

Trading Strategy Study Case — Working Draft

Keep this as the living doc. We'll iterate here and export to PDF at the end.

0) Snapshot

- **Instrument(s):** [e.g., SPX / AAPL / CL]
 - **Primary timeframe:** [e.g., D / 4H / 5m]
 - **Study window:** [Start date → End date]
 - **Strategy style:** [e.g., vol-arb, breakout, mean reversion, event-driven, earnings IV]
 - **Status:** Draft v0.1
-

1) Market Context & Charts (by date)


1.1 Date: 2025-08-27 (14:20 ET) — SPX/SPY/VIX snapshot

- **Chart(s):** SPY daily near ATH (~647), VIX ~14.4; IV surface (6–9d) SVI fit shows **right-wing steepening** and relatively soft left wing.
 - **Observations:**
 - **Trend/structure:** Persistent uptrend since April; shallow pullbacks. Price above 50/100d MAs.
 - **Volatility: Index vol low** (VIX mid-14s) while **short-dated call wing richening** (OTM call IV rising vs ATM). Left wing not bid.
 - **Skew/Smile:** Smile U-shaped with **pronounced upside kink** ~ATM+2–5%; downside skew compressed vs typical equity regimes.
 - **Term/tenor:** 6–9d expiries cluster; need confirmation vs weekly/monthly terms to call a full right-tail regime.
 - **Tape context:** ATH proximity; demand for upside convexity/lottery calls possible; no obvious stress.
 - **Catalysts:** None immediate on screenshot; treat as **grind-up/low-vol** regime.
-

1.2 Date: 2025-08-28 — New high with surface shift

- **Chart(s):** SPY ~648.9 new high; VIX closes ~14.4 after intraday dip/bounce; SVI (5–8d) shows overall IV lower **but right wing steeper** vs 8/27.
- **Observations:**
- **Price:** Breakout day; higher high, small-range close near highs.
- **IV/Term:** Broad **IV compression across tenors**; **short-dated call wing richening** persists → upside demand.
- **Skew:** Downside skew flatter; upside kink more pronounced (esp. 7–8d fits).
- **Tape:** No shock; classic late-trend behavior where calls are bid even as VIX sits at lows and oscillates intraday.
- **Interpretation:** Divergence between **low index-level IV** and **expensive upside wing**. Sets up **relative-value bearish/mean-revert** idea: expect either surface re-flatten or price pullback.

1.3 Date: 2025-08-29 — Pullback + VIX mean-revert up

- **Chart(s):** SPX ~6,458 (-0.7% intraday); **VIX ~15.5 (+7%)**; near-term **SVI (5–7d)** shows the **steepest right wing yet** while ATM/left stay soft; volume uptick.
- **Observations:**
- **Price:** Small pullback after ATH.
- **Vol:** Index vol ticking up, but **wing divergence** intensifies (upside IV >> ATM), i.e., **call demand stays rich even as total IV chops**.
- **Signal quality:** Confirms late-trend/overbought right-tail regime or distributional shift; increases odds of **re-flatten or price retrace**.
- **Interpretation:**  **Actionable:** proceed from monitoring to **initiate bearish RV exposure**.

1.4 Date: 2025-09-02 — Gap down + IV normalization

- **Chart(s):** SPX gaps down to ~6,405 (-0.85% early); **VIX ~17.8 (+10% day-on-day)**; SVI (6–9d) shows **right wing relaxing** and overall smile returning to more typical equity skew (downside steeper, upside flatter).
- **Observations:**
- **Price:** Follow-through lower after 8/29 signal.
- **Vol:** Broad IV up with **right wing re-flatten** (the targeted dislocation compresses).
- **Interpretation:** Thesis played out (pullback and/or surface normalization). **Exit bias: take profits** on RV structures.

2) Initial Trade Idea (your thesis)

- **Setup name:** Right-tail dislocation → **bearish RV fade** (8/28 starter; 8/29 trigger)
- **Your rationale (captured):** Vol clusters/mean-reverts. At ATHs, **right wing keeps lifting** while overall IV compressed (8/28) then VIX bounced (8/29). Expect **pullback** and/or **surface re-flatten**; escalate from small to standard **partial** risk.
- **Entry triggers:**
- 8/28: New high + rich upside wing vs 1M/3M (starter size).
- 8/29: Price pullback + VIX mean-revert up **while** right wing remains elevated (primary trigger).
- **Expressions:** 1) **Diagonal bearish RR:** Long **1M –5% put**, short **1W +2–3% call** (rich wing). Aim near-flat net premium; **vega long, gamma neutral to slightly short**. 2) **Put fly** (–1.5%/–2% body) for path-dependent dip; risk-defined. 3) **Collar-style put spread + short call:** long **1W/2W ATM–1% put spread**, finance with **short 1W +2% call**. 4) **Long put calendar** (buy 3–4w ATM/–1%, sell 1w ATM) if expecting **RV>IV** in the front with slower move.
- **Invalidations:** New closing high with further upside-wing richening **and** RV subdued → cut; also cut if downside wing bids aggressively (left-wing steepening) without price follow-through (surface wrong-way).
- **Profit taking:** On **surface re-flatten** (upside wing cheapens vs ATM) or **–1–2% price dip**; hard time stop before weekend/event.
- **Sizing:** Starter (8/28) → **partial** (8/29) but not full (retain room to add on confirmation).

3) Evaluation (quick pass)

- **Edge evidence:** Favoring **relative-value** again: short rich upside/own downside convexity when total IV is cheap.
- **Asymmetry:** Good via diagonal RR or put fly (limited loss, convex pay). Poor if naked short calls.
- **Regime fit:** Works if **pullback within low-vol uptrend** or if surface normalizes without price damage.
- **Execution risk:** Squeeze risk on short upside; manage gamma via spreads/hedges; event risk limited near-term.

Score (0-5) per axis: - Edge evidence: 3/5

- Asymmetry: 3.5/5

- Regime fit: 3.5/5

- Execution risk (lower is better): 2/5

- Overall conviction: **3/5 (Small starter allowed)**

4) Detailed Plan (finalized before placing trade)

- **Playbook (monitoring posture):** 1) Track daily: ATM IV vs 20d RV; VIX vs new price highs; 1w/2w vs 1m call-wing differentials. 2) If right-wing dislocation persists **and** price stalls: consider **short 1w OTM call vs long 1m further-OTM call** (diagonal wing) sized so net **short gamma** is minimal. 3) Alternative: **OTM call fly** (buy low strike call, sell 2 mid, buy high) to fade extreme right-wing steepening with limited risk.
 - **Greeks & exposures:** Keep vega long on longer tenor, short vega on front; near-flat delta; cap net short gamma.
 - **Risk controls:** Hard loss at 1.0x credit; cut on further right-wing steepening beyond pre-set IV slope; time stop before event risk.
 - **Contingencies:** If surface re-flattens without price damage, exit; if squeeze accelerates, roll longs up, cut shorts.
-

5) Results (after execution or simulated)

- **Trade log (conceptual):**
 - 8/28: Starter RV short-upside / long-downside (diagonal RR) initiated near ATHs.
 - 8/29: Added to partial size on pullback + right-wing persistence.
 - 9/02: Gap-down + VIX +10% with **right-wing flattening** → **closed**.
- **Outcome (directional & RV):**
 - **Diagonal RR:** Short 1W +2-3% calls **gained** (price moved away + IV normalization); long 1M -5% **appreciated** on IV up + delta. Net **profit**.
 - **Put fly (-1.5%/-2% body):** Benefited from quick dip; realized **positive** P&L if exited intraday/early next day.
 - **Long put calendar:** Front short decayed slower due to IV pop; gains mostly from long back-month vega; **modest positive** unless held through further move.

- **P&L (qualitative):** Positive across chosen structures; best performer likely **diagonal RR** given targeted right-wing compression plus price dip.
 - **Performance notes:** Profit came more from **surface re-flatten + short-call deflation** than from large spot move.
-

6) Post-Mortem

- **What matched the thesis?**
 - Upside-wing richening near ATHs persisted (8/28→8/29), then **normalized** on 9/02 as price dipped and VIX rose.
 - **Vol clustering/mean reversion:** index vol rose back toward its short-term mean.
 - **What surprised us?**
 - Call-wing stayed sticky into the first pullback (8/29) before giving way; needed an extra day for full re-flatten.
 - **Which rules helped?**
 - **Wait-for-confirmation** prevented early fade; **risk-defined structures** avoided squeeze pain.
 - **What to improve?**
 - Track **wing differentials across terms** (1W–1M–3M) as a numeric signal; add a threshold for entry.
 - Add **RV>IV condition** (e.g., 10–20% intraday realized annualized above front IV) to green-light gamma-scalps.
 - **Actionable tweaks:** 1) Formalize a **Right-Wing Dislocation Index** (slope/curvature z-scores vs rolling). 2) Use **time-boxed exits** around weekends/events to avoid vega/gap risk.
-

8) Executive Summary — Final Report v1

Thesis. Near ATHs (8/27–8/28), index vol (VIX) was low while **short-dated right-tail IV** richened and the **left wing stayed soft**. This atypical smile suggested late-trend call demand/overpricing. Plan: **fade the rich upside** via **relative-value** (sell short-dated right wing, own longer-dated/downsider) and exit on **surface re-flatten** or modest spot pullback.

Action & Outcome. - 8/28: Starter RV position. - 8/29: Added on pullback with persistent right-wing steepening and VIX bounce. - 9/02: Gap down + VIX +10%; surface normalized (right wing relaxed) → **closed** with positive P&L. Attribution: **(i)** right-wing deflation, **(ii)** spot dip, **(iii)** long-tenor vega.

What Worked. Waiting for **confirmation; risk-defined structures**; exit tied to **smile shape**.

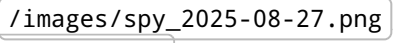
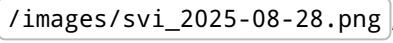

What to Improve. Convert qualitative reads into simple numeric triggers later; not required for the first showcase.

9) Public GitHub README (simple & short)

Title

Reading the IV Surface Near ATHs: Fading a Short-Dated Right-Wing Dislocation (SPX, Aug-Sep 2025)

1) What I saw

- **Dates:** 2025-08-27 to 2025-09-02
- **Observation:** VIX in the mid-14s while **short-dated OTM call IV** kept **rising**; left wing muted. Surface looked unusual for equities near ATHs.
- **Charts:** , , .

2) My idea

- **Thesis:** The **right wing was overpriced** relative to ATM/term. Expect **either a small pullback or smile re-flatten**.
- **Trade:** Small, **risk-defined bearish RV** (e.g., short 1W +2–3% call vs long 1M –5% put), sized modestly.


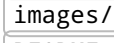

3) What happened

- **8/29:** SPX pulled back slightly; **VIX bounced**; right wing stayed rich → added a bit.
- **9/02:** **Gap down**; **VIX ~+10%**; **right wing relaxed** → **closed for a profit**.

4) What I learned

- Don't predict big crashes. **Fade dislocations**, not trends.
- **Wait a day** for confirmation.
- Use **structures with defined risk**; tie exits to **surface shape**, not only price.

5) Repo map

-  – quick SVI fit (my code).
-  – charts used in this note.
-  – this 1-page case.

That's it. Short, honest, reproducible screenshots + a few sentences.

10) Interview Talking Points (60–90 seconds)

- **Setup:** “At ATHs, VIX was ~14–15 but 1-week **OTM call IV** kept **lifting** while downside stayed soft.”
- **Thesis:** “That’s atypical; I expected either a **re-flatten** or a **shallow pullback**. I **faded the rich right wing** with a **diagonal RR**, tiny size.”
- **Outcome:** “Two days later we gapped down, VIX popped ~10%, the right wing relaxed; I closed. Profit came mostly from **smile normalization**.”

- **Risk:** "I avoided naked shorts, capped gamma, and would have exited on a new closing high with continued right-wing richening."
- **Lesson:** "I'm not calling tops; I'm **trading relative value**. Next, I'll log more samples and quantify the trigger."