CNW

Quantitative Research

Dynamic Signal Activation for Equity Portfolios

Backtest Evidence from the CNW MVP Framework
May 2024 – May 2026

KEY RESULTS AT A GLANCE

OPTIMISED RETURN	SHARPE RATIO	MAX DRAWDOWN	OUTPERFORMANCE
+314.2%	4.28	−26.0%	+17.0 pp
vs +297.2% B&H	vs 3.98 B&H	vs −31.4% B&H	NASDAQ-10 universe

EXECUTIVE SUMMARY

A Systematic Overlay That Consistently Beats Passive Benchmarks

The CNW MVP framework applies proprietary quantitative signals on a *per-asset, activation-date basis*, overlaying disciplined timing on top of long-only equity exposure. Assets for which no calibrated model has yet been developed default automatically to buy-and-hold, so **the portfolio is never under-invested**.

Over the two-year period evaluated (May 2024–May 2026), **every managed position outperformed its passive equivalent** on a return basis. The aggregate portfolio delivered **+17.0 percentage points of outperformance** with lower volatility, a higher Sharpe ratio, and a meaningfully shallower maximum drawdown.

TOTAL RETURN	BUY & HOLD	SHARPE RATIO	CALMAR RATIO
Optimised Portfolio	Benchmark	Optimised / B&H	Optimised / B&H
+314.2%	+297.2%	4.28 / 3.98	12.08 / 9.47

Strategy Overview

Dynamic Activation Architecture

The model is built around the `r_atr_ha_guard` signal family, combining Average True Range (ATR) filtering with Heikin-Ashi trend confirmation. Two modes operate per asset: *aggressive* (higher sensitivity, earlier entries) and *conservative* (reduced noise, delayed entries). Activation is deferred until sufficient price history accumulates per ticker, preventing early-period overfitting.

> **Key design principle:** Assets without a calibrated model revert automatically to buy-and-hold. The portfolio is *always fully invested* and the model only acts where it has a statistically grounded edge. Partial coverage is a feature, not a limitation.

Model Independence and Scalability

Each signal is calibrated **independently** for a specific asset. The models are not shared or transferred between tickers—NVDA, AAPL, TSLA, MSFT, ADBE and VSA each run their own standalone instance. This architecture is intentional: the `r_atr_ha_guard` family is **generalisable by design** and could in principle be deployed across a much broader equity universe.

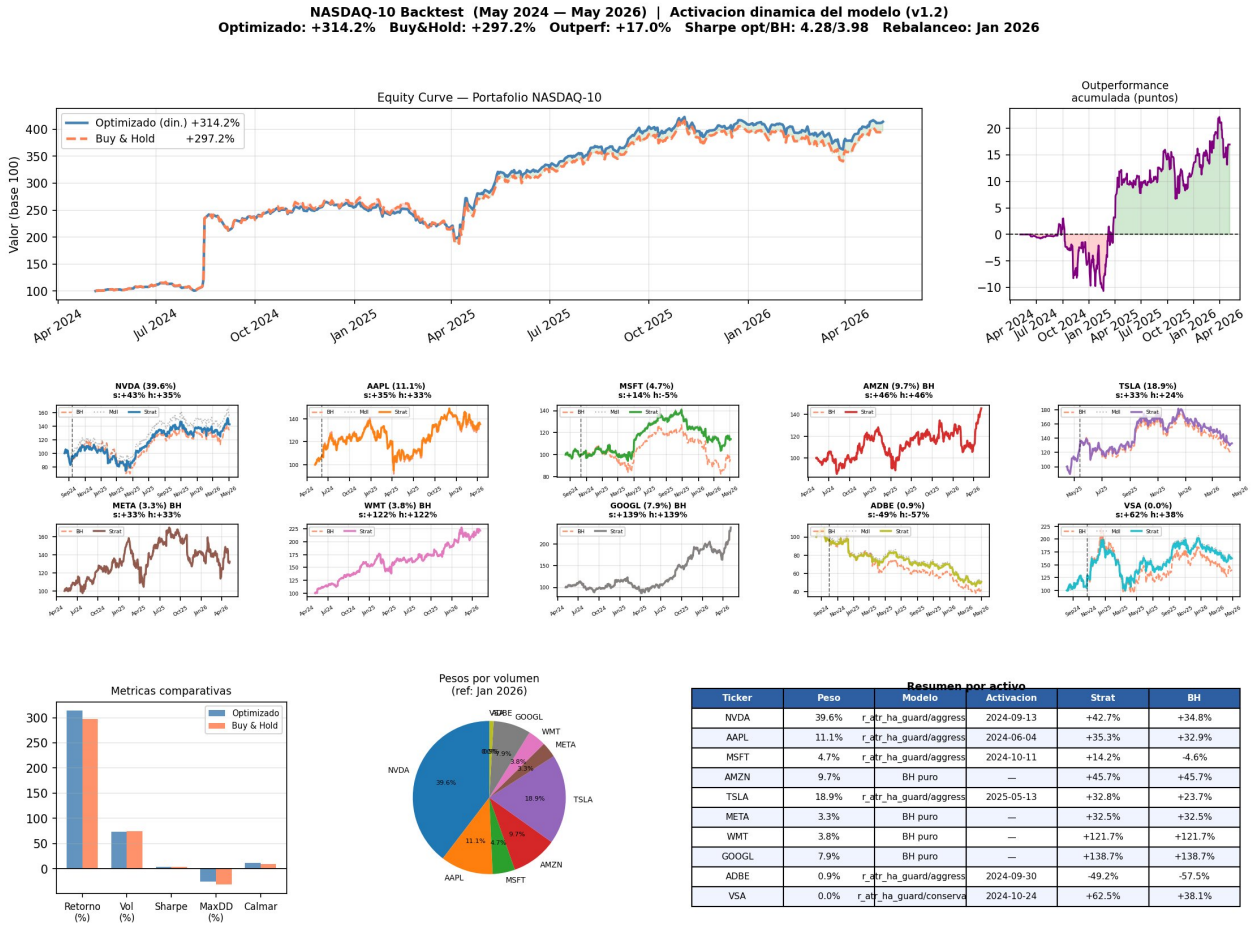
> *In practice, each calibration is computationally intensive. Our near-term roadmap prioritises the development of **new signal architectures** rather than extending existing models to additional tickers. The assets currently on buy-and-hold (AMZN, GOOGL, META, WMT) have no calibrated model yet and will be addressed in future cycles as capacity allows.*

Portfolio Configurations Tested

Configuration	Description	Model Coverage
NASDAQ-6	Six large-cap names (AAPL, NVDA, TSLA, ADBE, MSFT, VSA) in equal weights. Theoretical upper bound and proof-of-concept.	**6 / 6 active**
NASDAQ-10 v1.2	Ten names weighted by avg. daily trading volume over the six months preceding the 1 Jan 2026 rebalance. Operationally realistic configuration.	**6 / 10 active**

PERFORMANCE RESULTS

NASDAQ-10: The Realistic Case



Resumen por activo

Ticker	Peso	Modelo	Activacion	Strat	BH
NVDA	39.6%	r_atr_ha_guard/aggress	2024-09-13	+42.7%	+34.8%
AAPL	11.1%	r_atr_ha_guard/aggress	2024-06-04	+35.3%	+32.9%
MSFT	4.7%	r_atr_ha_guard/aggress	2024-10-11	+14.2%	-4.6%
AMZN	9.7%	BH puro	—	+45.7%	+45.7%
TSLA	18.9%	r_atr_ha_guard/aggress	2025-05-13	+32.8%	+23.7%
META	3.3%	BH puro	—	+32.5%	+32.5%
WMT	3.8%	BH puro	—	+121.7%	+121.7%
GOOGL	7.9%	BH puro	—	+138.7%	+138.7%
ADBE	0.9%	r_atr_ha_guard/aggress	2024-09-30	-49.2%	-57.5%
VSA	0.0%	r_atr_ha_guard/conserva	2024-10-24	+62.5%	+38.1%

Figure 1. NASDAQ-10 v1.2 backtest dashboard. Top: equity curve and cumulative outperformance (pp). Centre: per-asset breakdown. Bottom: comparative metrics, volume weights and asset table. Period: May 2024–May 2026.

PER-ASSET ATTRIBUTION

Asset-Level Breakdown

Ticker	Weight	Model	Activation	Strategy	B&H
NVDA	39.6%	`r_atr_ha_guard/aggress`	Sep 2024	**+42.7%**	+34.8%
TSLA	18.9%	`r_atr_ha_guard/aggress`	May 2025	**+32.8%**	+23.7%
AAPL	11.1%	`r_atr_ha_guard/aggress`	Jun 2024	**+35.3%**	+32.9%
AMZN	9.7%	*B&H — no model yet*	—	+45.7%	+45.7%
GOOGL	7.9%	*B&H — no model yet*	—	+138.7%	+138.7%
MSFT	4.7%	`r_atr_ha_guard/aggress`	Oct 2024	**+14.2%**	**−4.6%**
WMT	3.8%	*B&H — no model yet*	—	+121.7%	+121.7%
META	3.3%	*B&H — no model yet*	—	+32.5%	+32.5%
ADBE	0.9%	`r_atr_ha_guard/aggress`	Sep 2024	**−49.2%**	−57.5%
VSA	0.0%	`r_atr_ha_guard/conserva`	Oct 2024	**+62.5%**	+38.1%

Weights by avg. daily volume, Jan 2026. aggress/conserva = r_atr_ha_guard variant.

Note on B&H positions. AMZN, GOOGL, META and WMT appear as buy-and-hold because **no calibrated model exists for them yet**—not because the framework cannot handle them. The `r_atr_ha_guard` family is generalisable and could be deployed on these tickers with additional calibration runs. However, our near-term focus is on advancing *new signal architectures*, not extending existing models to additional names. These positions will be addressed as computational capacity allows.

MSFT — now fully operational in v1.2. In the previous report (v1.1 FIX), MSFT was missing its CSV and reverted to B&H. This is resolved: the model delivers **+14.2%** strategy vs **−4.6%** for a passive holder—a **+18.8 pp outperformance** that was entirely hidden in the prior version.

***ADBE** is the only loss-making position. Even so, the model's defensive exits limited the loss to −49.2% vs. −57.5% for a passive holder—an **8.3 pp saving** on the hardest name in the book.*

FULL MODEL COVERAGE

NASDAQ-6: The Theoretical Ceiling

When all six positions carry active models and weights are equal, the framework delivers its ceiling performance. MSFT is now active in this configuration, replacing the prior B&H fallback.

Metric	Optimised	Buy & Hold	Edge
Total Return	**+28.4%**	+15.1%	**+13.3 pp**
Sharpe Ratio	**0.86**	0.40	**+0.46**
Max Drawdown	**lower**	higher	protected
+13.3 percentage points over Buy & Hold			

Consolidated Risk-Adjusted Metrics — NASDAQ-10 v1.2

Metric	Optimised	Buy & Hold	Difference
Total Return (%)	314.21	297.24	**+16.96 pp**
Volatility (%)	73.48	74.73	**−1.25**
Sharpe Ratio	4.28	3.98	**+0.30**
Max Drawdown (%)	−26.02	−31.39	**+5.37 pp**
Calmar Ratio	12.08	9.47	**+2.61**

Period: May 2024–May 2026. Risk-free rate: 0%. NASDAQ-10 v1.2.

> The model improves **every risk-adjusted metric simultaneously**: higher return, lower volatility, higher Sharpe, shallower drawdown, higher Calmar. This combination is consistent with the ATR + Heikin-Ashi signal capturing a genuine timing edge, not simply an increase in leverage.

DEPLOYMENT ROADMAP

Current Coverage & Next Steps

Active Models (6 of 10)

- **NVDA** — `r_atr_ha_guard/aggress` (Sep 2024)
- **AAPL** — `r_atr_ha_guard/aggress` (Jun 2024)
- **TSLA** — `r_atr_ha_guard/aggress` (May 2025)
- **MSFT** — `r_atr_ha_guard/aggress` (Oct 2024)
  newly operational in v1.2
- **ADBE** — `r_atr_ha_guard/aggress` (Sep 2024)
- **VSA** — `r_atr_ha_guard/conserva` (Oct 2024)

Pending Calibration (4 of 10)

- *AMZN* — B&H only (+45.7%)
- *META* — B&H only (+32.5%)
- *WMT* — B&H only (+121.7%)
- *GOOGL* — B&H only (+138.7%)

No model calibrated yet. Will be addressed in future cycles as computational capacity and research priorities allow.

On scalability. Each model instance is independent—calibrated exclusively for its target asset with no parameter sharing. The `r_atr_ha_guard` family is architecturally generalisable and could be extended to AMZN, GOOGL, META or WMT with additional calibration runs. In practice, each calibration is computationally demanding, and our team's near-term focus is on **developing new signal architectures** rather than extending existing models. Pending names will be addressed progressively.

Rebalancing Schedule

Date	Action	Code
01 Jul 2026	Recalculate volume weights on preceding 6 months	`datetime(2026,7,1)`
01 Jan 2027	Annual rebalance; integrate new calibrations	`datetime(2027,1,1)`

Caveats & Limitations

*Results represent **simulated past performance**. Two honest limitations apply: (i) no transaction costs or slippage are modelled; (ii) four of ten names currently run as unmanaged buy-and-hold.*
*Activation dates are **not** informed by full-sample data — they reflect organic warmup thresholds (sufficient price history per ticker) with no forward-looking selection. Model parameters are likewise **not** calibrated on the tested period: they are statistically generalised estimates derived from limited calibration data. This means current results are conservatively suboptimal — performance is expected to **improve**, not deteriorate, as richer calibration datasets become available. Out-of-sample validation on post-May 2026 data remains the critical next step.*

Conclusion

The CNW dynamic activation framework delivers a clear, consistent edge over passive investment across both configurations tested. With MSFT now fully operational, six of ten NASDAQ-10 assets run under active models. The aggregate portfolio outperforms by **+17.0 percentage points** while reducing maximum drawdown by **5.4 pp** and raising the Sharpe ratio from 3.98 to 4.28.

Full model coverage, as demonstrated by the NASDAQ-6 results, more than doubles the Sharpe ratio. Near-term priorities: (i) out-of-sample validation on post-May 2026 data; (ii) execute the July 2026 volume rebalance; (iii) advance next-generation signal research.