QQQ INTRADAY REVERSAL PATTERN

Forward Return Analysis & March Seasonality Study

Signal Definition: Sessions in which QQQ closed positive (Close > Open) with the closing price at least 2% above the session low — capturing intraday capitulation-to-recovery dynamics.

Coverage: 2007-12-17 to 2026-03-09 (4,584 trading sessions)

AI Era Subset: 2023-04-03 to 2026-03-09 (735 sessions)

Signals Identified: 278 full period (6.1%) | 19 AI era (2.6%)

Current Signal: March 9, 2026 — QQQ closed $607.76, bouncing 2.8% off session low of $591.33

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1. EXECUTIVE SUMMARY

This study examines the forward return profile of QQQ sessions exhibiting large intraday reversals — defined as days where the ETF closed positive and at least 2% above the session low. The most recent signal fired on March 9, 2026, making this analysis immediately relevant for positioning decisions.

The core finding challenges the intuitive narrative that a powerful intraday recovery signals bullish momentum. Across the full 18-year sample, post-reversal sessions underperform unconditional baseline returns at every measured horizon from T+1 through T+45. The pattern is better understood as a volatility regime marker than a directional signal.

However, the AI era subset (April 2023–present) tells a materially different story. With only 19 signals in this period, the sample is small but directionally compelling: T+20 mean returns of +3.03% and T+45 returns of +9.272% significantly exceed both the full-period pattern and unconditional baselines. This likely reflects the structural uptrend and buy-the-dip regime that has characterized the AI investment cycle.

KEY FINDINGS

1. T+1 returns average -0.26% (full period), with March signals averaging -1.30% — strong next-day giveback.
2. March signals show the strongest long-horizon performance: T+20 mean of +3.84% and T+45 mean of +8.51%, with win rates of 71.8% and 79.5% respectively.
3. AI era (Apr 2023+) reversals produce exceptional T+45 returns of +9.272% (win rate 77.8%), more than 3x the full-period average. Small sample (N=18) warrants caution.
4. Bounce magnitude has near-zero correlation (r=0.032) with forward returns — signal size does not predict outcome quality.

2. FULL PERIOD ANALYSIS (2007–2026)

2.1 Forward Return Statistics

Across 278 signals spanning 2007-12-17 to 2026-03-09, the pattern produces positive expected returns only beyond T+10. Short-term returns are negative, with T+1 averaging -0.259% — a sharp contrast to the +0.068% unconditional daily return.

Horizon	Mean Ret	Median	Win %	Std Dev	Uncond Mean	Uncond Win%
T+1	-0.259%	+0.038%	50.2%	2.333%	+0.068%	55.4%
T+5	-0.106%	+0.602%	55.2%	4.517%	+0.33%	59.9%
T+10	+0.132%	+0.979%	57.4%	6.12%	+0.654%	62.7%
T+20	+0.611%	+1.676%	59.6%	7.914%	+1.324%	66.6%
T+45	+2.792%	+4.185%	64.6%	11.494%	+3.08%	71.6%

At every horizon, post-reversal returns lag the unconditional baseline. This is the central finding: the intraday reversal pattern identifies high-volatility sessions, not bullish catalysts. The signal fires most frequently during drawdowns and elevated VIX regimes, where subsequent returns are structurally weaker.

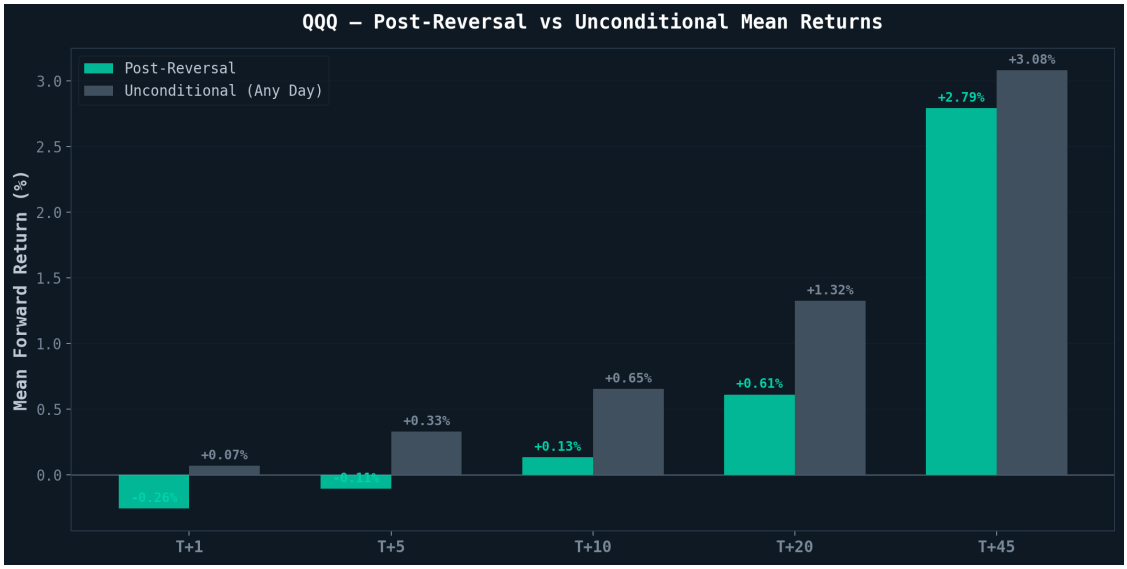

Figure 1: Conditional vs Unconditional Mean Returns by Horizon

2.2 Return Distribution

The return cone below shows percentile bands from T+1 through T+45. The dispersion is wide — at T+20, the IQR spans roughly -3% to +5%, and the 10th-90th percentile range extends from approximately -8% to +10%. This reflects the high-volatility regime context in which these signals occur.

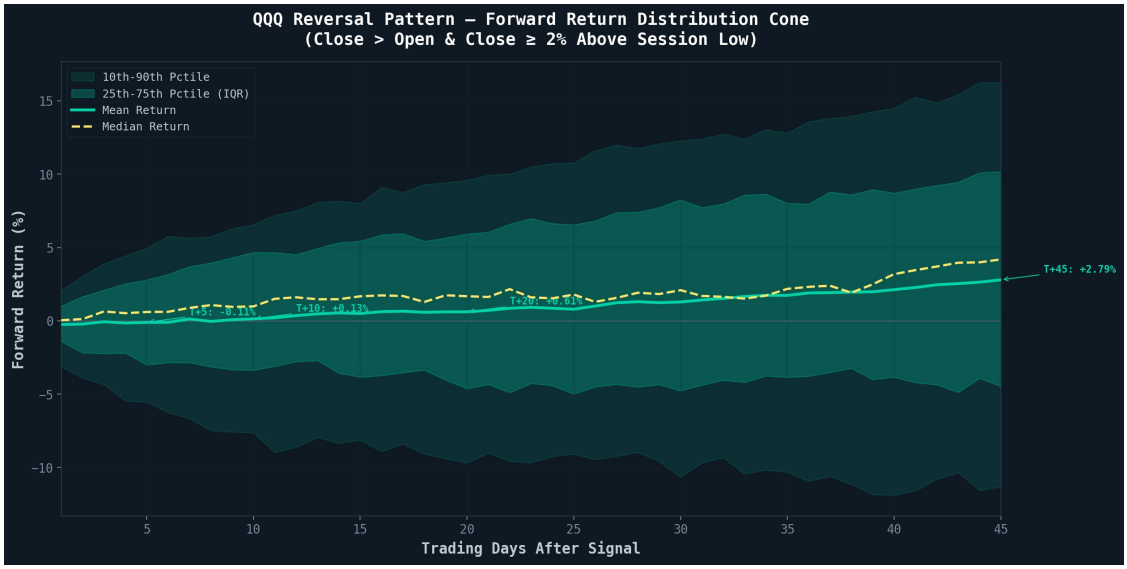

Figure 2: Forward Return Distribution Cone (Mean, Median & Percentile Bands)

2.3 Drawdown Risk Profile

The median maximum drawdown from signal close over 45 trading days is -7.06%, with a mean of -9.05%. The 10th percentile worst case exceeds -20%, underscoring that these signals frequently occur in environments where further downside risk is elevated.

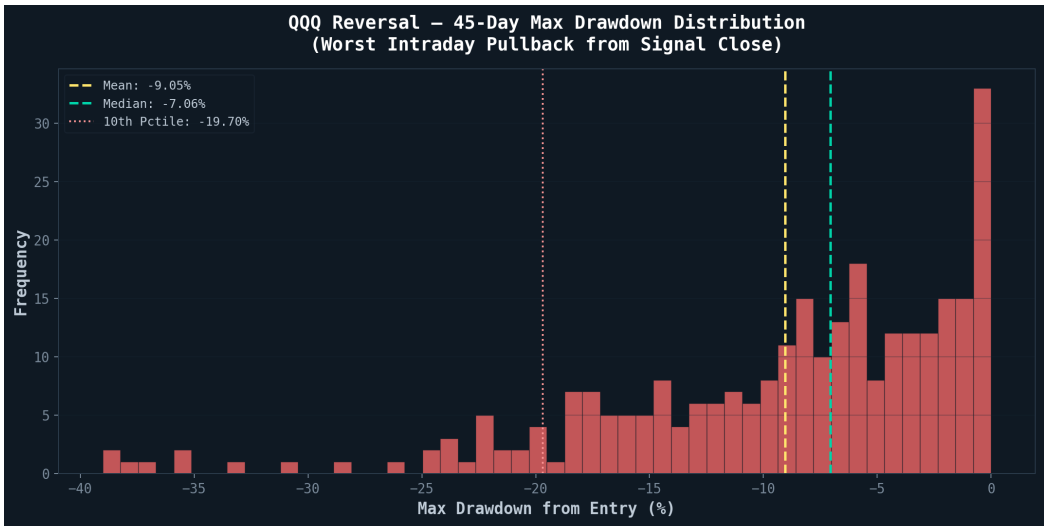

Figure 3: 45-Day Max Drawdown Distribution from Signal Close

2.4 Signal Clustering & Timeline

Reversal signals are not uniformly distributed. They cluster heavily during crisis periods — 2008-09, March 2020, and the 2022 drawdown generated dense signal clusters. The 60-day rolling signal count peaks during these episodes, confirming the pattern is a volatility indicator.

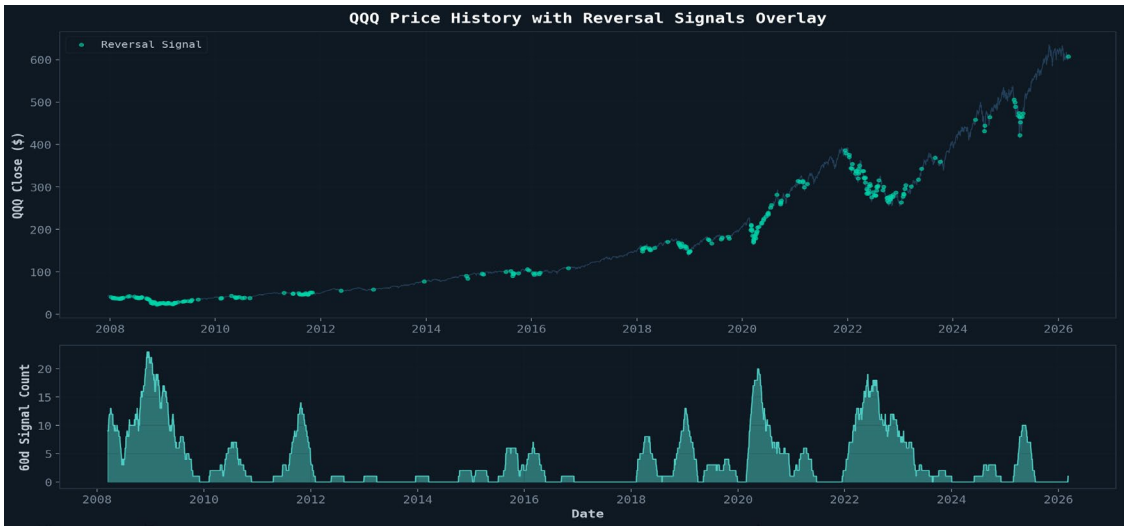

Figure 4: QQQ Price History with Signal Overlay & 60-Day Density

3. MARCH SEASONALITY DEEP DIVE

The March 9, 2026 signal is the 40th March reversal in the dataset. March has the highest absolute count of any month, driven by clustering during the GFC (2008-09), COVID (2020), and the 2022 rate-shock drawdown. This makes the March subset particularly relevant — and the results diverge sharply from the overall pattern.

3.1 March Forward Return Statistics

Horizon	March Mean	March Win %	All-Month Mean	All-Month Win %	N (March)
T+1	-1.3%	33.3%	-0.259%	50.2%	39
T+5	-0.312%	59%	-0.106%	55.2%	39
T+10	+1.339%	71.8%	+0.132%	57.4%	39
T+20	+3.84%	71.8%	+0.611%	59.6%	39
T+45	+8.508%	79.5%	+2.792%	64.6%	39

The March divergence is striking. While T+1 is even worse than the full sample (-1.30% vs -0.26%), the longer horizons dramatically outperform: March T+20 averages +3.84% vs +0.61% overall, and T+45 averages +8.51% vs +2.79%. The win rate at T+45 reaches 79.5%.

This is consistent with the historical context: March reversals disproportionately occur during major drawdowns (GFC, COVID, 2022), and buying into extreme fear in these episodes has been richly rewarded over 1-2 month horizons. The pattern captures the capitulation-to-recovery dynamic that characterizes market bottoms.

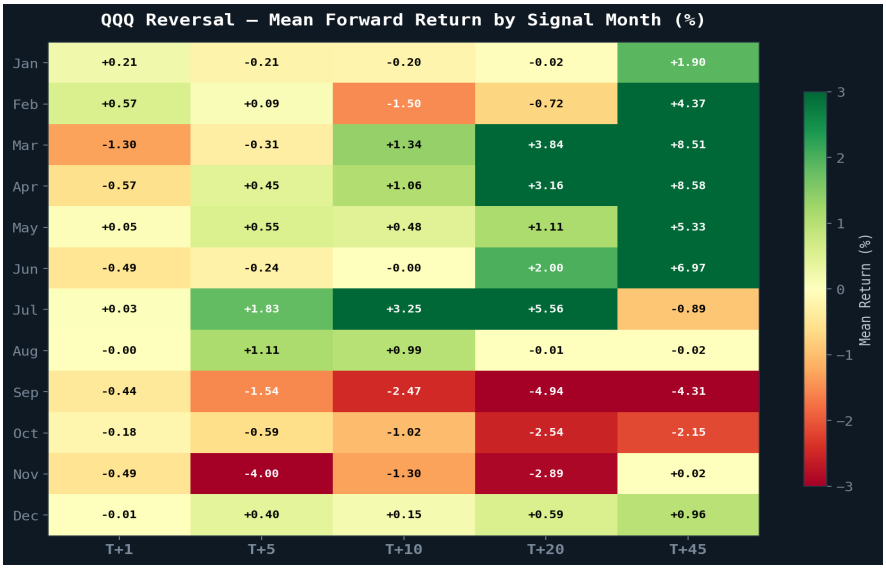

Figure 5: Monthly Seasonality Heatmap — Mean Forward Returns by Signal Month

3.2 Historical March Signals

The 40 March reversal dates cluster in specific crisis windows: 6 in March 2008, 5 in March 2009, 11 in March 2020, 5 in March 2022. The current signal (March 9, 2026) arrives alongside two recent March 2025 signals. The clustering pattern tells us that when March reversals fire, they often fire multiple times — and the market environment tends to be one where dip-buying has historically been well-compensated on a 4-9 week horizon.

4. AI ERA SUBSET (APRIL 2023 – MARCH 2026)

Since the AI investment cycle began in earnest around April 2023 (following the ChatGPT/LLM catalyst), we isolated 19 reversal signals across 735 sessions. While the small sample demands caution, the results are directionally significant.

4.1 AI Era Forward Returns

Horizon	AI Mean	AI Win %	Full Mean	Full Win %	AI Uncond	N
T+1	-0.674%	61.1%	-0.259%	50.2%	+0.097%	18
T+5	-0.223%	55.6%	-0.106%	55.2%	+0.486%	18
T+10	+1.695%	61.1%	+0.132%	57.4%	+0.982%	18
T+20	+3.03%	77.8%	+0.611%	59.6%	+1.984%	18
T+45	+9.272%	77.8%	+2.792%	64.6%	+4.564%	18

The AI era results are dramatically stronger than the full period. T+20 returns average +3.03% (vs +0.611% full period) and T+45 returns reach +9.272% (vs +2.792%). Critically, in this period the signal also outperforms its own unconditional baseline — AI era reversals average +9.272% at T+45 vs the unconditional +4.564%. This is the only period where the pattern shows genuine alpha over buy-and-hold.

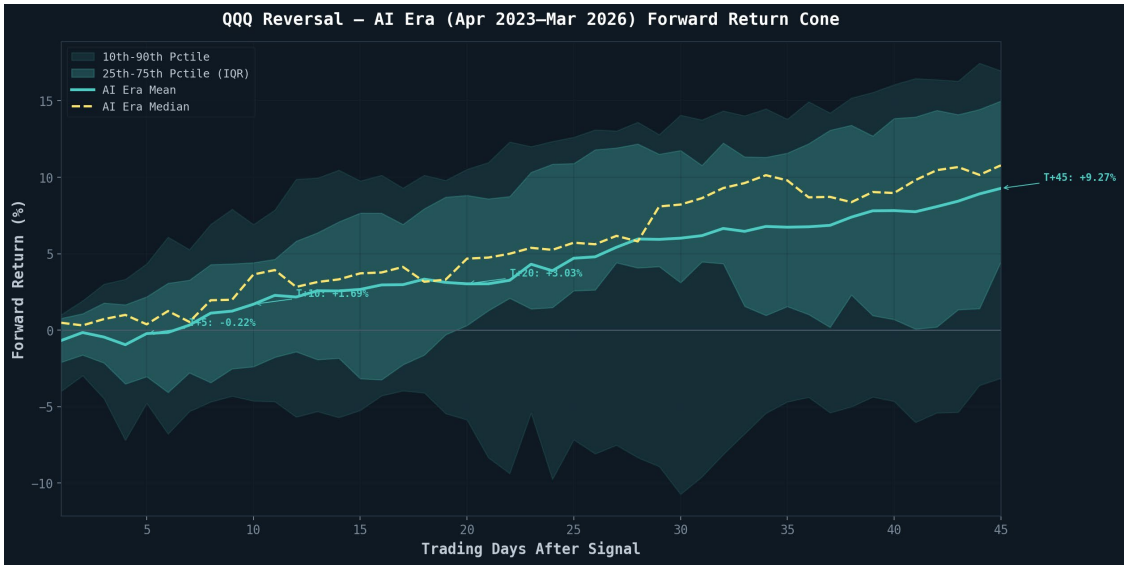

Figure 6: AI Era Forward Return Cone

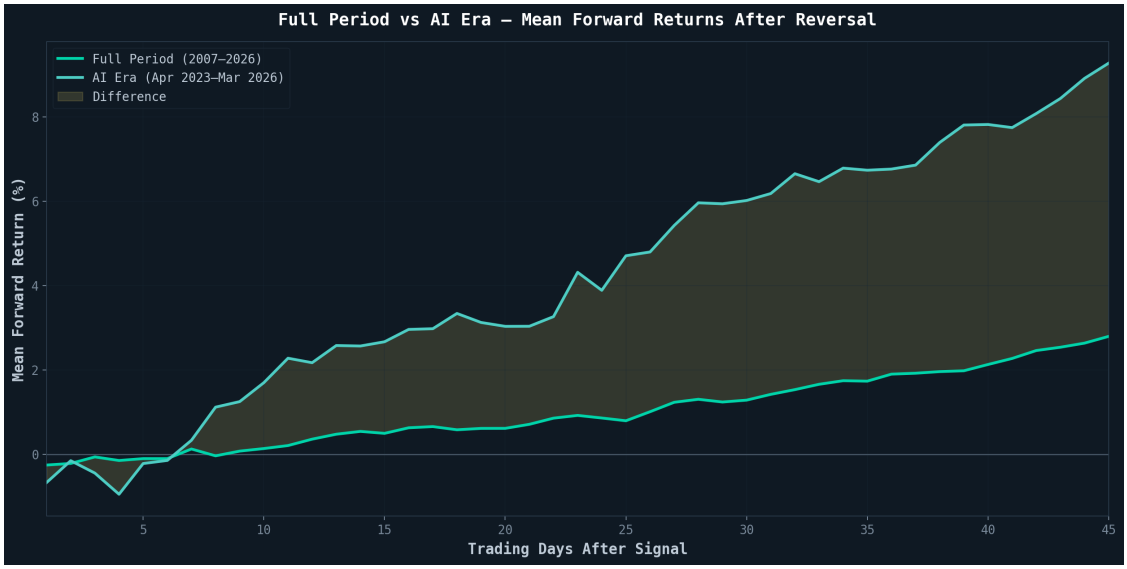

Figure 7: Full Period vs AI Era Mean Forward Returns

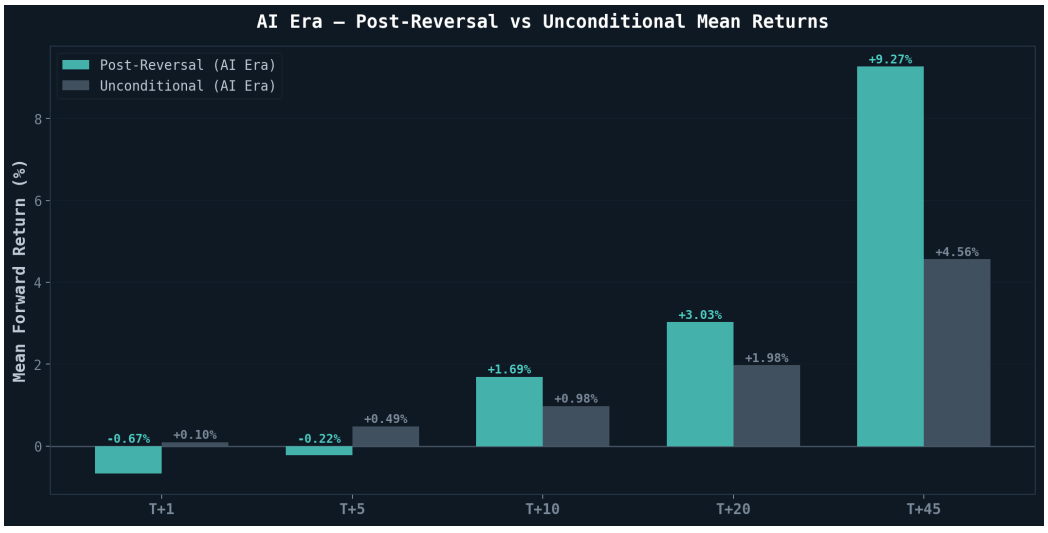

Figure 8: AI Era Conditional vs Unconditional Returns

4.2 Interpretation & Caveats

The AI era outperformance likely reflects a structural regime change: the buy-the-dip reflex has been strongly reinforced by AI/tech leadership and persistent institutional demand. Reversals in this environment signal temporary dislocations that are rapidly arbitraged by momentum-chasing flows.

Critical caveats: The sample size of 19 signals is too small for statistical confidence. The AI era also coincides with a strong QQQ uptrend (+4.564% unconditional 45-day return), so even random entry points perform well. The alpha over the unconditional baseline, while positive, may not survive risk-adjustment or transaction costs.

5. CONCLUSIONS & RECOMMENDATIONS

5.1 On the March 9, 2026 Signal

The current signal combines two favorable overlays: (1) it is a March signal, which historically shows the strongest long-horizon returns of any month, and (2) it occurs during the AI era, where reversal signals have been followed by outsized positive returns. The T+1 giveback tendency remains, however — historical March T+1 averages -1.30%.

5.2 Actionable Takeaways

5. **Short-term (T+1 to T+5):** Expect near-term giveback. The full sample, March subset, and AI era all show negative or flat T+1 returns. If managing short-term risk, consider reducing overnight exposure or fading the next-morning gap.
6. **Medium-term (T+10 to T+20):** This is where the March and AI-era edge appears. A 2-4 week hold horizon post-signal has historically produced strong returns with favorable win rates. If building a position, consider scaling in on any T+1/T+2 weakness.
7. **Risk management:** Median max drawdown of -7.06% (full period) and -5.83% (AI era) should inform position sizing. These signals fire in volatile environments — expect further turbulence even if the ultimate outcome is positive.
8. **Sample size caveat:** The AI era subset (N=19) and March 2026 context are too small for high-confidence statistical inference. Weight the full-period results more heavily for risk budgeting, but consider the AI era results directionally informative given the current structural backdrop.

> **BOTTOM LINE**
>
> The March 9 reversal is historically a volatility marker rather than a momentum signal, but the March + AI era combination provides the most favorable forward return overlay available in this dataset. The asymmetry favors patience: absorb the likely T+1 giveback and hold for the 2-4 week window where both historical subsets show meaningfully positive expected value.