

THE COIL

An Unprecedented 10-Year Consolidation, and the Asymmetric Options Structure to Trade Its Resolution

Brad Sullivan, Founder & CIO · AQI Research Note · July 20, 2026

EXECUTIVE SUMMARY. The US 10-year note has consolidated for 3.8 years in a 154bp range on weekly closes (3.37%–4.91%), following the 2020–2023 repricing of roughly 450bp from the all-time low. A systematic scan of 114 years of yield history finds **no precedent** for this combination: the largest 18-month move ever recorded ahead of a qualifying 3-year consolidation is ~300bp — and that record belongs to the current episode itself. With the yield at 4.59% pressing the upper boundary and the MOVE index at 68.5 — near cycle lows — the market is pricing the least movement precisely where history offers no map. We present the **"Coil-Break" package**: a defined-risk December 2026 ZN options structure costing ~0.62 points (~\$620 per package, ~0.6% of notional) that loses 1x only if the coil extends a fourth year, and pays approximately +1.5x on a shallow breach above 4.80%, +3.8x on a clean breakout to 5.25% or a crisis rally to 3.50%, +7.4x on a 1978-style repricing to 5.60%, and +14.5x on a fiscal shock to 6.00%.

I. SITUATION — A Coil With No Historical Map

Since the October 2022 yield peak first defined it, the 10-year note has traded inside a band whose weekly-close extremes are 3.37% and 4.91% — 154 basis points over 3.8 years, with intraday extremes only modestly wider. Realized and implied volatility have been ground down accordingly: the MOVE index sits at 68.5, roughly half its 2022–2023 average and near the lows of the cycle. The last print in our dataset (July 20, 2026) has the 10-year at 4.59% — the upper third of the range, within 25–30bp of the zone where a weekly close above ~4.80% would constitute a credible breach of the structure and a run at the 4.91% / 5.02% highs.

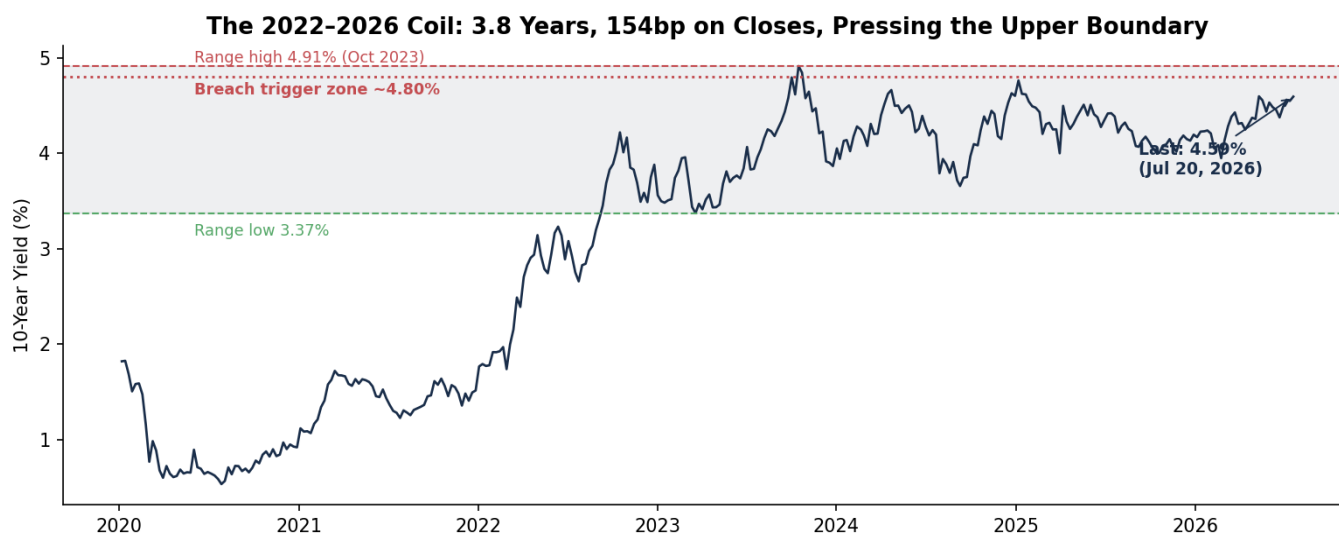


Figure 1. The 2022–2026 consolidation with breach trigger zone.

The compression is not merely long by recent standards — it is extreme against the entire post-1965 era. The trailing 3-year range has spent most of the past six decades between 200bp and 900bp; readings near the current level cluster only in the mid-1960s, the mid-1970s plateau, and a handful of mid-cycle lulls, none of which followed a shock

remotely the size of 2020–2023.

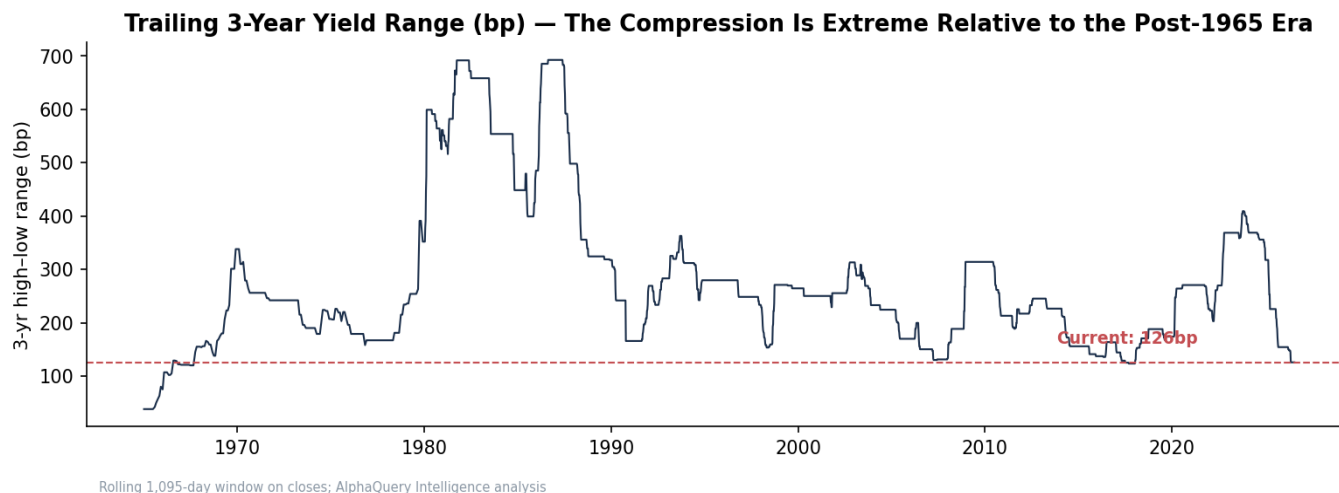


Figure 2. Trailing 3-year high-low yield range, 1965–2026.

II. TENSION — The 114-Year Study Says This Has Never Happened

We scanned the full 1912–2026 history (weekly from 1980, monthly prior) for every 3-year window with a range of 155bp or less, then measured the 18-month move that preceded each window. Four qualifying consolidation regimes emerge in the modern era — and the current one carries the largest prior move ever recorded into such a coil (~300bp over any 18-month span; ~450bp peak-to-trough over the full 2020–2023 repricing). Moves of 400bp+ in 18 months exist in the data (1979–1982, 1983–1984), but they occurred inside high-volatility regimes that resolved through violent V-shaped reversals. Yields have never absorbed a shock of this magnitude and then gone quiet — until now.

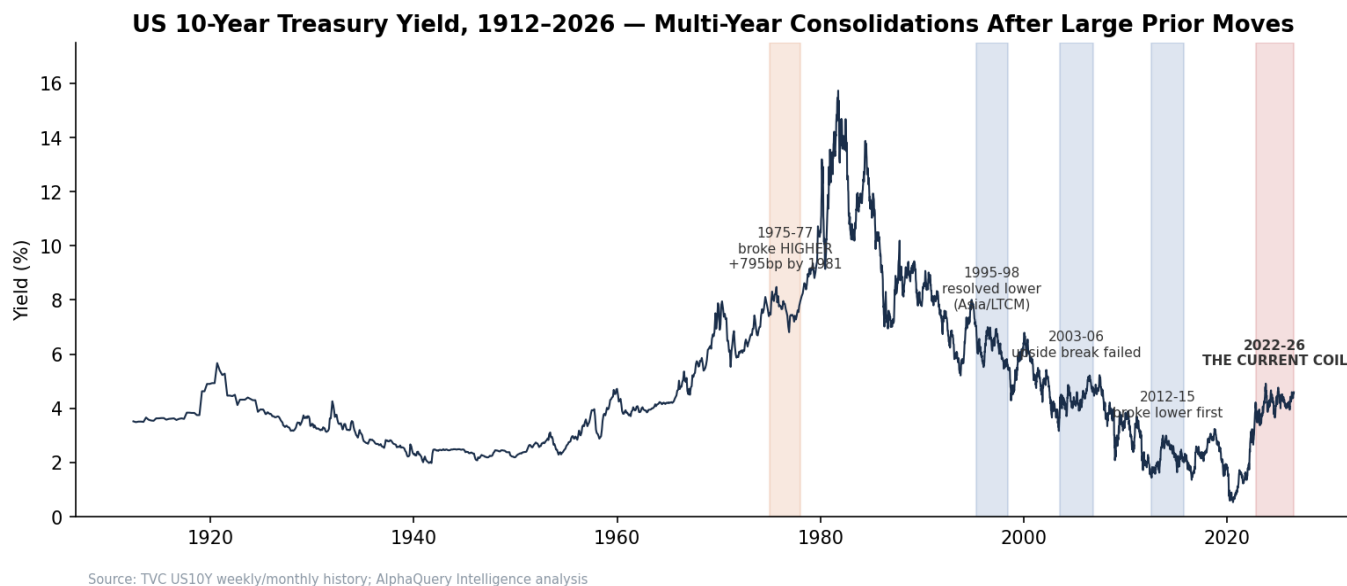


Figure 3. 114 years of 10-year yields; qualifying multi-year consolidations shaded.

Episode	Consolidation	Prior 18-mo move	Resolution
1975–1977	6.81–8.48% (167bp)	~140bp (long end lagged CPI)	Broke HIGHER at ~8%; +795bp to the 1981 peak
1995–1998	5.46–7.00% (153bp)	~236bp (1994 bond massacre)	Resolved LOWER via Asia/LTCM

2003–2006	3.71–5.21% (150bp)	~224bp (post-bubble decline)	Marginal upside break (5.25%) FAILED; lower into 2008
2012–2015	1.48–3.00% (152bp)	~226bp (post-QE3/tantrum)	Broke LOWER first (1.36%), then higher 2016–18
2022–2026	3.37–4.91% (154bp)	~300bp / ~450bp full move	OPEN — the subject of this note

Table 1. The four modern consolidation analogs and their resolutions.

The base rate is uncomfortable for a naive upside-breakout view: three of the four completed analogs resolved lower or saw the upside break fail. The single genuine upside resolution — 1977–1978 — is also the best structural rhyme (a post-inflation-shock plateau with crushed volatility), but it began from deeply negative real yields, because the long end had never fully repriced the first CPI wave; the breakout required a second inflation impulse. Today's coil sits on roughly +2% real yields, fully repriced. The honest historical conclusion is not directional: it is that **the setup itself is unprecedented, the resolution paths are genuinely divergent, and implied volatility is priced for none of them.** That is an argument for owning optionality rather than conviction.

III. OPTIONS — Structures Considered

Selling the range (iron condor): the consensus expression after four quiet years, and the crowd we want to be positioned against. Rejected — it is short the only thing the historical study says is mispriced. **Long straddle/strangle:** the purest long-vol expression, but at ~4 months of carry it needs a large move quickly and monetizes the thesis least efficiently per dollar of theta. **Put ratio backspread alone:** the classic "sharp move higher in yields" trade, but it carries a loss valley precisely at 5.0–5.3% at expiry — the most probable landing zone for a clean breakout. A structure designed for a breach that is punished by the likeliest breach is a design failure. The recommended package resolves this by pairing a put *spread* across the breach zone with cheap tail wings on both sides.

IV. RECOMMENDATION — The "Coil-Break" Package

All legs are December 2026 options on ZN (10-year note futures), expiring on or about November 20, 2026, referencing the December future (ZNZ6, indicative 108.5 with the 10-year at 4.59%). Premiums below are indicative Black-76 values at 4.0% price volatility (consistent with MOVE ~68) and must be re-struck against live markets.

Leg	Position	Strikes / yield equiv.	Indicative premium	Role
1	BUY 1x put spread	107.5 / 104.5 (~4.75% → ~5.20%)	–0.52 pts	Workhorse: pays on the shallow breach, not just the tail
2	BUY 2x puts	103.5 (~5.40%+)	–0.04 pts	Tail convexity: second unit of delta beyond ~5.45%
3	BUY 1x call spread	112.5 / 115.5 (~4.00% → ~3.60%)	–0.06 pts	Breach-and-fail / hard-landing leg
	NET DEBIT		≈0.62 pts (≈\$620/pkg)	Maximum loss; all short legs covered — no margin

Table 2. Package construction (per 1x package; ZN = \$1,000 per point).

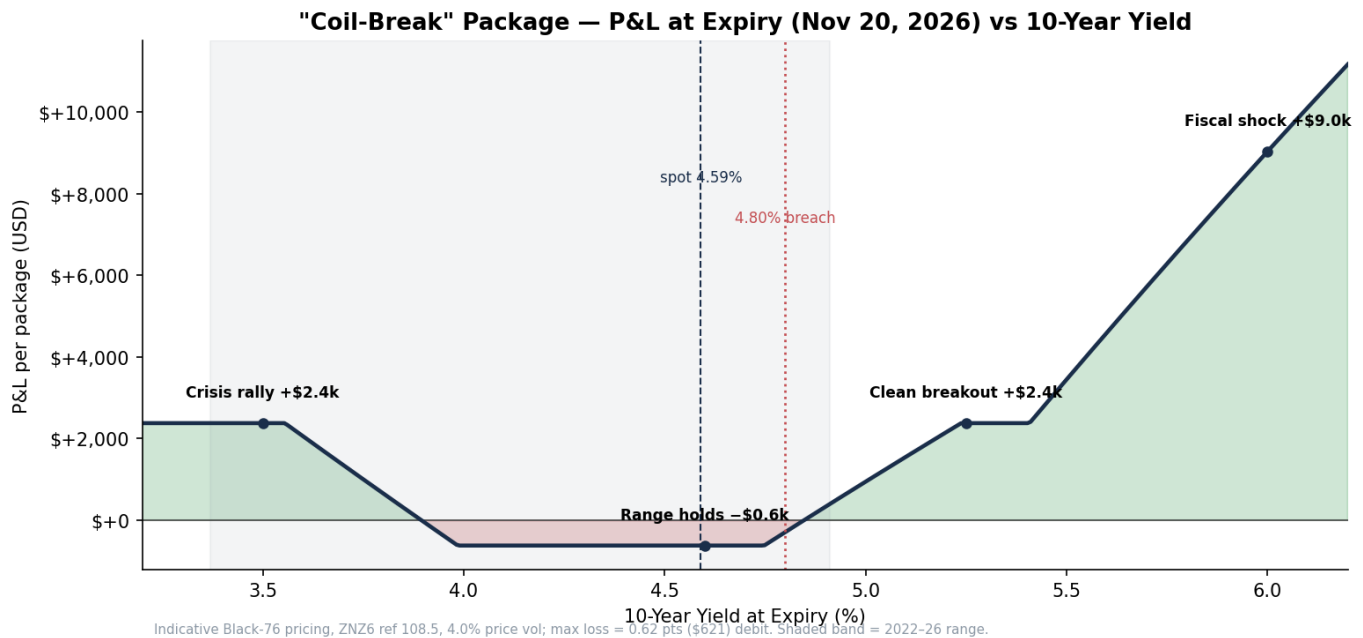


Figure 4. Expiry payoff profile across the outcome map.

10-yr yield	Scenario	ZNZ6 (est.)	P&L / package	Multiple on risk
3.50%	Crisis rally / hard landing	~115.9	+\$2,380	+3.8x
3.90%	Breach-and-fail (2006 rhyme)	~113.1	~flat at expiry*	—

4.40–4.75%	Coil extends a fourth year	107.5–109.7	–\$620	–1.0x
5.00%	Shallow breach, stall	~105.9	+\$940	+1.5x
5.25%	Clean breakout	~104.4	+\$2,380	+3.8x
5.60%	1978-style repricing	~102.4	+\$4,590	+7.4x
6.00%	Fiscal / term-premium shock	~100.2	+\$9,030	+14.5x

Table 3. Scenario payoffs at expiry. *The 3.9–4.1% band is the structure's one soft spot at expiry; in practice a breach-and-fail generates large realized volatility en route, and the long gamma is monetized mark-to-market rather than held to settlement (see Mechanics).

V. MECHANICS — Execution, Sizing, and the Management Playbook

Execution

ZN options are among the deepest listed options markets in the world; the package executes in three tickets (put spread, tail puts, call spread) or as a broker-negotiated package. Strikes trade in half-point increments with quarter-point strikes near the money; premiums quote in 64ths (0.62 pts $\approx$ 40/64). Because every short leg is covered by a long leg at a nearer or equal quantity, initial margin is effectively the net debit — the position cannot lose more than premium paid. For ~40% more DV01 per contract, the identical geometry can be built in TN (Ultra 10-Year) options at proportionally adjusted strikes.

Position sizing

Under the AQI Kelly–Thorp framework, an $n=4$ analog sample commands a severe sample-size discount — this is a premium-budget trade, not an edge-sizing trade. We frame it as: the maximum acceptable loss to the "coil extends" scenario defines the number of packages. A book prepared to spend 25–50bp of NAV on four months of resolution optionality buys that many \$620 units; the tail multiples do the rest. No leg should ever be sized such that the valley scenario forces an exit before expiry.

Management playbook by path

Breach above 4.80% before September: the put spread moves toward intrinsic early; roll the 107.5 strike down to re-arm convexity, or harvest half and let the 103.5 tails ride. **Breach-and-fail whipsaw:** this path is monetized in motion, not at expiry — on a failed break and hard reversal through 4.30%, the call spread and residual put premium are both marked up by the vol repricing; take the vol, do not wait for settlement. **Coil extends:** theta decays fastest in the final six weeks; if the range is intact in early October with the 10-year mid-band, the salvage decision (roll to Feb/Mar '27 versus expire) should be made then, not in November. A thesis of "breach within 12–18 months" rather than "by December" argues for the Feb/Mar '27 tenor at initiation — roughly 40–50% more premium for double the window and half the annualized bleed.

Variants

(a) **Directional-only:** drop Leg 3, debit falls to ~0.56, surrendering the sub-4.0% payoffs. (b) **Fat tail:** run 3x on the 103.5 puts for ~\$20 more, steepening the 6.00% scenario toward +20x. (c) **Zero-cost overlay for range books:** an existing long-duration holder can finance the package by selling covered upside calls against inventory rather than distorting the option geometry itself.

METHODOLOGY & DATA. Yield history: TVC US10Y, monthly 1912–1979, weekly 1980–July 20, 2026 ($n=3,140$ observations). Consolidation screen: all 3-year windows with close-to-close range ≤ 155 bp; prior-move measured over the 18 months preceding each window. Option pricing: Black-76, ZNZ6 reference 108.5, 4.0% price volatility, $r=4\%$, $T=0.34$ yr; futures-price mapping at DV01 $\approx$ \$64/bp with convexity adjustment. Market references as of July 15–20, 2026: 10-year 4.59%, ZN (Sep) ~109.0, MOVE 68.5.

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