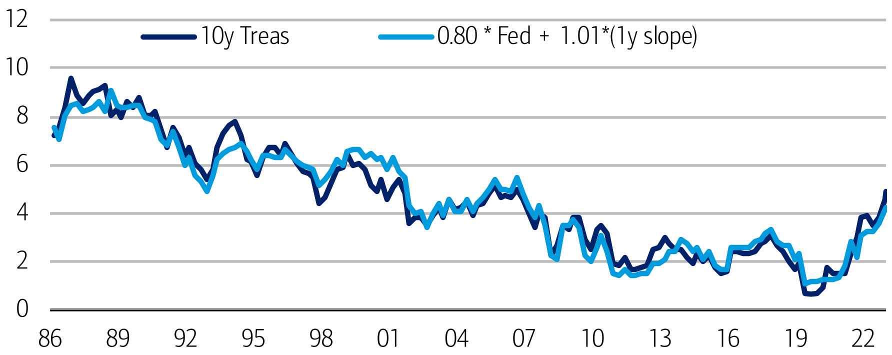
US Rates Watch

The big picture for long-term interest rates

Interest rates are largely determined by the Fed

The daily ups and downs of the bond market are often clearly attributable to incoming data and news, but we find that the level of interest rates over the years is largely determined by the Fed's policy stance and market expectations of their policy path over the next year. Exhibit 1 we think offers compelling evidence that the Fed policy stance together with expectations of the 1-year change in policy explains most of the variation in 10y rates over the past 4 decades. The explanatory power (R-square) decays from 2y to 30y, but it is a minor decline from 98% to 93%. The expected 1y change in policy is much more important for the long end (Exhibit 4).

Exhibit 1: Over long run, 10y rates are mainly a function of Fed policy and its expected path
10y rates versus a linear combination of fed funds and expected change in fed policy over 1y



Source: BofA Global Research. Note: R-square in levels is 96% and in changes is 70%

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Implications for rates investors

The first implication is that the outlook for interest rates going forward will mostly be a function of where the Fed goes. Our Rates Strategy team argued in Liquid Insight: US rate shock FAQ 11 October 2023 that the majority of the rate rise since mid-July can be explained by fewer expected cuts priced in '24-'25, which resulted in a higher trough for the Fed cutting cycle. We also argued that 5% could be a 10y rate top given that the Fed was nearly done hiking and the 1y path would remain inverted. Going forward, if the fed remains worried about inflationary pressures and/or increased r* (the "neutral" real policy level), they might remain in a higher range compared to the post-GFC range of 0%-2.5%. If the Fed's new range is 3%-6%, then it's likely that 10y rates will also fluctuate around the 3%-6% area, depending on the extent of expected policy hikes/cuts that are priced. Today's market prices a relatively large number of cuts, which drags term rates down and inverts the yield curve. Our results imply that if the market expected no change in Fed policy over the next year, then 10y Treasury rates would be 100bp higher.

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GFC: Global Financial Crisis

SOFR: Secured Overnight Financing Rate

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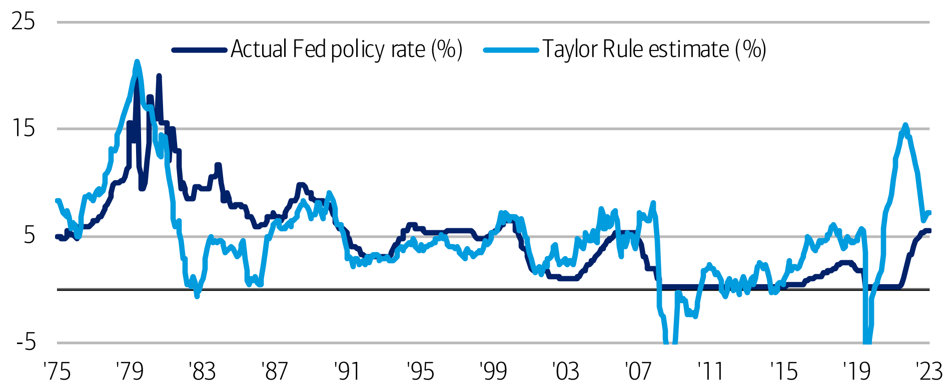
The extent of cuts anticipated over the next year is a reflection of expectations for slower growth and lower inflation, which would allow the Fed to lower policy rates if inflation risk substantially declines. The expected Fed path over 2 years (instead of 1y) would more accurately capture term rate levels, but we chose to use 1y expectations to emphasize the importance of very near-term expectations for long-term rates.

A framework for where the Fed will set policy in the future

This framework simplifies term rate levels as a function of near-term Fed policy. But where is the Fed headed? The Taylor Rule could provide a useful rule of thumb for where the Fed could go in the future. The Taylor Rule is a simple formula that connects Fed policy levels to 1) the gap between actual inflation and the 2% target, and 2) the gap between the unemployment rate and the target unemployment rate, often referred to as NAIRU, or the non-accelerating-inflation rate of unemployment. While the Fed does not officially use the Taylor Rule, it seems to provide be a reasonable ballpark estimate of what the Fed has actually done since the mid 1970's as it responded to misses in its inflation and unemployment targets (Exhibit 2).

Exhibit 2: The Taylor Rule is a useful way to think about the possible future path of the Fed

The Taylor Rule is not officially used by the Fed, but does give a good proxy over the long run



Source: BofA Global Research Note: this version is Nominal policy = 2% real neutral + CPI rate + 0.5 * (CPI -2%) + (4.5% – unemp rate)

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Implications for debt sustainability and term premium

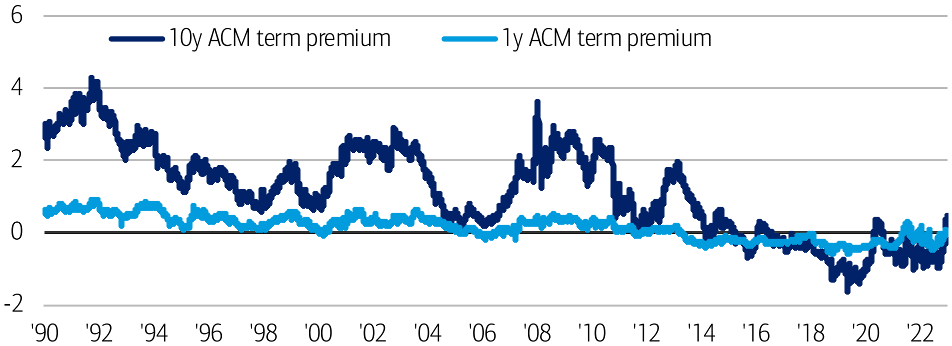
While issues like federal debt sustainability and questions around who will buy all the Treasuries bonds are important, especially for spreads between Treasury yields and swap yields, the very close relationship between Fed policy levels and 10y rate levels should hopefully ease fears of a future debt crisis in the US that causes interest rates to skyrocket. Because expected deficit paths are not a direct input into the Fed's policy decision process, we would argue that Exhibit 1 implies expected deficit paths do not play a significant role in the levels of long-term (or short-term) interest rates. Increasing deficits and government interest expense do create a feedback loop, however, where higher interest rate expense creates more Treasury issuance which in turn leads to higher interest rate expense. Sentiment around these issues and financial system soundness can impact Fed policy. We have argued that higher government interest rate payments might provide a private-sector stimulus because Treasury deficits are "money financed" (see Liquid Insight: Higher rates aren't all bad 02 March 2023). But deficit sustainability is an issue at high interest rates, and inflationary pressures can develop with ongoing large government money creation in the private sector, which impacts Fed policy.

Term premium arguments appear flawed

We think the relationship shown in Exhibit 1 rejects the notion that term premium is a major factor for the level of long-term rates. If 10y and 30y rates are essentially a function of the overnight rate and the 1y slope of overnight rates, then any term premium embedded in 10y and 30y would have to come from this area of the curve. Exhibit 3 shows that 1y term premium is very small compared to 10y term premium. In

US Rates Watch: What is term premium in rates telling us? 18 October 2023, we discussed theoretical flaws in term premium, including the fact that a large subset of rates investors including benchmarked portfolios and asset-liability managers cannot choose to invest solely in T-bills. This idea that the market needs to be compensated to extend away from T-bills and move out into higher duration is therefore a challenging starting point in our view.

Exhibit 3: 1y term premium estimates are small compared to 10y term premium
10y and 30y term premium is likely much closer to 1y term premium



Source: BofA Global Research. Note: ACM = Adrian Crump and Moench

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Why are long-term rates so dependent on the overnight rate

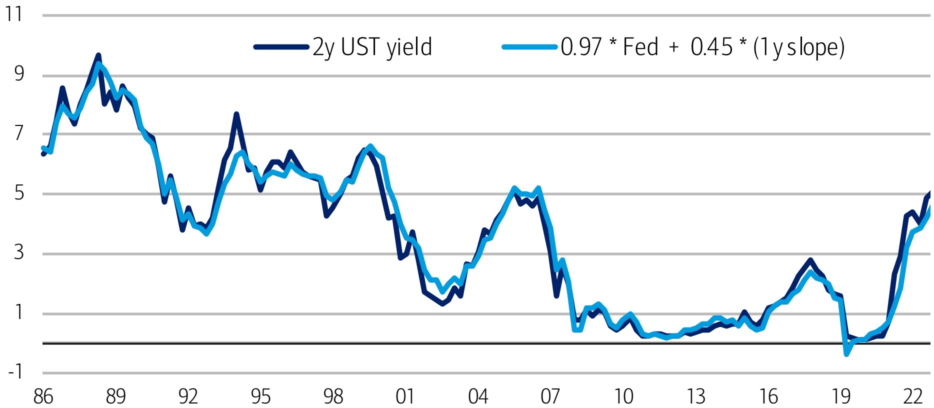
The reason is that each point on the rates curve is related to points before it. While it is tempting to think of T-bills rates as mostly a function of money market demand and Treasury T-bill supply, the reality is that T-bill rates can only range so far from the overnight policy rate (unless there is fear of default, which then introduces risk premium). The fed funds rate as well as SOFR can also move around in the 25bp corridor set by the Fed. This can impact the path of policy expectations even if no hikes/cuts are expected. The Fed is currently at 5.33%, and there is no Fed meeting over the next month. Unless the Fed has an intermeeting rate move, the overnight rate will remain constant for the next month. This implies that the 1-month rate needs to be very close to 5.33% to avoid arbitrage. If it is substantially above 5.33%, then one could finance a T-bill purchase at 5.33% for a month and earn the carry with no price risk at the 1-month horizon. With leverage, this would generate a large return on equity. The 1-month T-bill rate is now 5.3%. This reasoning can then be applied to the 2-month rate which can only be so far from the 1-month rate because the 2-month rate is the 1-month rate compounded with the 1-month rate starting a month from today. This bootstrapping argument can be extended out the curve. At longer maturities, the expected 1y path of Fed policy becomes increasingly important.

The relationship is not perfect, but still useful

There are periods when the gap is large between the actual rate and the rate implied by Fed policy. The 2013 taper tantrum is a good example: 10y rates rose 100bp more than policy expectations implied. The discrepancy can be substantially reduced if we use a 2-year expectation for policy instead of 1-year period. But even then, we will still find mismatches. As a result, this framework provides an approximate guide for thinking about the level of interest rates. Our framework misses things like changes in Treasury issuance patterns, which had a significant market impact this week, and changes in regulations that result in shifts in bank demand for Treasuries. It also misses out on positioning buildups that can produce large market moves. These misses can sometimes be reflected in changes in swap spreads. But we think the framework provides a useful way to simplify the question of "Where will rates go?" which is useful not only for investors but for corporations developing business plans. The framework also suggests that fears of Treasury deficits causing a rate spike are probably overdone, and that term premium may have shortfalls that investors should be aware of.

Exhibit 4: 2y yield vs policy and slope

Skewed toward o/n policy rate



Source: BofA Global Research

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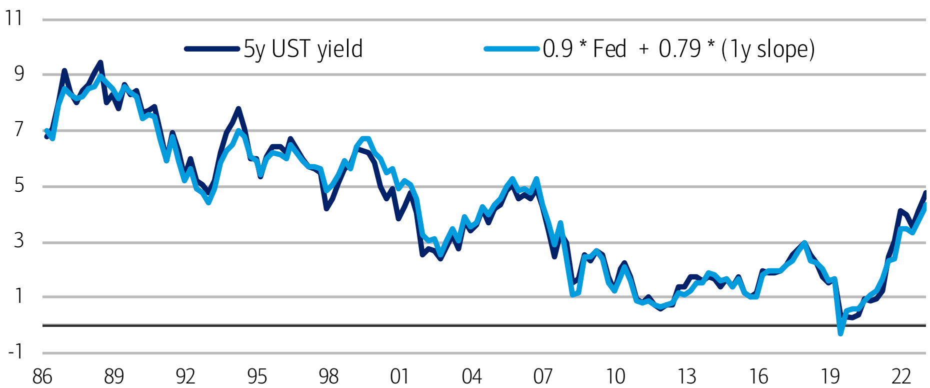
Exhibit 5: 5y yield vs policy and slope

More balanced rate/slope dependence



Source: BofA Global Research

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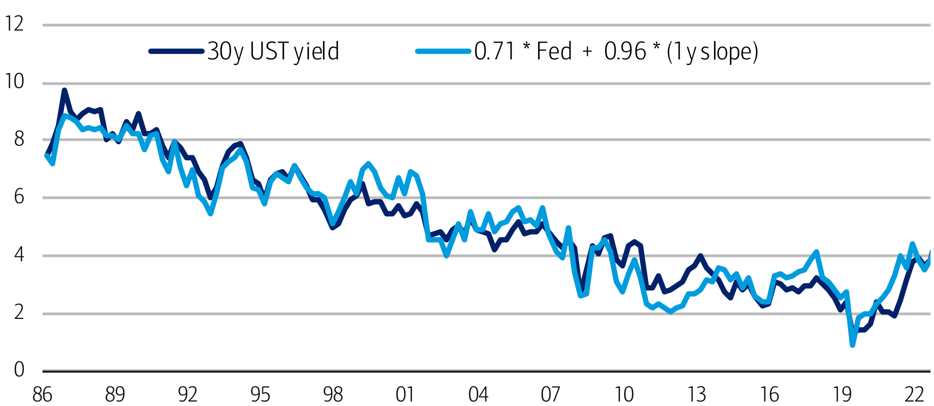
Exhibit 6: 30y yield vs policy and slope

More skewed toward slope



Source: BofA Global Research

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