Quarterly Economic Update: Inversion Arrives Ahead of Schedule

April 12, 2022

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David chairs NISA's Investment Committee and is a member of NISA's Management Committee. As CEO and Head of Investment Strategies, his responsibilities include overseeing new product development and growth initiatives and day-to-day oversight of our Investment Strategies group, which develops custom strategies designed to meet client objectives. Prior to joining NISA in 1999, he was with JP Morgan Investment Management for three years. David holds a BSBA from Washington University in St. Louis, with majors in Finance and Mathematics.

Stephen J. Douglass – *Senior Economic Strategist*

Stephen is a Senior Economic Strategist in the Portfolio Management Group and a member of NISA's Investment Committee. Stephen conducts analysis on the global economy, monetary and fiscal policy, and interest rate markets. He is a member of the team responsible for communicating economic, market and portfolio-related information to clients, and is a frequent contributor to NISA Perspectives.

Stephen joined NISA in 2016. Prior to NISA, he was a trader/analyst at the Federal Reserve Bank of New York, where he analyzed U.S. interest rate markets and helped manage the Fed's multi-trillion portfolio of Treasury securities. He has previous experience as a trader at a multi-strategy hedge fund. Stephen earned a BA in Mathematical Economics from Colgate University, an MBA from INSEAD and an MA in International Economics from Johns Hopkins University SAIS.

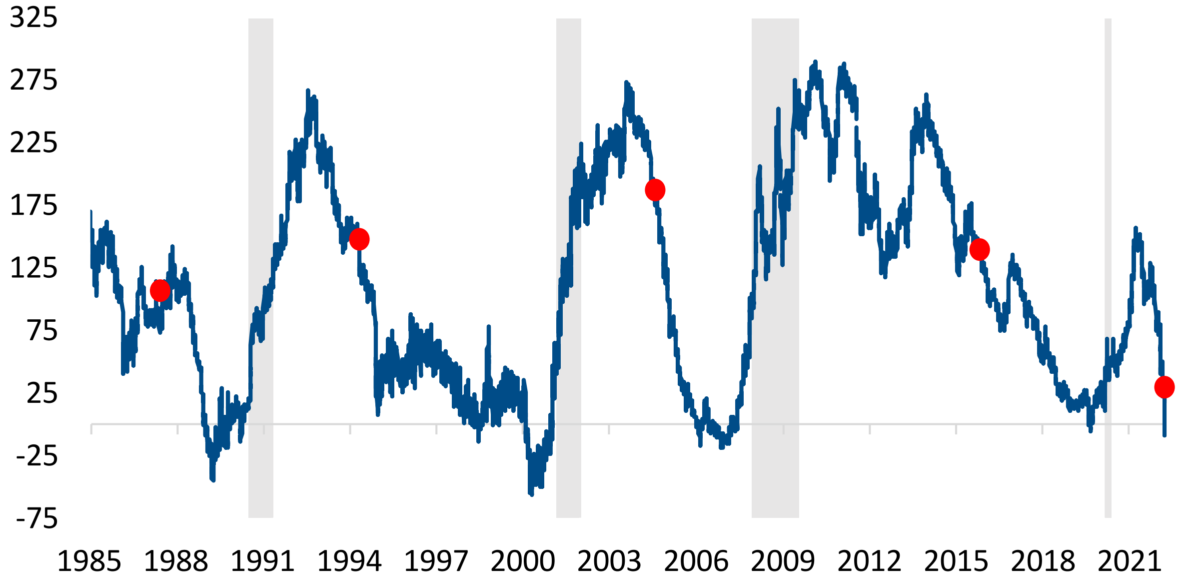
Inversion Arrives Ahead of Schedule

- An inverted 2s10s yield curve has preceded 8 of the last 8 recessions dating back to 1970.
- 2s10s has flattened by 160bps in the past 12 months and was flatter at liftoff than in any previous tightening cycle in Federal Reserve history.
- Two yield curve characteristics that are unique to this cycle:
  1. The curve started this tightening cycle at a flatter level because the Fed only had 175bps of cuts at their disposal when the pandemic began.
  2. The breakeven curve is significantly inverted for the first time in the history of the TIPS market.

Treasury Yield Curve
Percent

Source: Bloomberg

2s10s Treasury Yield Spread
basis points

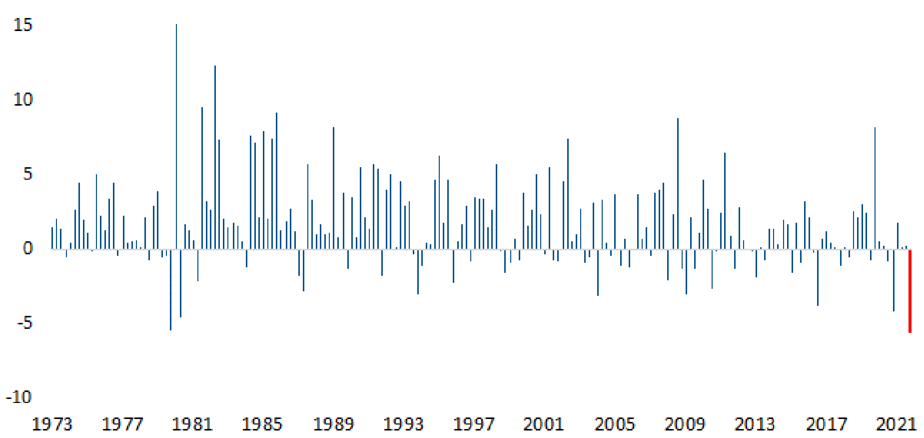


Gray bars indicate recession. Red dots indicate liftoff.
Source: Bloomberg

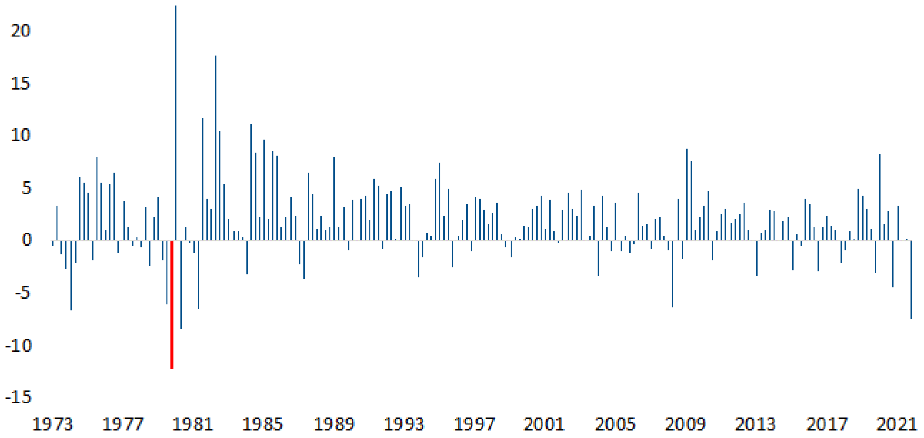
The Treasury Market's Worst Quarter On Record

The bear flattening in Q1 led to the single worst quarterly performance for the Bloomberg Full Treasury Index since inception in 1973.

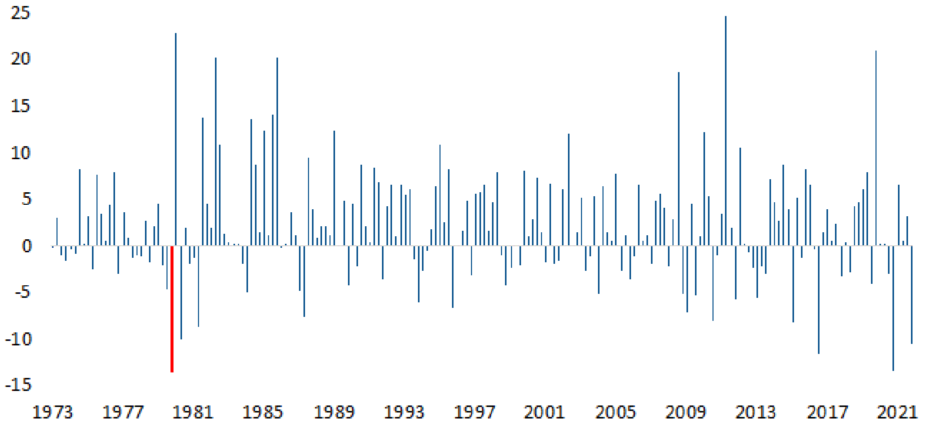
Full Treasury Index
Percent return by quarter, since inception



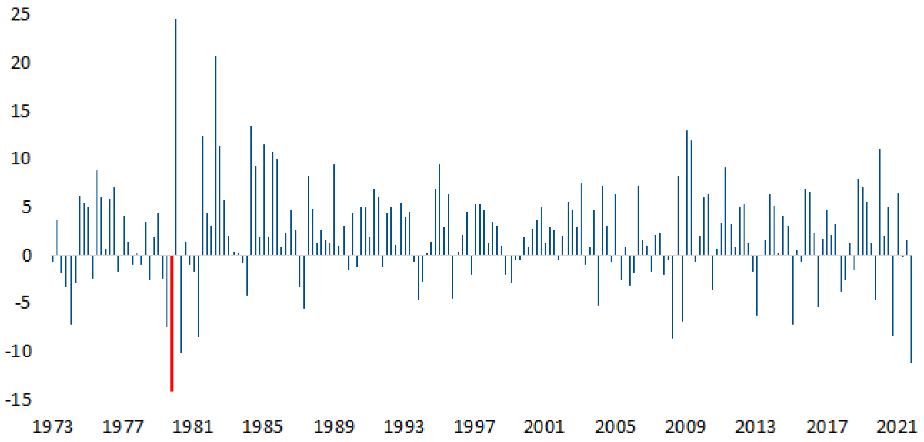
Full Credit Index
Percent return by quarter, since inception



Long Treasury Index
Percent return by quarter, since inception



Long Credit Index
Percent return by quarter, since inception



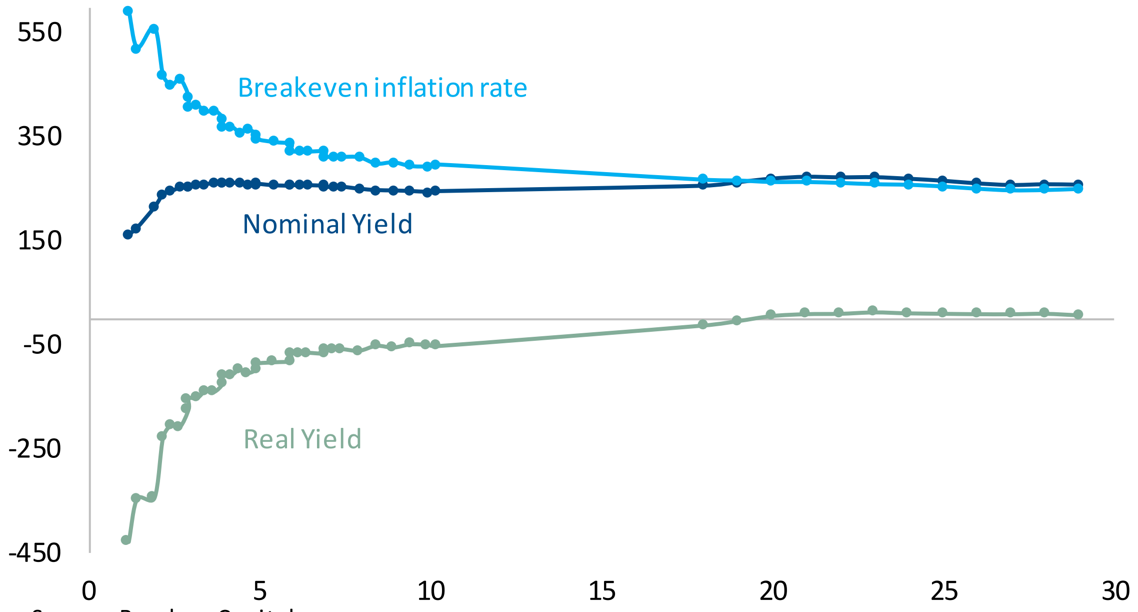
Highlighted column is the largest quarterly decline since inception
Source: Bloomberg

Objects In Mirror Are Steeper than They Appear

- The breakeven inflation yield curve is inverted for the first time in the history of the TIPS market. Inflation is very high today but the TIPS market is pricing it to decline steadily towards 2.5% CPI. This makes the nominal yield curve appear flatter than would otherwise be the case (nominal yields are the sum of breakevens and real yields).

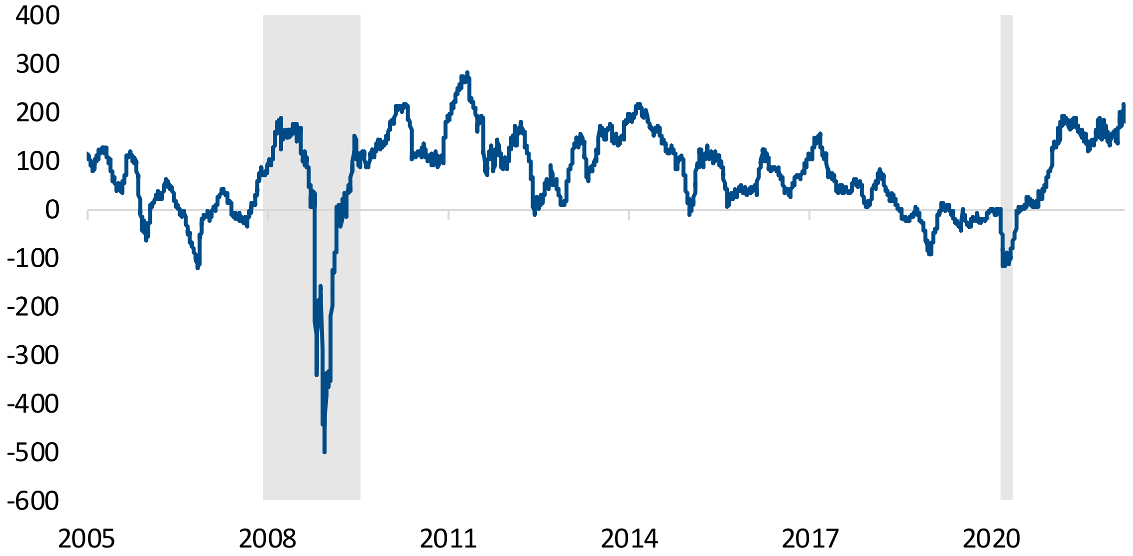
- The real yield curve is still very steep. Real 2s10s at +210bps is around the steepest level of the past decade. TIPS have only existed for two recessions, but a real 2s10s inversion did precede both of them.

Treasury Yield Curves
basis points, as of 3/31/22



Source: Barclays Capital

2s10s Treasury Real Yield Spread
basis points



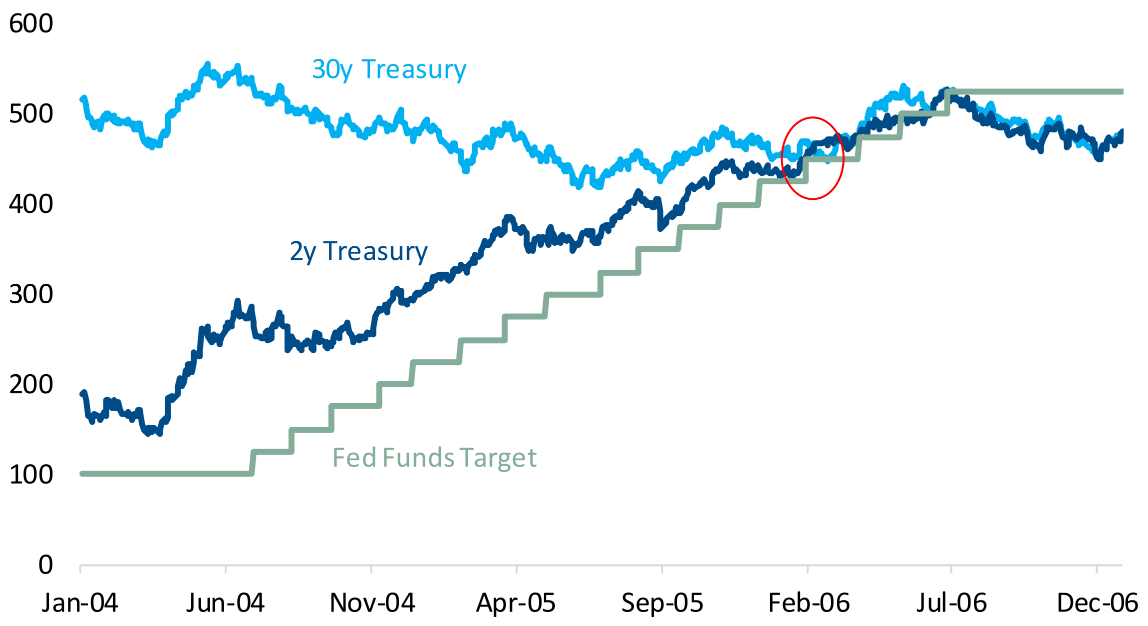
Gray bars indicate recession.
Source: Bloomberg

Terminal Rate Repricing Usually Comes Later

- The yield curve bear flattened early in the 2004-2006 tightening cycle, as is typical. After the first 14 rate hikes, 2s30s was inverted and the whole yield curve was within a few basis points of the federal funds rate. Then the Fed hiked three more times and the entire yield curve shifted higher by 75 basis points. After that, the whole yield curve was inverted below federal funds.

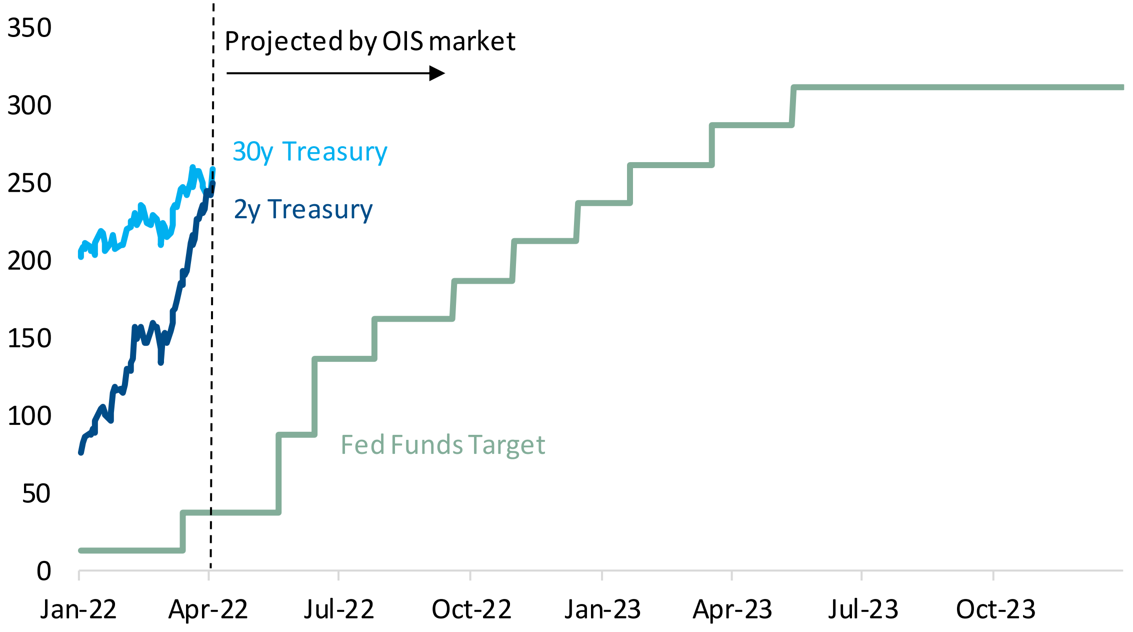
- In 2022, 2s30s inverted after just one rate hike. Market participants initially doubted that the Fed would be able to raise the federal funds rate above 2%, but have repriced the terminal rate all the way up to 3.125% since February.

Treasury Yields during 2004 Tightening Cycle
basis points



Source: Bloomberg

Treasury Yields during 2022 Tightening Cycle
basis points

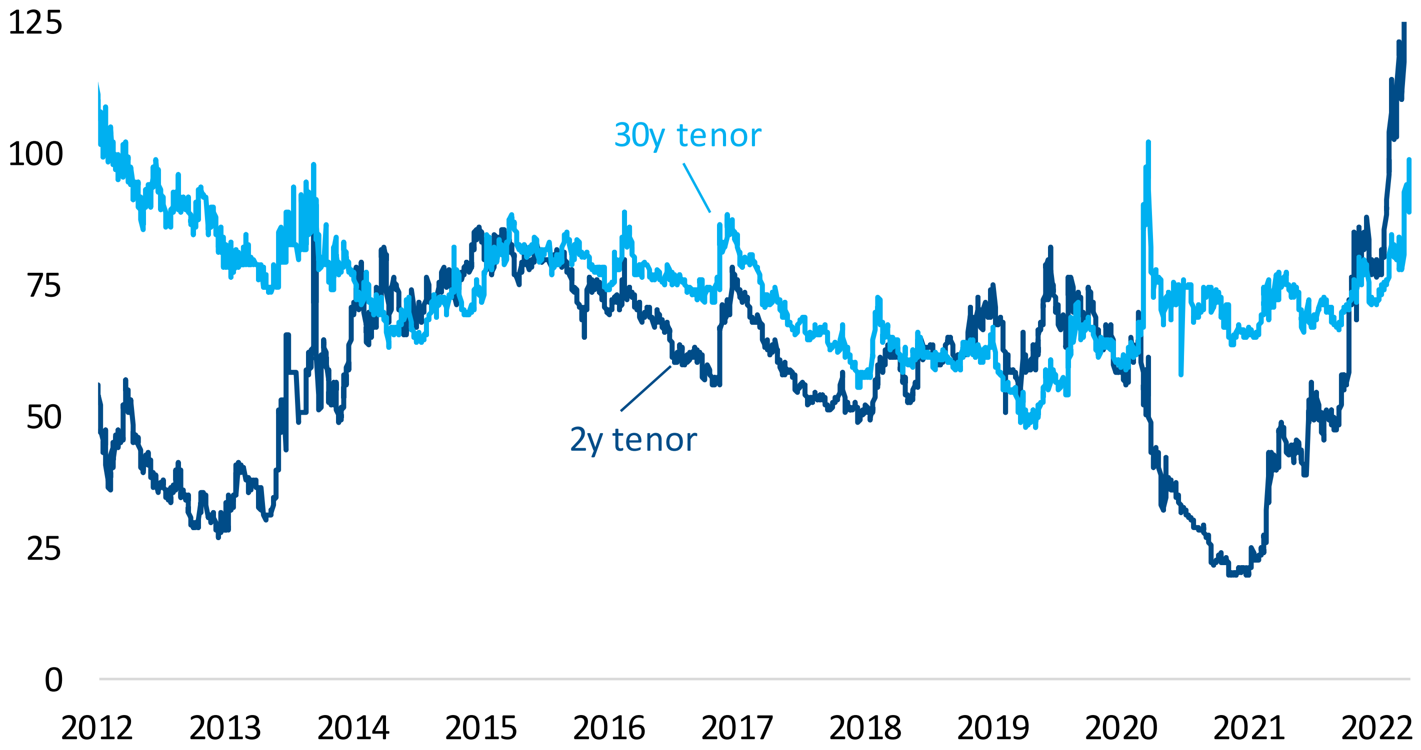


Source: Bloomberg

Implied Volatility Has Risen Most at Shorter Tenors

Implied volatility has risen across tenors, but the largest increase has occurred at shorter tenors. This is consistent with an uncertain outlook for monetary policy.

Swaption-implied Volatility
basis points, 1-year expiry



Source: Bloomberg

The Fed Rarely Achieves a Soft Landing

- The Fed is forecasting a soft landing but their record on achieving this is not good. Chairman Powell recently cited four soft landings delivered by the Fed in postwar history. That strikes us as a generous assessment.
- The economic conditions at liftoff demonstrate just how far behind the curve the Fed has fallen.
- Based on this track record, it is prudent to worry about a recession.

Variable	Current Value	FOMC Median Projections			
		2022	2023	2024	Longer-run
Real GDP Growth	5.7	2.8	2.2	2	1.8
Unemployment Rate	3.6	3.5	3.5	3.6	4.0
Core PCE Inflation	5.4	4.1	2.6	2.3	2.0

Source: Federal Reserve

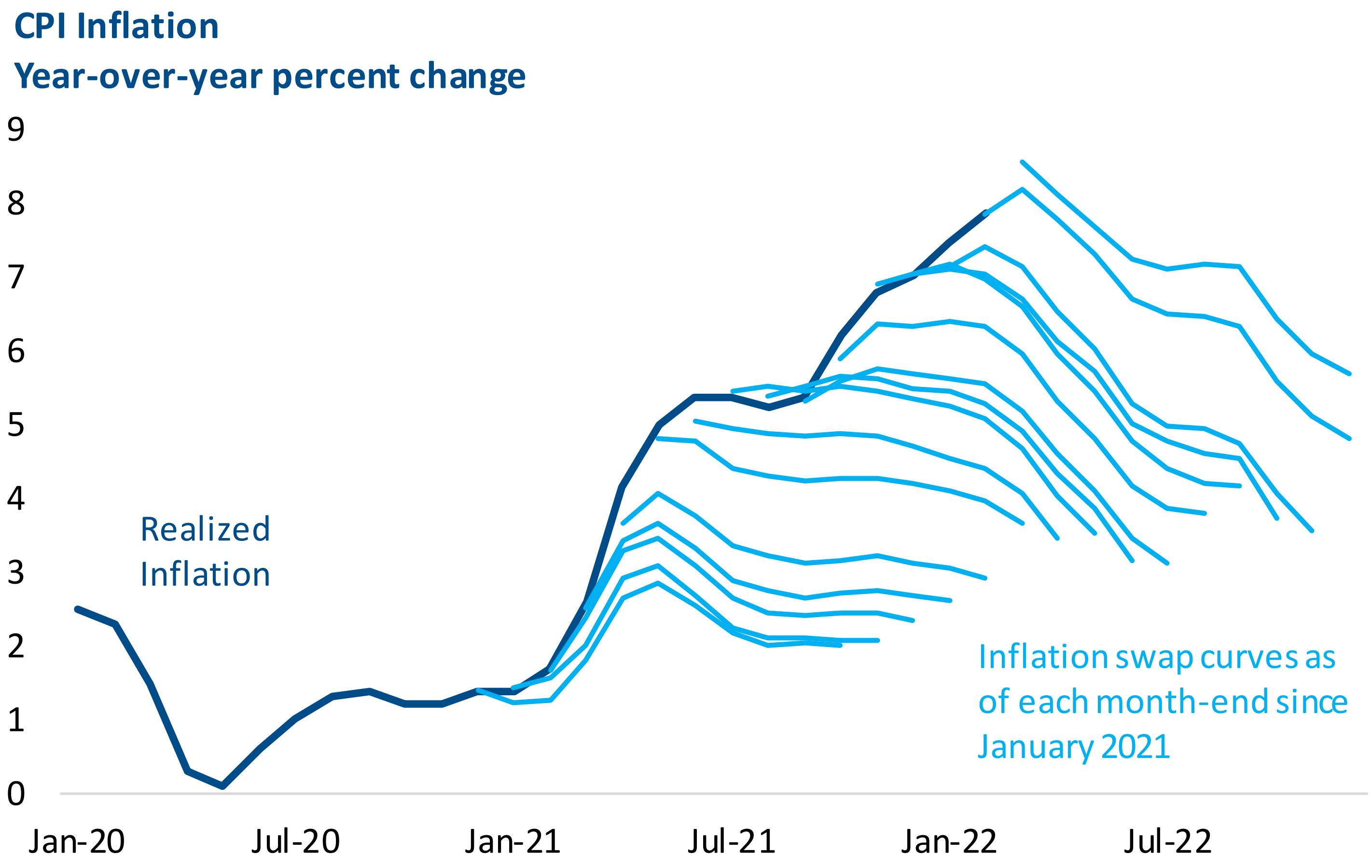
Tightening Period	Total Increase in Policy Rate (bps)	Conditions at Liftoff		Next Recession	Comment
		Core CPI Inflation (%)	Unemployment Rate (%)		
Dec 1965 - Nov 1966*	150	1.2	4.1	-	200bps of cuts within 7 months
Nov 1967 - Aug 1969	525	3.5	4.0	Jan 1970	
Feb 1972 - Jul 1974	900	3.1	5.8	Dec 1973	
May 1977 - Apr 1980	1275	6.3	7.2	Feb 1980	
Jul 1980 - Jan 1981	1000	13.6	7.6	Aug 1981	
Mar 1984 - Aug 1984*	225	4.8	7.8	-	350bps of cuts within 4 months
Mar 1988 - Mar 1989	325	4.3	5.7	Aug 1990	
Feb 1994 - Feb 1995*	300	2.9	6.6	-	75bps of cuts within 7 months
Jan 1999 - May 2000	175	2.4	4.4	Apr 2001	
Jun 2004 - Jun 2006	425	1.7	5.6	Jan 2008	
Dec 2015 - Dec 2018*	225	2.0	5.1	Mar 2020	75bps of cuts within 10 months
Mar 2022 - ???	?	6.4	3.8	?	

*Cited by Powell as examples of soft landings.

Source: Federal Reserve, Bloomberg

Waiting On a Miracle?

At every stage of this inflation episode since summer 2021, the inflation swap market has priced CPI inflation to peak in the very near future despite interest rate markets not pricing the Fed to raise rates above neutral until very recently. We're still waiting for inflation to roll over…

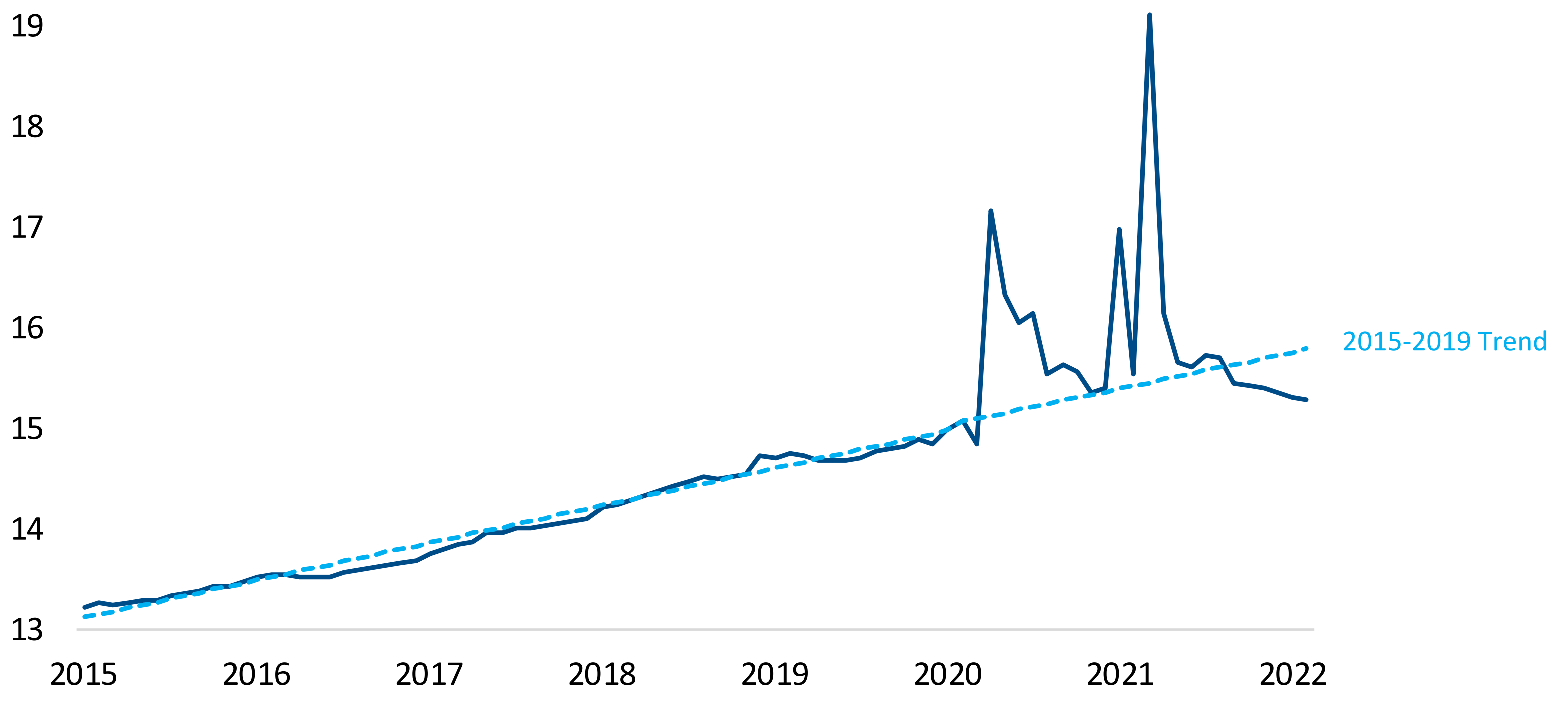


Source: Bloomberg, Barclays Capital

The Gravy Train Is Losing Steam

- The fiscal impulse peaked in Q2 2021, but accumulated savings and a resumption in credit card borrowing have allowed consumers to keep spending.
- The end of pandemic fiscal transfers and accelerating inflation have caused real incomes to fall below the pre-pandemic trend despite multi-decade highs in wage growth.

Real Disposable Personal Income
Trillions of 2012 dollars SAAR

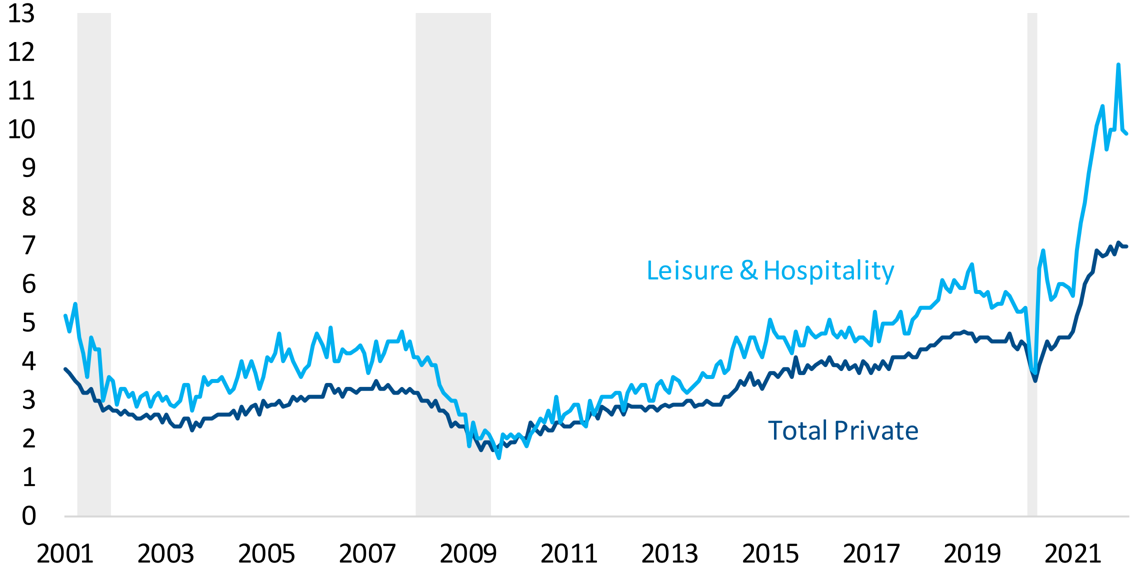


Source: BEA

Has the Labor Shortage Already Peaked?

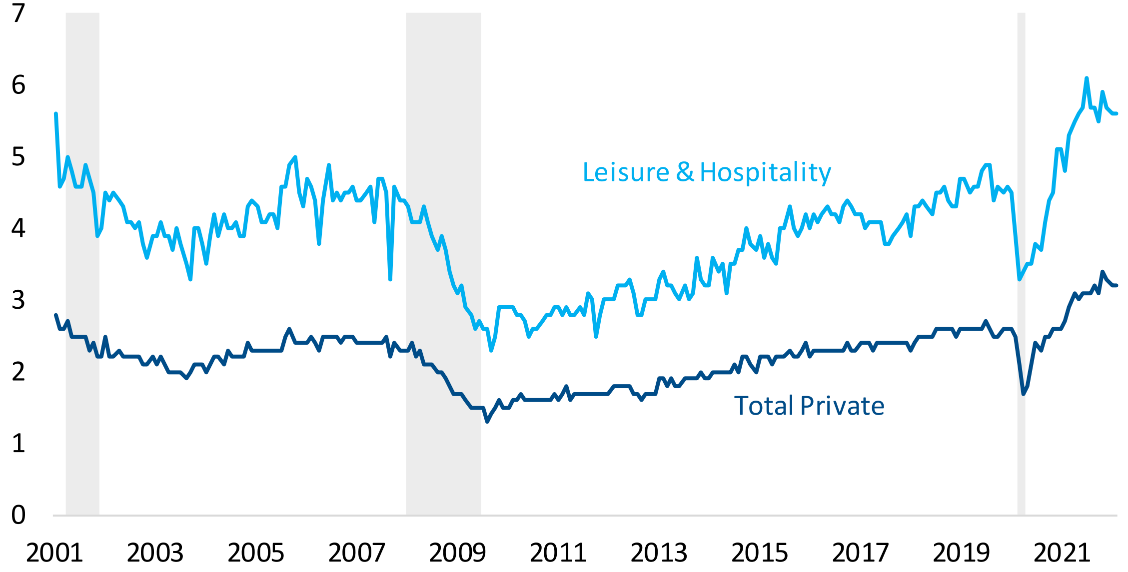
- The labor shortage has stopped getting worse in recent months.
- The private sector quits rate and job openings rate have trended sideways in the past few months, and declined in the leisure and hospitality sector where the labor shortage is most acute.
- Chairman Powell has suggested that monetary policy might be able to reduce the excess demand for labor without reducing the level of employment.

Job Openings Rate
Percent of employed workers plus openings



Gray bars indicate recession
Source: BLS

Quits Rate
Percent of employed workers

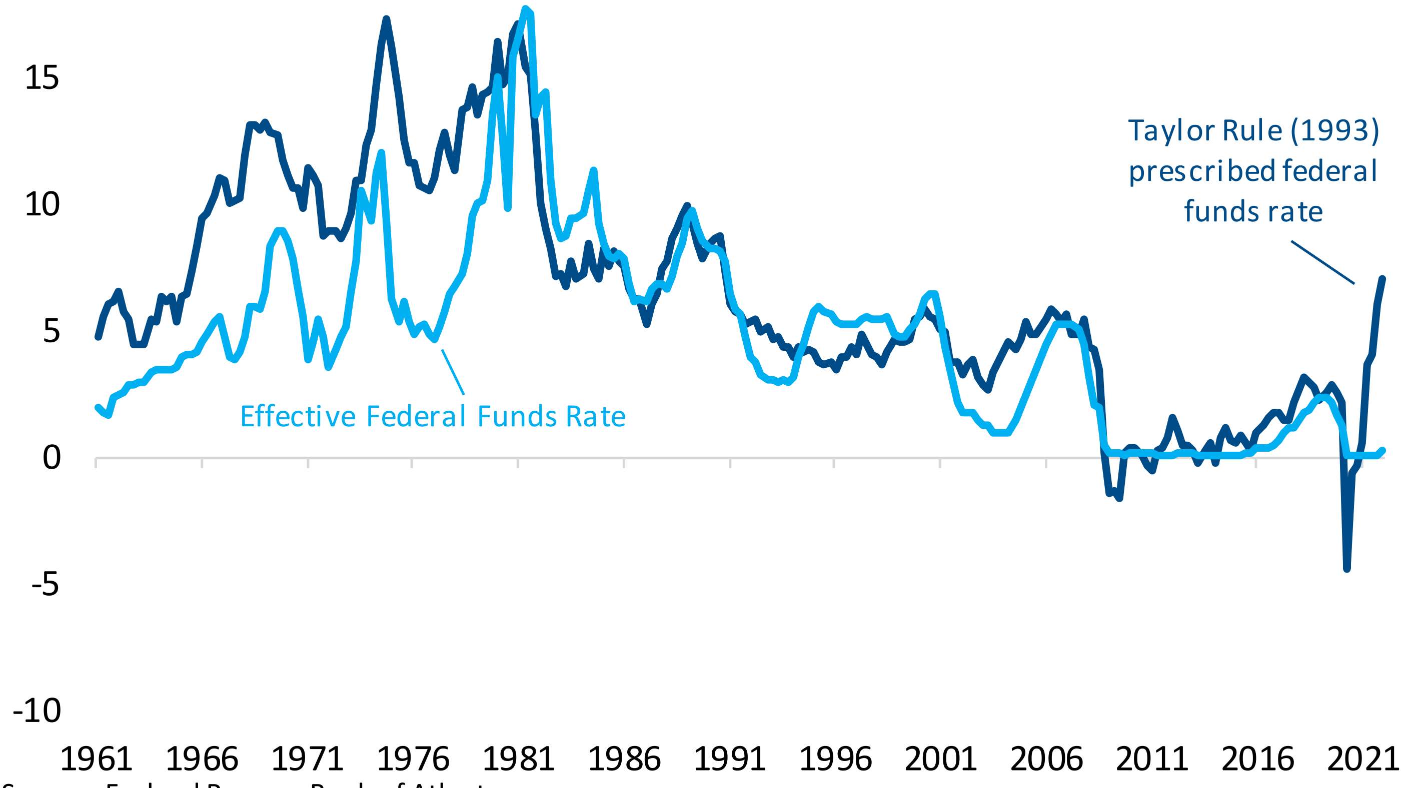


Gray bars indicate recession
Source: BLS

Can the Federal Funds Rate Solve the Inflation Problem?

- High inflation has been caused by a massive imbalance between supply and demand. Balance will be restored at least in part by the natural recovery in supply and a fading fiscal impulse.
- Will this be enough to bring inflation down? Or will restrictive monetary policy be needed to reduce aggregate demand? If the latter, then the Fed may have to raise rates well above neutral given the initial conditions at liftoff.

Federal Funds Rate vs Taylor Rule Prescription
Percent

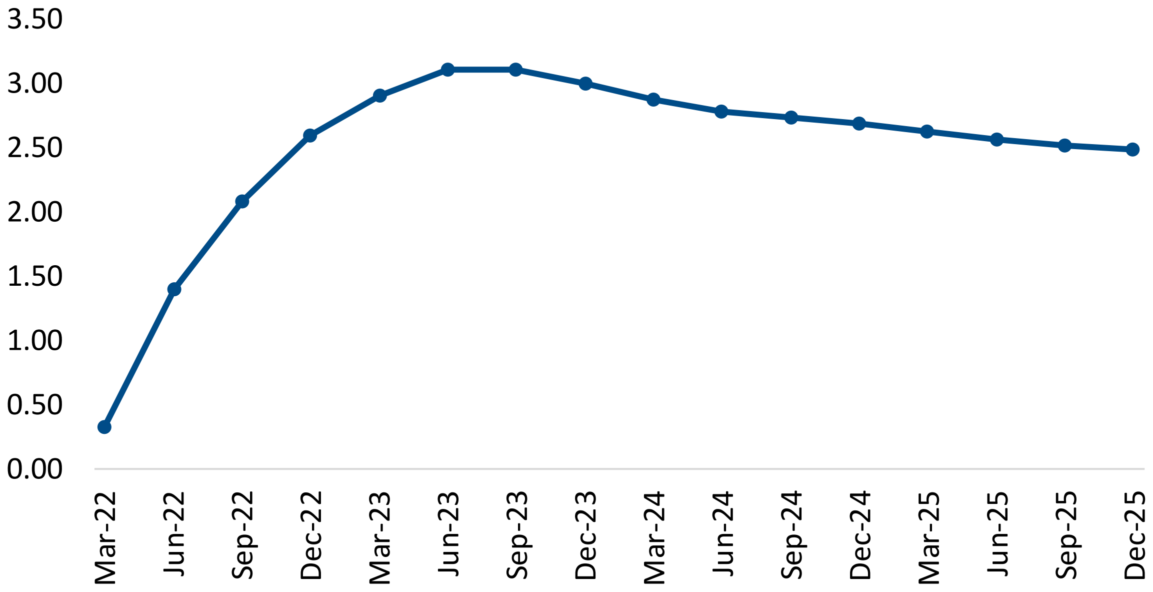


Source: Federal Reserve Bank of Atlanta

Recession Odds or Mid-cycle Cuts?

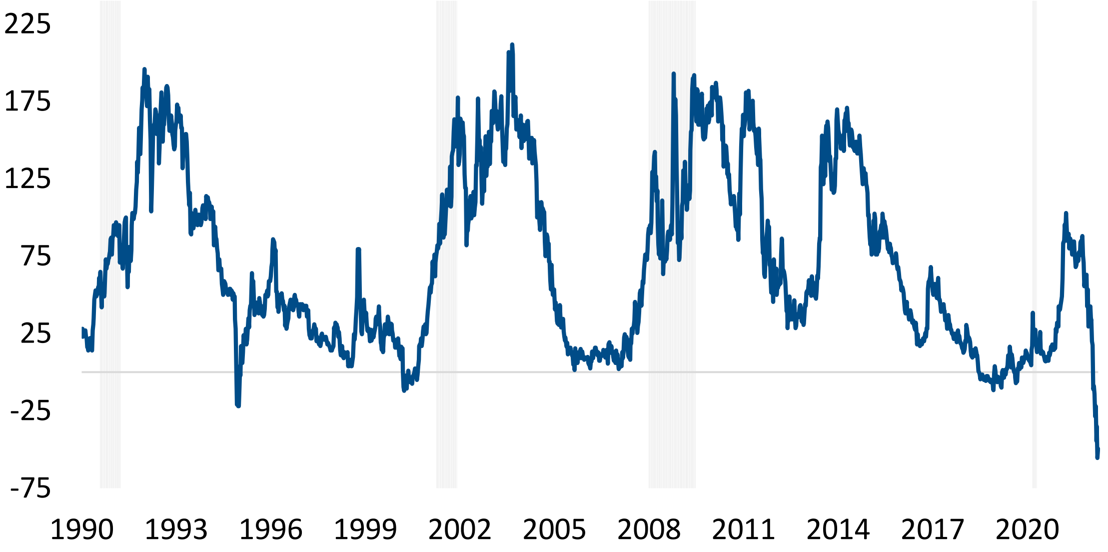
- Interest rate markets are pricing the Fed to raise the federal funds rate to around 3.125% by June 2023 and then lower the federal funds rate by 50 basis points by the end of 2024.
- The Eurodollar futures yield curve often inverts during tightening cycles, but has never before inverted so suddenly or to such a large magnitude.

Market-Implied Path of the Federal Funds Rate
Percent, as of 4/6/22



Source: Bloomberg

Spread between 12th and 6th Eurodollar Futures Contracts
basis points



Gray bars indicate recession.
Source: Bloomberg

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