

Research: Separating Winners From Losers — What Others Found (2026-09-28)

Our problem: at the moment of the buy, the stocks that go on to win and the ones that go on to lose look the same on every indicator we record (VAS, buy pressure, volume, VWAP, strength vs SPY/IWM). This is a well-known problem. Here is what published research and practitioners found, and what it means for our bot.

1. This is normal — profitable intraday systems don't separate them either

- **Profitable intraday systems win less than half their trades.** The best-documented US stock day-trading study (Zarattini, Barbon & Aziz 2024, 7,000 stocks, 2016–2023) won **48%** of trades and still returned 1,637%. Their Nasdaq version won only **24%**. Trend-following funds typically win 30–40%.
- They make money from **asymmetry**: small, fast losses and a few large winners held long. "Chasing higher win rates causes traders to cut winners short" — exactly what our exits did (J's 9 trades: +\$21 vs +\$396 held).
- **Most day traders lose.** Taiwan (all day traders 1992–2006): under 1% were reliably profitable. Brazil: of those who kept going 300+ days, 97% lost money. Our results so far are in line with the base rate; the bar is high.

For us: stop trying to predict each pick. Aim for a positive *expectancy*: (win rate × average win) – (loss rate × average loss).

2. Stock SELECTION did almost all the work in the best study

- Zarattini/Barbon/Aziz: the same 5-minute opening-range breakout made only **+29%** on all stocks, but **+1,637%** on the top 20 "Stocks in Play" each day.
- "Stocks in Play" = **relative volume of the first 5 minutes**: today's 9:30–9:35 volume ÷ the average 9:30–9:35 volume of the last 14 days. Below 1× the trades lost (–0.02R each); above 1× they made money (+0.08R).
- Filters: price over \$5, 14-day average volume ≥ 1M shares, 14-day ATR ≥ \$0.50.

For us: our scanner's "RVOL" is premarket volume ÷ yesterday's full volume (80% of stocks under 0.02×, full credit unreachable). Our own study found early runners had 2.5× opening volume. A **9:35 ranking by first-5-minute relative volume** is the single best-supported change.

3. Exits in the best studies: small fixed risk, then HOLD

- Stocks in Play ORB: stop = **10% of the 14-day daily ATR**, risk 1% per trade, **no target — exit at the close**.
- SPY intraday momentum (Zarattini, Aziz, Barbon 2024, 19.6%/year 2007–2024): trailing stop = **the higher of VWAP and the "noise boundary"** — hold while the price stays above VWAP.
- ATR practice: stops 1.5–2× intraday ATR keep normal noise from stopping you out.

For us: matches our findings — winners dip first (92%), then climb all afternoon (48 of 63 big winners peaked after noon). Two exits to test: **(a) small stop + hold to 15:55, (b) stay in while price is above VWAP**.

4. "Noise area": only act when the move is abnormal for that stock at that time of day

- The SPY study doesn't enter on any signal. It computes, for every minute, the **stock's own average move from the open at that time of day over the last 14 days**. Only a move **outside** that band is a signal; inside it is "noise".
- This directly addresses our biggest problem: entry_rules PASS fires on ~every stock at some moment, because small momentary bursts are normal noise.

For us: a **noise-boundary filter** for breakout_rules — buy only when price is more than the stock's normal move-from-open for that minute (needs 14 days of 1-min history per stock; Alpaca has it).

5. Order flow (buy pressure) predicts seconds, not the day

- Cont, Kukanov & Stoikov (2014) and later work: order-flow imbalance strongly predicts price over **seconds to minutes**, and the effect **decays fast**.
- This explains our result: buy pressure at the pick said nothing about 15:55.

For us: use buy pressure / buy volume for **timing** the entry (the next minute), not for **choosing** the stock. Tonight's buy-volume test (since-open buyer/seller balance) checks the slower version.

6. The market's direction matters (supports the IWM filter)

- Market intraday momentum (Gao, Han, Li & Zhou, Journal of Financial Economics 2018): the **first half hour predicts the last half hour**, stronger on volatile and high-volume days.
- Regime filters (trade only when the index is in a favorable state) are a standard, well-supported way to avoid bad days.

For us: consistent with our 0.77 day-level link and the IWM test (+\$184 in 5 days). The 21-day test is the next step.

7. Gaps and extreme movers

- Academic: extreme intraday winners in **small caps tend to reverse** (short-term reversal is strongest in small/micro caps).
- Practitioners (weaker evidence): gaps over ~8% on low volume tend to fade; 4-8% gaps on strong volume tend to hold.

For us: matches our own data — gaps 5-10% best (23% big winners), over 10% faded (−8% on average). Supports a gap cap for breakout_rules, and a separate reversal setup for big flushed gappers like CLRO.

8. Formal methods for our exact question

- **Meta-labeling** (López de Prado): a first model finds signals with high recall (our entry_rules — catches 61 of 63 big winners), a second model decides which signals to take. It can raise precision a lot.
- **Triple-barrier labels:** judge each pick by stop, target *or* time limit first, not by 15:55 — a fairer "winner/loser" label.
- **Caveat:** the second filter only helps if it uses information the first doesn't. Using the same indicators again adds nothing (our separation study showed the same).

For us: the second filter should use *different* information: opening relative volume, noise boundary, market regime, daily range, gap size.

9. The trap to avoid: overfitting

- Testing many variants on the same days makes the best one look better than it is (Deflated Sharpe Ratio, Probability of Backtest Overfitting — Bailey & López de Prado).
- We have tested dozens of variants on the same 21 days.

For us: keep new days aside for confirmation (every live day adds one), require a rule to hold in both halves (we already do), and download more history before trusting any single result.

10. Suggested next tests in trade1 (after the close)

1. **Opening relative volume** at 9:35 (first 5 min vs 14-day same-time average) — watch only the top 20.
2. **Noise-boundary entry** in breakout_rules.
3. **Exits:** small stop + hold to close; VWAP trailing stop; compare with exit B.
4. **IWM filter** over 21 days.
5. **More days** of data for out-of-sample checks.

Sources

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- ATR stops: <https://www.luxalgo.com/blog/atr-based-stop-loss-for-high-volatility-breakouts/>