

Screw the Yield Curve?

How we were all duped by policy makers



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The recent uselessness of the yield curve slope as an economic and market predictor came up in a recent Twitter (X) broadcast

<https://twitter.com/i/broadcasts/1jMJgmddmRgKL> with Michael Gayed of @leadlagreport. Several tweets appealed for more details, so here goes...

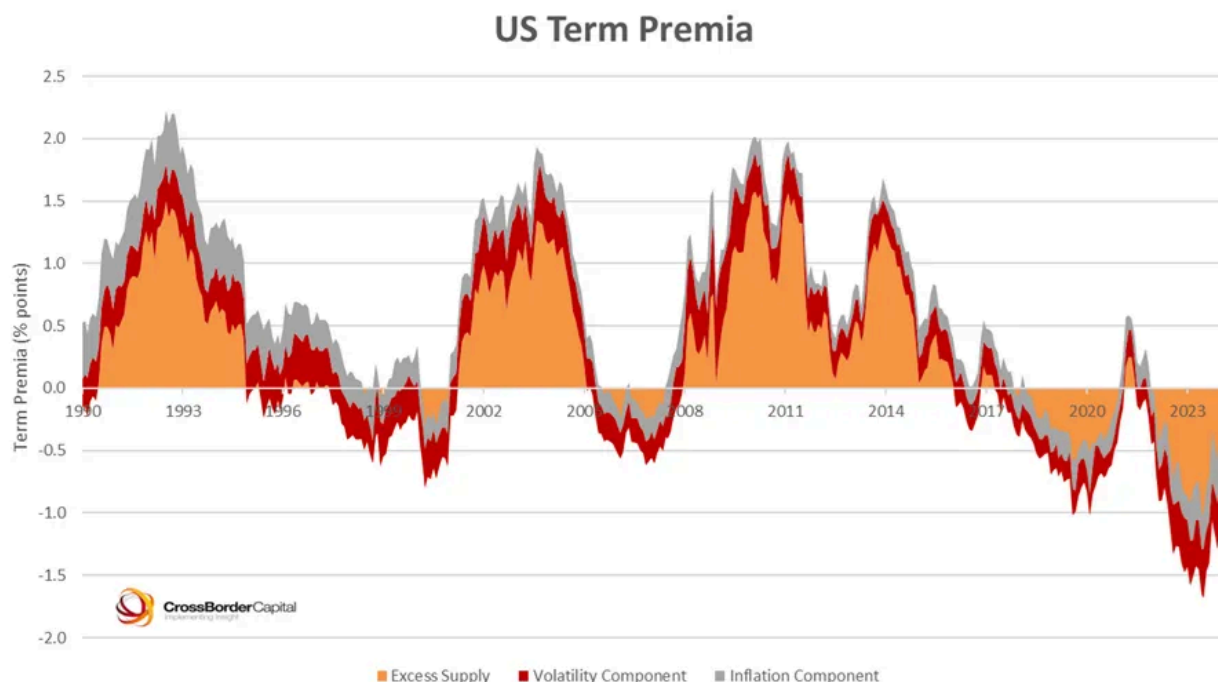
The origins of my rebellion from the consensus that the yield curve is the 'all seeing eye' goes back both to a 2017 article penned in the *Journal of Fixed Income* (JoFI) <https://www.pm-research.com/content/iijfixinc/27/4/22>, and to on-the-ground experience from my time at the investment bank *Salomon Brothers Inc.*

Anecdotally, Salomon traders were always more concerned for the American economy when the yield curve, or interest rate term structure, was flat and humped, rather than when it became inverted. The JoFI article showed empirically that the generic 'yield curve' slope was a useful leading economic indicator. But with the caveat that one only really knew which maturity spread worked, e.g. 10-2 year; 10-5 year, 20-1 year, 3-1 year, with hindsight!

In other words, both experiences spell out that the frequently cited 10-2 year spread is a flaky and not a fail-safe indicator. What seems to matter above all is the curvature of the term structure. (Note: if there was no curvature, all curve slopes between every maturity spread would be identical and the 10-2 year slope would be the same as, say, the 3-1 year slope.)

Because the curvature of the term structure is dominated by *term premia* – the compensation for holding interest rate risk over the horizon of the bond – we need to watch these factors carefully. Consider, the following chart which plots our estimates of US Treasury 10-year term premia broken into their three main

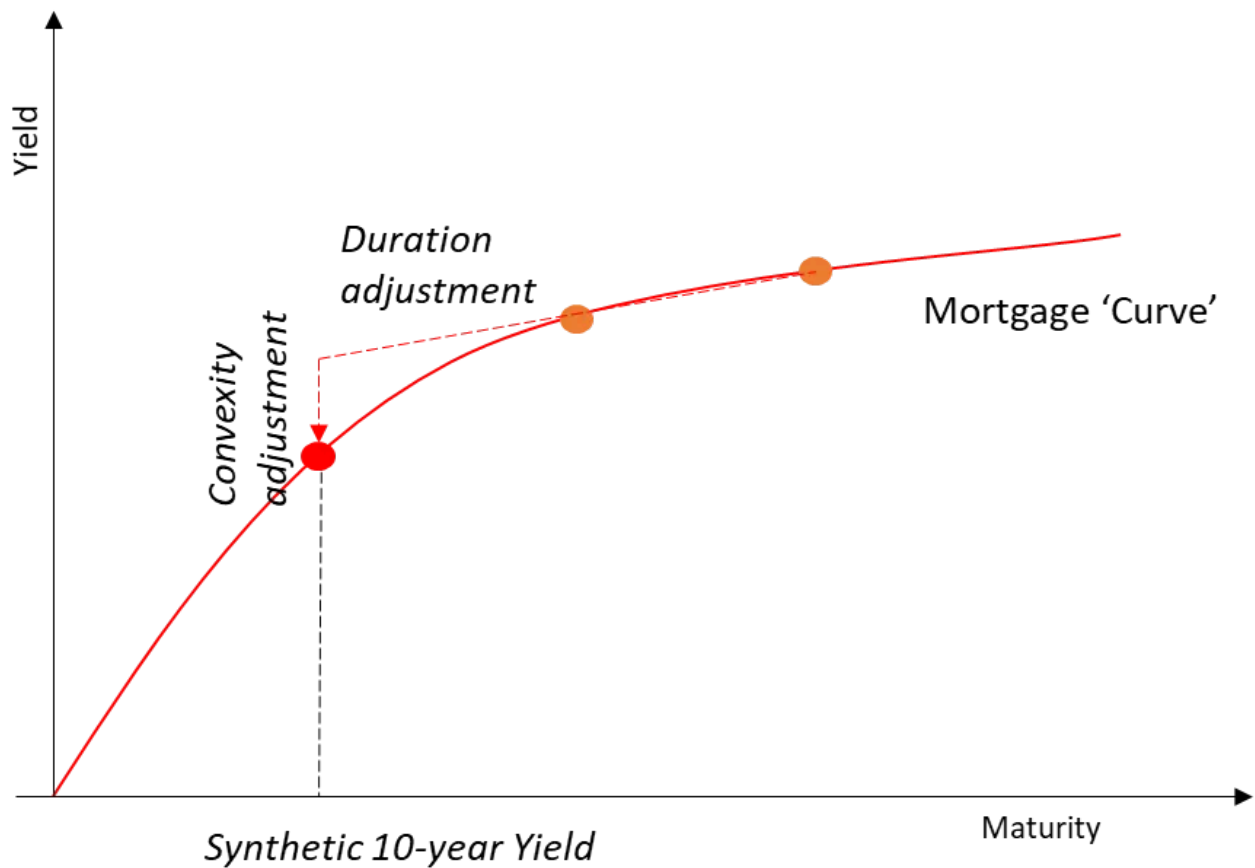
components: (1) *future inflation risk*; (2) *volatility risk*, and (3) effect of excess demand and supply for bonds at this tenor.



The key takeaway from these data is that **bond term premia**, which historically average a small positive reading and evidence strong mean-reversion, are currently hugely depressed at circa minus 120bp. Hence, using a 'normal' term premia reading would by itself steepen the current yield curve slope by around 1% point. We assume, fairly, that because term premia largely affect longer dated bonds, there is only a minimal distortion at the short end of the term structure.

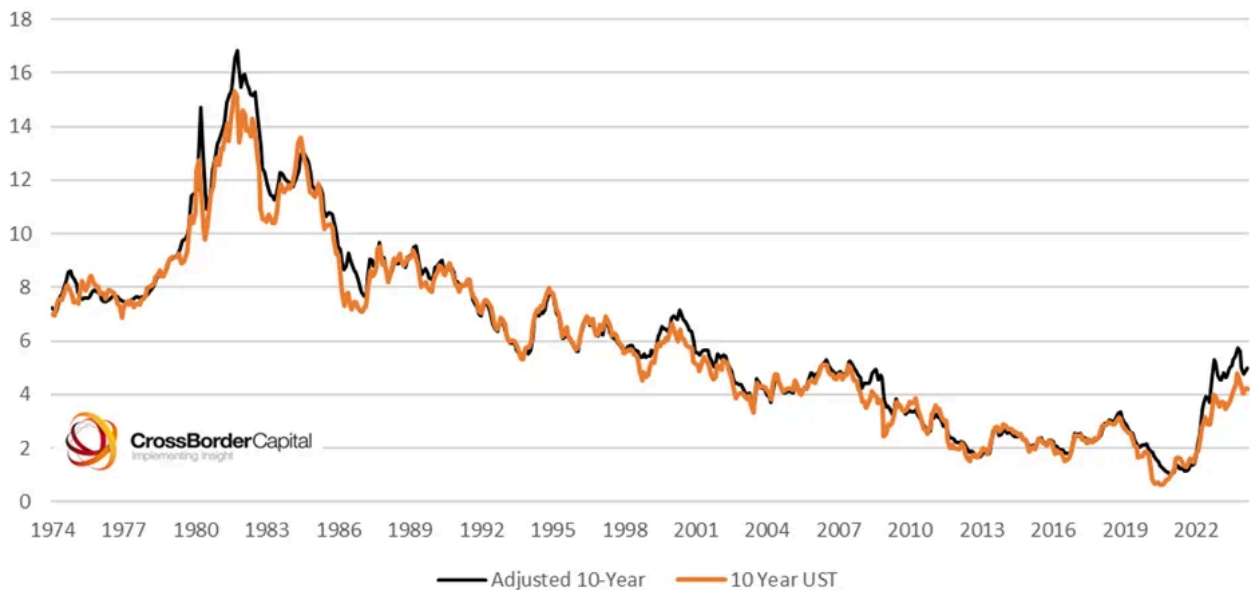
But is this a reasonable assessment? Term premia appear unusually depressed and the yield curve has been inverted for a strangely long period without bad things happening.

Consider a cross-check. The US Agency Mortgage market is similar the conventional Treasury market insofar these are government-backed securities that other governments treat as 'safe' assets and which the US Fed also holds on its balance sheet. Yet, Agencies are different because they are typically of longer duration than Treasuries and, in bond-speak, have greater convexity. This makes a comparison less straightforward.



Bond math and statistical analysis allow us to make appropriate adjustments and create from the Agency yield data a synthetic 10-year Treasury equivalent. We plot the 50-year history against 10-year Treasuries in the next chart. The data show very few periods where the actual and synthetic 10-year yield diverge. In fact, one of the largest gap opened up in 2023.

UST 10-year: Actual and 'Adjusted' Agencies



We show this gap in more detail in the next chart. This highlights the period 2005-24, using monthly data. **Periods where the actual 10-year Treasury yield trades below the synthetic yield are again few, but they tend to be periods where policy responds to a crisis by shifting Treasury issuance to shorter duration notes and bills.** This creates temporary shortages of coupons and pushes up the prices (lowers the yields) at these maturities. Notice the 2008/09 GFC; the 2020 COVID Crisis and the recent jump in Treasury bill issuance in 2023.

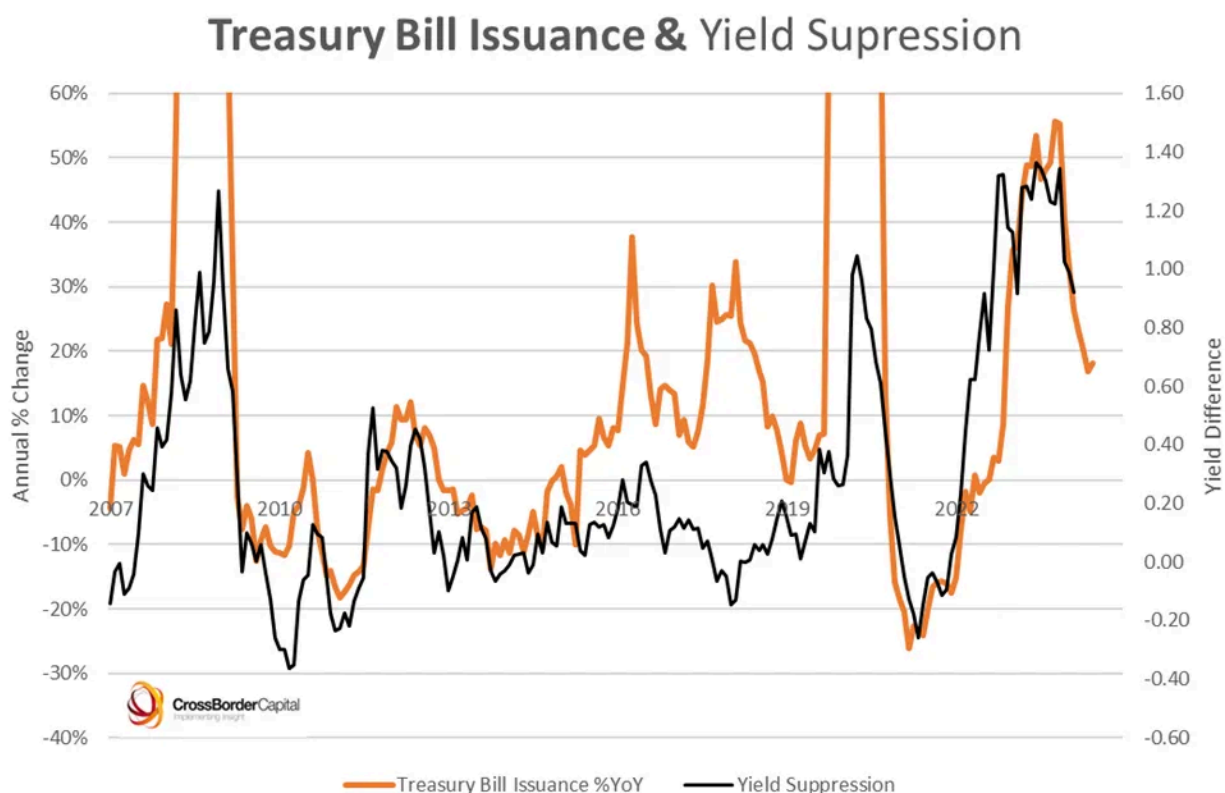
UST 10-year: Actual and 'Adjusted' Agencies



We flippantly dub this latter period 'not-YCC, YCC' (YCC: Yield Curve Control) to emphasise the obfuscation of policy makers. Evidence how the **US Treasury/ Federal Reserve have together proved both flexible and highly innovative in bolstering US liquidity conditions**, via:

- sharp US\$1.9 trillion run-off in the *Reverse Repo facility* (RRP)
- shift in the *Calendar* of debt issuance away from coupons towards more 'liquidity-friendly' bills and short-dated coupons
- swings in the *Treasury General Account* (TGA) and, now,
- the US Treasury's courting of ISDA's latest missive to reduce the grip of the *Supplementary Liquidity Ratio* (SLR) that would allow banks to own more Treasuries

It is clear when we plot the spread ('yield suppression') between the synthetic 10-year yield and the actual, how this spread widens and narrows in-step with surges and slowdowns in the pace of Treasury bill issuance. We acknowledge that because mortgage bonds have different convexity features to Treasuries they will be more sensitive to changes in volatility. But it is the changing issuance mix and not volatility that drives this spread.



What do these results tell us? First and foremost, the market is heavily distorted downwards by Fed and Treasury actions. The mortgage market may also be distorted, but it is likely far less so. Hence, the synthetic 10-year Treasury yield is likely to be a better guide to underlying yield levels implied by the economy.

Second, indicators that use the actual 10-year Treasury yield will also be biased. The popular 10-2 year yield curve comes to mind. But many leading indicators also use the 10-year yield. Could this explain why these leading signals remain depressed? Another example, is the recent obvious disconnect between US PMI data (e.g. the ISM Survey) and changes in bond yields.

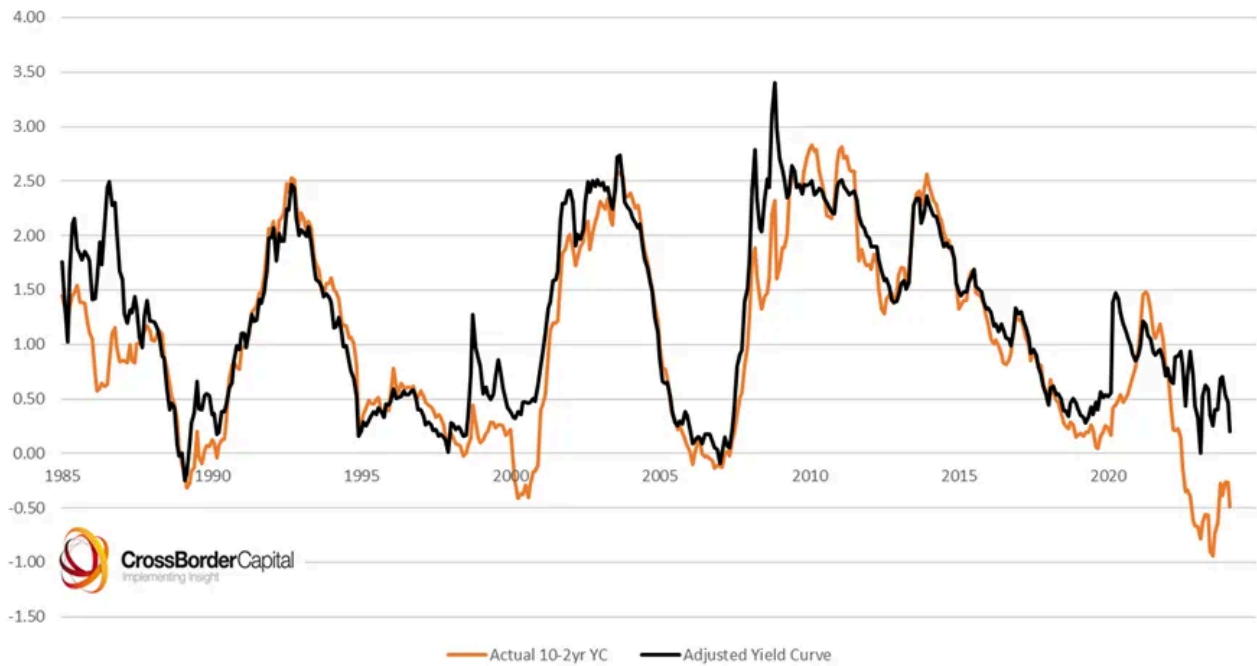
Evidence the following chart. This compares the reported 10-2 year yield curve slope with the same slope for the synthetic 10-year less actual 2-year. (Note we use the actual 2-year yield because it is likely less distorted since term premia play only a small part in its value.)

Although we do not claim that the adjusted 10-2 year spread is rapidly steepening, the chart does tell us two things:

- the **adjusted curve never inverted this cycle** and, hence, did not give a recession warning
- the **adjusted curve have been steepening for a year**, consistent with US economic acceleration from early 2024

Using the 'adjusted' yield curve rather than the actual curve slope could have provided a very different investment outlook for 2023 and 2024. Fortunately, by monitoring ***Global Liquidity*** conditions directly, our signals and investment recommendations were more upbeat, and in line with what the Agency mortgage market was really telling us.

10-2 Year Yield Curve: Actual and Adjusted



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Michael Howell ✓ Apr 14 📌 Author

It's possible. I'm not a great fan of the YC for reasons stated. Term premia better. Or YC adjusted for convexity.

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MacroMouse Apr 14

The 'adjusted' agency 10s2s wouldn't have predicted the 2001 or the 2008 recessions per your plot. Doesn't that reduce the utility of this adjusted slope as an indicator?

Also, pre-pandemic mtgs used to be 7y duration assets, today an on market mortgage (cmm) is a 4y duration because rates are higher and pre-pay speeds can pickup into a rally (more distribution below the forward). Not sure how one can compare a variable duration vs 2s spread historically and draw conclusions from it.

The crux of your argument though is quite simple, term premium is playing out in rates volatility (when vol goes higher, mortgage spreads widen and vice versa) more than the yield curve slope.

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