7% figure is not a promise. The default chain is below 6% after realistic costs.
- 32-asset test: price closes (no dividends or interest), futures roll not modelled, VIX and the 10-year yield index cannot be bought, assets share crises.
- Allowed: "In a 25-year backtest, about 5.5% to 6.5% a year after costs with much smaller falls than holding stocks."
- Not allowed: price or crash prediction, guaranteed or expected returns, "beats the market", advice.

8. Integrity

File	SHA-256 (first 16)
mira_invest.py	`d090dc22ec92eaa0`
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FORWARD_TEST_RULE.md	`694e31e92af921c3`
mira_32_assets_results.csv	`02e6974efba66a68`

Role	Name	Signature	Date
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Project owner			