

Yield Curve Steepeners May Get No Satisfaction in 2025* (*If the Fed is right)

*I can't get no satisfaction
I can't get no satisfaction
'Cause I try and I try and I try and I try
I can't get no, I can't get no*

- Satisfaction by the Rolling Stones

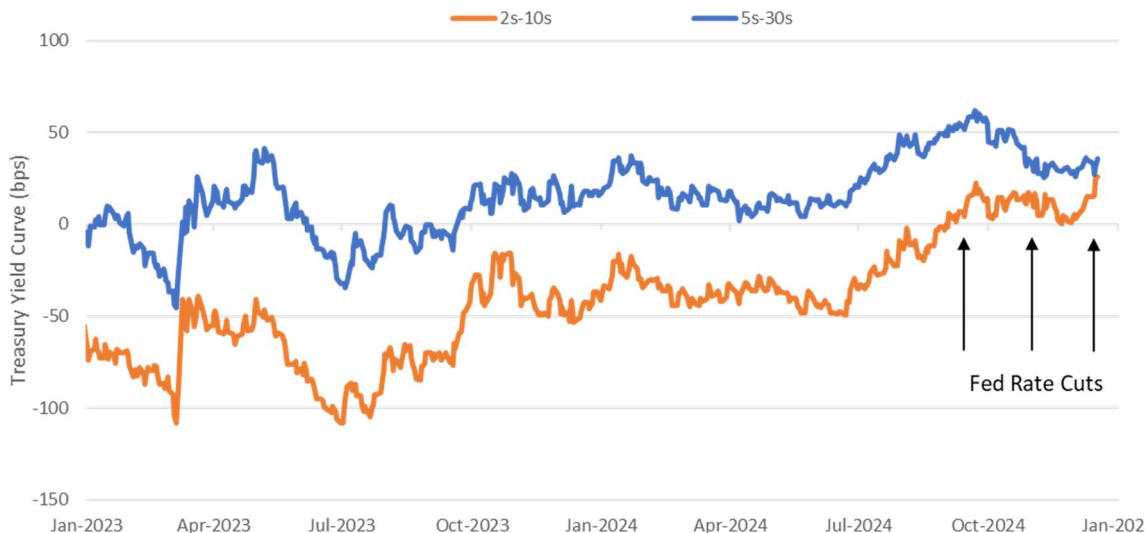
The third Fed rate cut of this easing cycle has come and gone, and market attention is refocused on the shape of the yield curve. Advocate's historical analysis indicates that certain types of steepeners may disappoint investors in 2025, especially if the Fed's projection of the Fed Fund rate path is correct.

Steepeners Are Popular in Easing Cycles, But Performance So Far Have Disappointed

The term "yield curve" refers to the relationship between the maturity of a bond and its yield. The steepness of a yield curve can affect many parts of an economy – it determines the cost that consumers pay on credit card and mortgage loans and can be a key driver of corporate and banking profitability. As such, market participants pay close attention to yield curve shape and directionality. We will analyze the potential direction of two popular yield curve steepeners (2s-10s and 5s-30s) in the context of historical Fed easing cycles to gain some insight into how they may evolve over the next 12 months.

Since the start of the current easing cycle in September, the 2s-10s Treasury yield curve has steepened somewhat, while the 5s-30s Treasury curve has flattened.

FIGURE 1. 2S-10S AND 5S-30S TREASURY YIELD CURVES, JAN 2023 – DEC 2024



Data period Jan 2023 – Dec 2024. Source: Bloomberg

In conjunction with its third rate cut of the easing cycle on December 18, the Fed also turned more hawkish in revising upward its GDP growth projections while projecting only two 25bp rate cuts for 2025. The question we will seek to answer here is whether a significant steepening can take place in 2025 if the December Fed dot plot is proven correct.

Methodology

We examine the behavior of yield curves at each point in Fed easing cycles since 1992 (when the Fed began publicizing the outcome of the FOMC meeting). Including the current easing cycle, there are 6 cycles.

FIGURE 2. HISTORICAL FEDERAL RESERVE EASING CYCLES, 1995 - 2024

Easing Cycle	First Easing Date	Last Easing Date	Cumulative Total Rate Cut in Cycle
1995-1996	Jul 1995	Jan 1996	75bps
1998	Sep 1998	Nov 1998	75bps
2001 – 2003	Jan 2001	Jun 2003	500bps
2007 – 2008	Sep 2007	Dec 2008	500bps
2019 – 2020	Jul 2019	Mar 2020	225bps
2024 - ?	Sep 2024	--	-100bps

Data period July 1995 – Dec 2024. Source: Federal Reserve

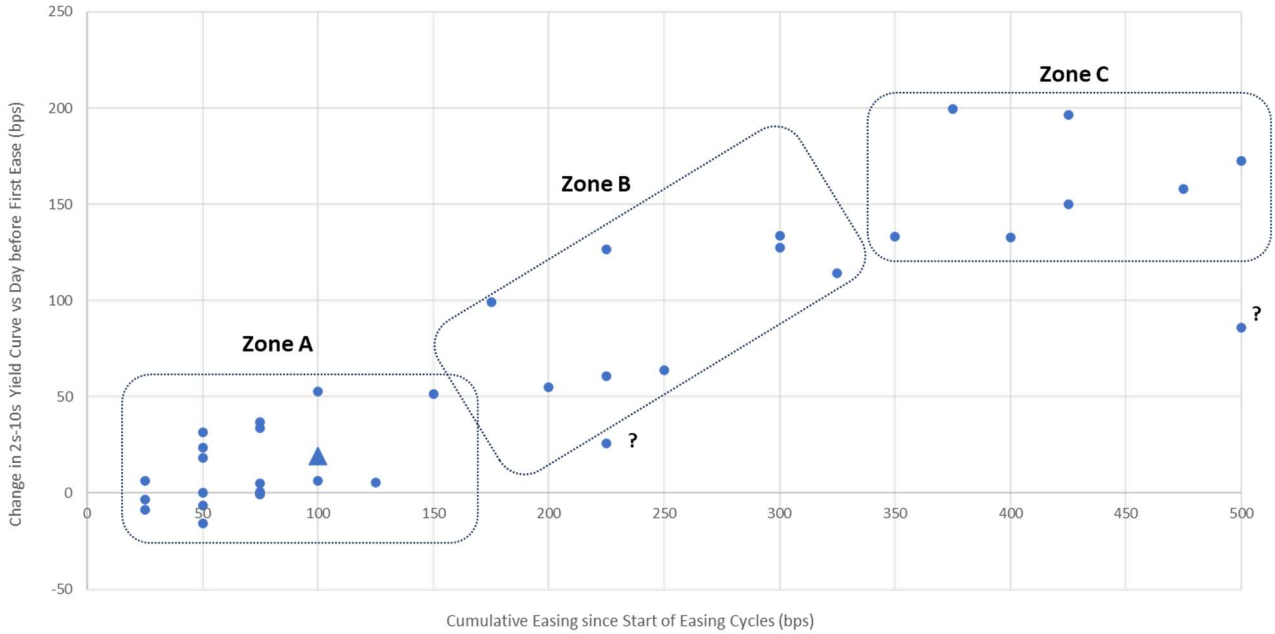
We note the level of the 2s-10s and 5s-30s Treasury yield curves a week after each rate cut and record the cumulative yield curve change since the beginning of the easing cycle in question.

The following chart shows the change in the 2s-10s Treasury yield curve relative to cumulative Fed rate cuts in each easing cycle. The yield curve steepens with additional Fed cuts, but the relationship is not linear. We identify three different zones of behavior relative to the amount of Fed easing:

1. Zone A (0-to-150bp easing) – Not much going on. This is the initial flat part of the “S-curve” that we frequently find in financial markets. Markets tend to price in some steepening ahead of the actual first Fed ease, leaving the yield curve rather directionless over the course of the first few rate cuts.
2. Zone B (150-to-300/350bp easing) – Significant steepening. Historically about 100-150bps of 2s-10s curve steepening occurs in this zone.
3. Zone C (350+bp easing) – Plateau as the Fed easing nears its end. Yield curves tend to not move much even as the Fed enacts more rate cuts.

There are some outliers (tagged with “?” on the charts) where the yield curve change is considerably less than one might expect given the rate cuts. We will address these in the next section.

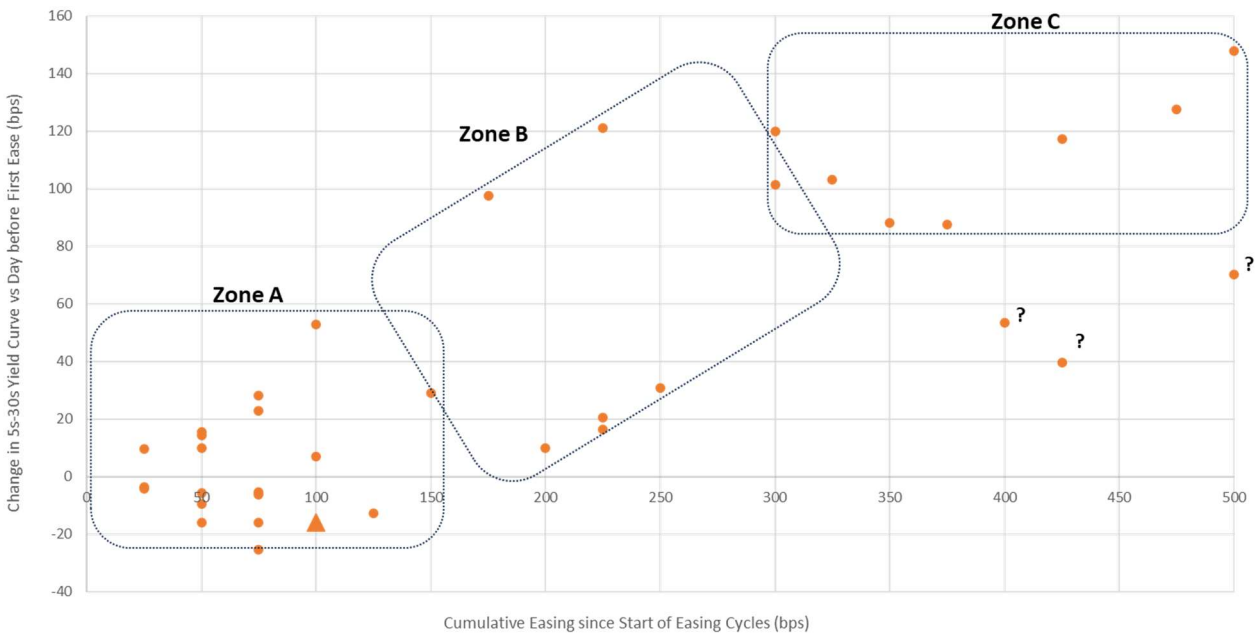
FIGURE 3. CUMULATIVE 2S-10S TREASURY YIELD CURVE CHANGE (BPS) SINCE START OF EASING CYCLES VS TOTAL RATE CUT IN CYCLE, 1994 – 2024. TRIANGLE IS THE LATEST DATA POINT AFTER THE MOST RECENT FED RATE CUT (DEC-2024)



Data period July 1995 – Dec 2024. Sources: Federal Reserve, Bloomberg, Advocate

The view is similar with 5s-30s yield curve, with about 100bps of 5s-30s steepening occurring in Zone B before plateauing in Zone C.

FIGURE 4. CUMULATIVE 5S-30S TREASURY YIELD CURVE CHANGE (BPS) SINCE START OF EASING CYCLES VS TOTAL RATE CUT IN CYCLE, 1995 – 2024. TRIANGLE IS THE LATEST DATA POINT AFTER THE MOST RECENT FED RATE CUT (DEC-2024)



Data period July 1995 – Dec 2024. Sources: Federal Reserve, Bloomberg, Advocate

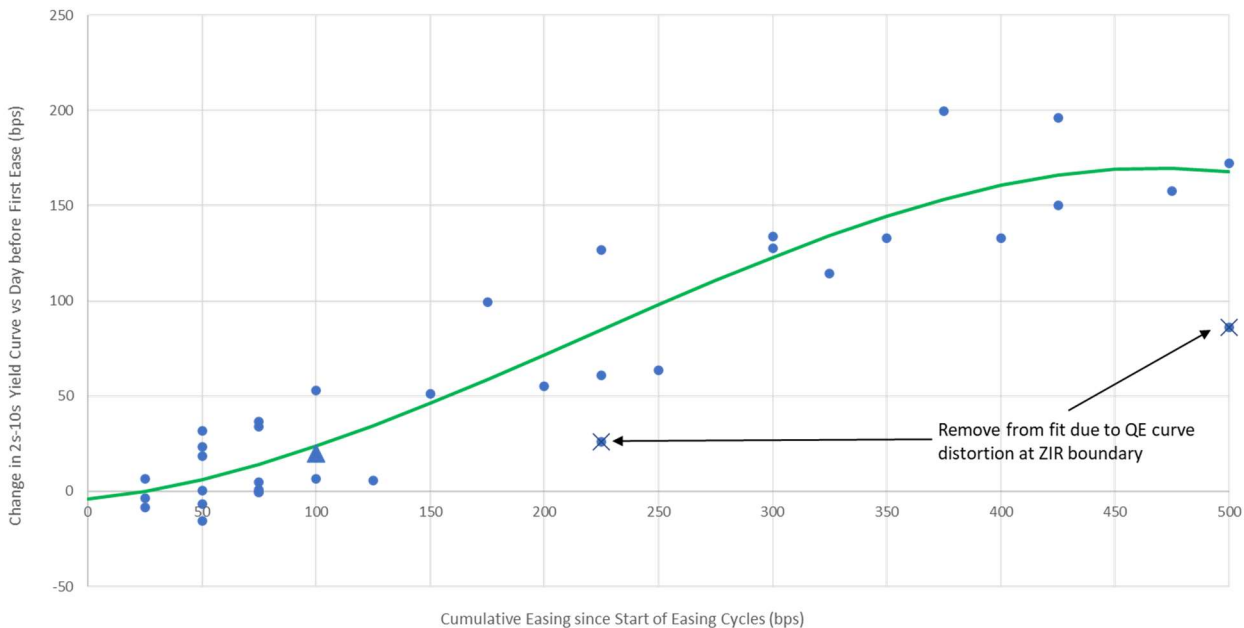
The triangles in both plots represents the latest market data after 100bps of rate cuts have been made in this cycle. 2s10s and 5s30s yield curves have steepened 19bps and -16bps respectively since the start of the easing cycle.

Curve Fitting

We use a third-order polynomial fit to map the historical relationship between yield curve change and amount of Fed cuts. We exclude data points that reflect one-off events that distort the yield curve anomalously:

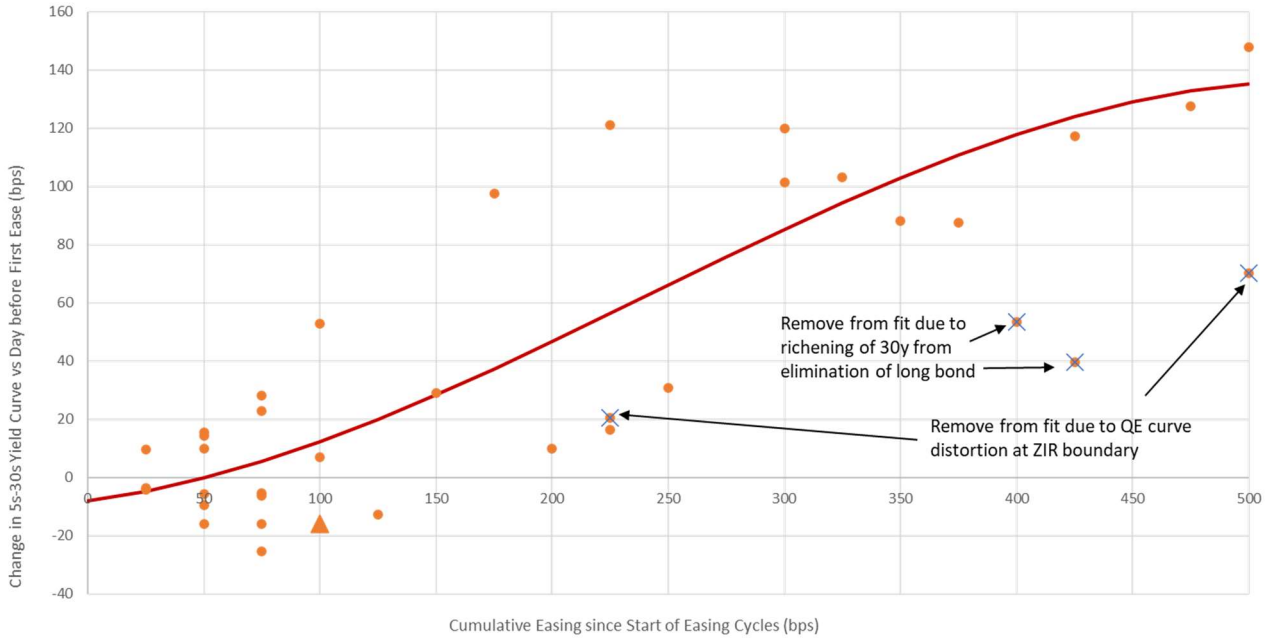
1. QE expectation-induced curve distortion. When Fed rate cuts brought the lower boundary of the Fed Funds target range to the zero interest rate (ZIR) boundary, yield curve distortion ensued due to market anticipation of Quantitative Easing (QE). The expectation and pricing in of future QE results in the richening of longer-maturity bonds which distorts the yield curve.
2. Elimination of the long bond in 2001. The Treasury announced at the end of October 2001 that it would eliminate the 30-year Treasury bond. This resulted in a dramatic richening of the 30yr sector and distorted the shape of the yield curve for a few months.

FIGURE 5. CUMULATIVE 2S-10S TREASURY YIELD CURVE CHANGE (BPS) SINCE START OF EASING CYCLES VS TOTAL RATE CUT IN CYCLE, 1995 – 2024. GREEN LINE IS THE LEAST MEAN-SQUARE ERROR POLYNOMIAL FIT TO THE DATA



Data period July 1995 – Dec 2024. Sources: Federal Reserve, Bloomberg, Advocate

FIGURE 6. CUMULATIVE 5S-30S TREASURY YIELD CURVE CHANGE (BPS) SINCE START OF EASING CYCLES VS TOTAL RATE CUT IN CYCLE, 1994 – 2024. GREEN LINE IS THE LEAST MEAN-SQUARE ERROR POLYNOMIAL FIT TO THE DATA



Data period July 1995 – Dec 2024. Sources: Federal Reserve, Bloomberg, Advocate

How steep are 2s-10s and 5s-30s yield curves relative to history?

FIGURE 7. CURRENT AND HISTORICAL FITTED STEEPNESS OF 2S-10S AND 5S-30S TREASURY YIELD CURVES AT SIMILAR POINTS IN THE FED EASING CYCLE (100BPS OF RATE CUTS), JUL 1995 – DEC 2024

Steeper Type	Current Yield Curve* (bps)	Historical Fit (bps)	Potential Gain in move to Historical Fit (bps)
2s-10s	+19	+24	+5
5s-30s	-16	+12	+28

*Current yield curve change since start of this easing cycle. Data period July 1995 – Dec 2024. Sources: Federal Reserve, Bloomberg, Advocate

Clearly the 5s-30s yield curve is quite flat by historical standards at similar points in past Fed easing cycles (100bp of rate cuts), while the 2s-10s yield curve is fair by comparison.

- 1) The current slope of the 5s-30s yield curve (-16bps) could steepen by 28bps if it simply reverts to the historically fitted curve steepness of +12bps at the 100bp easing point, even if no more rate cuts are forthcoming.
- 2) The current slope of the 2s-10s yield curve (+19bps) could only steepen by 5bps if it reverts to the historically fitted curve steepness of +24bps at the 100bp easing point.

Total Expected Returns of Yield Curve Steepeners Given Fed Dot Plot in 2025

Next we calculate the potential return from yield curve steepeners in the next year under two convergence scenarios – convergence at the current level of curve cheapness relative to our fit, or a full convergence to our fitted curve. The starting point is the expected 50bp Fed rate cut in 2025 from the December 2024 Fed Summary of Economic Projections (SEP) report. This provides a context to calculate expected yield curve total returns in the next 12 months.

Step 1 - Carry and Realized Volatility

Yield curves have expected carry costs that must be figured into total return calculations. The negative carry of yield curve steepeners over a 1-year horizon is calculated by comparing 1yr-forward swap curve to the current swap curve to proxy the carry costs of Treasury steepeners.

FIGURE 8. ONE-YEAR CARRY AND ANNUALIZED VOLATILITY OF YIELD CURVE STEEPENERS (USING SWAP FORWARD CURVES)

Steepener Type	Annual Carry (bps Yield)	Annualized Volatility (bp/yr)
2s-10s	-8	62
5s-30s	0	58

Annual volatility calculated from daily yield curve data since Jan 2000. Sources: Bloomberg, Advocate

The 8bps of negative carry for 2s-10s steepener means it would need to steepen by more than 8bps in a year's time in order to achieve a positive total return.

Step 2 – Total Expected Returns Under Two Mean-Reversion Scenarios.

We analyze the potential gains from steepeners if the Fed Funds rate should drop by 50bps and the yield curves converge to either the fitted curve (Mean reversion to regression, or MRR), or if it converges towards the fitted curve but maintains its current difference relative to the fitted curve (Mean reversion at current cheapness, or MRCC).

FIGURE 9. 2S-10S AND 5S-30S STEEPENER ONE-YEAR CARRY AND POTENTIAL GAINS IN MEAN-REVERSION SCENARIOS GIVEN ANOTHER 50BPS OF FED RATE CUTS IN 2025

Steepener Type	1-Yr Carry	Mean Rev at Current Cheapness (MRCC)	Mean Rev to Regression (MRR)	1yr Carry-Adj Steepener Gain (MRCC)	1yr Carry-Adj Steepener Gain (MRR)
2s-10s	-8bps	23bps	27bps	15bps	19bps
5s-30s	0bps	16	45	16	45

Source: Advocate

Are gains of 15-to-19bps for 2s-10s and 16-to-45bps for 5s-30s steepeners high or low? Some contextual insight can be found by dividing the expected gains in the two mean-reversion scenarios by the realized annual volatility of each steepener. The ratio is a proxy for the Sharpe Ratio of the steepeners.

FIGURE 10. 2S-10S AND 5S-30S STEEPENER ONE-YEAR POTENTIAL TOTAL RETURNS FOR VARIOUS MEAN-REVERSION SCENARIOS AND RETURN-TO-VOLATILITY RATIOS

Steepener Type	1yr Carry-Adj MRCC Gain (bps)	1yr Carry-Adj MRR Gain (bps)	MRCC/Ann Vol	MRR / Ann Vol
2s-10s	15	19	0.24	0.31
5s-30s	16	45	0.28	0.77

Source: Advocate

We note the following:

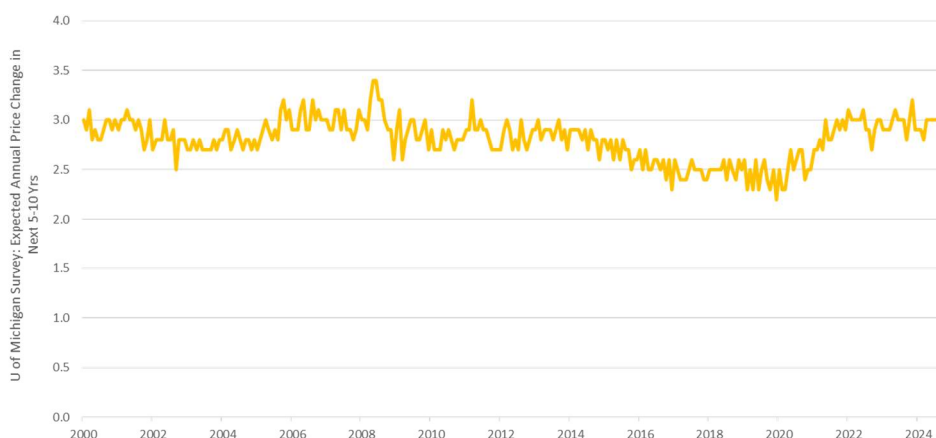
- 1) Potential gain-to-vol ratios for 5s-30s steepener in both scenarios are greater than the 2s-10s steepener. This suggests that 5s-30s is the superior curve steepener on a risk-adjusted basis.
- 2) If mean-reversion occurs at the current levels of cheapness of each curve relative to the historical fitted curves after another 50bps rate cut, both steepeners produce expected gain-to-vol ratios that are quite low (0.24 and 0.28), rendering them unattractive investments.
- 3) If yield curves should fully mean-revert to our historical fitted curves after another 50bps rate cut, the 5s-30s steepener is a more plausible investment given its 0.77 gain-to-vol ratio.

Is A Single Driver of Yield Curve Dynamics in an Easing Cycle Overly Simplistic?

Our analysis seeks to model yield curve behavior in Fed easing cycles with only a single driver – the amount of cumulative rate cuts since the start of easing cycles. That is clearly an oversimplification as long-term inflation expectations is a key driver of long-term interest rates and hence yield curve. But as long as inflation expectations remain well-anchored and consumers continue to respect the Fed’s inflation-fighting chops, its impact on yield curve dynamics is likely to be muted relative to Fed action.

Is a well-anchored long-term inflation expectation a valid assumption, at least over the next 12-month horizon? The University of Michigan’s survey of inflation expectations over the next 5-to-10 Year period certainly supports that contention. Since 2000, long-term inflation expectation from the survey never exceeded 3.4%, even in the context of the high post-pandemic inflation period.

FIGURE 11. UNIVERSITY OF MICHIGAN SURVEY OF EXPECTED ANNUAL CHANGE IN PRICE OVER NEXT 5-10 YEARS



Data period Jan 2000 – Dec 2024. Source: University of Michigan

Final Thoughts – Yield Curve Steepener Performance Likely to Disappoint Investors in 2025, if the Fed Dot Plots are Correct. 5s-30s Steepener Better than 2s-10s

We quantified the potential evolution of 2s-10s and 5s-30s yield curves in Fed easing cycles by mapping the historical change in yield curve steepness relative to the degree of Fed easing in past cycles. We find that, if the Fed does cut rates by 50bps in 2025:

- 1) 5s-30s steepener is superior to the 2s-10s steepener on a carry and risk-adjusted basis.
- 2) 2s-10s steepener is likely to generate unattractive risk-adjusted return if yield curves evolve in line with historical easing cycles.
- 3) 5s-30s steepener is an attractive investment only if the 5s-30s yield curve steepens from its current level of cheapness to a level in-line with our historical fit. A convergence towards the historical fit while maintaining its current cheapness relative to the fit would result in an unattractive risk-adjusted return.

A key premise of the above conclusions is that the Fed's December 2024 dot plot turns out to be an accurate predictor of Fed action in 2025. If the Fed should ease more than 50bps in 2025, steepeners may indeed turn out to be attractive investments. If the Fed cuts by less than 50bps in 2025, investors may have to write off steepeners altogether and seek greener pastures elsewhere.

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