

validityBase Research

Heron Intelligence Systematic Short Signal

Backtest Report

March 19, 2026

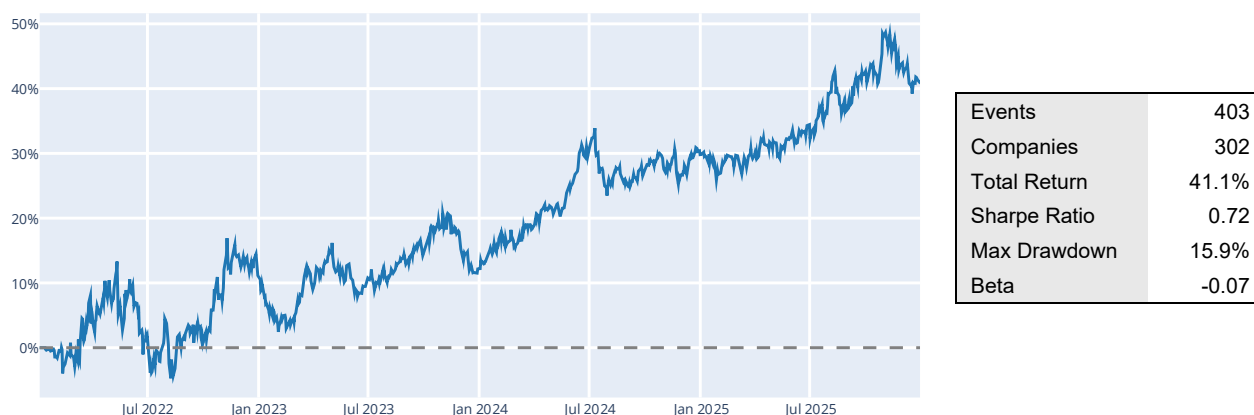
Prepared for Heron Intelligence

Executive Summary

Heron Intelligence conducts investigative diligence calls focused on company management teams. After each call, Heron Intelligence classifies the call tone as positive, neutral, mixed or negative. validityBase Research was engaged to evaluate whether negative findings predict returns of public equities and can support a systematic investment strategy.

To test this, all negative findings released from 2022 through 2025 about publicly traded companies were used to construct equal-weight short portfolios, with positions entered the day after each finding was published to the dataset. The base case uses IWM (Russell 3000 ETF) constituents, includes 403 events, and hedges portfolio beta with the IWM ETF.

Exhibit 1. Cumulative Return of Heron Intelligence Systematic Short Signal
IWM (Russell 3000 ETF) universe; 24-month hold; equal-weight short portfolio; beta-hedged using IWM



In the base case — a beta-hedged portfolio within the IWM ETF universe, with a 24-month holding period — the strategy returns 41.1% with a Sharpe ratio of 0.72. Maximum drawdown is 15.9%. Realized beta to IWM is -0.07, confirming that market exposure is effectively hedged.

The signal is stronger for longer holding periods, with 12 to 36-month hold periods showing more consistent performance than shorter ones. Sharpe ratios are meaningful in both the IWB (Russell 1000 ETF) and IWM (Russell 3000 ETF) universes. Results are modestly stronger in the broader IWM universe, suggesting contribution from smaller-cap names.

These results provide evidence of a predictive signal. Results should be interpreted cautiously because event count is moderate and implementation frictions such as transaction costs, slippage, and borrow costs are not modeled.

Methodology Overview

Dataset and Event Definition

From 2022 through 2025, Heron Intelligence published 18,967 calls to its dataset. Of these, 11,630 were classified as positive, 1,553 as negative, and 5,784 carried other call tones. Any call tone containing the string “neg” was coded as negative, resulting in 532 additional negative findings. In total, 2,085 calls were treated as negative findings. This report focuses on those findings.

To construct the negative findings events used in portfolio construction, we collapsed duplicate ticker-and-post-date pairs into single events and removed 61 tickers during preprocessing due to unreliable return data. Return data issues are concentrated in U.S. OTC and non-U.S. equities. No tickers in the Russell 3000 ETF universe were removed during preprocessing.

Of negative calls, 1,101 covered 503 then-publicly traded companies; the rest covered private companies. Among Russell 3000 constituents, 705 negative findings were identified; after deduplication, these collapsed to 403 unique events across 302 companies.

Because call timing depends on when a source responds to outreach, finding call dates are not precisely controlled within the course of a study. Event timing uses post date — the timestamp at which a finding became available to clients. The call date may precede the post date by several days to more than one year.

Universe Definition

Approximately 80% of publicly traded companies associated with negative findings were U.S.-listed. Of those, about 85% fell within the IWB universe.

The analysis evaluates several universes: Global, US ex-OTC, IWB (Russell 3000 ETF), and IWB (Russell 1000 ETF). The base case uses IWB.

Portfolio Construction

The strategy is a daily rebalanced, equal-weight short portfolio. All positions are rebalanced to equal weights on each trading day.

When a negative finding appears, the company enters the portfolio as a short position on the next trading day after the post date.

The backtest evaluates holding periods from 1 week to 36 months. Positions remain for the specified period unless removed by an overlay rule. When a new negative finding is published for a stock already in the portfolio, the holding period restarts from the new event date.

If a company is delisted or acquired during the holding period, the position closes at the last available price. No adjustment is made for delisting returns beyond what the return series captures.

The portfolio holds an average of 106 positions in the base case¹. Position size is capped at -20%. If the portfolio holds fewer than 5 positions, the remainder is cash.

¹ On average, in base case, 26 positions were in the portfolio in 2022, 92 in 2023, 161 in 2024 and 142 in 2025.

Positions are removed when a stock rises more than 100% or falls more than 50% from entry. Positions that breach either threshold on a given day are closed at the following day's close.

Hedging and Return Measurement

The portfolio is beta-hedged. For the IWB (Russell 1000 ETF) universe, the hedge uses the IWB ETF; for other universes, the hedge is the IWV ETF.

Betas are estimated by regressing daily returns with a 252-day lookback and exponential decay (252-day half-life). When a beta cannot be estimated, 1.0 is assumed.

Scope

The backtest runs from January 1, 2022 through December 31, 2025.

Results are gross of implementation frictions. Transaction costs, slippage, and stock borrow costs are excluded. A financing rate of zero is assumed on short proceeds.

Core Backtest Results

Base Case

The base case is a beta-hedged portfolio of Russell 3000 ETF (IWV) constituents held for 24 months. Results appear in Exhibit 1.

Performance by Holding Period

Performance varied across holding periods. Periods under six months were noisier and less consistent; those of 12 months or longer produced more stable results. Exhibit 2 presents the full range.

Exhibit 2. Performance by Holding Period

IWV (Russell 3000 ETF) universe; equal-weight short portfolio; beta-hedged using IWV

Holding Period	Total Return	CAGR	Sharpe Ratio	Max Drawdown
1 Week	-11.67%	-3.07%	-0.16	-29.8%
1 Month	1.16%	0.29%	0.10	-30.5%
3 Months	9.73%	2.36%	0.23	-16.9%
6 Months	25.91%	5.97%	0.51	-16.1%
12 Months	24.61%	5.69%	0.49	-15.9%
18 Months	39.00%	8.63%	0.70	-15.9%
24 Months	41.12%	9.05%	0.72	-15.9%
30 Months	39.59%	8.75%	0.70	-15.9%
36 Months	38.26%	8.49%	0.67	-15.9%

Source: validityBase Research. Return period: 01/01/22 to 12/31/25. Base case shown in bold. Results gross of transaction costs, slippage, borrow costs, and financing.

Universe Comparison

The signal is stronger in the IWV (Russell 3000 ETF) universe than in the IWB (Russell 1000 ETF) universe, indicating that smaller-cap names contribute. Results are broadly similar across the IWV, US ex-OTC, and Global universes. Exhibit 3 presents results by universe.

Exhibit 3. Performance by Investment Universe

Equal-weight short portfolio; 24-month holding period; beta-hedged

Universe	Events	Total Return	CAGR	Sharpe Ratio	Max Drawdown
IWB (Russell 1000 ETF)	340	25.72%	5.93%	0.59	-11.38%
IWV (Russell 3000 ETF)	403	41.12%	9.05%	0.72	-15.92%
US ex-OTC	450	42.47%	9.31%	0.69	-20.52%
Global	573	42.23%	9.26%	0.69	-16.92%

Source: validityBase Research. Return period: Jan 1, 2022 to Dec 31, 2025. Beta hedge is IWB for IWB (Russell 1000 ETF), IWV for the other universes.

Additional Implementation Tests

Sensitivity to Stop-Loss and Profit-Taking Rules

The base case includes stop-loss and profit-taking overlays (see Methodology). Exhibit 4 summarizes the effect of removing them.

Exhibit 4. Performance by Investment Universe With and Without Overlay

Equal-weight short portfolio; 24-month holding period; beta-hedged

Universe	Total Ret. (With)	Total Ret. (Without)	Sharpe (With)	Sharpe (Without)	Max Drawdown (With)	Max Drawdown (Without)
IWB (R1000 ETF)	25.72%	23.19%	0.59	0.57	-11.38%	-8.60%
IWV (R3000 ETF)	41.12%	32.19%	0.72	0.61	-15.92%	-15.12%
US ex-OTC	42.47%	33.68%	0.69	0.59	-20.52%	-19.76%
Global	42.23%	34.80%	0.69	0.61	-16.92%	-15.82%

Source: validityBase Research. Return period: Jan 1, 2022 to Dec 31, 2025. Base case shown in bold. "With Overlay" applies a stop-loss at a 100% increase in share price and a profit-taking rule at a 50% decline in share price.

Removing the overlay weakens performance. In the base case, the Sharpe ratio falls from 0.72 to 0.61 and total return from 41.1% to 32.2%. Similar effects appear across most holding periods and universes, the IWB (Russell 1000 ETF) being the notable exception.

A small number of names returning more than 500% over the test period drive the deterioration. The stop-loss overlay is a substantive risk control, particularly outside the large-cap universe, though it does not materially affect maximum drawdown.

52-Week High / Low Overlay

The analysis tested whether results varied based on where a stock was trading within its 52-week range at the time of a negative finding — specifically, within 20% of its 52-week low or high on the event date. The aim was to assess whether predictive content differs between technically weak and technically strong names. Exhibit 5 presents the results.

Exhibit 5. Performance Conditional on Proximity to 52-week High and Low

Equal-weight short portfolio; 24-month holding period; IWV (Russell 3000 ETF) universe; beta-hedged

	Events	Total Return	Sharpe Ratio	Max Drawdown
Base Case	403	41.12%	0.72	-15.92%
Within 20% of 52-Week Low	137	50.81%	0.79	-14.69%
Within 20% of 52-Week High	235	13.61%	0.40	-17.89%

Source: validityBase Research. Return period: Jan 1, 2022 to Dec 31, 2025

The 52-week low subset produced modestly stronger returns and Sharpe ratio, though the subset contains fewer observations.

The 52-week high subset produced materially weaker results, though returns remained positive, indicating the signal retains predictive content for stocks near prior highs.

Takeaways from Implementation Tests

These tests do not change the report's core findings. The principal result is that stop-loss and profit-taking rules improve performance by limiting extreme adverse outcomes on the short side. The 52-week high/low results are suggestive but not conclusive.

Limitations and Implementation Considerations

Limited Sample Period and Event Count

The backtest covers January 2022 through December 2025. The base case rests on a moderate event count. A longer history spanning more market regimes and events would strengthen the findings.

Gross-of-Costs Results

Results exclude transaction costs, slippage, and stock-borrow costs. These frictions could reduce realized performance in live trading, particularly for smaller-cap and less liquid names.

Capacity Constraints

No capacity analysis has been performed. Small-cap names, where the signal is strongest, may face limited borrow availability and higher market-impact costs.

Hedge Precision

Beta hedging relies on estimated betas, which may be imprecise over short estimation windows. Hedging for the US ex-OTC and Global universes uses IWV as an approximation.

Point-in-Time Reconstruction

The analysis relies on a reconstructed point-in-time record rather than a live feed. Lags or revisions may introduce bias. The dataset approximates what was knowable at each point in time.

Interpretation of Findings

Signal Persistence

Performance is noisier at short horizons but improves over 6- to 36-month windows. This pattern is consistent with a robust long-term signal rather than short-lived negative sentiment.

Market-Cap Differentiation

The signal is stronger in the Russell 3000 ETF universe than in the Russell 1000 ETF universe, consistent with the view that qualitative management-related information has greater marginal value in less efficient markets. The Russell 1000 ETF result remains strong: a 0.59 Sharpe ratio in a beta-hedged large-cap universe is meaningful. Stronger small-cap results should be weighed against greater implementation frictions: borrow constraints, wider spreads, and market impact.

Position Management

The stop-loss and profit-taking analysis underscores the importance of position management. Removing the overlay reduces the Sharpe ratio from 0.72 to 0.61. Realized performance depends on a disciplined risk management framework.

Technical Context

Negative findings on stocks near their 52-week lows produced stronger results than the base case. Findings on stocks near their highs remained positive but materially weaker. The signal may work best when it aligns with structural weakness. Smaller event counts make this suggestive, not definitive.

Synthesis

The signal realizes gradually, is stronger in less efficient markets, and holds across multiple specifications.

Appendix

Metric Definitions

Total Return. Total return is the cumulative return of the strategy over the full backtest period.

CAGR. Compound annual growth rate is the annualized geometric return implied by the beginning and ending portfolio values over the backtest period.

Annualized Arithmetic Sharpe Ratio. Sharpe ratio is calculated as the annualized mean of daily portfolio returns divided by the annualized standard deviation of daily portfolio returns. Unless otherwise noted, the report refers to the arithmetic Sharpe ratio.

Maximum Drawdown. Maximum drawdown is the largest peak-to-trough decline in cumulative portfolio value observed over the backtest period.

Portfolio Beta. Portfolio beta is the estimated sensitivity of the portfolio to the relevant market benchmark after applying the hedge construction described below.

Supplemental Results Charts

E.2 Charts for Exhibit 2: Performance by Holding Period (IWV)

Figure E2.1. 1-Week Holding Period

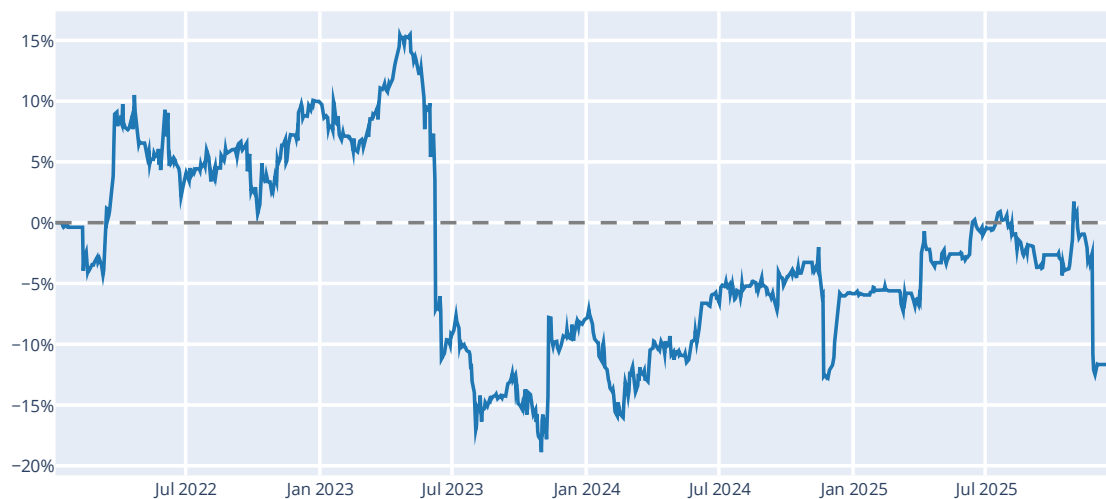


Figure E2.2. 1-Month Holding Period

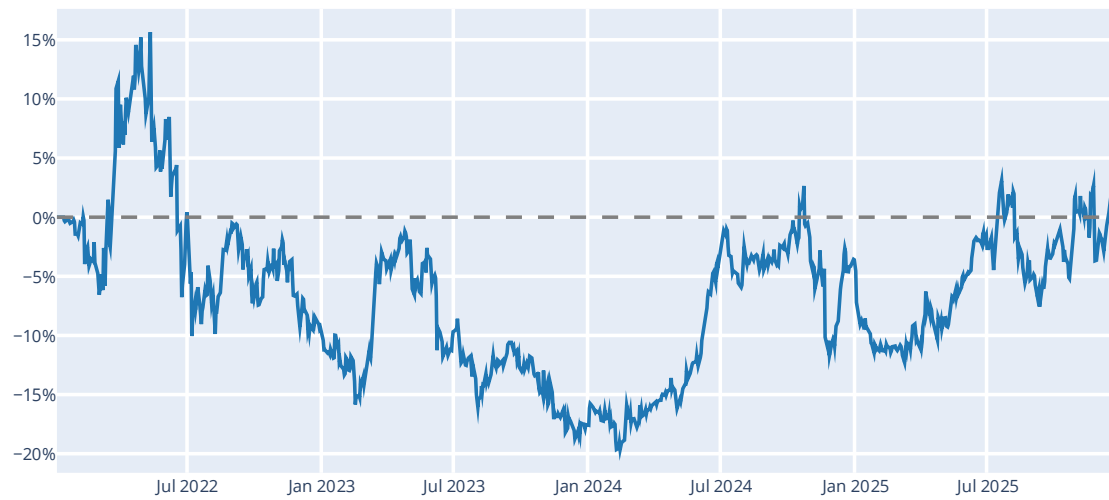


Figure E2.3. 3-Month Holding Period

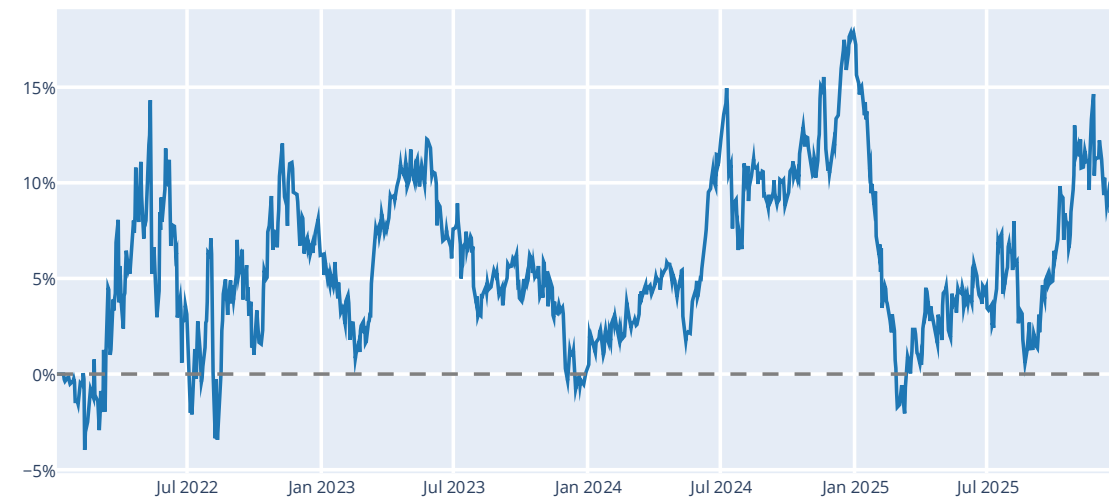


Figure E2.4. 6-Month Holding Period

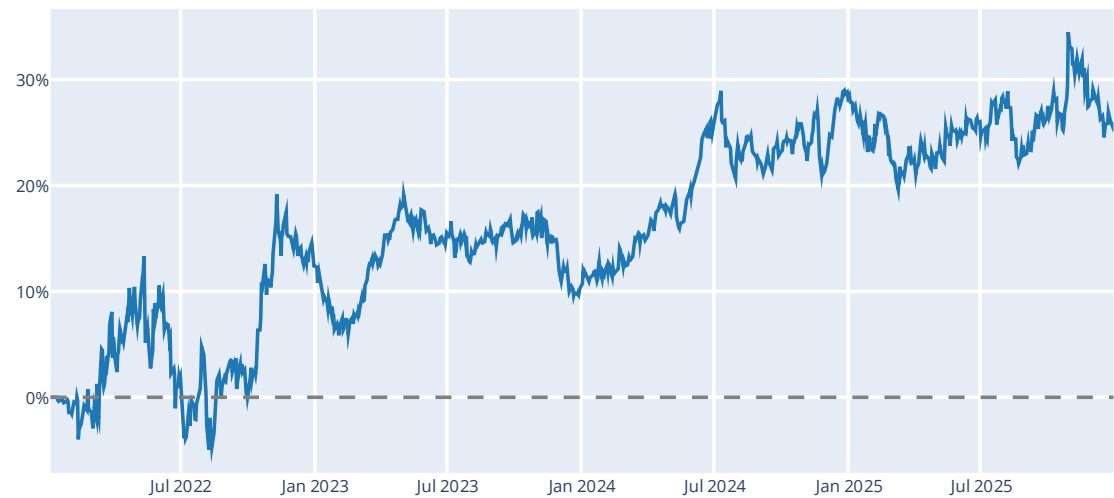


Figure E2.5. 12-Month Holding Period

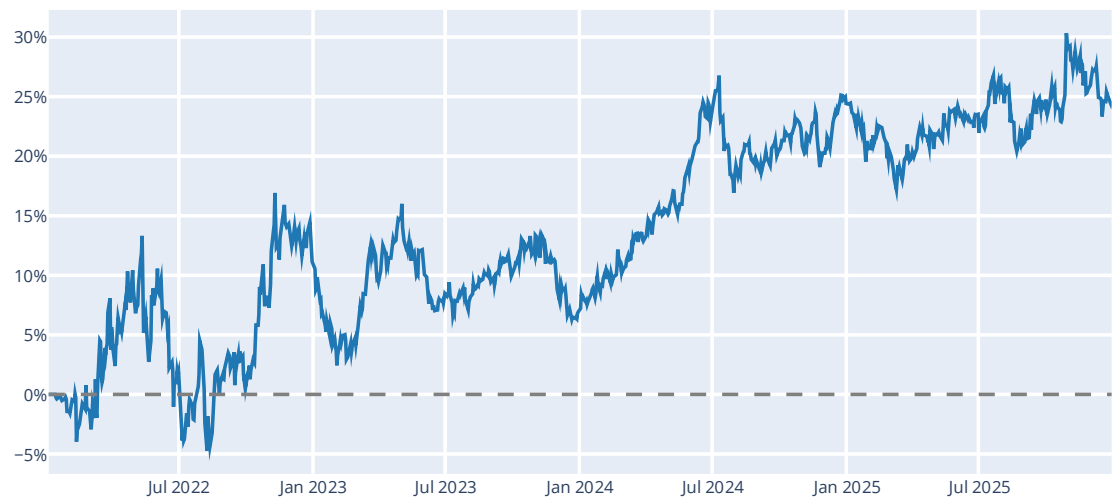


Figure E2.6. 18-Month Holding Period

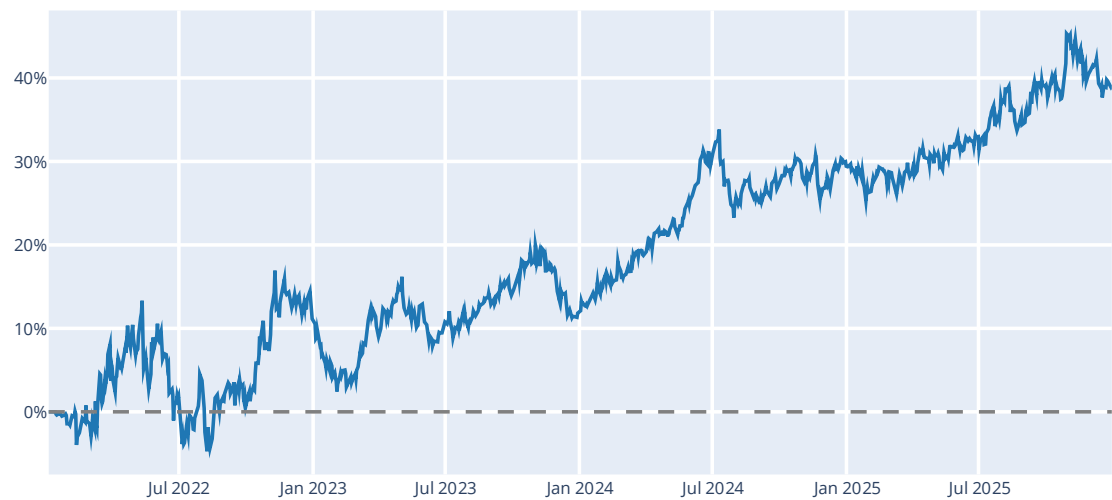


Figure E2.7. 24-Month Holding Period

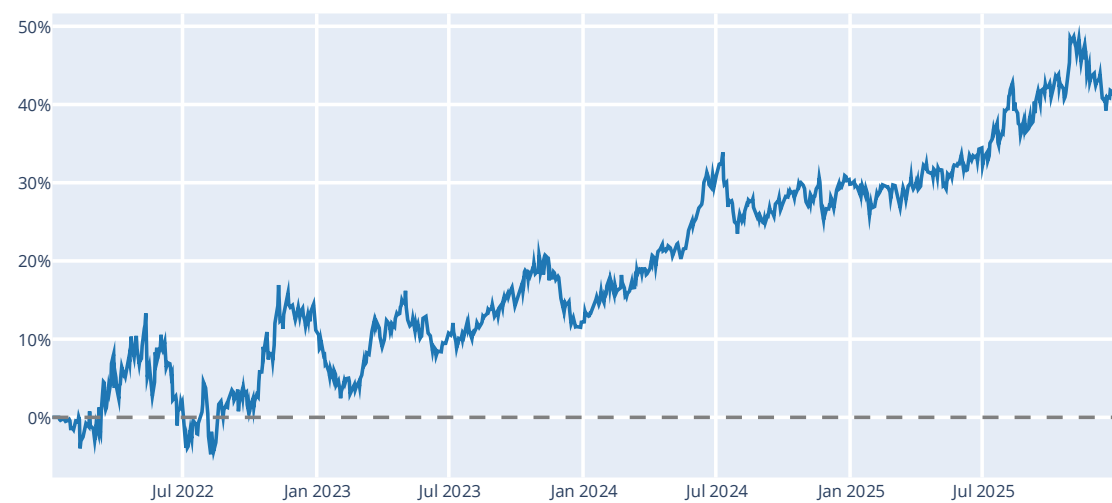


Figure E2.8. 30-Month Holding Period

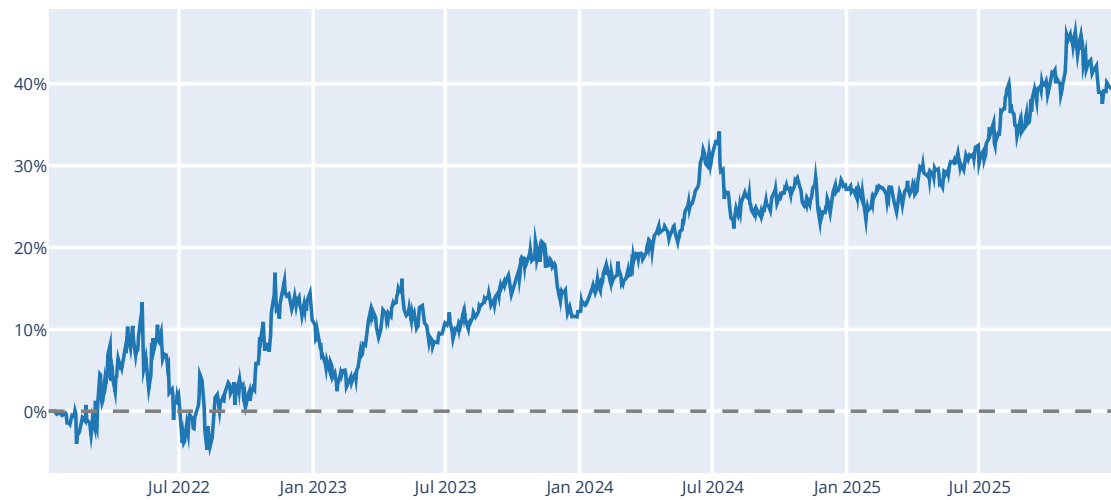
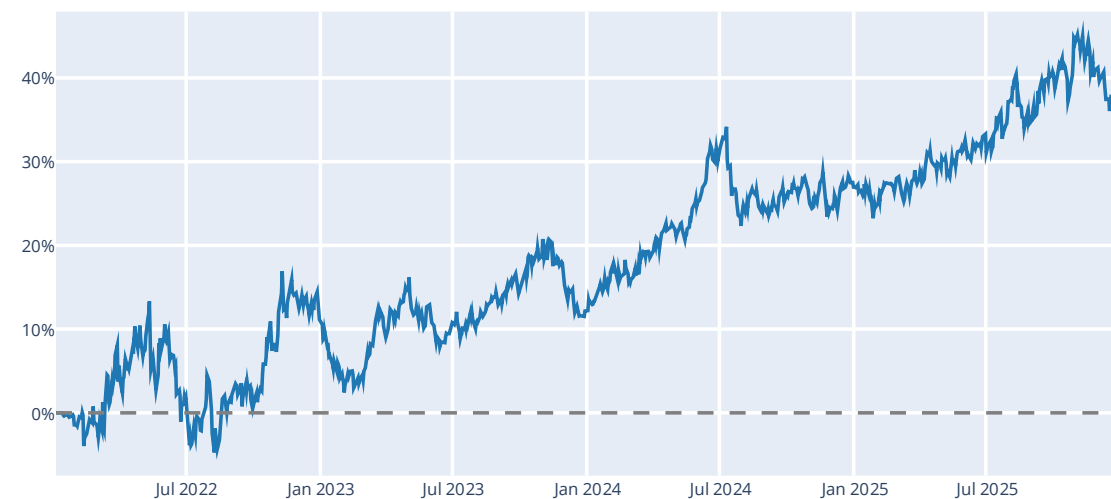


Figure E2.9. 36-Month Holding Period



E.3 Charts for Exhibit 3: Performance by Universe (24 month holding period)

Figure E3.1. Russell 1000 ETF (IWB)

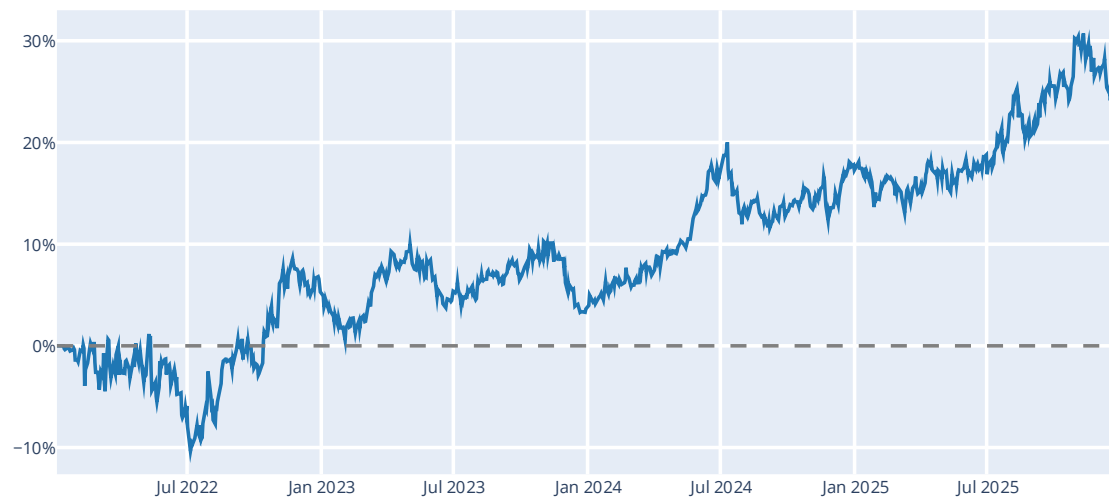


Figure E3.2. Russell 3000 ETF (IWM)

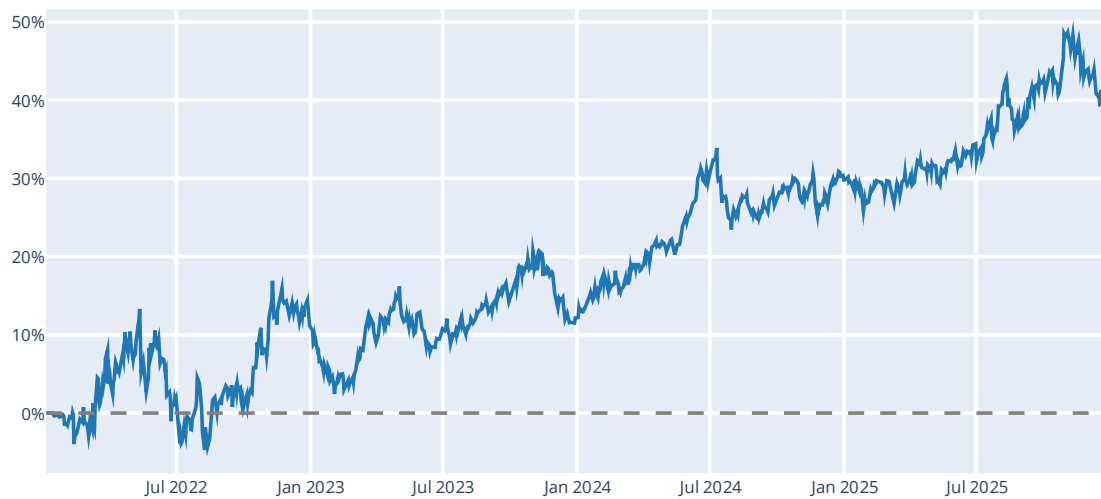


Figure E3.3. US ex-OTC

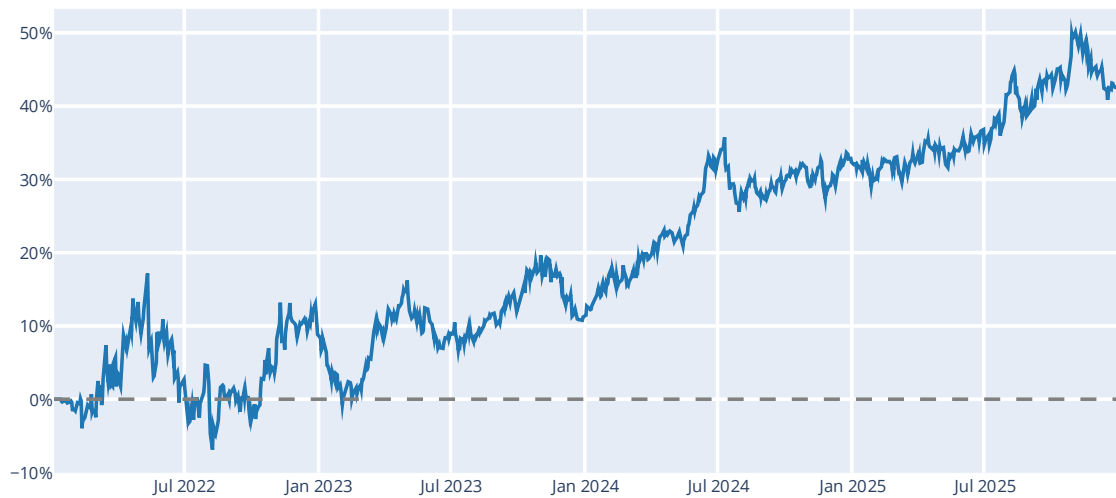
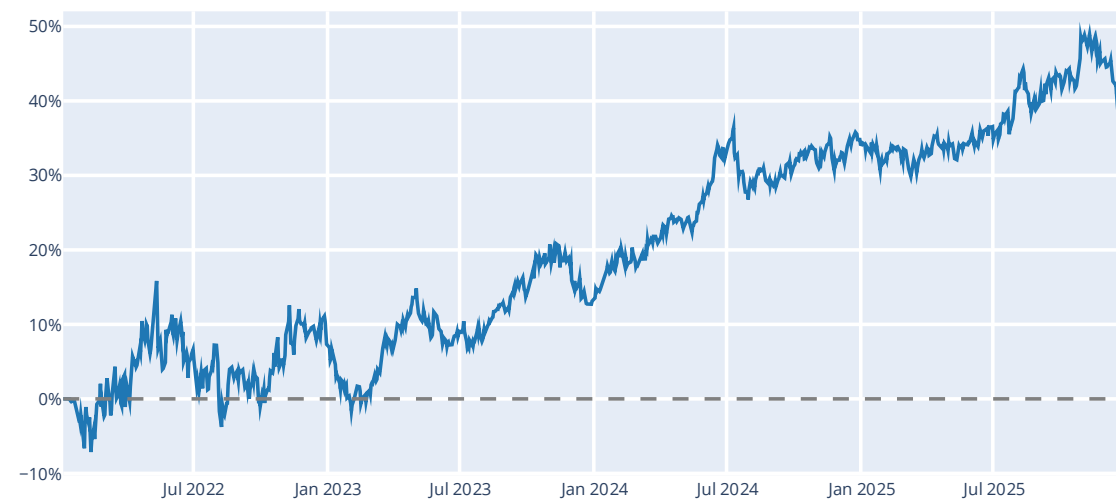


Figure E3.4. Global



E.4 Charts for Exhibit 4: Performance Without Stop-Loss and Take-Profit Overlay (24 month)

Figure E4.1. Russell 1000 ETF (IWB)

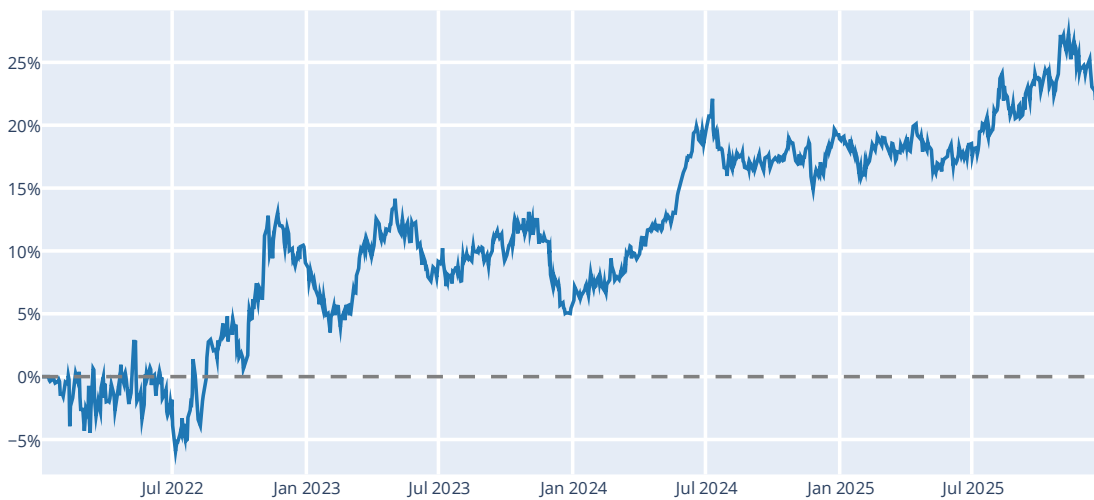


Figure E4.2. Russell 3000 ETF (IWM)

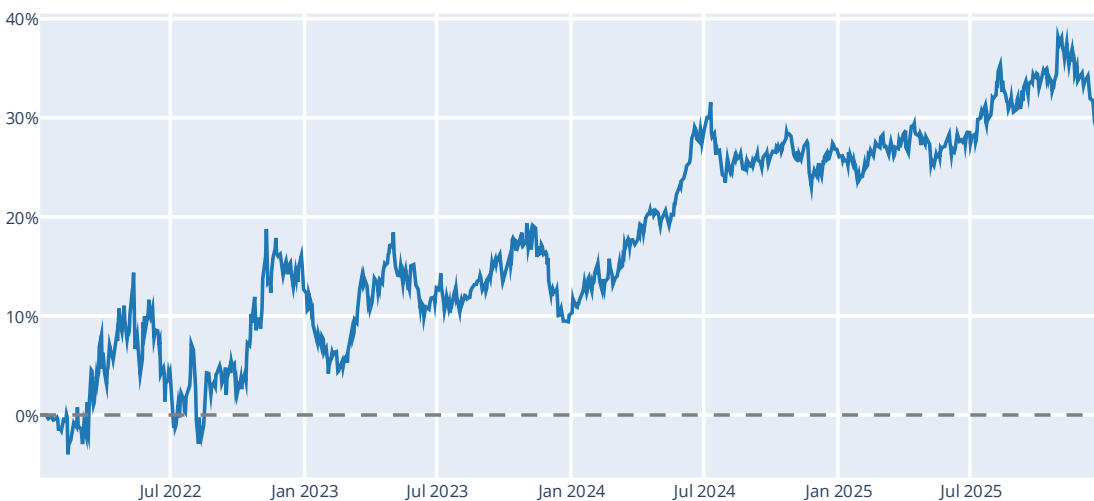


Figure E4.3. US ex-OTC

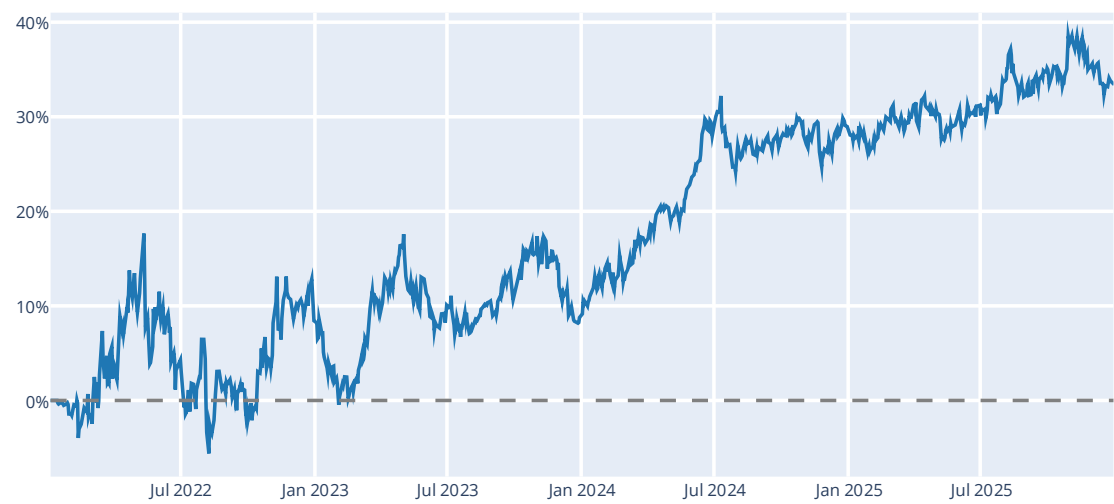
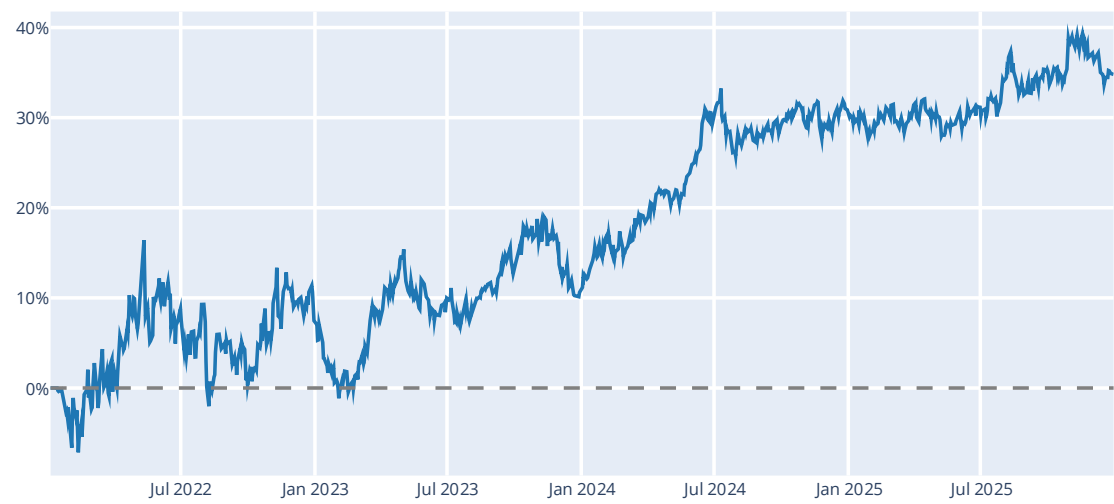


Figure E4.4. Global



E.5 Charts for Exhibit 5: Performance Conditional on Proximity to 52-Week High and Low

Figure E5.1. 52-Week High

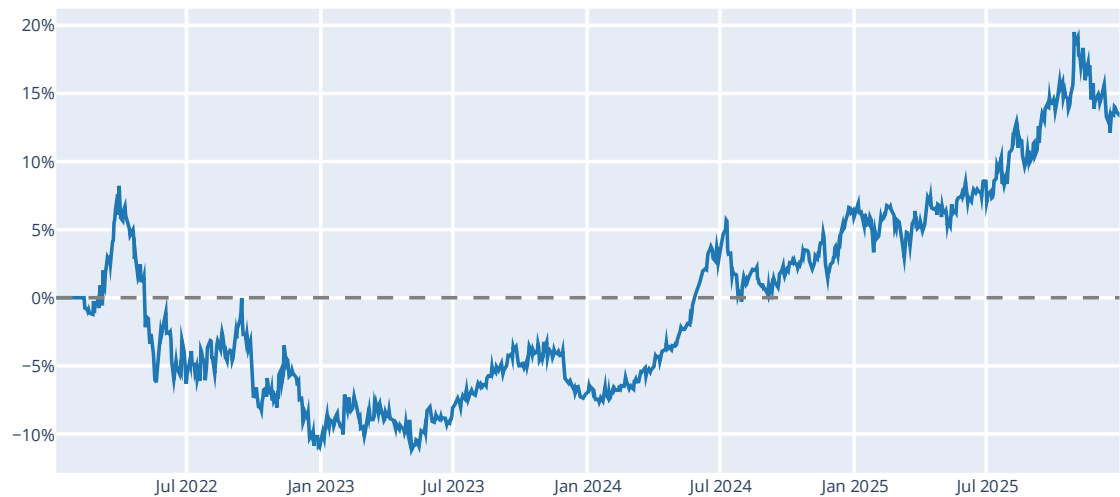
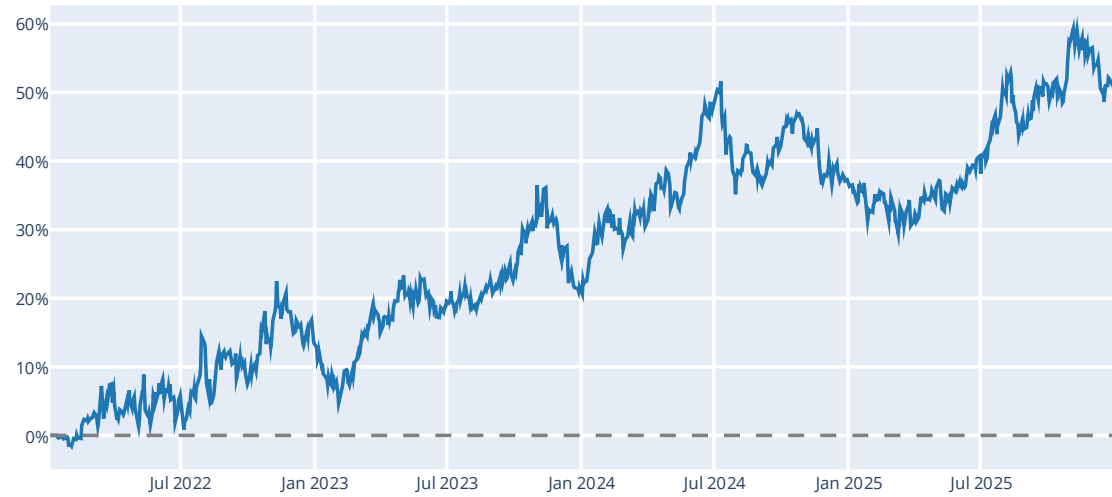


Figure E5.2. 52-Week Low



About Heron Intelligence

Heron Intelligence relies on its in-house research team to conduct investigative diligence calls focused on public and private company management teams designed to surface unique leadership and strategic signals. Each call includes the source's assessment of company management, scored on a four-point tone scale: positive, neutral, mixed, or negative.

These reports (i.e. call transcripts) are delivered to institutional investors as an independent research input. Heron's research process combines deep primary-source investigation with a scalable, systematic framework—producing differentiated insight that complements traditional fundamental analysis.

This report evaluates the historical relationship between Heron's investigative findings and subsequent equity returns.

Inquiries

For questions about Heron Intelligence's research process, signal access, or partnership opportunities:

Email: sales@blueheronrp.com

Web: www.heron-intelligence.com

Phone: +1-646-971-7228 (Andrew Kagan, Associate Director, Business Development)

About validityBase Research

validityBase Research helps data providers package their data for systematic investors to reduce evaluation and buying friction. Services include backtesting, ticker mapping, featurization, auditability enhancement, and pipeline engineering. The result is data that is easier to evaluate, trust, and bring into production.

research@vbase.com | www.vbase.com | +1-212-603-9710

This report was prepared by validityBase Research. The results presented are based on historical data and do not guarantee future performance. For full methodology and limitations, refer to the body of this report. The contents of this report are for informational purposes only and do not constitute investment advice or a solicitation to purchase or sell securities.
