Long-rate regimes from 2026

Essential reports: framework, forecast, 2002 back-test and confidence for 2026

ml

1 October 2026

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About this document

This document collects the essential reports from the `financialmarkets` folder in one place, so that a reader can see what was done and what the results show. Except for this introduction, each chapter is a document from the folder, reproduced unchanged. The source file is named under each chapter title.

The question

Where are US long-term interest rates heading from 2026, and how will we know if the regime has changed?

On 1 October 2026 the US 30-year Treasury yield reached 5.67%, its highest since 2002. In May 2002 a similar level looked like the floor, yet long rates then fell for 18 years. The work asks how to avoid making the same mistake in reverse.

What was done

1. **A framework** (Chapter 2). Three AI-written notes and a yield chart were combined into a four-layer method:
   - split the yield into expected inflation, real rate and term premium;
   - score seven structural drivers;
   - classify the regime as A (disinflation), B (higher real rates, anchored inflation) or C (fiscal or inflation);
   - anticipate the policy reaction.

   The framework also defines a signposts dashboard and a five-metric "regime vote".
2. **A data room** (summarised in Chapter 1). Code that fetches, checks, stores and charts every statistic in the framework from nine sources (FRED, the New York Fed, the Treasury, Japan's Ministry of Finance and others), refreshed daily, with a written contract and automatic checks for each series.
3. **A forecast journal** (Chapter 3). Dated regime probabilities and 12-month yield ranges, the reasons behind them, and the readings that would change the view, to be scored on 1 October 2027.
4. **A back-test on 2002** (Chapters 4 to 6). The dashboard was rebuilt month by month for 1999–2006, using data as it was known at the time, to ask whether the framework would have flagged the disinflation regime that followed. The results were then applied to the 2026 view.

What the results show

- **The forecast (1 Oct 2026).** Over three years, the data-based view gives B 55%, C 30% and A 15%; the gut view gives B 50%, C 35% and A 15%. The 10-year yield on 1 Oct 2027 is expected in 4.25–6.50% (central 5.4%) and the 30-year in 4.90–6.75% (central 5.85%), each about 3 times in 4. The sell-off so far is led by real rates and the Fed rather than by inflation fears, which is the signature of Regime B.
- **The headline vote is not making a call.** September 2026 reads A1 B2 C0, after B calls in May to August.
- **The 2002 back-test: the vote failed and the drivers worked.** In May 2002 the vote read A1 B2 C2, and it made no A call in any month from Nov 2001 to Dec 2006. The structural drivers scored -5 out of -7, which was the right direction. The range method put the actual May 2003 10-year yield (3.37%) below every historical case.
- **The live record agrees.** Running the same vote from 2003, it called A 13 years after the 2002 turn and called A again at the start of the 2021–22 inflation regime. It never called C in 285 months.

- **Confidence for 2026.** Trust the framework to describe where we are and to organise the thinking. Do not trust its headline vote to call a turn. In practice this means: lead with the drivers and the direction of change; keep regime probabilities near 50% (at most about 55%); treat yield ranges as too narrow; and size positions to survive the regime you did not expect.

How to read it

Chapter	Read it for
1. How this folder was built	What was built, in what order, and why
2. The framework	The method: layers, dashboard bands, scenarios and decision rules
3. Forecast journal, 1 October 2026	The calls and their reasons, plus an appendix explaining each watch metric
4. How the 2002 back-test was done	Data problems and their fixes, validation, limitations
5. The 2002 back-test report	Full results, month-by-month working and charts
6. Confidence for 2026	What the back-test means for the current view
Appendix A. Glossary	Terms and abbreviations

For a 15-minute read, take this introduction, then Chapter 6, then section 1 of Chapters 3 and 5.

Not included: the step-by-step update guide, the three source notes, the one-page version of the journal, the change log, and the data room's code and data. All of them are in the folder.

Not financial advice. This is an analytical framework for personal decision-making.

Part I.

What we did

1. How this folder was built

Source: `00-overview/02-how-it-was-built.md`

A record of what the agent (Claude Opus, in Cursor) built on 1 Oct 2026, in the order it was built, and the decisions behind it. For how to use and update the result, see `01-how-to-update.md`.

Timeline

Step	Request	Result
1	Synthesise three AI notes and a yield chart into an analytical framework for long rates from 2026	`02-framework/rates-regime-framework-2026.md` and `.html`
2	Build a data room that fetches, stores, checks and charts every statistic in the framework, with clear confidence that the right series are collected	`dataroom/`
3	Write a dated forecast journal with probabilities, ranges and triggers	`dataroom/journal/2026-10-01.md`, one-page version, `forecasts.csv`
4	Explain each watch metric, and show the 5y5y as a month-end grid	Appendix to the journal; `data/tables/`
5	Back-test the framework on 2002	`03-backtests/` and `dataroom/backtest/`
6	Organise and document the folder; commit to git	This file and the rest of `00-overview/`, root `README.md`, `.gitignore`

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1. The framework

Inputs (in `01-source-notes/`): three AI-written notes comparing 2002 with 2026 (Claude, Gemini and OpenAI) and a chart of 10-year and 30-year Treasury yields.

What was done:

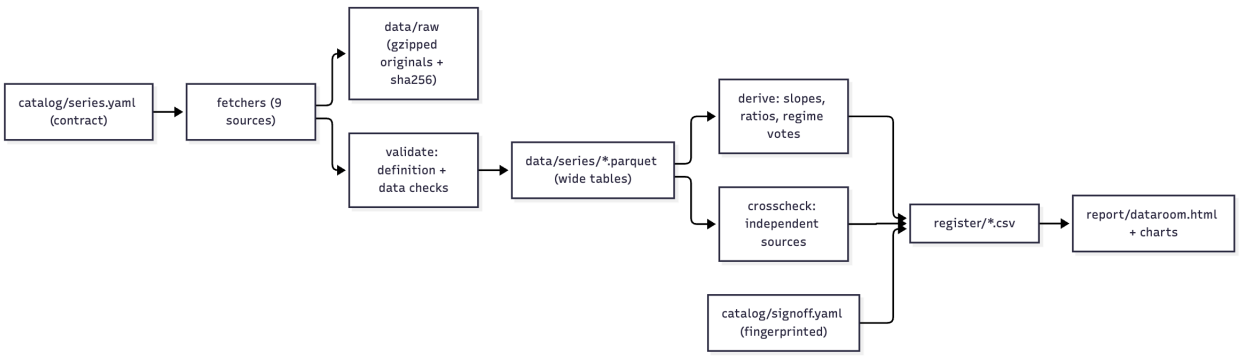
1. Read the chart first: what it shows, and what it cannot show (it does not separate inflation from real rates).
2. Compared the three notes: where they agree, where they differ, and what all three leave out. All three left out the decomposition of the yield, the term premium, Japan and foreign demand, and any objective test.
3. Built a four-layer framework:
    - **Layer 1:** decompose the yield into expected inflation, real rate and term premium.
    - **Layer 2:** score seven structural drivers at -1, 0 or $+1$.
    - **Layer 3:** classify the regime as A (disinflation, like 2002–2020), B (higher real rates, anchored inflation) or C (fiscal or inflation, like 1965–1980), with shock overlays.
    - **Layer 4:** anticipate the policy reaction.
4. A signposts dashboard: numbered metrics with explicit A/B/C bands, five of which form the headline regime vote.
5. Three scenarios with starting probabilities (B 50%, A 25%, C 25%), bond arithmetic, decision rules and an Australian investor's view.
6. A section on making the thinking concrete: a journal, scoring, and a back-test against 2002. That suggestion led to steps 3 and 5.

The HTML version was made with the plain-html skill. One fix after review: numbers in narrow table columns wrapped (“21” shown as “2” above “1”); columns were set not to wrap.

2. The data room

The goal: a store that keeps itself current and gives clear evidence that each series is the right one. The design rests on one idea: **a written contract per series, checked on every run**.

Architecture



Part	File	What it does
Catalog	`catalog/series.yaml`	One entry per series: source, ID, units, frequency, plausible range, start date, staleness limit, the publisher’s expected title and units, A/B/C bands and notes. 86 entries, about 70 collected and 15 derived
Fetchers	`src/dataroom/fetchers/`	FRED (JSON API), NY Fed (ACM term premium, r*), TreasuryDirect (auctions), Fiscal Data (debt, Monthly Treasury Statement, MSPD), Treasury TIC (foreign holders), Japan MoF (JGBs), Fed Board (zero-coupon and TIPS curves), RBA (blocked, falls back to OECD), manual CSV
Raw store	`rawstore.py`	Saves every download gzipped with a manifest (URL with the key redacted, sha256, time). Keeps 14 days plus the first snapshot of each month
Validation	`validate.py`	Definition checks (does FRED’s title and units match the catalog?) and data checks (empty, duplicates, range, start date, frequency, gaps, staleness). A critical failure keeps the last good data
Store	`store.py`	One wide Parquet table per series: date, value, 1-, 3- and 12-month changes, year-on-year %, 5-year z-score, revision flag
Derived	`derive.py`	Curve slopes, interest/receipts, proxy auction tails, realised volatility, and the five-input regime vote
Cross-checks	`crosscheck.py`	11 checks: DGS10 against the Fed Board curve, FRED’s 10y–2y against our own, MSPD against Debt to the Penny, and others
Anchor tests	`tests/test_anchors.py`	Known historical values (for example the 10-year at 0.52% on 4 Aug 2020)
Register	`register.py`	`audit_register.csv` (one row per series: source, extent, latest value, status, checks, sign-off), `crosschecks.csv`, `regime_votes.csv`
Charts and report	`charts.py`, `report.py`	A PNG per series (full history and last 5 years, with bands), and `report/dataroom.html` with status, the regime dashboard and a verification pack per series
Sign-off	`signoff` command	You record that you checked a series. The sign-off stores a fingerprint of the series definition; editing the source, ID, parameters or units voids it
Automation	`scripts/refresh.sh`, launchd plist	Daily 07:00 refresh, logs, macOS notification on failure
Agent rule	`.cursor/rules/dataroom.mdc`	Tells any Cursor agent how to refresh, how to triage failures, and what it must never do (loosen checks, sign off, expose the key)

Decisions worth knowing

- **Parquet, one wide table per series:** easy to read in pandas or Excel (via CSV), and each series carries its own change columns.
- **Proxies are labelled.** The MOVE index and auction when-issued tails are paid data; the data room uses realised volatility and "high yield minus same-day DGS10" instead, and marks them as proxies.
- **HY OAS accumulates.** FRED now serves only three years of ICE high-yield spreads, so the data room appends each run's data to its own history. This file cannot be rebuilt, which is why it is the one Parquet file committed to git.
- **FRED rate limit.** At your request: a 0.6-second pause between calls, metadata cached for 6 days, and 15/30/60-second backoff on HTTP 429. The key lives only in `.env`, and is redacted in URLs, manifests and error messages.

Fixes made after review

- The Fed total assets chart caption covered the plot; the layout was changed.
- A table of the regime votes was added under the votes chart (last 24 months, with each input and its vote).

3. The forecast journal

- `journal/2026-10-01.md`: calls, how the probabilities were reached, three reasons, the yield ranges and why, what would change the view, and readings that would halve each probability. Two forecasters are recorded: your gut view (`ml-gut`: B 50%, C 35%, A 15%; 10-year 5–7%, 30-year 6–9%) and the data-based view (`ml-data`: B 55%, C 30%, A 15%; 10-year 4.25–6.50%, 30-year 4.90–6.75%, each at 75%).
- `journal/2026-10-01-onepage.md`: the same on one printed page.
- `journal/forecasts.csv`: one row per quantified call, with a resolve date (1 Oct 2027) for scoring.
- **Appendix A1–A9:** each watch metric explained: what it is, how it is computed, what it measures, its range in context, what would push it up, and how today compares with history.
- **5y5y month-end grid:** years as rows and months as columns in the journal; both layouts as CSV in `data/tables/` (rebuilt on every refresh, for every series).
- `scripts/journal_html.py` turns journal markdown into HTML (`make journal-html`).

4. The 2002 back-test

See `03-backtests/01-how-the-backtest-was-done.md` for the method and `03-backtests/02-confidence-for-2026.md` for what it means.

5. Organising the folder

Modelled on `../pully`: numbered top-level folders, a master `README.md`, a `CHANGELOG.md`, a single root `.gitignore`, and a local-only git repository.

- Source notes moved to `01-source-notes/` (one file renamed to drop " (1)").
- The framework moved to `02-framework/`; its image and source links updated.
- The back-test report now builds into `03-backtests/`.
- `dataroom/` was **not** renamed or moved: the Python environment and the launchd job use its absolute path.

2. Long-rate regimes from 2026 — a framework, a dashboard and scenarios

Source: `02-framework/rates-regime-framework-2026.md` · 1 October 2026 · Draft for personal use. Not financial advice.

1. Summary

On 1 October 2026 the US 30-year Treasury yield reached **5.67%**, its highest since July 2002, and the 2-year was **4.91%**. That is roughly where long rates stood when you arrived in Australia in May 2002 and concluded "this is as low as rates can go". Over the following 18 years they fell almost to zero.

The lesson from 2002 is not that you should have forecast zero. It is that **the level of rates told you almost nothing**. What mattered was the regime: the slow-moving forces that set the price of long-term money. The same applies now, in reverse. Saying "5.7% is high, so the next big move is down" is the 2002 error turned upside down.

The framework in this note has four layers:

1. **Decompose** the yield into expected inflation, the expected real short rate and the term premium. The same 5.5% can mean very different things.
2. **Score the structural drivers**: savings versus investment, fiscal policy, demographics, productivity, globalisation and central-bank credibility.
3. **Classify the regime**: A (disinflationary, a return toward 2002–2020), B (a higher real-rate equilibrium) or C (fiscal or inflationary, 1960s/70s-like). Overlay short-lived shocks on top.
4. **Anticipate the policy reaction**: QE, shorter debt issuance and financial repression put a soft cap on yields, but they do so by transferring wealth from savers rather than by making bonds safe.

Working view (judgement, for 3–5 years, to be revised): Regime B **50%**, Regime A **25%**, Regime C **25%**. Within any of these, expect at least one shock episode of 100bp or more in either direction.

Five metrics to watch first:

- the 10-year term premium (ACM)
- the 10-year TIPS real yield
- the 5y5y forward breakeven
- federal interest outlays as a share of revenue
- whether the long end rises while the Fed is cutting

> **Takeaway:** Stop asking "are rates high or low?" Ask "what is producing this yield, and are those forces strengthening or weakening?" Then size positions so you survive being wrong in either direction.

2. What the chart actually shows

- **Same level, opposite trend.** In 2002 the 5–6% reading sat inside a 40-year downtrend of lower highs and lower lows that ran from the 1981 peak of about 15%. In 2026 the same level sits on a **rising** path from the 2020 low of under 1% on the 10-year. The level matches; the direction of travel does not.
- **The post-2020 base has broken upward.** The 2023 high near 5% held as resistance for about three years. A close above it on the 30-year is a technical break, but a break only matters if the fundamentals confirm it (see the dashboard).

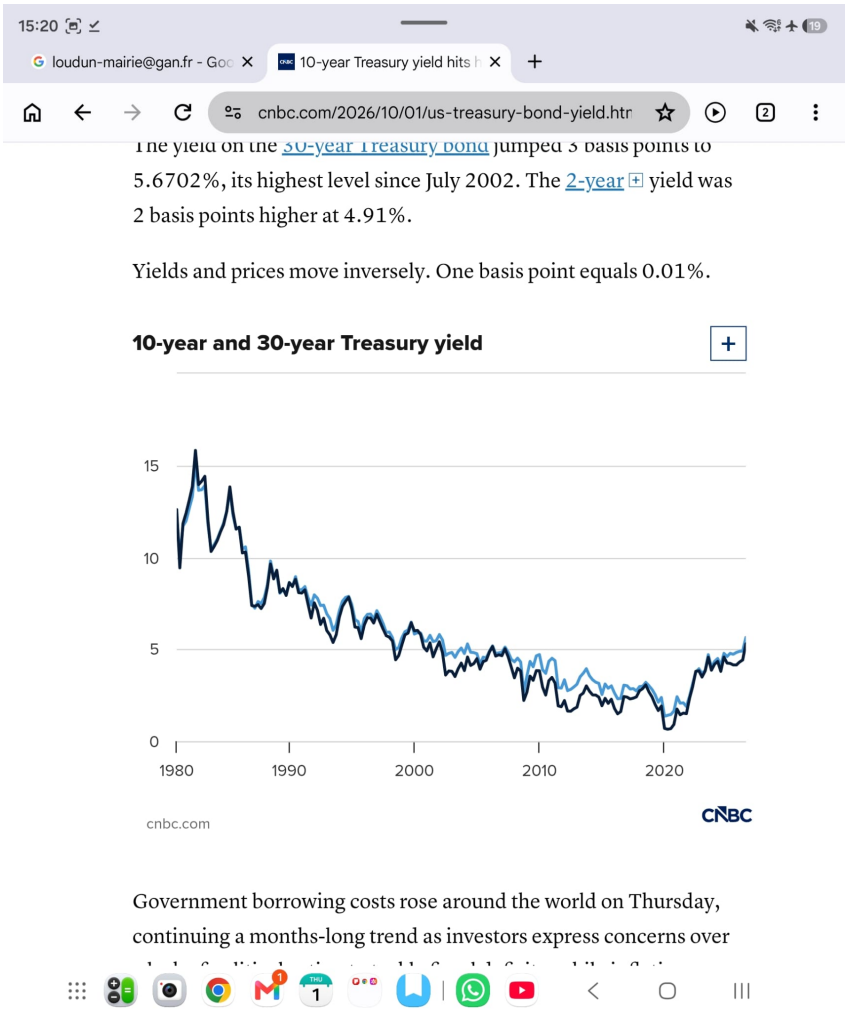


Figure 2.1.: CNBC: 10-year and 30-year Treasury yield, 1980–2026

- **The curve is steepening from the long end.** With the 2-year at 4.91% and the 30-year at 5.67%, the 2s30s spread is about **+76bp**. When the curve steepens because long yields rise while short yields hold or fall, the market is pricing term premium (worry about supply, fiscal policy or inflation uncertainty) rather than Fed tightening. That pattern is the main thing separating Regime B/C from a simple cyclical move.
- **It is global.** CNBC notes borrowing costs rising "around the world… a months-long trend". A rise that is synchronised across countries points to global drivers: the term premium, Japan, and fiscal policy everywhere. A rise confined to the US would point to US-specific fiscal or political risk.

3. What the three notes agree on, where they differ, and what they miss

Where they agree

- **Anchoring was the 2002 error.** "5% is low" was judged against 1970–2000, not against the forces setting the neutral rate (r*).
- **The decomposition.** Long nominal yield ≈ expected real short rates + expected inflation + term premium.
- **The 2002–2020 decline had identifiable drivers.** China joined the WTO (Dec 2001), there was an Asian and petrodollar savings glut, ageing populations were in their peak saving years, and later QE and zero rates followed crises (2008, 2020).
- **Some of it was visible in 2002.** Japan was already showing that an ageing, indebted advanced economy could sit near zero rates for years. Disinflation was under way, and the Fed was worried about deflation by 2003.
- **Some of it was not.** The size of the 2008 crisis, a decade of QE and the pandemic.
- **Many of those drivers have reversed.** Deglobalisation, large deficits at full employment, heavy capex (AI, grids, defence, energy), retirees drawing down savings, a rebuilt term premium, and rising Japanese long yields.
- **Base case: higher for longer**, with the 10-year around 4–5.5% and the 30-year around 5–6.5%.

Where they differ

Issue	Gemini	OpenAI	Claude
Is there a ceiling?	Yes, a "debt-service ceiling": high yields cause contraction, which forces easing	No natural ceiling; Regime C could take yields materially higher	A soft ceiling via policy response (QE, shorter issuance, repression) after a disorderly spike
Floor	"Permanently shifted up" to 4–5.5%	Regime A, with a 10-year at 3–4%, is easy to imagine	Near zero needs a crisis; not the base case
Productivity / AI	Mainly a source of capex demand (pushes up)	Could raise real rates in a *good* way	Could pull yields down (via disinflation)
Tone	Fairly confident	Explicitly two-sided	Two-sided; stresses position sizing

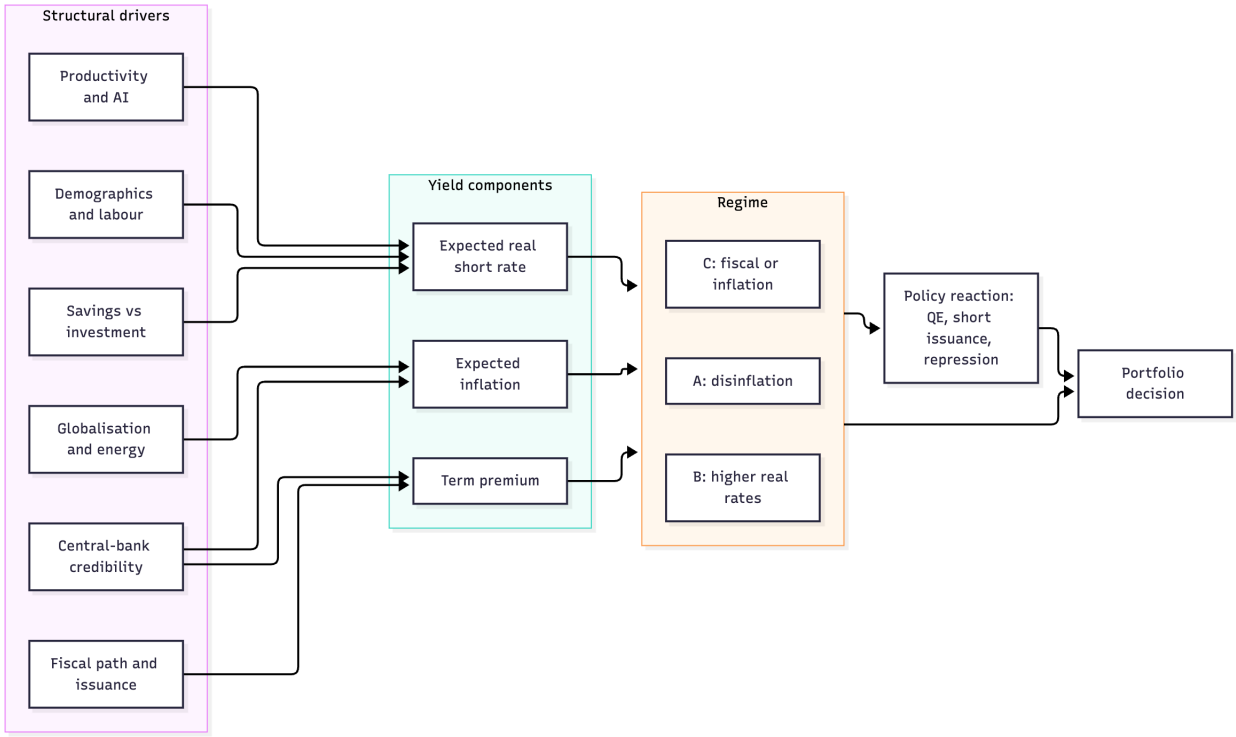
The reconciliation: a **ceiling exists, but it is political rather than economic**. Governments and central banks can cap nominal yields, as the UK did in 2022 and Japan did with yield-curve control. They do this by accepting higher inflation or a weaker currency. A nominal cap does not protect your real wealth. That distinction matters a great deal for how you invest.

What all three leave out

- **Thresholds.** None says what reading of a metric would make you change your mind.
- **Probabilities and review dates.** Without them you cannot tell later whether the view was any good.
- **Base rates.** How long regimes typically last and how often they turn.
- **The investor's own position.** An Australian, AUD-based investor with superannuation, a possible mortgage and home bias faces different questions from a US bond desk.

- **Bond arithmetic.** How much yield cushion a long bond has against further rises.
- **Real-versus-nominal outcomes under a policy cap**, as discussed above.

4. The analytical framework



Layer 1 — Decompose the yield

The same headline yield can mean very different things:

Mix	Expected inflation	Real yield	Term premium	Total	Reading
Case A	3.5%	1.5%	0.5%	5.5%	Inflation problem; long nominal bonds are risky, TIPS and real assets better
Case B	2.0%	2.5%	1.0%	5.5%	Capital is genuinely scarce or productive; long bonds pay a fair real return

Practical split: the **breakeven** (nominal minus TIPS) measures inflation compensation; the **TIPS yield** measures the real rate; the **term premium** comes from models (ACM from the NY Fed, Kim-Wright from the Fed Board) and is the "fear and supply" component. Track all three monthly. The question to ask each time is **which component moved?**

Layer 2 — Score the structural drivers

For each driver, record a score of -1 (pushing yields down), 0 (neutral) or $+1$ (pushing them up), with a one-line reason and a date.

Driver	2002–2020	2026 starting score	What would flip it
Savings vs investment	Glut (-1)	$+1$: AI, grid, defence and reshoring capex alongside government borrowing	Capex bust, AI spend cut, rising private saving

Driver	2002–2020	2026 starting score	What would flip it
Fiscal path	Manageable (0)	+1: deficits around 6% of GDP at low unemployment	Credible consolidation, or growth well above interest rates
Demographics	Peak savers (−1)	0/+1: retirees drawing down savings, labour scarcity	Ageing turning out to dominate as weak demand (Japan route)
Productivity	Modest	0: AI promising but not yet visible in the data	Sustained productivity growth above 2% (raises real r, lowers inflation)
Globalisation and energy	Strongly disinflationary (−1)	+1: tariffs, friend-shoring, energy security	Trade détente, a cheap-energy glut
Central-bank credibility	Strengthening (−1)	0: still trusted but tested; political pressure on the Fed	Fed independence clearly reaffirmed, or clearly eroded (+1)
Global safe-asset demand	Heavy foreign official buying (−1)	0/+1: reserve managers diversifying, Japan repatriating	Flight to the dollar in a global crisis

The total score is not a forecast; it is a **map of pressure**. What matters is how it changes between reviews.

Layer 3 — Classify the regime

	Regime A: disinflation	Regime B: higher real rates	Regime C: fiscal or inflation
Analogy	2002–2020, Japan 1990s	1990s US, but with more debt	1965–1980
Inflation	Falls to 2% or below	About 2–2.75%, anchored	Above 3% and drifting up
Real 10-year	Below 1.25%	1.75–2.75%	Falling or negative while nominal yields rise
Term premium	Near zero or negative	+0.25–1.0%	Above 1.25% and volatile
10-year range	2.5–4%	4.25–5.75%	6%+, or capped by policy at the cost of inflation
Typical trigger	Recession, AI-driven disinflation, credit event	Persistent capex and deficits with credible Fed	Fiscal dominance, Fed independence lost, energy shock

Shock overlay (weeks to months, can happen in any regime):

- a *fiscal stress* episode such as UK gilts in 2022: a disorderly spike followed by an official backstop
- a *flight to safety* (growth or credit shock): a 100–200bp rally that does not by itself change the regime

Do not mistake an overlay for a regime change. Wait for confirmation from Layer 2.

Layer 4 — Anticipate the policy reaction

When yields climb high enough to hurt, governments respond. Watch for:

- Treasury shifting issuance toward bills (shorter weighted average maturity)
- QT ending or QE restarting
- rules that force banks or pension funds to hold government debt
- pressure on the Fed to cut in spite of inflation
- yield-curve control

Each of these lowers the *nominal* yield but raises the *inflation* risk. In Regime C, a capped yield and a falling real value of bonds are the same outcome. Assets that hold real value and currency diversification matter more than the headline yield.

5. Signposts dashboard

Review monthly; record the reading and the regime it points to. Thresholds are indicative starting points for you to calibrate, not established rules. Readings taken from the chart are dated 1 Oct 2026; others are marked "check" and should be filled in from source on the review date.

Metric	Source / code	Reading	Points to A	Points to B	Points to C
1. 10y and 30y nominal yield	FRED `DGS10`, `DGS30`	30y 5.67%	Sustained below 4%	4.25–5.75%	Above 6% with rising volatility
2. 5y5y forward breakeven	FRED `T5YIFR`	check	Below 2.0%	2.0–2.6%	Above 2.75% sustained
3. 10y TIPS real yield	FRED `DFII10`	check	Below 1.25%	1.75–2.75%	Falling while nominal yields rise
4. 10y term premium	NY Fed ACM; FRED `THREEFYTP10` (Kim-Wright)	check	Below 0	0.25–1.0%	Above 1.25%
5. Curve: 2s10s, 2s30s	FRED `T10Y2Y`; 2s30s from `DGS30` − `DGS2`	2s30s ≈ +76bp	Bull steepening (front end falling)	Mild positive slope	Bear steepening (long end rising)
6. Fed funds vs r*	FRED `DFF`; NY Fed HLW r*	check	Fed cuts and long end follows	Fed near neutral	**Long end rises while the Fed cuts**
7. Core PCE, services ex-housing	FRED `PCEPILFE`; BEA	check	Below 2.25%	2.25–3%	Above 3.25% and rising
8. Nominal GDP growth vs 10y yield	FRED `GDP` (y/y) vs `DGS10`	check	NGDP below 3.5%	NGDP 4–5.5%, close to the 10y	NGDP above 6% with yields lagging (repression)
9. Interest outlays / federal revenue	FRED `A091RC1Q027SBEA` / `W006RC1Q027SBEA`; CBO	check (∼18–20%?)	Falling	Stable at 15–20%	Above 20% and rising
10. Federal deficit, % GDP	FRED `FYFSGDA188S`; CBO	check (∼6%?)	Below 4%	4–6%	Above 6.5% at low unemployment
11. Auction quality (10y, 30y)	TreasuryDirect results	check	Strong bid, through-trades	Normal	Repeated tails >2bp; indirect share falling
12. Foreign holdings of Treasuries	Treasury TIC, monthly	check	Rising foreign official share	Stable	Falling official share; central-bank gold buying
13. Debt maturity / issuance mix	Treasury quarterly refunding	check	Coupons stable	Coupons rising moderately	Shift to bills: a soft cap and a repression signal
14. Japan 30y JGB, USD/JPY	MoF Japan; FRED `DEXJPUS`	check	JGB yields falling	Stable	JGB yields rising, Japanese money repatriating
15. Global long ends	Bund, gilt, ACGB 10y (RBA table F2)	"rising globally" (CNBC)	Falling together	Mixed	Rising together (global term premium)
16. Capex demand	Hyperscaler capex guidance; FRED `PNFI` / `GDP`	check	Capex cut	Steady growth	Accelerating alongside deficits
17. Productivity	FRED `OPHNFB` (y/y, 3y avg)	check	(neutral)	Above 2% = "good B"	Below 1.2% with high real rates = stagflation risk
18. Unit labour costs, wages	FRED `ULCNFB`; Atlanta Fed wage tracker	check	Below 2%	2–3.5%	Above 3.5%
19. Oil, copper	FRED `DCOILWTICO`; LME	check	Falling	Range-bound	Rising (energy or supply shock)

Metric	Source / code	Reading	Points to A	Points to B	Points to C
20. Bond volatility	ICE MOVE index	check	Falling with lower yields	Below 100	Above 130 with higher yields
21. Credit spreads	FRED `BAMLH0A0HYM2` (HY OAS)	check	Above 500bp (shock, so a rally in Treasuries)	300–450bp	Tight spreads, rising yields
22. Fed balance sheet, RRP	FRED `WALCL`, `RRPONTSYD`	check	QE restarts in a slump	QT ends quietly	QE restarts *despite* inflation

How to read it: count how many metrics point to each regime this month and last month. A regime call needs **at least 3 of the 5 headline metrics** (rows 2, 3, 4, 6, 9) to agree for **at least 3 consecutive months**. Anything less is noise or an overlay.

6. Scenario builder

Probabilities are personal judgement as of 1 Oct 2026 for a 3–5 year horizon. Revise them at each quarterly review and keep the history.

Scenario B — "Expensive money, no crisis" (50%)

- **Story:** Deficits stay around 6% of GDP, the AI/grid/defence capex cycle continues, inflation settles around 2.5% and the Fed stays credible. Capital is simply priced higher than in the 2010s.
- **Path:** The 10-year trades 4.25–5.75% and the 30-year 4.75–6.25%, with a positive term premium. Rallies on growth scares fade.
- **Confirming signs (12–36 months):** TIPS above 1.75%, 5y5y at 2.0–2.6%, term premium stable or positive, productivity improving, auctions orderly.
- **Assets:** Long bonds earn a fair real return but are not a trade for a large rally. Ladders and holding to maturity work. Cash is decent. Equity valuations are capped by a higher discount rate, so earnings growth matters more than multiple expansion.

Scenario A — "2002 again: disinflation returns" (25%)

- **Story:** Recession or a credit event (commercial property, private credit, an AI capex bust), or AI-driven disinflation arrives faster than expected. The Fed cuts hard, foreign safe-asset demand returns and the term premium compresses.
- **Path:** The 10-year falls to 3–4% (lower in a deep slump) and the curve bull-steepens.
- **Confirming signs:** 5y5y below 2%, unemployment rising quickly, HY OAS above 500bp, capex guidance cut, core PCE below 2.25%.
- **Assets:** Long duration is the big winner (see the arithmetic below). Equities fall first, then recover. Cash yields fall quickly, which is the reinvestment risk in waiting.

Scenario C — "Fiscal dominance / 1970s-lite" (25%)

- **Story:** Deficits persist and interest costs compound. Political pressure overrides the Fed, energy or tariff shocks hit, and foreign buyers step back. Either long yields break above 6%, or policy caps them and inflation does the adjustment.
- **Path:** Either a 30-year at 6.5%+ with high volatility, or a capped nominal yield with a falling real yield. Both are bad for nominal bondholders.
- **Confirming signs:** 5y5y above 2.75%, term premium above 1.25%, auction tails, a shift to bill issuance, interest above 20% of revenue, the long end rising while the Fed cuts.
- **Assets:** TIPS and inflation-linked ACGBs, short duration, real assets (resources, infrastructure with pricing power), currency diversification. Avoid long nominal bonds and long-duration growth valuations.

Shock overlays (could happen in any scenario)

- **Gilt-style spike:** 50–100bp up in weeks, then an official backstop. This is an *opportunity* to add duration in B, but not in C.
- **Flight to safety:** 100–200bp down in a growth or market crash. This is an *opportunity* to trim duration in B and C, but not in A.

7. From view to decisions

Separate the view from the position

In 2002 the costly part was not the view; it was **how much rode on one forecast**. Decide the view (regime probabilities) and the position (size, duration, timing) as two separate steps.

Bond arithmetic: how much cushion does the yield give you?

A rough 12-month breakeven is yield ÷ modified duration: the rise in yields that would wipe out a year's income.

Bond	Yield	Approx. modified duration	Yield rise that wipes out 1 year's income	Return if yields +100bp	Return if
10-year at par	∼5.0%	∼7.7	∼65bp	∼−2.5%	∼+13%
30-year at par	5.67%	∼14.3	∼40bp	∼−7%	∼+21%

These are approximate, ignore roll-down, and include convexity only roughly. The point stands: at these yields the payoff of long bonds is **asymmetric in your favour if you can hold**, and the cushion against further rises is thin. Above 5.5% you are being paid to wait in A and B. In C you are being slowly eaten by inflation, even if the nominal price is capped.

Decision rules to consider

- **Survivability first.** Size any duration bet so that a 30-year at 7% (C) or a 10-year at 3% (A, if you are short duration) is uncomfortable but not damaging.
- **Scale in by trigger, not by forecast.** For example, add a third of the intended duration at the current level, a third if the 30-year passes 6% *and* the 5y5y is still below 2.6% (an overlay, not C), and the last third only when the dashboard confirms B or A.
- **Barbell or ladder rather than all-in.** A ladder of 1–10 year bonds plus a TIPS sleeve plus some long duration hedges A and C at the same time.
- **Use inflation-linked bonds for the C tail.** TIPS or inflation-linked ACGBs at real yields near 2% are a cheap hedge against the scenario that hurts most.
- **Run a pre-mortem.** Before acting, write the paragraph "It is 2031 and this position lost money because…" for each regime.

An Australian investor's view

- **ACGB vs UST.** Australian 10-year yields broadly follow US yields, but RBA policy, iron ore and the China cycle drive the spread. Track ACGB 10y − UST 10y.
- **Currency.** Unhedged US bonds add AUD/USD exposure. The AUD tends to fall in global risk-off episodes (Scenario A), which helps unhedged holdings. In Scenario C a weaker USD hurts them. Decide the hedge ratio deliberately.
- **Superannuation.** Check the actual duration and inflation-linked share in your super fund's "balanced" or "conservative" option. That is often your largest bond exposure, and you may not know it.
- **Mortgage and cash.** Most Australian mortgages are variable or short-fixed, so they track the RBA, not US long rates. Offset accounts and cash earn at the short end. In Scenario A those yields fall quickly; locking some term protects against that.

8. How to think about this more concretely

These are practical steps that turn "what do I think rates will do?" into a process you can check later.

1. **Keep a one-page forecast journal.** Date it. Write regime probabilities (A/B/C), a 12-month range for the 10-year and 30-year, and the three reasons. Re-score quarterly without looking at the old page first, then compare. After two years you will have evidence on your own calibration.
2. **Write "what would change my mind" before you need it.** For each regime, list the two or three dashboard readings that would make you cut its probability by half. This is the antidote to anchoring, which was the 2002 error.
3. **Use base rates.** US long-rate regimes have been long: rising from about 1946 to 1981 (about 35 years) and falling from 1981 to 2020 (about 39 years). Turning points were recognised only years afterwards, and within each regime counter-trend moves of 100–200bp were common. Expect to be unsure in real time, and judge yourself on the process, not on calling the turn.
4. **Back-test the framework on 2002.** Rebuild the dashboard with data from May 2002: 10-year TIPS around 3%, Japan's 10-year around 1.3%, China just inside the WTO, core inflation falling, foreign official buying rising. Would the framework have flagged Regime A? This is the most direct way to learn from your own experience.
5. **Steelman the other side.** Each quarter, write the strongest case for the regime you rate lowest. If you cannot write a convincing one, your probabilities are probably too confident.
6. **Read primary sources, not commentary.** Useful ones:
    - Treasury quarterly refunding statements (issuance mix)
    - the NY Fed ACM term-premium page
    - CBO's budget and long-term outlook
    - the BIS annual economic report
    - the Fed's Summary of Economic Projections (the long-run dot as the market's r* proxy)
    - Bank of Japan JGB purchase plans
7. **Review on a fixed schedule.** First weekday of each month for the dashboard (30 minutes); quarterly for the probabilities and the journal. Do not react to single days like today's.
8. **Automate the dashboard (optional).** Most rows are on FRED. A small script or spreadsheet pulling the codes in section 5 can produce the monthly table and a chart of the A/B/C vote count. That makes the discipline cheap enough to keep up.
9. **Get the facts right.** Several figures in the source notes (below) should be checked against primary data before relying on them.

9. Caveats and figures to verify

- **To verify:** "US debt-to-GDP above 120% (~$39T)", "interest costs above $1 trillion", and "deficits about 6% of GDP" come from AI-generated notes and are plausible but unchecked. Confirm with Treasury's Debt to the Penny, CBO and FRED before relying on them.
- **Taken from the screenshot (1 Oct 2026):** 30-year 5.6702% (+3bp, highest since July 2002) and 2-year 4.91% (+2bp). The 10-year level is read off the chart (about 5%) and should be confirmed.
- **Indicative only:** dashboard thresholds and scenario probabilities are judgement for you to calibrate, not established rules.
- **Not financial advice.** This is an analytical framework for personal decision-making. Consider professional advice for portfolio, tax and superannuation decisions.

Sources (in `../01-source-notes/`): `claude_treasury-yields-2002-vs-2026.md`, `gemini_interest_rates_macro_analysis.md`, `openaa_interest-rate-regimes-2002-vs-2026.md`, `10year_30year_US_treasury_yield.png` (CNBC, 1 Oct 2026).

Part II.

What the results show

3. Forecast journal — 1 October 2026

Source: `dataroom/journal/2026-10-01.md` *· 2026-09-29 (dataroom refresh 2026-10-01) · 2027-01-04 (quarterly), resolves 2027-10-01*

1. Calls

	Mine (data-based)	Yours (gut)	Horizon
Regime B: expensive money, no crisis	**55%**	50%	3 years
Regime C: fiscal dominance / 1970s-lite	**30%**	35%	3 years
Regime A: disinflation returns	**15%**	15%	3 years
US 10-year on 1 Oct 2027 (now 5.26%)	**4.25–6.50%**, central 5.4%	5–7%	12 months
US 30-year on 1 Oct 2027 (now 5.59%)	**4.90–6.75%**, central 5.85%	6–9%	12 months

Both yield ranges are meant to hold about 3 times in 4.

2. How I reached the probabilities

I started from the framework's working view: B 50%, A 25%, C 25%. Then I updated it on what the data room shows since then:

- **A falls 10 points to 15%,** because there's no growth trigger and the Fed is hiking, not cutting.
- **B gains 5 points.** The vote model called B every month from May to August, and September was A1 B2 C0.
- **C gains 5 points,** for fiscal pressure, global pressure and rising term premium.

We differ by 5 points between B and C. That gap comes down to one thing, inflation expectations, which are still anchored. If the 5y5y crosses 2.6%, I move to your numbers.

3. Three reasons

1. **The sell-off is driven by real rates and the Fed, not inflation fear, which is B's signature.** Over 12 months the 10-year rose 110bp and the 10-year TIPS yield 111bp (1.80% to 2.91%), while the 10-year breakeven was flat at 2.36%. The 5y5y is 2.36%, inside the B band. The Fed raised its upper bound to 4.00% in September, and 2s30s *flattened* from 113bp to 70bp. A C regime needs de-anchoring or a bear steepening, and neither is here yet.
2. **Fiscal and global pressure is real, which keeps C at 30%.**
    - Interest/receipts (BEA) is 21.1%, inside the C band above 20%.
    - The deficit is 5.4% of GDP with unemployment at 4.1%.
    - Term premium is rising: Kim-Wright 0.50 to 1.02, ACM 0.61 to 0.85.
    - JGB yields have jumped: the 10-year from 1.66% to 3.06% and the 30-year to 4.10%, a growing pull on Japanese money.
    - The foreign official share of Treasuries fell from 13.0% to 12.0%.
    - Oil is $96, core PCE is 3.0% and supercore is 3.5%.

3. **A has no trigger, and bond demand is still healthy.** Unemployment fell from 4.4% to 4.1%, HY spreads are a tight 3.1%, and nominal GDP is growing 6.3%, 1.9pp above the 10-year yield. September's 30-year auction came 6.2bp *through*, with indirect bidders taking 79% and bid-to-cover at 2.61. Buyers aren't striking.

4. Why these yield ranges, and why yours are too narrow

- **Method:** I took every 12-month change since 1962, using the subset that started from a 4.5–6.5% level, and applied it to today's yields. I checked the result against current volatility: the 10-year's realised volatility is about 0.7pp a year, the 30-year's about 0.6pp. I then tilted the range upward for the 30% C weight.
- **10-year, 4.25–6.50%:** history puts about 75–77% of outcomes in this range.
  - Your 5–7% catches only 52–61%.
  - The upper bound of 7% is fine (only about 4% of outcomes go above it).
  - The floor is the problem: 5% is just 26bp below today, and the 10-year ended a year more than 26bp lower in 34–45% of past cases.
- **30-year, 4.90–6.75%:** history puts about 67–81% of outcomes in this range.
  - Your 6–9% catches only 13–30%. The 30-year finished below 6% in 69–87% of comparable years.
  - Reaching 9% needs a rise of 3.4pp. The largest 12-month rise on record is +3.5pp, in 1980.
  - If C is your conviction, express it as **5.25–7.0%**, not a higher floor.

5. What would change my mind

- **Toward C:**
  - 5y5y above 2.6% for two month-ends (the C band starts at 2.75%).
  - The TIPS yield falling while the 10-year rises, the vote model's C rule.
  - 2s30s back above 120bp while the Fed holds or cuts.
  - 30-year auction tails above 3bp twice running, with indirect bidders below 60%.
  - ACM term premium above 1.25.
- **Toward A:**
  - Unemployment at 4.6% or higher, a 0.5pp rise.
  - HY spreads above 4.5%.
  - Core PCE below 2.5%.
  - The Fed cutting while the 30-year falls (an A vote on policy).

6. Readings that would halve a probability

1. **5y5y at 2.75% or higher at two consecutive month-ends:** halve B (55% to about 28%). Most of the freed weight goes to C.
2. **Unemployment at 4.6% or higher and HY spreads at 4.5% or higher in the same month:** halve B. A rises to about 35%.
3. **5y5y at 2.10% or lower, ACM term premium at 0.40 or lower, and 30-year auction indirect share at 70% or higher for three auctions:** halve C (30% to 15%).

7. Dashboard at time of writing (month-end Sep 2026)

2y 4.89 · 10y 5.26 · 30y 5.59 · 5y5y 2.36 · 10y TIPS 2.91 · ACM TP 0.85 · KW TP 1.02 · fed funds upper 4.00 · core PCE 3.0% y/y · unemployment 4.1% · interest/receipts 21.1% · deficit 5.4% GDP · JGB10 3.06 · WTI 96 · HY OAS 3.12 · 10y realised vol 82bp · votes A1 B2 C0.

Scored on 1 Oct 2027 using `journal/forecasts.csv`*. Past entries are never edited; revisions go in a new dated entry.*

Appendix. The watch metrics explained

Added the same day (1 Oct 2026). All history below is computed from the data room unless marked otherwise. "Percentile" means the share of past month-ends below today's reading.

Summary

Metric	Now	Watch level	Percentile now	Watch level reached in history	Last reached
5y5y inflation expectation	2.36%	≥ 2.6 (two months) / ≥ 2.75 / ≤ 2.10	61st (since 2003)	13% / 6% / 25% of months	Jul 2014 / Dec 2013 / Mar 2026
10y TIPS falls as 10y rises (3 months)	TIPS +71bp, 10y +82bp	TIPS −10bp and 10y +10bp	n/a	7 of 285 months	May 2021
2s30s curve	70bp	> 120bp, Fed on hold or cutting	37th (since 1977)	45% of months (9% if the 30y is also rising)	Feb 2026
30y auction tail (proxy)	−6.2bp	> 3bp, two auctions running	3rd (since 1998)	14% of auctions (twice running: 5 times)	Jun 2026 (single)
30y auction indirect share	79%	< 60% / ≥ 70% for three auctions	99th (since 2008)	22% since 2015 / once	Jun 2026 / Sep 2022
ACM 10y term premium	0.85	> 1.25 / ≤ 0.40	39th (since 1961); 82nd since 2010	53% / 26% of months	Feb 2014 / Mar 2025
Unemployment rate	4.1%	≥ 4.6% (a 0.5pp rise)	18th (since 1948)	70% of months	Sep 2021
HY credit spread	3.12%	> 4.5%	57th (since Oct 2023 only)	4.61% peak in data room	Apr 2025
Core PCE inflation	3.0% y/y	< 2.5%	58th (since 1959); 89th since 1995	50% of months; 81% since 1995	Mar 2021
Policy vs 30y vote	FF +25bp, 30y +68bp	FF −10bp and 30y −10bp (3 months)	n/a	A vote in 24 of 285 months	Nov 2025

A1. 5-year, 5-year forward inflation expectation (5y5y)

- **What it is.** The average inflation rate the bond market expects for the five years that start five years from now (years 6 to 10). Series `infl_5y5y`, FRED `T5YIFR`, daily since 2003.
- **How it is computed.** From nominal and TIPS yields: breakeven = nominal yield minus real yield, at 5 and 10 years. Then 5y5y = ((1 + BE10) ^ 10 / (1 + BE5) ^ 5) ^ (1/5) − 1.
- **What it measures.** Long-run inflation credibility. Looking five years out strips out the current oil price and cycle, so it shows whether investors believe the Fed will get inflation back to target. It includes a small inflation-risk premium and a TIPS-liquidity discount.
- **The levels.** The framework bands are A below 2.0%, B 2.0–2.6% and C at 2.75% or higher. The Fed's 2% target is on PCE, while TIPS pay CPI, which runs about 0.3pp higher, so roughly 2.3% is "on target". At 2.6% the market is pricing persistent overshoot; at 2.75% it is pricing a lasting loss of credibility.
- **What would push it up.** Fed independence in doubt; the Fed cutting while core inflation is above 3%; a persistent oil or tariff shock that feeds wages; fiscal dominance (deficits financed with the central bank's help); heavy TIPS demand as an inflation hedge.
- **History.** Median 2.29%, middle half 2.11–2.46%, 95th percentile 2.75%. It was at 2.6% or higher in 13% of months and 2.75% or higher in only 6%, and has not reached 2.6% since July 2014. The 2.75% crossings were almost all in 2010–13, when QE was expected to raise inflation (it didn't). The 2008 extremes (2.97% then 0.48%) reflect a collapse in TIPS market liquidity, not real expectations. **Assessment:** 2.75% is a genuinely rare reading. Reaching it now, with the Fed hiking rather than doing

QE, would be a stronger signal than in 2010–13. The halve-C level of 2.10% is common (25% of months, most recently March 2026), so that trigger leans on its other two conditions.

Month-end readings, 2003 to Sep 2026 (%). Bold = 2.60 or higher (the "change my mind toward C" level); *italics* = 2.10 or lower (the halve-C level). Same data with months as rows and years as columns, for a spreadsheet: `data/tables/infl_5y5y_month_end_months_rows.csv`.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	2.13	2.13	*1.95*	*2.01*	*1.94*	*1.83*	2.41	2.33	2.16	**2.74**	**2.60**	2.51
2004	2.46	2.38	2.47	2.50	**2.77**	**2.61**	2.57	2.43	2.41	2.35	2.46	2.48
2005	2.40	2.50	2.55	2.47	2.27	2.23	2.40	2.30	2.40	2.50	2.39	2.36
2006	2.48	2.38	2.44	**2.69**	**2.60**	2.59	**2.62**	2.56	2.49	2.44	2.36	2.34
2007	2.44	2.32	2.37	2.41	2.39	2.43	2.51	2.43	2.53	2.42	2.44	2.35
2008	2.53	2.56	2.49	2.28	2.56	2.39	2.52	2.41	2.23	**2.73**	**2.97**	*0.48*
2009	*1.91*	*1.34*	*1.83*	2.12	2.24	2.16	2.30	2.16	2.13	2.39	2.41	**2.61**
2010	**2.75**	2.43	**2.65**	**2.79**	2.29	*2.10*	2.17	*1.85*	2.26	**2.78**	**2.60**	**2.77**
2011	**2.72**	**2.63**	**2.75**	**2.69**	2.50	**2.83**	**2.81**	2.38	*2.00*	2.30	2.34	2.33
2012	2.34	2.53	**2.62**	2.44	2.46	2.54	2.57	2.55	**2.73**	**2.88**	**2.81**	**2.81**
2013	**2.85**	**2.88**	**2.78**	**2.62**	2.55	2.22	2.57	2.42	**2.64**	**2.60**	**2.61**	**2.79**
2014	2.56	2.55	2.56	2.40	2.51	2.52	**2.61**	2.48	2.38	2.31	2.19	*2.09*
2015	*2.01*	2.17	*2.01*	2.16	*2.03*	2.13	2.12	*2.00*	*1.75*	*1.86*	*1.88*	*1.77*
2016	*1.63*	*1.61*	*1.75*	*1.82*	*1.61*	*1.42*	*1.67*	*1.67*	*1.75*	*1.87*	2.11	*2.06*
2017	2.16	2.15	2.17	*2.03*	*1.90*	*1.83*	*1.97*	*1.94*	*2.00*	*1.97*	*1.99*	*2.06*
2018	2.24	2.20	2.18	2.24	2.11	2.16	2.24	2.18	2.25	2.20	2.17	*1.91*
2019	*2.00*	*2.06*	*1.98*	*2.05*	*1.90*	*1.85*	*1.96*	*1.75*	*1.71*	*1.64*	*1.72*	*1.86*
2020	*1.70*	*1.49*	*1.25*	*1.42*	*1.47*	*1.52*	*1.70*	*1.91*	*1.76*	*1.81*	*1.86*	*2.03*
2021	*2.05*	*1.91*	2.20	2.25	2.27	2.17	2.24	2.18	2.23	2.13	2.20	2.25
2022	*2.06*	2.13	2.34	2.46	2.32	*2.08*	2.33	2.38	2.16	2.37	2.27	2.27
2023	2.21	2.28	2.24	2.16	2.29	2.26	2.47	2.33	2.48	2.44	2.31	2.20
2024	2.28	2.26	2.26	2.39	2.36	2.32	2.35	2.29	2.29	2.28	2.19	2.30
2025	2.30	2.18	2.15	2.17	2.29	2.27	2.32	2.35	2.30	2.20	2.17	2.24
2026	2.19	*2.10*	*2.06*	2.25	2.24	2.22	2.30	2.31	2.36			

Reading the grid: the bold clusters are 2010–13 (QE-era reflation hopes) and the italic run is 2015–20 (low-inflation years). Since 2021 every month-end has sat between 2.06 and 2.48, inside the B band.

A2. 10-year TIPS real yield falling while the 10-year rises

- **What it is.** The vote model's C rule: over three months, the 10-year TIPS real yield (`tips10y`, FRED `DFII10`) falls by more than 10bp while the 10-year nominal yield (`ust10y`, `DGS10`) rises by more than 10bp.
- **How it is computed.** From the month-end change over 3 months in each series. When both conditions hold, the whole rise in the nominal yield comes from a rise in breakeven inflation.
- **What it measures.** Whether higher yields reflect inflation fear rather than a higher real cost of money. Rising nominal yields with falling real yields is the classic signature of financial repression or fiscal dominance: savers are paid less in real terms even as headline yields climb.
- **The levels.** The ±10bp thresholds filter out noise, since daily moves of 5–10bp are routine.
- **What would trigger it.** The Fed cutting, or capping yields, while inflation expectations rise; QE or yield-curve control; an oil or tariff shock with a dovish Fed; a flight from cash into inflation hedges.
- **History.** Only 7 of 285 months since 2003 qualified: March and May 2009, January and November 2010 (QE1 and QE2), and December 2020 to May 2021 (pandemic reflation with Fed buying). Each episode was a Fed-assisted reflation, the mild version of C. Today is the opposite: over the last three months real yields rose 71bp, carrying most of the 10-year's 82bp rise. **Assessment:** the signal is rare and specific, so even one qualifying month would matter.

A3. 2s30s curve slope (above 120bp with the Fed on hold or cutting)

- **What it is.** The 30-year Treasury yield minus the 2-year, in basis points. Series `slope_2s30s`, derived from FRED `DGS30` and `DGS2`.
- **How it is computed.** 100 × (DGS30 − DGS2), daily, and taken at month-end for the watch rule. The Fed condition uses the 3-month change in the effective fed funds rate (`DFF`), which must be 10bp or less.
- **What it measures.** The extra yield demanded to lock money up for 30 years rather than 2. The 2-year tracks expected Fed policy; the 30-year adds term premium (compensation for inflation, supply and fiscal risk). A curve steepening because the 30-year *rises* while the Fed is not hiking (a "bear steepener") is the market demanding more for duration, which is the C signature. A curve steepening because the 2-year *falls* in a cutting cycle (a "bull steepener") is normal and points to A.
- **The levels.** 120bp sits a little above the long-run median of about 105bp. It is meant as a "clearly positive term premium" marker.
- **What would push it up.** Larger long-dated issuance; weaker foreign or pension demand for duration; fiscal scares; the Fed cutting to protect growth while inflation stays high; quantitative tightening.
- **History.** Median 105bp, middle half 38–212bp, range −248bp (1980) to +400bp (2011). Above 120bp in 45% of months, mostly in easing cycles (1991–94, 2001–05, 2008–17, 2020–21). Restricted to the C version (above 120bp, the Fed not hiking, and the 30-year up more than 10bp over three months), it happened in 9% of months, most recently December 2025 and January 2026. It is 70bp now because the Fed's hike lifted the 2-year. **Assessment:** above 120bp on its own is too common to be a C signal. Read the trigger only with the 30-year-rising condition. That version has already flashed briefly this cycle, which is one reason C is at 30% rather than 20%.

A4. 30-year auction tail and indirect bidders

- **What it is.** Two results from each 30-year bond auction, from the TreasuryDirect auction file. The *tail* (`auc30_tail_proxy`) is how far the auction cleared above the market yield. The *indirect share* (`auc30_indirect_share`) is the share of competitive bids won by indirect bidders, mainly foreign central banks and asset managers bidding through dealers.
- **How it is computed.** True tail = auction high yield minus the when-issued yield at the 1pm deadline. The when-issued yield is paid data, so the proxy uses the auction high yield minus that day's closing 30-year yield (`DGS30`), which is noisier. A positive tail means a weak auction and a negative one (a "stop-through") means a strong one. Indirect share = indirect bidder accepted / total competitive accepted.
- **What it measures.** Real-money demand for long Treasuries at the margin. It is the most direct test of the "buyers' strike" part of the C story.
- **The levels.** A true tail above 2–3bp is considered poor in market commentary. Because the proxy is noisy, it takes two in a row, together with indirect bidding below 60%, to treat it as signal. Indirect bidding at 70% or more for three auctions marks unusually strong demand (the halve-C condition).
- **What would push the tail up and indirect share down.** Larger auction sizes; reserve managers diversifying away from Treasuries; higher Japanese yields drawing money home; a weaker dollar; fiscal or political shocks around the auction; dealers having to absorb more.
- **History.** Tail proxy: median +0.5bp, 5th–95th percentile −4.9 to +5.0bp. Above 3bp in 14% of auctions, but twice running only 5 times since 1998 (2008, 2009, 2012, 2019, 2024). June 2026 had a single 7.0bp tail with indirect bidding at 60%, so half of the trigger has already appeared. Indirect share: it rose structurally from about 35% in 2010–13 to 63–69% since 2016, so below 60% now means a real fall back. It was below 60% in 22% of auctions since 2015. At 70% or more three times running it has happened once (September 2022). September 2026's 79% is near the record of 80% (October 2024). **Assessment:** the C trigger is rare and meaningful. The halve-C condition is demanding, having been met once in 18 years, so it would take an exceptional run of demand to fire.

A5. ACM 10-year term premium

- **What it is.** The extra yield investors demand to hold a 10-year bond rather than rolling short-term bills for ten years. Series `acm_tp10`, the New York Fed's Adrian-Crump-Moench estimate, daily since 1961. The data room cross-checks it against the Kim-Wright estimate (`kw_tp10`).

- **How it is computed.** A statistical model of the whole yield curve (five principal components of yields) estimates the expected path of short rates. Term premium = actual 10-year yield − the model's expected average short rate over 10 years. It is an estimate, and different models can disagree by 0.5pp or more.
- **What it measures.** Compensation for duration risk: uncertainty about inflation, about supply, and about who will buy the bonds. It is the purest gauge of the "fiscal and supply" channel, separate from Fed expectations.
- **The levels.** The framework bands are A below 0, B 0.25–1.0 and C at 1.25 or higher. 0.40 marks a premium back near the post-2010 norm.
- **What would push it up.** Higher deficits and issuance; more inflation uncertainty; quantitative tightening; less price-insensitive demand from foreign official buyers or the Fed; higher global yields (JGBs); higher bond volatility.
- **History.** Median since 1961 is 1.37 and the middle half is 0.36–2.28, so 1.25 is a *below-average* level by long history. It was above 1.25 in 53% of months, mostly before 2014 (1980s average 3.4). It was last above 1.25 in February 2014; from 2010 the premium was compressed by QE and low inflation volatility (2010s average 0.44, 2020s −0.20). Today's 0.85 is only the 39th percentile of all history but the 82nd since 2010. **Assessment:** the C threshold is a return to the pre-2014 normal, not an extreme. That is exactly the framework's point: Regime C can come about through normalisation alone. The halve-C level of 0.40 was seen as recently as March 2025.

A6. Unemployment rate (4.6% or higher, a 0.5pp rise)

- **What it is.** The share of the labour force without a job and looking for one (U-3). Series `unemployment`, BLS via FRED `UNRATE`, monthly since 1948, seasonally adjusted.
- **How it is computed.** From the monthly household survey of about 60,000 households: unemployed / (employed + unemployed).
- **What it measures.** Labour-market slack, and the main input to whether the Fed eases. A rise of 0.5pp from the low is the Sahm-rule recession signal.
- **The levels.** 4.6% is 0.5pp above the current 4.1% (also the 12-month low), so it tests the Sahm-type rise rather than a level.
- **What would push it up.** Tighter financial conditions from high real yields; a credit event; weak hiring from tariffs or an AI-related investment pullback; fiscal tightening; an oil shock that hits demand.
- **History.** Median 5.5%; at 4.6% or higher in 70% of months since 1948, so the *level* is unremarkable and the signal is the *rise*. A Sahm-rule trigger (3-month average up 0.5pp from its 12-month low) occurred in 15 episodes since 1949. Nearly all coincided with recessions; the near-misses were 2003 and August 2024. **Assessment:** a 0.5pp rise is one of the most reliable recession signals available. If it fires, A becomes a live scenario quickly, which is why it halves B and raises A to about 35%.

A7. High-yield credit spread (above 4.5%)

- **What it is.** The extra yield on US junk bonds over Treasuries. Series `hy_oas`, the ICE BofA US High Yield Index option-adjusted spread, FRED `BAMLH0A0HYM2`.
- **How it is computed.** The index's yield over Treasuries of matching maturity, adjusted for embedded call options.
- **What it measures.** Default and liquidity risk priced by credit markets. It widens before and during recessions and financial stress, and is a timely read on whether high real yields are starting to break something.
- **The levels.** 4.5% is about 1.4pp above today and roughly the long-run median.
- **What would push it up.** Defaults among refinancing-heavy borrowers at higher rates; recession; equity sell-offs; bank or private-credit stress; an oil-price collapse (energy issuers).
- **History.** *Data room limitation:* FRED serves only a rolling three-year window for ICE indices, so the stored history starts October 2023 and accumulates from now on. In that window the range is 2.66–4.61% (the high was the April 2025 tariff shock), with a median of 3.02%. *From published ICE history (not in the data room):* the long-run median since 1997 is about 4.5–5%; lows near 2.4% (mid-2007); stress peaks near 8.9% (February 2016), 10.9% (March 2020) and about 21% (December 2008). **Assessment:** today's 3.1% is close to historical tights, so investors are not pricing stress. Moving above 4.5% would be a move to average, but combined with a 0.5pp unemployment rise it has reliably meant recession.

A8. Core PCE inflation (below 2.5%)

- **What it is.** The year-on-year change in the PCE price index excluding food and energy, the Fed's preferred inflation gauge. Series `core_pce`, BEA via FRED `PCEPILFE`, monthly since 1959.
- **How it is computed.** 100 × (index this month / index 12 months earlier − 1). The data room stores the index and computes the change.
- **What it measures.** Underlying inflation trend, and how close the Fed is to its 2% target. It runs about 0.3–0.5pp below core CPI because of different weights (less housing) and coverage.
- **The levels.** 2.5% is halfway between today's 3.0% and the 2% target. Below it, the Fed can cut without losing credibility, which opens the A path.
- **What would push it down (toward A).** Housing disinflation; a weaker labour market; productivity gains (AI); a stronger dollar; tariffs dropping out of the year-on-year comparison. Pushing it up instead: services and wage stickiness (supercore is 3.5%), and oil feeding through.
- **History.** Median 2.45%; below 2.5% in 50% of months since 1959 but 81% since 1995. It was last below 2.5% in March 2021 and has stayed between 2.7% and 3.2% for the past year. Today's 3.0% is the 89th percentile since 1995. **Assessment:** below 2.5% was normal for a quarter of a century and is now 5½ years in the past. Getting back there within a year would need a clear demand slowdown.

A9. Policy vs 30-year vote (the Fed cutting while the 30-year falls)

- **What it is.** The vote model's policy rule, which compares the 3-month change in the effective fed funds rate (`fed_funds_eff`, `DFF`) with the 3-month change in the 30-year yield (`ust30y`, `DGS30`).
- **How it is computed.** It votes A if fed funds fall more than 10bp and the 30-year also falls more than 10bp (cuts trusted by the long end). It votes C if fed funds fall more than 10bp but the 30-year rises more than 10bp (cuts not trusted), and B if fed funds move 10bp or less. Otherwise it casts no vote, as now: the Fed hiked 25bp and the 30-year rose 68bp.
- **What it measures.** Whether the long end believes Fed easing is non-inflationary. It is the market's verdict on Fed credibility in real time.
- **What would trigger an A vote.** A growth scare or financial stress prompting cuts, with inflation falling; a flight to quality into long bonds.
- **History.** Since 2003 the rule voted A in 24 of 285 months: 2007–08 (before and during the financial crisis), 2019 (insurance cuts), March–June 2020 (pandemic), September 2024, and October–November 2025. It voted C in 14 months, notably October 2024 to January 2025 (the Fed cut 100bp while the 30-year rose) and again in December 2025 and January 2026. **Assessment:** A votes come in short bursts tied to easing cycles. With the Fed now hiking, an A vote within a year would require a sharp turn, which is consistent with A at 15%.

4. How the 2002 back-test was done

Source: `03-backtests/01-how-the-backtest-was-done.md`

What the agent (Claude Opus) did on 1 Oct 2026 to answer the framework's question: "Rebuild the dashboard with data from May 2002. Would the framework have flagged Regime A?" The result is in `backtest-2002.md`; what it means for 2026 is in `02-confidence-for-2026.md`.

1. The approach in one paragraph

Rebuild every month-end dashboard from Jan 1999 to Dec 2006 using only data that existed (or can be faithfully reconstructed) at each date. Run the **unchanged** live vote code with the **unchanged** 2026 bands, then three variants. Add the parts of the framework that sit outside the vote: the Layer 2 driver scores and the journal's range method. Compare everything with what actually happened. All of this is one script driven by the data room, so every number in the report is computed, not typed.

2. The data problems and how each was solved

Problem	Solution	Check
FRED's 5y5y (`T5YIFR`) and 10-year TIPS (`DFII10`) start in 2003	Federal Reserve Board TIPS curve (Gürkaynak-Sack-Wright, file `feds200805.csv`), which starts Jan 1999. The data room's `fed_gsw` fetcher was generalised to read either Fed Board file; three new series added: `gsw_tips10y`, `gsw_bkeven10`, `gsw_bkeven5f5`	—
The Fed Board 10-year TIPS yield is built differently from FRED's	Used as is	2003–2020 overlap: mean gap +0.07pt, correlation 0.997, 216 months
The Fed Board 5y5y runs higher than FRED's	Lowered by the mean gap over 2003–05 (0.37pt). The raw series is run as a separate version	Gap standard deviation 0.15pt, correlation 0.83, 36 months
Core PCE, unemployment and GDP have been revised since 2002	First-published values from ALFRED (the St. Louis Fed's archive of past releases): a new `fetch_vintages` and `as_of` helper in `fetchers/fred.py`, with throttling, backoff, key redaction and a local cache	Real-time and revised compared in report section 9
Federal interest outlays have no ALFRED history before 2008	Today's BEA figures, lagged two months to when each quarter was first published	A version with quarter-end dating shows the effect
HY credit spread (FRED keeps it only from 2023)	`BAA10Y` (Moody's Baa minus 10-year)	—
Fed target rate before 2008	`DFEDTAR`	—
What was known on a given date	`known_by()`: period end plus each series' typical publication lag	—

The five new series are in `dataroom/catalog/series.yaml` as row-0 (support) series. They pass all data-room checks but are not yet signed off.

3. The four versions of the vote

Version	What changes
As written (main result)	Nothing: `derive.regime_votes` from the live data room, 2026 bands
Raw 5y5y	No level adjustment to the pre-2003 5y5y
Quarter-end stamp	Interest/receipts dated at quarter end (as the live dashboard does)
Direction-aware	5y5y, TIPS and term premium scored on 12-month change and position against their own trailing 10 years

4. Validation

- **Tie-out of numbers to data:** all 51 numbers quoted in the report text were checked against the CSVs. All matched.
- **Tie-out to the live data room:** for 2003–2006 the quarter-end version matches the live register in 47 of 48 months. The exception (Feb 2003) is explained: the back-test has a TIPS reading for Dec 2002 from the Fed Board, while the live series starts in Jan 2003.
- **Tests:** a new parser test for the Fed Board TIPS file; 30 tests pass. `make verify` exits 0.
- **Rendering:** the HTML embeds the five charts; checked visually and as a 15-page PDF.

5. A bug found in the live data room

The live vote computation started in Jan 2003 with no earlier data, so the 3-month and 12-month changes were missing for 2003's first months. `pipeline.compute_votes` now reads from 2002 and keeps votes from 2003. This changed calls only for Jan 2003 to Jan 2004: a B call for Sep 2003 to Jan 2004 disappeared. The 1 Oct 2026 journal says "B called 57 months"; after the fix it is 52. The journal was deliberately not edited (past entries are never changed).

6. Mistakes caught during the work

- Publication lags were first set wrongly for the snapshot; replaced by `known_by()`.
- ALFRED vintage dates were compared as text against dates; now uses timestamps.
- The business-investment peak was taken over all history; now 1995 onward.
- Chart fixes: range bars overlapped the lines in the outcome chart; the core PCE axis was too tight.
- Text fixes: a claim of "3 of the last 4 months" was false and became "two months running"; the FOMC quote was made exact; the 30-year caveat was reworded (no 30-year auctions Aug 2001 to Feb 2006).

7. Results

- **May 2002: A1 B2 C2, no call.** No A call in any month from Nov 2001 to Dec 2006.
- A was called only in Feb 2001 and Sep–Oct 2001, and only with the adjusted 5y5y.
- The term premium (ACM) sat in the C band for all 43 months from Jun 2001 to Dec 2004; the 10-year TIPS yield (3.16%) was above every band.
- The direction-aware variant reached 3 A votes in four months of 2002–03 but never three months running.
- Layer 2 scored $\mathbf{-5}$ of -7: the right direction.
- Real-time core PCE (1.35%) was lower than today's revised figure (1.57%): disinflation looked stronger at the time.
- Range test: the actual May 2003 10-year (3.37%) was at the 0th percentile of the method's range.
- The live data room first calls A in Oct 2015.

8. Limitations

- One episode. The lessons are hypotheses.
- The 5y5y adjustment was measured after the test date (2003–05).
- The ACM term premium is re-estimated on today's full sample, so its 2002 values carry hindsight.
- Interest/receipts uses revised data.
- The early TIPS market (1999–2002) was small and illiquid.

9. Files

File	What it is
`03-backtests/backtest-2002.md` / `.html`	The report (generated; do not edit)
`dataroom/backtest/backtest_2002.py`	The whole pipeline: panels, splice, votes, drivers, range test, charts, report
`dataroom/backtest/2002/narrative.md`	Report text with `{{placeholders}}`; edit this to change wording
`dataroom/backtest/2002/data/*.csv`, `summary.json`	Every table in the report
`dataroom/backtest/2002/charts/*.png`	Five charts: inputs, votes, splice, outcome, core PCE vintages
`dataroom/data/raw/alfred/cache/`	Cached ALFRED vintages (not in git)

10. How to re-run, and how to add another year

Re-run: `cd dataroom && make backtest-2002` (about a minute; ALFRED is cached after the first run).

Add a year, for example 2021–22:

1. Copy `backtest/backtest_2002.py` to `backtest/backtest_2022.py`. Change the test date, the panel window, the working-table window and the output folder.
2. Copy `backtest/2002/narrative.md` to `backtest/2022/narrative.md` and rewrite the text. Keep numbers as placeholders.
3. Add a `backtest-2022` target to the `Makefile`, modelled on `backtest-2002`.
4. Run it, check the tie-outs (numbers to CSVs, back-test votes to the live register), and add a summary to `03-backtests/` and a line to `CHANGELOG.md`.

5. Back-test: would the framework have flagged Regime A in May 2002?

Source: `03-backtests/backtest-2002.md` · 1 Oct 2026 (history to Dec 2020)

This file is generated. Edit `dataroom/backtest/2002/narrative.md`, then run `make backtest-2002` in `dataroom/`. Every number in the text and tables is computed by `dataroom/backtest/backtest_2002.py` from the data room, and every table is also saved as CSV (Appendix C). The framework is `02-framework/rates-regime-framework-2026.md`; this tests item 4 of section 8.

1. Answer

No. Run exactly as written, with the 2026 bands and the "3 of 5 headline metrics for 3 months" rule, the framework would **not** have flagged Regime A in May 2002. The tally that month was **A1 B2 C2**, so no call. Nor would it have flagged A in any of the 62 months from Nov 2001 to Dec 2006. In that period the most A votes in any month was 2, although the 10-year fell from 5.08% to 3.37% within a year. The live data room, which runs the same rules from 2003, first calls A in **Oct 2015**.

Three qualifications matter:

- **The framework did call A, but earlier and only briefly:** A Feb 2001 (1 mo); A Sep 2001 to Oct 2001 (2 mo). These calls came during the Fed's 2001 cutting cycle. They depend on how the pre-2003 5y5y is reconstructed: with the raw Fed Board series instead of the level-adjusted one, there are no A calls at all, and the only calls are B (B Oct 2002 (1 mo); B Sep 2005 to Jan 2006 (5 mo); B Oct 2006 to Dec 2006 (3 mo)). All calls in the main version: A Feb 2001 (1 mo); A Sep 2001 to Oct 2001 (2 mo); B Oct 2002 (1 mo); B Sep 2005 to Jan 2006 (5 mo); B Oct 2006 to Dec 2006 (3 mo).
- **What blocked an A call in 2002 was the 2026 calibration of the bands.** The term premium (ACM) was 2.40%, which the 2026 bands read as Regime **C**. It stayed in the C band for 43 of the 43 months from Jun 2001 to Dec 2004. The 10-year TIPS yield was 3.16%, above every band. The framework's own Regime A levels arrived years later: TIPS below 1.25% first in Feb 2008, term premium below zero first in Jan 2015, and the 10-year below 4% for a full year first from Nov 2008.
- **The parts of the framework that did point to A were outside the headline vote.** In May 2002 the structural drivers (Layer 2) scored **−5** out of a possible −7. Core PCE inflation, as published at the time, was 1.35%. Japan's 10-year was 1.37%. A direction-aware version of the vote, which asks which way each input is moving rather than where it sits, came close in 2002–03 (3 A votes in Nov 2002, Jan 2003, May 2003, Jun 2003) but never reached three months in a row.

2. What was tested and how

The framework's question: "Rebuild the dashboard with data from May 2002 … Would the framework have flagged Regime A?" I rebuilt every month-end from Jan 1999 to Dec 2006 and ran four versions of the vote:

Version	What changes	Why
As written (main result)	Nothing. Same code as the live data room (`derive.regime_votes`), same 2026 bands.	The literal test.
Raw 5y5y	Before 2003 the 5y5y uses the Fed Board series without the level adjustment (Appendix A).	The 5y5y must be reconstructed before 2003, and the reconstruction matters.
Quarter-end stamp	Interest/receipts dated at quarter end, as the live dashboard does, rather than two months later when it was first usable.	Shows the effect of publication lag.

Version	What changes	Why
Direction-aware	5y5y, TIPS and term premium scored on their 12-month change and position against their own trailing 10 years, not on 2026 levels.	Tests whether direction would have caught what levels missed.

Alongside the votes: every dashboard metric that has bands, as it read in May 2002, the Layer 2 driver scores, the journal's 12-month range method applied in May 2002, and a comparison of real-time and revised data.

Data that did not exist in 2002, and what replaced it.

- **5y5y and 10-year TIPS (FRED, from 2003):** taken from the Federal Reserve Board's TIPS yield curve (Gürkaynak-Sack-Wright), which starts in Jan 1999.
- **TIPS check:** on the 2003–2020 overlap the Fed Board TIPS yield sits +0.07pt from FRED's, with correlation 0.997 (216 months), so it is used as is.
- **5y5y adjustment:** the Fed Board 5y5y runs 0.37pt above FRED's in 2003-01 to 2005-12, so it is lowered by that gap (Appendix A).
- **Fed target rate:** taken from FRED `DFEDTAR`.
- **Credit spread:** FRED `BAA10Y` replaces HY OAS, which FRED keeps only from 2023.

None of the five headline inputs is lost.

Real-time data. Market prices are not revised, so four of the five headline inputs are exactly what was on screens in 2002. Core PCE, unemployment and GDP were taken as first published, from ALFRED (the St. Louis Fed's archive of past data releases). Federal interest payments have no ALFRED history before 2008, so interest/receipts uses today's figures, lagged two months to when the quarter was first published.

3. The dashboard in May 2002

Headline vote, 31 May 2002:

Headline metric	May 2002	Working	2026 bands	Vote
2. 5y5y forward breakeven	2.34%	GSW 5y5y 2.71% minus 0.37 offset	A <2.0 · B 2.0-2.6 · C ≥2.75	B
3. 10y TIPS real yield	3.16%	3-month change -19bp while the 10y moved +20bp	A <1.25 · B 1.75-2.75 · C: TIPS down >10bp while 10y up >10bp	C
4. 10y term premium (ACM)	2.40%	NY Fed ACM model, month-end	A <0 · B 0.25-1.0 · C ≥1.25	C
6. Policy vs long end	FF 1.79%, 30y 5.75%	3-month change: fed funds -4bp, 30y +21bp	A: cuts >10bp and 30y down >10bp · B: fed funds within ±10bp · C: cuts and 30y up	B
9. Interest / receipts	16.34%	Q1 2002 (usable end-May); 12-month change -0.02pp	A: falling · B: 15-20 · C: >20 and rising	A

Tally **A1 B2 C2**: no regime has 3 votes, so no call (and a call also needs three months running). Two of the five headline metrics voted **C**, the fiscal or inflation regime, the opposite of what followed.

Every dashboard metric that has bands, as it could have been read on 31 May 2002. Each value is the latest one published by that date: quarterly data two months after the quarter ends, annual data four months after. Core PCE is shown as first published, with today's revised value beside it.

Row	Metric	Observation	Value (as known)	Value (revised)	Measure	Vote
1	US 10-year Treasury yield (constant maturity)	2002-05-31	5.08	5.08	percent	B

Row	Metric	Observation	Value (as known)	Value (revised)	Measure	Vote
2	5-year, 5-year forward inflation expectation	2002-05-31	2.34	2.34	percent, FRED from 2003; GSW minus offset before	B
3	US 10-year TIPS real yield	2002-05-31	3.16	3.16	percent, FRED from 2003; GSW TIPSY10 before	-
4	10-year term premium (ACM model, daily)	2002-05-31	2.40	2.40	percent	C
7	Core PCE price index	2002-04-01	1.35	1.57	y/y %, real time (ALFRED)	A
9	Federal interest payments / current receipts (BEA, quarterly)	2002-01-01	16.34	16.34	percent	B
10	Federal deficit, trailing 12 months, % of nominal GDP (MTS / BEA)					no data (series starts 2016)
10	Federal surplus (+) / deficit (-), % of GDP, annual	2001-01-01	1.21	1.21	percent of GDP	A
17	Nonfarm business labour productivity (output per hour)	2002-01-01	5.76	5.76	y/y %	B
18	Nonfarm business unit labour costs	2002-01-01	-3.65	-3.65	y/y %	A
21	ICE BofA US high yield option-adjusted spread					no data (series starts 2023)

Count across these rows: A 3, B 4, C 1. The macro rows (core inflation, the budget balance, unit labour costs) leaned A. The market-price rows did not. Interest/receipts shows B here because this table applies its level band (15–20%). In the headline vote it counts as A because it was falling.

4. Working, month by month (Jun 2001 to Dec 2003)

The headline rules, applied each month-end:

- **5y5y and term premium:** fixed bands.
- **TIPS:** votes C if it fell more than 10bp over 3 months while the 10-year rose more than 10bp; otherwise its band.
- **Policy:** compares the 3-month change in fed funds with the 30-year: A if both fell more than 10bp, C if fed funds fell and the 30-year rose, B if fed funds moved less than 10bp.
- **Interest/receipts:** A if lower than 12 months earlier, C if above 20% and rising, B if 15–20%.
- **Call:** 3 or more votes for one regime in three consecutive months.

"-" means the reading sits between bands, or the rule gives no vote.

Market inputs (rows 2, 3, 4):

Month	5y5y	vote	TIPS	ΔTIPS 3m bp	Δ10y 3m bp	vote	ACM	vote
2001-06	1.95	A	3.54	+17	+50	-	1.81	C
2001-07	1.96	A	3.36	0	-28	-	1.65	C
2001-08	1.85	A	3.38	+3	-58	-	1.60	C
2001-09	1.96	A	3.29	-25	-82	-	2.07	C
2001-10	1.81	A	3.14	-22	-77	-	1.90	C

Month	5y5y	vote	TIPS	ΔTIPS 3m bp	Δ10y 3m bp	vote	ACM	vote
2001-11	2.03	B	3.49	+12	-29	-	2.31	C
2001-12	2.27	B	3.58	+29	+47	-	2.39	C
2002-01	2.11	B	3.52	+38	+77	-	2.29	C
2002-02	2.18	B	3.35	+21	+58	-	2.31	C
2002-03	2.49	B	3.43	-15	+35	C	2.40	C
2002-04	2.26	B	3.22	-36	+4	-	2.26	C
2002-05	2.34	B	3.16	-19	+20	C	2.40	C
2002-06	2.24	B	3.15	-20	-2	-	2.35	C
2002-07	2.38	B	2.90	-32	-60	-	2.41	C
2002-08	2.35	B	2.57	-59	-94	B	2.18	C
2002-09	2.06	B	2.31	-85	-123	B	2.04	C
2002-10	2.14	B	2.58	-32	-58	B	2.39	C
2002-11	2.38	B	2.74	-17	-29	B	2.37	C
2002-12	2.17	B	2.41	+10	+20	B	2.24	C
2003-01	2.13	B	2.19	-39	+7	B	2.21	C
2003-02	2.13	B	1.77	-81	-22	B	2.06	C
2003-03	1.95	A	2.03	-38	0	B	2.19	C
2003-04	2.01	B	2.16	-25	+6	B	2.15	C
2003-05	1.94	A	1.77	0	-34	B	1.82	C
2003-06	1.83	A	1.90	+13	-17	B	1.96	C
2003-07	2.41	B	2.41	+25	+60	B	2.80	C
2003-08	2.33	B	2.29	+52	+108	B	2.53	C
2003-09	2.16	B	1.95	+5	+42	B	2.31	C
2003-10	2.74	-	1.93	-48	-16	B	2.45	C
2003-11	2.60	B	2.03	-38	-15	B	2.33	C
2003-12	2.51	B	2.00	+5	+31	B	2.34	C

Policy, fiscal and the count (rows 6, 9):

Month	Δff 3m bp	Δ30y 3m bp	policy	int/rec %	Δ12m pp	interest	A-B-C	call
2001-06	-164	+41	C	16.37	-1.01	A	2-0-2	
2001-07	-85	-27	A	16.37	-1.01	A	3-0-1	
2001-08	-58	-39	A	15.95	-1.27	A	3-0-1	
2001-09	-120	-33	A	15.95	-1.27	A	3-0-1	A
2001-10	-116	-62	A	15.95	-1.27	A	3-0-1	A
2001-11	-176	-24	A	17.13	+0.14	B	1-2-1	
2001-12	-123	+6	-	17.13	+0.14	B	0-2-1	
2002-01	-81	+55	C	17.13	+0.14	B	0-2-2	
2002-02	-83	+65	C	15.79	-1.05	A	1-1-2	
2002-03	+22	+43	-	15.79	-1.05	A	1-1-2	
2002-04	+30	+24	-	15.79	-1.05	A	1-1-1	
2002-05	-4	+21	B	16.34	-0.02	A	1-2-2	
2002-06	-10	+16	C	16.34	-0.02	A	1-1-2	
2002-07	-6	-21	B	16.34	-0.02	A	1-2-1	
2002-08	+2	-64	B	16.16	+0.21	B	0-4-1	
2002-09	+12	-82	-	16.16	+0.21	B	0-3-1	
2002-10	+6	-23	B	16.16	+0.21	B	0-4-1	B
2002-11	-53	-28	A	16.05	-1.08	A	2-2-1	
2002-12	-69	+15	C	16.05	-1.08	A	1-2-2	
2003-01	-49	-25	A	16.05	-1.08	A	2-2-1	
2003-02	-49	-38	A	15.85	+0.06	B	1-3-1	
2003-03	+22	+4	-	15.85	+0.06	B	1-2-1	
2003-04	+15	-3	-	15.85	+0.06	B	0-3-1	

Month	Δff 3m bp	Δ30y 3m bp	policy	int/rec %	Δ12m pp	interest	A-B-C	call
2003-05	-5	-31	B	15.39	-0.96	A	2-2-1	
2003-06	+12	-9	-	15.39	-0.96	A	2-1-1	
2003-07	-27	+56	C	15.39	-0.96	A	1-2-2	
2003-08	-27	+71	C	15.18	-0.99	A	1-2-2	
2003-09	-28	+26	C	15.18	-0.99	A	1-2-2	
2003-10	-1	-28	B	15.18	-0.99	A	1-2-1	
2003-11	-3	-33	B	15.85	-0.21	A	1-3-1	
2003-12	-23	+16	C	15.85	-0.21	A	1-2-2	

5. Why the votes did not say A

- **Term premium (row 4).** The ACM premium was 2.40% in May 2002 and peaked at 2.80% in Jul 2003, the very year yields bottomed. The 2026 C band (above 1.25%) is calibrated to the post-2010 world of QE and compressed premia. In 2002 a premium of 2% or more was normal, so this metric voted C every month until it fell below 1.25% in Jan 2005. *Caveat:* the ACM model is estimated on the full sample to today, so its 2002 values carry hindsight. Kim-Wright (on the chart above) was lower, at 1.57% in May 2002, but that is still in the C band.
- **TIPS (row 3).** At 3.16% the real yield was above every band. Its C rule fired in Mar and May 2002 because TIPS fell while nominal yields rose: breakevens were widening on recovery hopes, which is not the fiscal-dominance signal the rule was written for. TIPS then fell into the B band (first Aug 2002) and reached 1.48% in Mar 2004, but never below 1.25% before Feb 2008.
- **5y5y (row 2).** After adjustment it was in the B band (2.0–2.6%) for nearly all of 2002–03; it went below 2% in only a few months of 2003. In 2001 it was below 2% (from 1.70%), which is where the 2001 A calls came from.
- **Policy (row 6).** The Fed's last cuts of the cycle (Nov and Dec 2001) were followed by a rising 30-year, so the "long end rises while the Fed cuts" C signature fired in Jan and Feb 2002. That was a normal bear steepening at the end of an easing cycle. It fired again after the Nov 2002 cut and, in Jul–Sep 2003, after the Jun 2003 cut, as the summer bond sell-off lifted the 30-year. In all, policy voted C in Jun 2001, Jan 2002, Feb 2002, Jun 2002, Dec 2002, Jul 2003, Aug 2003, Sep 2003, Dec 2003. The Jun 2002 C vote comes from a −10bp drift in the effective fed funds rate, not a cut. For most of 2002 the Fed was on hold, a B vote.
- **Interest/receipts (row 9)** was the only metric pointing to A most months, because interest costs were falling relative to revenue. In May 2002 the fall was just -0.02pp, so even this vote was marginal.

Effect of publication lag. Using the dashboard's quarter-end dating for interest/receipts instead of the "as usable" lag changes the call in 9 months (Sep 2001, Oct 2001, Oct 2002, Feb 2003, Feb 2005, Mar 2005, Aug 2005, Dec 2005, Jan 2006). It never produces an A call in 2002–03: A Feb 2001 (1 mo); B Feb 2003 (1 mo); B Feb 2005 to Mar 2005 (2 mo); B Aug 2005 to Nov 2005 (4 mo); B Oct 2006 to Dec 2006 (3 mo).

Tie-out with the live data room. For 2003–2006 the quarter-end version matches the live register (`register/regime_votes.csv`) in 47 of 48 months. The exception is Feb 2003: the back-test has a TIPS reading for Dec 2002 (from the Fed Board), while the live register starts in Jan 2003.

6. Direction-aware variant

The same five inputs, but the three level-banded ones (5y5y, TIPS, term premium) are scored on direction:

- **A** if the 12-month fall is at least 0.25pt (5y5y), 0.50pt (TIPS), 0.50pt (term premium) *and* the reading is below its own median for the trailing 10 years;
- **C** if the 12-month rise is at least as large and the reading is above that median;
- **B** otherwise.

Policy and interest votes are already directional and are unchanged. Only data available at each month-end is used.

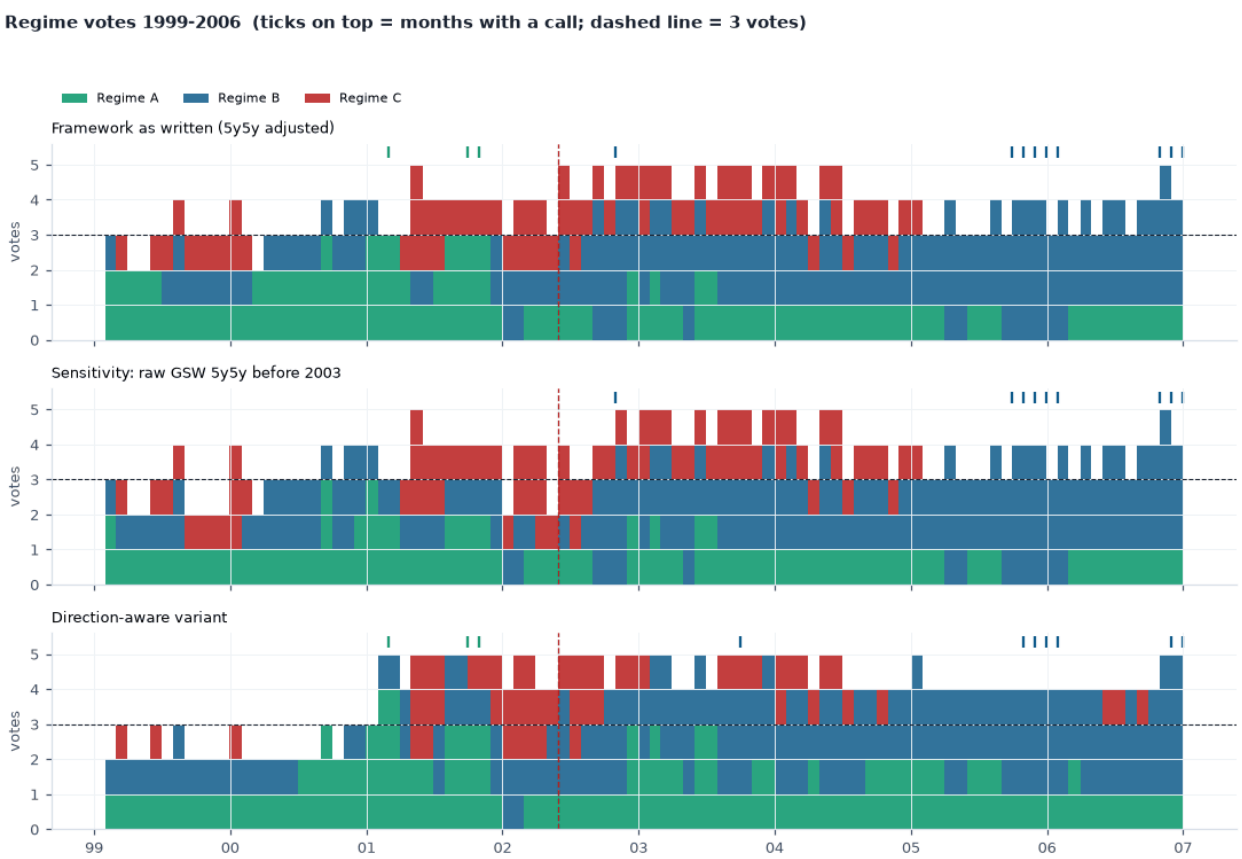


Figure 5.1.: Regime votes 1999-2006: as written, with the raw 5y5y, and the direction-aware variant

Result: A Feb 2001 (1 mo); A Sep 2001 to Oct 2001 (2 mo); B Sep 2003 (1 mo); B Oct 2005 to Jan 2006 (4 mo); B Nov 2006 to Dec 2006 (2 mo). May 2002: **A1 B3 C1** (infl_5y5y=B, tips10y=B, acm_tp10=C, policy=B, interest=A). The A count reached 3 in Nov 2002, Jan 2003, May 2003, Jun 2003, but never for three consecutive months. TIPS and the term premium were falling, yet the policy and interest votes flickered, and the 5y5y rose in 2002 as the recession scare faded.

Month	A-B-C	Detail	call
2001-06	1-2-2	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=C, interest=A	
2001-07	3-2-0	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=A, interest=A	
2001-08	3-2-0	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=A, interest=A	
2001-09	3-1-1	infl_5y5y=B, tips10y=A, acm_tp10=C, policy=A, interest=A	A
2001-10	3-1-1	infl_5y5y=B, tips10y=A, acm_tp10=C, policy=A, interest=A	A
2001-11	1-2-2	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=A, interest=B	
2001-12	0-2-2	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=-, interest=B	
2002-01	0-2-3	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=C, interest=B	
2002-02	1-1-3	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=C, interest=A	
2002-03	1-1-2	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=-, interest=A	
2002-04	1-2-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=-, interest=A	
2002-05	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=B, interest=A	
2002-06	1-1-3	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=C, interest=A	
2002-07	1-2-2	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=B, interest=A	
2002-08	1-2-2	infl_5y5y=C, tips10y=A, acm_tp10=C, policy=B, interest=B	
2002-09	1-3-0	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=-, interest=B	
2002-10	1-3-1	infl_5y5y=C, tips10y=A, acm_tp10=B, policy=B, interest=B	
2002-11	3-1-1	infl_5y5y=C, tips10y=A, acm_tp10=B, policy=A, interest=A	
2002-12	2-2-1	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=C, interest=A	
2003-01	3-2-0	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=A, interest=A	

Month	A-B-C	Detail	call
2003-02	2-3-0	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=A, interest=B	
2003-03	2-2-0	infl_5y5y=A, tips10y=A, acm_tp10=B, policy=-, interest=B	
2003-04	1-3-0	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=-, interest=B	
2003-05	3-2-0	infl_5y5y=A, tips10y=A, acm_tp10=B, policy=B, interest=A	
2003-06	3-1-0	infl_5y5y=A, tips10y=A, acm_tp10=B, policy=-, interest=A	
2003-07	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=C, interest=A	
2003-08	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=C, interest=A	
2003-09	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=C, interest=A	B
2003-10	2-2-1	infl_5y5y=C, tips10y=A, acm_tp10=B, policy=B, interest=A	
2003-11	2-3-0	infl_5y5y=B, tips10y=A, acm_tp10=B, policy=B, interest=A	
2003-12	1-2-2	infl_5y5y=C, tips10y=B, acm_tp10=B, policy=C, interest=A	

7. Structural drivers (Layer 2) in May 2002

Scored with what could be known in May 2002, using the framework's -1 / 0 / $+1$ scale (-1 pushes yields down):

Driver	Reading in May 2002	Score	Basis
Savings vs investment	Business investment 12.7% of GDP (2002 Q1), down from 14.7% in 2000 Q3: the capex bust	-1	data
Fiscal path	Federal balance +1.2% of GDP (fiscal 2001, last published); surpluses ending, but debt low	0	data
Demographics	Baby boomers aged 38-56: peak saving years	-1	judgement
Productivity	Non-farm productivity 5.8% y/y (2002 Q1, revised data); late-1990s boom still running	0	data
Globalisation and energy	China joined the WTO on 11 Dec 2001; WTI $25/bbl (2002-05)	-1	data + judgement
Central-bank credibility	Core PCE 1.3% y/y as known then (Apr 2002); 5y5y (adjusted) 2.34%	-1	data
Global safe-asset demand	Foreign official Treasury holdings +4% y/y ($614bn, 2002-05); JGB 10y 1.37%	-1	data

Total -5. This layer, not the headline vote, carried the A signal in 2002. The framework says this score "is not a forecast; it is a map of pressure". Here the map pointed down while the market-price metrics were still calibrated, in effect, to say C.

8. What happened next, and the range test

Series	May 2002	+12m	+24m	+36m	Low to 2020	Month of low
10-year	5.08	3.37	4.66	4.00	0.55	2020-07
30-year	5.75	4.59	5.42	4.36	1.20	2020-07
10y TIPS	3.16	1.77	2.00	1.63	-1.08	2020-08
Fed funds	1.79	1.28	1.02	3.09	0.04	2011-12

The 10-year fell from 5.08% to 3.37% by May 2003, then traded around 4–5% to 2007. It did not settle below 4% until Nov 2008 and reached 0.55% in Jul 2020. On 6 May 2003 the FOMC said "the probability of an unwelcome substantial fall in inflation, though minor, exceeds that of a pickup in inflation from its already low level". Core PCE, as published, fell to 1.19% (Nov 2003).

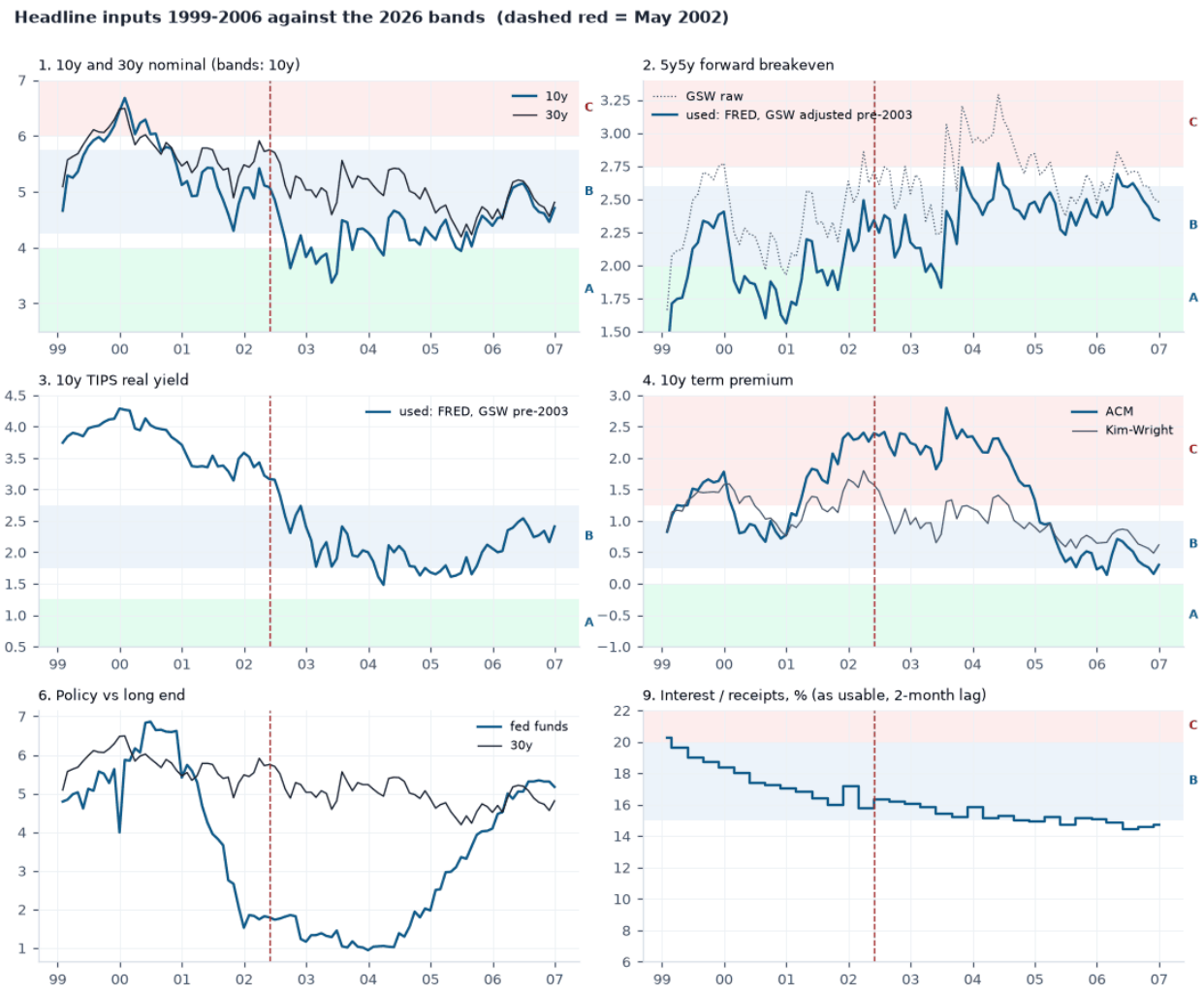


Figure 5.2.: Headline inputs 1999-2006 against the 2026 bands

Range test. The journal method (every past 12-month change that started within ±1pt of today's level, applied to today's level, using data to May 2002 only) gives:

Yield	May 2002	Past 12m changes used	From	10th-90th range	5th-95th range	Actual May 2003	Percentile of outc
10-year	5.08	126	1962-01	4.70-6.50	4.13-6.96	3.37	0th
30-year	5.75	69	1993-06	4.90-7.12	4.77-7.27	4.59	3rd

The 10-year's actual May 2003 level of 3.37% was below **every** past 12-month change from similar starting levels. The method's history (mostly 1962–2001) contains no fall that large from about 5%. The 30-year, at 4.59%, was also outside its 10th–90th range (4.9–7.1%).

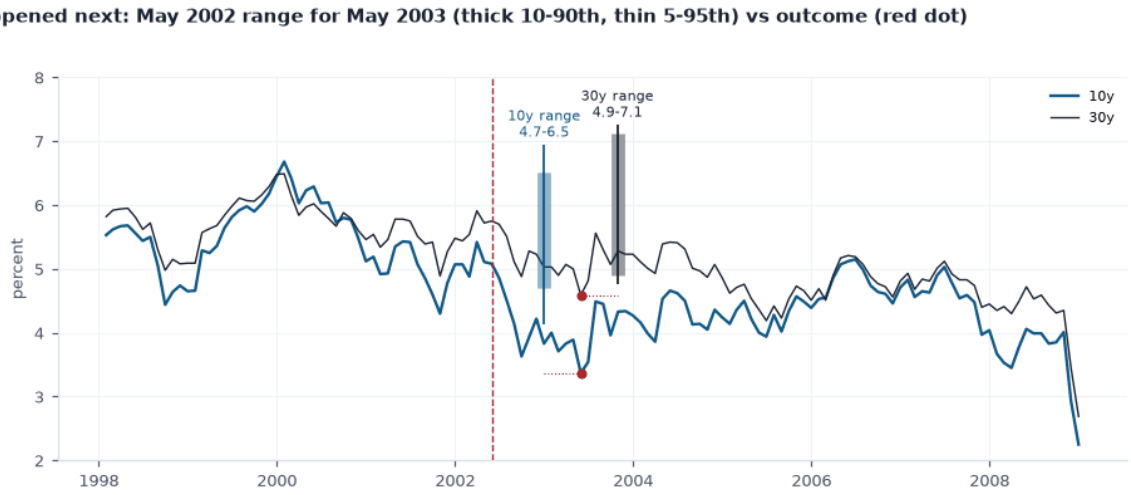


Figure 5.3.: What happened next: the May 2002 range for May 2003 against the outcome

9. Real-time against revised data

May 2002 readings, as first published and as revised today:

Series	Latest observation	As published	Today's revised	Revision
Core PCE inflation, % y/y	Apr 2002	1.35	1.57	+0.22
Unemployment rate, %	Apr 2002	6.00	5.90	-0.10
Nominal GDP growth, % y/y	Jan 2002	2.83	2.99	+0.16

Revisions do not change the answer; if anything they hide the 2002 signal. Core PCE as published was 1.35% against 1.57% after revision, and over 2001–03 the published figure was on average 0.25pt below today's. **In real time, disinflation looked stronger than it does in today's data.** The headline vote is unaffected, because its inputs are market prices plus interest/receipts, which has no 2002 vintage (see section 2).

10. Lessons for the 2026 framework

1. **The headline bands are era-specific.** Run on 2002 data, they read a disinflationary decade as B or C, because a 2% term premium and a 3% real yield were normal then. They would misread 2026 the same way if the "normal" level has shifted again. Consider bands relative to each input's own trailing history (as in section 6), or to r*, alongside the fixed ones.

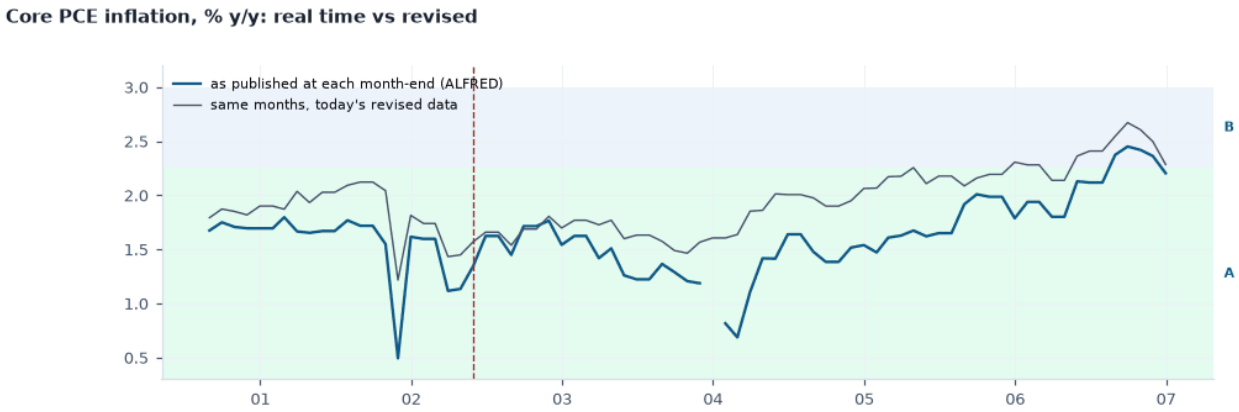


Figure 5.4.: Core PCE inflation: as published against revised

2. **The C signatures misfire at turning points.** "TIPS falling while nominal yields rise" and "long end rising while the Fed cuts" both fired in early 2002 on recovery reflation, not fiscal stress. Require them alongside a fiscal or inflation reading before they count.
3. **Layer 2 was right when Layer 3 was not.** In May 2002 the driver score was −5 while the headline vote leaned C. The framework already says to wait for confirmation from Layer 2; the back-test says Layer 2 can lead, so keep the driver score next to the vote rather than beneath it.
4. **Three months running is strict for a turning regime.** The direction-aware vote reached 3 A votes in four months of 2002–03 but never three months in a row. "Two months running" would have called A in May–Jun 2003. Treat this as a hypothesis, not a fitted rule: one episode is not enough evidence, and a looser rule also produces more false calls.
5. **History-based ranges anchor on the old regime.** The journal's range method put May 2003 at 4.7–6.5% for the 10-year; the outcome was 3.37%. This is the 2002 error in numerical form, and it argues for the regime-tilted ranges the journal already uses.

11. Caveats

- **5y5y reconstruction.** The adjustment (0.37pt) is measured on 2003–05, after the test date, and the gap has a standard deviation of 0.15pt. The 2001 A calls disappear without it, so treat them as fragile.
- **ACM hindsight.** The model is re-estimated on today's full sample, so its 2002 values were not available in that form at the time.
- **Interest/receipts** uses today's revised BEA data; no 2002 vintage exists in ALFRED.
- **30-year yield.** Treasury held no 30-year auctions from Aug 2001 to Feb 2006, so FRED's DGS30 for 2002–06 does not come from a newly issued 30-year bond, and the data room treats it as extrapolated. It tracks the Fed Board 30-year curve as closely as in other years. The policy vote uses it.
- **Early TIPS market.** In 1999–2002 the TIPS market was small and illiquid, so its real yields and breakevens contain a liquidity premium.
- **One episode.** This is one historical episode, and the lessons above are hypotheses to test, not recalibrations. The framework file has not been changed.

Appendix A. 5y5y splice

The 5y5y uses FRED `T5YIFR` from Jan 2003. Before that it uses the Fed Board 5-year, 5-year-forward breakeven (`BKEVEN5F05`) minus the mean gap between the two series over 2003-01 to 2005-12: **0.37pt** (standard deviation 0.15pt, 36 months, correlation 0.83). The two series are built differently: the Fed Board one is a fitted zero-coupon forward, FRED's comes from Treasury par yields. Unadjusted, the May 2002 reading would be 2.71% instead of 2.34%: a 5y5y "-" vote (between the B and C bands) instead of B.

Quarter end	GSW raw	GSW adjusted	FRED T5YIFR	Used (main)
2000-03	2.16	1.79		1.79
2000-06	2.22	1.86		1.86
2000-09	2.24	1.88		1.88
2000-12	1.93	1.56		1.56
2001-03	2.25	1.89		1.89
2001-06	2.31	1.95		1.95
2001-09	2.32	1.96		1.96
2001-12	2.63	2.27		2.27
2002-03	2.86	2.49		2.49
2002-06	2.61	2.24		2.24
2002-09	2.42	2.06		2.06
2002-12	2.54	2.17		2.17
2003-03	2.33	1.97	1.95	1.95
2003-06	2.24	1.88	1.83	1.83
2003-09	2.56	2.19	2.16	2.16
2003-12	2.93	2.56	2.51	2.51
2004-03	2.96	2.59	2.47	2.47
2004-06	3.10	2.74	2.61	2.61
2004-09	2.78	2.42	2.41	2.41
2004-12	2.84	2.48	2.48	2.48

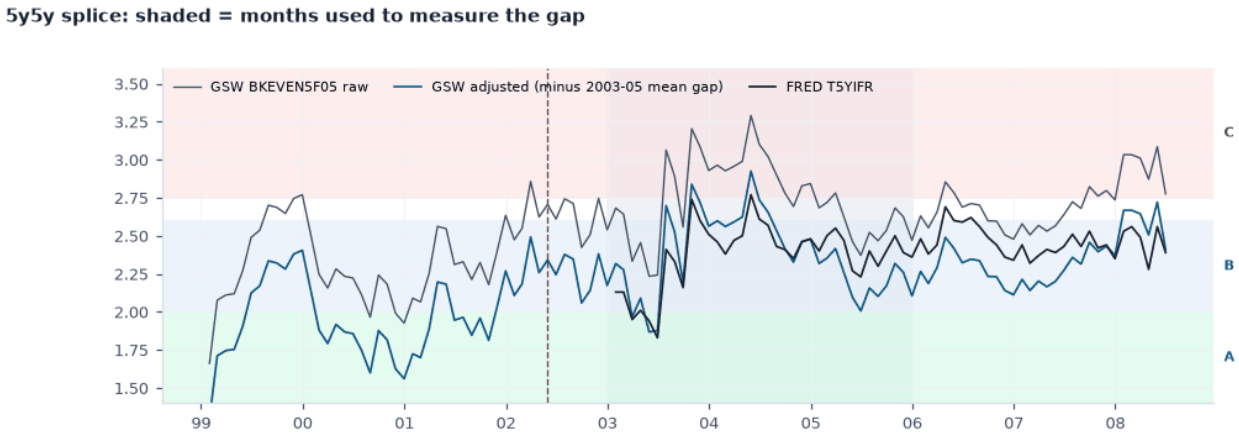


Figure 5.5.: 5y5y splice

Appendix B. Every month, 1999–2006

Votes are shown as A-B-C counts; a bold letter marks a regime call. “Detail” is the per-metric vote in the main version.

Month	As written	Raw 5y5y	Quarter-end stamp	Direction-aware	Detail (as written)
1999-01	2-1-0	2-1-0	2-1-0	1-1-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=-, interest=A
1999-02	2-0-1	1-1-1	2-0-1	1-1-1	infl_5y5y=A, tips10y=-, acm_tp10=-, policy=C, interest=A
1999-03	2-0-0	1-1-0	2-0-0	1-1-0	infl_5y5y=A, tips10y=-, acm_tp10=-, policy=-, interest=A
1999-04	2-0-0	1-1-0	2-0-0	1-1-0	infl_5y5y=A, tips10y=-, acm_tp10=-, policy=-, interest=A

Month	As written	Raw 5y5y	Quarter-end stamp	Direction-aware	Detail (as written)
1999-05	2-0-1	1-1-1	2-0-1	1-1-1	infl_5y5y=A, tips10y=-, acm_tp10=-, policy=C, interest=A
1999-06	1-1-1	1-1-1	1-1-1	1-1-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
1999-07	1-2-1	1-2-1	1-2-1	1-2-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=B, interest=A
1999-08	1-1-1	1-0-1	1-1-1	1-1-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
1999-09	1-1-1	1-0-1	1-1-1	1-1-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
1999-10	1-1-1	1-0-1	1-1-1	1-1-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
1999-11	1-1-1	1-0-1	1-1-1	1-1-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
1999-12	1-1-2	1-0-3	1-1-2	1-1-1	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=C, interest=A
2000-01	1-1-1	1-1-1	1-1-1	1-1-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
2000-02	2-0-0	1-1-0	2-0-0	1-1-0	infl_5y5y=A, tips10y=-, acm_tp10=-, policy=-, interest=A
2000-03	2-1-0	1-2-0	2-1-0	1-1-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=-, interest=A
2000-04	2-1-0	1-2-0	2-1-0	1-1-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=-, interest=A
2000-05	2-1-0	1-2-0	2-1-0	1-1-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=-, interest=A
2000-06	2-1-0	1-2-0	2-1-0	2-0-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=-, interest=A
2000-07	2-1-0	1-2-0	2-1-0	2-0-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=-, interest=A
2000-08	3-1-0	3-1-0	3-1-0	3-0-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=A, interest=A
2000-09	2-1-0	1-2-0	2-1-0	2-0-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=-, interest=A
2000-10	2-2-0	1-3-0	2-2-0	2-1-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=B, interest=A
2000-11	2-2-0	2-2-0	2-2-0	2-1-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=B, interest=A
2000-12	3-1-0	3-1-0	3-1-0	3-0-0	infl_5y5y=A, tips10y=-, acm_tp10=B, policy=A, interest=A
2001-01	3-0-0	2-1-0	3-0-0	4-1-0	infl_5y5y=A, tips10y=-, acm_tp10=-, policy=A, interest=A
2001-02	3-0-0 **A**	2-1-0	3-0-0 **A**	4-1-0 **A**	infl_5y5y=A, tips10y=-, acm_tp10=-, policy=A, interest=A
2001-03	2-0-1	1-1-1	2-0-1	2-2-0	infl_5y5y=A, tips10y=-, acm_tp10=C, policy=-, interest=A
2001-04	1-1-3	1-1-3	1-1-3	2-0-3	infl_5y5y=B, tips10y=C, acm_tp10=C, policy=C, interest=A
2001-05	1-1-2	1-1-2	1-1-2	2-0-3	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=C, interest=A
2001-06	2-0-2	1-1-2	2-0-2	1-2-2	infl_5y5y=A, tips10y=-, acm_tp10=C, policy=C, interest=A
2001-07	3-0-1	2-1-1	3-0-1	3-2-0	infl_5y5y=A, tips10y=-, acm_tp10=C, policy=A, interest=A
2001-08	3-0-1	2-1-1	3-0-1	3-2-0	infl_5y5y=A, tips10y=-, acm_tp10=C, policy=A, interest=A
2001-09	3-0-1 **A**	2-1-1	2-1-1	3-1-1 **A**	infl_5y5y=A, tips10y=-, acm_tp10=C, policy=A, interest=A

Month	As written	Raw 5y5y	Quarter-end stamp	Direction-aware	Detail (as written)
2001-10	3-0-1 **A**	2-1-1	2-1-1	3-1-1 **A**	infl_5y5y=A, tips10y=-, acm_tp10=C, policy=A, interest=A
2001-11	1-2-1	1-2-1	1-2-1	1-2-2	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=A, interest=B
2001-12	0-2-1	0-1-1	1-1-1	0-2-2	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=B
2002-01	0-2-2	0-2-2	1-1-2	0-2-3	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=C, interest=B
2002-02	1-1-2	1-1-2	1-1-2	1-1-3	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=C, interest=A
2002-03	1-1-2	1-0-3	1-1-2	1-1-2	infl_5y5y=B, tips10y=C, acm_tp10=C, policy=-, interest=A
2002-04	1-1-1	1-0-1	1-1-1	1-2-1	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
2002-05	1-2-2	1-1-2	1-2-2	1-3-1	infl_5y5y=B, tips10y=C, acm_tp10=C, policy=B, interest=A
2002-06	1-1-2	1-0-2	0-2-2	1-1-3	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=C, interest=A
2002-07	1-2-1	1-1-1	0-3-1	1-2-2	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=B, interest=A
2002-08	0-4-1	0-3-1	0-4-1	1-2-2	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=B, interest=B
2002-09	0-3-1	0-3-1	1-2-1	1-3-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=-, interest=B
2002-10	0-4-1 **B**	0-4-1 **B**	1-3-1	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=B, interest=B
2002-11	2-2-1	2-1-1	2-2-1	3-1-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=A, interest=A
2002-12	1-2-2	1-2-2	0-3-2	2-2-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=C, interest=A
2003-01	2-2-1	2-2-1	1-3-1	3-2-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=A, interest=A
2003-02	1-3-1	1-3-1	1-3-1 **B**	2-3-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=A, interest=B
2003-03	1-2-1	1-2-1	2-1-1	2-2-0	infl_5y5y=A, tips10y=B, acm_tp10=C, policy=-, interest=B
2003-04	0-3-1	0-3-1	1-2-1	1-3-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=-, interest=B
2003-05	2-2-1	2-2-1	2-2-1	3-2-0	infl_5y5y=A, tips10y=B, acm_tp10=C, policy=B, interest=A
2003-06	2-1-1	2-1-1	2-1-1	3-1-0	infl_5y5y=A, tips10y=B, acm_tp10=C, policy=-, interest=A
2003-07	1-2-2	1-2-2	1-2-2	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=C, interest=A
2003-08	1-2-2	1-2-2	1-2-2	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=C, interest=A
2003-09	1-2-2	1-2-2	1-2-2	1-3-1 **B**	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=C, interest=A
2003-10	1-2-1	1-2-1	1-2-1	2-2-1	infl_5y5y=-, tips10y=B, acm_tp10=C, policy=B, interest=A
2003-11	1-3-1	1-3-1	1-3-1	2-3-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=B, interest=A
2003-12	1-2-2	1-2-2	1-2-2	1-2-2	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=C, interest=A
2004-01	1-3-1	1-3-1	1-3-1	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=B, interest=A
2004-02	1-2-1	1-2-1	1-2-1	1-3-1	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=B, interest=A

Month	As written	Raw 5y5y	Quarter-end stamp	Direction-aware	Detail (as written)
2004-03	1-1-1	1-1-1	1-1-1	2-1-1	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
2004-04	1-3-1	1-3-1	1-3-1	1-3-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=B, interest=A
2004-05	1-2-2	1-2-2	1-2-2	1-3-1	infl_5y5y=C, tips10y=B, acm_tp10=C, policy=B, interest=A
2004-06	1-1-1	1-1-1	1-1-1	1-2-1	infl_5y5y=-, tips10y=B, acm_tp10=C, policy=-, interest=A
2004-07	1-2-1	1-2-1	1-2-1	1-3-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=-, interest=A
2004-08	1-2-1	1-2-1	1-2-1	2-2-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=-, interest=A
2004-09	1-2-1	1-2-1	1-2-1	2-1-1	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=-, interest=A
2004-10	1-1-1	1-1-1	1-1-1	2-2-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=-, interest=A
2004-11	1-2-1	1-2-1	1-2-1	2-2-0	infl_5y5y=B, tips10y=B, acm_tp10=C, policy=-, interest=A
2004-12	1-2-1	1-2-1	0-3-1	2-3-0	infl_5y5y=B, tips10y=-, acm_tp10=C, policy=B, interest=A
2005-01	1-2-0	1-2-0	0-3-0	2-2-0	infl_5y5y=B, tips10y=-, acm_tp10=B, policy=-, interest=A
2005-02	1-2-0	1-2-0	0-3-0 **B**	2-2-0	infl_5y5y=B, tips10y=-, acm_tp10=B, policy=-, interest=A
2005-03	0-4-0	0-4-0	1-3-0 **B**	1-3-0	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=B
2005-04	0-3-0	0-3-0	1-2-0	1-3-0	infl_5y5y=B, tips10y=-, acm_tp10=B, policy=-, interest=B
2005-05	1-2-0	1-2-0	1-2-0	2-2-0	infl_5y5y=B, tips10y=-, acm_tp10=B, policy=-, interest=A
2005-06	1-2-0	1-2-0	0-3-0	2-2-0	infl_5y5y=B, tips10y=-, acm_tp10=B, policy=-, interest=A
2005-07	1-3-0	1-3-0	0-4-0	2-2-0	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=A
2005-08	0-3-0	0-3-0	0-3-0 **B**	1-3-0	infl_5y5y=B, tips10y=-, acm_tp10=B, policy=-, interest=B
2005-09	0-4-0 **B**	0-4-0 **B**	0-4-0 **B**	1-3-0	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=B
2005-10	0-4-0 **B**	0-4-0 **B**	0-4-0 **B**	1-3-0 **B**	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=B
2005-11	0-4-0 **B**	0-4-0 **B**	0-4-0 **B**	1-3-0 **B**	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=B
2005-12	0-3-0 **B**	0-3-0 **B**	1-2-0	1-3-0 **B**	infl_5y5y=B, tips10y=B, acm_tp10=-, policy=-, interest=B
2006-01	0-4-0 **B**	0-4-0 **B**	1-3-0	1-3-0 **B**	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=B
2006-02	1-2-0	1-2-0	1-2-0	2-2-0	infl_5y5y=B, tips10y=B, acm_tp10=-, policy=-, interest=A
2006-03	1-3-0	1-3-0	1-3-0	1-3-0	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=A
2006-04	1-2-0	1-2-0	1-2-0	1-3-0	infl_5y5y=-, tips10y=B, acm_tp10=B, policy=-, interest=A
2006-05	1-3-0	1-3-0	1-3-0	1-2-1	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=A
2006-06	1-3-0	1-3-0	1-3-0	1-2-1	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=A
2006-07	1-2-0	1-2-0	1-2-0	1-3-0	infl_5y5y=-, tips10y=B, acm_tp10=B, policy=-, interest=A

Month	As written	Raw 5y5y	Quarter-end stamp	Direction-aware	Detail (as written)
2006-08	1-3-0	1-3-0	1-3-0	1-2-1	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=A
2006-09	1-3-0	1-3-0	1-3-0	1-3-0	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=A
2006-10	1-4-0 **B**	1-4-0 **B**	1-4-0 **B**	1-4-0	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=B, interest=A
2006-11	1-3-0 **B**	1-3-0 **B**	1-3-0 **B**	1-4-0 **B**	infl_5y5y=B, tips10y=B, acm_tp10=-, policy=B, interest=A
2006-12	1-3-0 **B**	1-3-0 **B**	0-3-0 **B**	1-3-0 **B**	infl_5y5y=B, tips10y=B, acm_tp10=B, policy=-, interest=A

Appendix C. Data and sources

All files are in `dataroom/backtest/2002/data/`. Each series' raw download, checks and source are in the data room register (`dataroom/register/audit_register.csv`).

File	Contents
`vote_inputs_real_time.csv`	The five headline inputs at each month-end (main version)
`vote_inputs_revised.csv`	Same, with interest/receipts dated at quarter end
`votes_as_written_real_time.csv`	Main result: A/B/C counts, per-metric detail, call
`votes_as_written_revised.csv`, `votes_raw_5y5y_sensitivity.csv`, `votes_direction_aware.csv`	The other three versions
`working_2001-06_2003-12.csv`	The month-by-month working in section 4
`dashboard_snapshot_2002-05.csv`	Section 3, all banded metrics
`drivers_2002-05.csv`	Section 7
`splice_5y5y.csv`	Appendix A, monthly
`vintage_core_pce.csv`, `vintage_unemployment.csv`, `vintage_ngdp.csv`	Real-time against revised, monthly
`range_test.csv`, `outcome.csv`	Section 8
`market_panel_month_end.csv`	Every market series used, month-end, 1999–2020
`summary.json`	Key results in machine-readable form

Sources:

- FRED (St. Louis Fed): `DGS10`, `DGS30`, `DFF`, `DFEDTAR`, `T5YIFR`, `DFII10`, `BAA10Y`, `PCEPILFE`, `UNRATE`, `GDP`, `A091RC1Q027SBEA`, `FGRECPT`.
- ALFRED: past releases of `PCEPILFE`, `UNRATE`, `GDP`.
- Federal Reserve Board: TIPS yield curve and inflation compensation (`feds200805.csv`) and the nominal curve (`feds200628.csv`).
- New York Fed: ACM term premia.
- US Treasury: TIC.
- Ministry of Finance Japan: JGB yields.

6. If the framework missed 2002, how much can we trust it for 2026?

Source: `03-backtests/02-confidence-for-2026.md`

1 Oct 2026. Draws on `backtest-2002.md`, the live vote record in `dataroom/register/regime_votes.csv` (Jan 2003 to Sep 2026), and the 1 Oct 2026 journal. The framework and the journal are unchanged; the suggestions in section 5 are for the next journal entry and a possible framework revision.

1. Short answer

Trust it to describe where we are and to organise the thinking. Do not trust its headline vote to call a turn, which is the very thing 2026 asks.

The framework has four layers, and they did not all fail in 2002:

Layer	What it does	2002 result	Confidence for 2026
1. Decompose the yield	Splits the 10-year into expected inflation, real rate and term premium	Worked: it showed the fall came from real yields and term premium	**High.** This is accounting, not forecasting
2. Structural drivers	Scores seven slow forces at −1, 0 or +1	**Right:** −5 of a possible −7, pointing to lower yields	**Moderate.** It passed its one test, but one test is little evidence
3. Regime vote	3 of 5 headline metrics in a regime's bands, 3 months running	**Wrong:** A1 B2 C2 in May 2002, no A call from Nov 2001 to Dec 2006	**Low at turning points**, reasonable mid-regime
Ranges (journal method)	Applies past 12-month changes to today's level	**Wrong:** the outcome (3.37%) was below every historical case	**Low in the tails.** Treat ranges as too narrow

So the 2002 failure is mostly a failure of the **regime vote** and of **history-based ranges**. Both are built to describe a regime once it has arrived. Neither was designed to detect one arriving.

2. The evidence is worse than one missed year

The live data room runs the same vote on every month-end from Jan 2003. Its record:

Period	What happened to yields	What the vote said	Verdict
2002–2008	Disinflation regime begins; 10-year falls from 5% to below 4% by Nov 2008	No A call until **Oct 2015**, 13 years after the turn	Missed the turn
2015–2020	Deep in Regime A	A for 35 months (Oct 2015 to Nov 2020, with gaps)	Right, but late
Aug 2021 to May 2022	Inflation regime begins: core PCE 3.9% rising to 5.6%; 10-year from 1.30% to 2.85%	**A for 10 months running**	Wrong at the turn, the other way
2024–2026	Higher real rates: 10-year 4–5.3%	B for most months (Apr–Aug 2024, Feb 2025 to Jan 2026, May–Aug 2026)	Right, mid-regime

Period	What happened to yields	What the vote said	Verdict
2003–2026	Includes 2021–23, when core PCE inflation peaked at 5.6%	**Never called C in 285 months**	Cannot see Regime C

Two turning points, two misses, in opposite directions. The pattern is consistent: **the vote reads the regime that just ended.** In 2021 it called disinflation because real yields and the term premium were still negative, levels the 2026 bands score as A. The framework's own Layer 3 table describes "real 10-year falling or negative while nominal yields rise" as the Regime C signature, but the vote turns that into an A vote whenever the real yield is low.

3. Why the vote fails at turns

1. **Fixed level bands carry the calibration of their era.** The 2026 bands were set from the 2010s and 2020s. In 2002 a 2% term premium and a 3% real yield were normal, so the vote read a disinflationary decade as B or C. In 2021 negative real yields were the legacy of QE, so it read the start of an inflation regime as A.
2. **Market levels move last at a regime change.** Levels confirm a regime after prices have repriced; the direction of change and the structural drivers move first.
3. **The vote has gaps exactly where turns happen.** It casts no policy vote when the Fed is hiking, so it was half-blind through 2022. It casts no TIPS vote when the real yield is above every band, as in 2002 (3.16%).
4. **Three months running is strict.** In 2002–03 the direction-aware variant reached three A votes four times but never three months in a row.

4. What this means for 2026 right now

The same weaknesses are visible in today's readings (month-end Sep 2026):

- **The vote has stopped calling.** Sep 2026 is **A1 B2 C0, no call**, after B in May–Aug. Two of the five inputs cast no vote:
  - the 10-year TIPS yield is 2.91%, above every band (the 2002 problem);
  - fed funds rose 25bp over three months, and a hike earns no policy vote (the 2022 problem).
- **The fiscal input points the wrong way.** Interest/receipts is 21.1%, above the B band, yet it votes **A**, because it is falling slightly. The C rule needs it both above 20% and rising.
- **The other inputs sit near band edges.** The 5y5y (2.36%) and the term premium (0.85%) are both in the B band. But in May 2002 the 5y5y also read B, and its band was set in the 2010s.
- **The structural drivers point up.** The framework's 2026 starting score is about **+3 to +5** (savings vs investment +1, fiscal +1, globalisation +1, demographics and safe-asset demand 0 or +1). In 2002 Layer 2 was the part that got the direction right. Today it points to higher yields, toward B with C risk, not A.
- **Inflation is not at target.** Core PCE is 3.0% (Aug 2026), above the B description of "about 2–2.75%".

Read together, today looks more like a regime in transition, or a B regime with C risk building, than a settled B. That is the situation where the back-test says the vote is least informative. It is also the situation the framework exists for.

5. How to use the framework, given this

1. **Treat the vote as confirmation, not a forecast.** A call from the vote tells you a regime has been in place for months. Lack of a call does not mean nothing is happening.
2. **Lead with Layer 2 and with direction.** At each review, record the driver score, how it changed since last time, and the 12-month direction of the 5y5y, the real yield and the term premium. These moved first in 2002.

3. **Cap regime probabilities near 55%.** One framework, one partial back-test and two missed turns do not justify more. The journal's data-based B 55% is at that cap; the gut B 50% is inside it.
4. **Widen the tails of the yield ranges.** In 2002 the outcome fell outside the 5th–95th range. The journal's data-based 10-year range of 4.25–6.50% at 75% leaves 25% outside, which is right in spirit, but write down explicitly what happens to the portfolio at 3.5% and at 7%.
5. **Size positions for being wrong.** The decision rules in framework section 7 (separate the view from the position; use carry as cushion) matter more than the probabilities.
6. **Score the calls.** The first `forecasts.csv` rows resolve on 1 Oct 2027. Scoring them against outcomes is the only evidence that will raise confidence in the framework itself.

6. Changes that would raise confidence (not yet made)

Change	Why	Effort
Back-test 2021–22 in the same format	The most recent turn, and the one most like 2026 (inflation, fiscal expansion, Fed behind the curve)	A few hours (copy `backtest_2002.py`)
Back-test 1994, 1999–2000 and 2013	Bond rout, late-cycle hikes, taper tantrum: overlays versus regime changes	A few hours each; TIPS data starts 1999
Add a hiking rule to the policy vote	Today a hike casts no vote; "Fed hiking and 30-year rising faster" could count as C	Small code change in `derive.regime_votes`, plus a framework revision
Score the real yield relative to its own 10-year history (as in the direction-aware variant)	Removes the era calibration of the bands	Variant already exists in the back-test code
Treat a negative or falling real yield with rising nominals as C	Matches the framework's own C description; would have flagged 2021	Small code change
Show the Layer 2 score next to the vote in the report	Keeps the leading layer in view	Small report change

Each of these is a framework revision. Make them in a new framework version, test them on 2002 **and** 2021–22, and only then use them live. A rule tuned to one episode will misfire on the next.

7. Bottom line

The framework is a **discipline**: it says what to measure, how to split a yield move into its causes, and which readings would change the view. That part is sound, and the data behind it is checked and reproducible. Its **mechanical regime call** is a lagging indicator, wrong at both turns it has faced (2002 and 2021). For 2026 the right level of confidence is **moderate in the description, low in any single regime call**: probabilities near 50%, wide tails, and positions that survive the regime you did not expect.

A. Glossary

Source: `00-overview/03-glossary.md`

Term	Meaning
10-year, 30-year	US Treasury nominal yield at that maturity (FRED `DGS10`, `DGS30`)
5y5y	The 5-year, 5-year-forward breakeven inflation rate: the inflation rate the market prices for the five years starting five years from now. A gauge of long-run inflation expectations (FRED `T5YIFR`)
2s30s	30-year yield minus 2-year yield, in basis points. The slope of the curve
ACM term premium	The extra yield investors demand to hold a 10-year bond rather than roll short bills, estimated by the NY Fed's Adrian-Crump-Moench model
ALFRED	The St. Louis Fed's archive of data as first published (vintages), used to see what was known at a past date
Anchor test	A test that a series matches a known historical value
Basis point (bp)	0.01 percentage point
Breakeven inflation	Nominal yield minus TIPS real yield: the inflation rate at which the two bonds return the same
Brier score	Mean of (forecast probability − outcome)², with outcome 1 or 0. Lower is better; 0.25 is what always saying 50% scores
Catalog	`dataroom/catalog/series.yaml`: the contract that defines every series and how it is checked
Cross-check	Comparing a series with an independent source or an identity (for example 10y − 2y computed two ways)
Direction-aware vote	Back-test variant that scores inputs by their 12-month change and position against their own history, not fixed levels
Driver score (Layer 2)	Sum of seven structural drivers each scored −1 (pushing yields down), 0 or +1 (pushing up)
Fingerprint	A hash of a series' definition stored with its sign-off; a change voids the sign-off
GSW	Gürkaynak-Sack-Wright: the Federal Reserve Board's fitted zero-coupon nominal and TIPS yield curves
HY OAS	High-yield corporate bond spread over Treasuries (ICE BofA, on FRED). A measure of credit stress
Interest / receipts	Federal net interest payments as a share of federal receipts (BEA data). A measure of fiscal strain
Kim-Wright	An alternative term premium model from the Fed Board
launchd	The macOS scheduler that runs the daily refresh
Overlay (shock overlay)	A short episode (weeks to months), such as a fiscal scare or flight to safety, that does not by itself change the regime
Parquet	A compact column-based file format for tables
r*	The neutral real interest rate (Holston-Laubach-Williams estimate, NY Fed)
Raw store	`dataroom/data/raw/`: gzipped original downloads with checksums
Real-time data	Data as it was first published, before revisions
Regime A	Disinflation: inflation at or below 2%, real 10-year below 1.25%, term premium near zero, 10-year 2.5–4%. Like 2002–2020
Regime B	Higher real rates with anchored inflation: inflation about 2–2.75%, real 10-year 1.75–2.75%, term premium 0.25–1%, 10-year 4.25–5.75%
Regime C	Fiscal or inflation: inflation above 3% and rising, real yields falling while nominal yields rise, term premium above 1.25%, 10-year 6% or higher. Like 1965–1980
Regime vote	Each of five headline metrics (5y5y, 10-year TIPS, term premium, policy vs long end, interest/receipts) votes A, B or C by its bands. A regime is called when it has 3 of 5 votes for 3 months running
Register	`dataroom/register/`: the audit register, cross-checks and regime votes as CSV
Sign-off	Your record, in `catalog/signoff.yaml`, that you have checked a series. Only you make it

Term	Meaning
Splice	Joining two series that cover different periods (here, the Fed Board 5y5y before 2003 and FRED's after)
STALE / FAILED	Register statuses: no new data within the series' staleness limit; a critical check failed (last good data kept)
TIPS	Treasury Inflation-Protected Securities. Their yield is a real (inflation-adjusted) yield (FRED `DFII10`)
Vintage	One published version of a data series on a given date