US Economics Analyst

A Temporary Setback for the Inflation Outlook (Walker)

- The core PCE price index increased at the fastest sequential pace since June 2022 in Friday's report. We anticipated that start-of-the-year price increases would lead to a temporary reacceleration in inflation in January and continue to expect meaningful disinflation this year, but some news over the last month has made the near-term outlook appear more challenging.
- News has been particularly unfavorable for core goods prices, specifically for used cars. Used car wholesale auction prices have jumped 7½%, reflecting a combination of temporary disruptions to new car production and a more persistent drag on used car supply, and we have raised our December 2023 year-over-year used car inflation forecast from -15% to -7½% (worth +0.1pp to overall core PCE inflation). However, we still expect an outright decline in overall core goods prices on net this year (-0.8% vs. +3.4% in Dec. 2022), as continued supply chain recovery, inventory restocking, and a waning boost from prior commodity price inflation will allow the category to resume its normal deflationary trend.
- News on shelter inflation has been mixed. The category slowed by 0.10pp to +0.69% month-over-month in January, but the category has not slowed as meaningfully as we'd expected over the last few months. A growing number of apartment completions and a waning "catch-up effect" as continuing leases converge on current market rates should contribute to a meaningfully lower but still-elevated pace of shelter inflation this year (+5¾% vs. +7¾% in Dec. 2022).
- News on core services ex. housing inflation has also been mixed. On one hand, wage growth has slowed substantially (from a peak of 6% to roughly 4½%). But on the other, the slowdown in wage growth will only feed through to inflation with a lag, wage growth is likely to be stronger this year in industries relevant to services consumption, and idiosyncratic factors appear to be less favorable on net this year for categories like health care. In line with our prior forecast, we expect core services ex. shelter inflation to remain roughly stable on a year-over-year basis this year (at +4¼%) and to slow moderately on a sequential basis (from +5.4% 3m annualized in January to +4% in December).
- Taken together, we forecast core PCE inflation to still fall significantly this year, from +4.7% currently to +3.3% in December (vs. our forecast at the start of the month of +2.9%). On a sequential basis, the increase in our forecast is

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concentrated in 2023H1 (+0.5pp to +3.4% annualized, Feb.-June average), mostly reflecting our higher path for used car inflation and to a lesser extent a slightly higher path for shelter inflation over the next couple months. Market pricing appears too optimistic about the inflation outlook, embedding an almost 1pp larger decline in headline CPI inflation (where used car and shelter prices have a larger weight) this year relative to our own forecast for +4.0%.

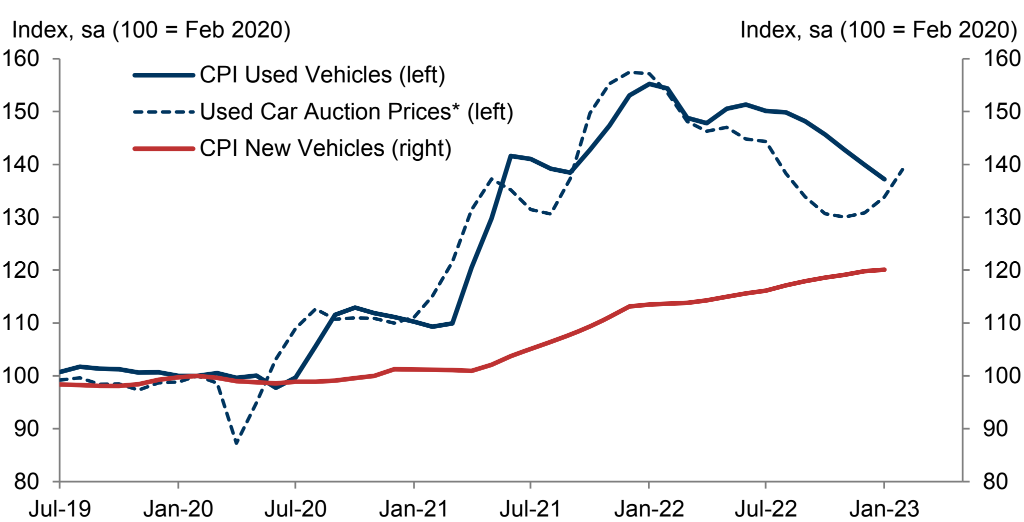
A Temporary Setback for the Inflation Outlook

The core PCE price index increased at a 7.1% monthly annualized pace in Friday's report, the fastest rate since June 2022. We had anticipated that start-of-the-year price increases would lead to a temporary reacceleration in inflation in January—which was the case in each the CPI, PPI, and PCE reports—but a combination of unfavorable inflation news over the last month and large upward revisions to prior realized inflation has made the near-term outlook appear more challenging.

More Limited Core Goods Deflation

News has been particularly unfavorable for core goods prices, specifically for used cars, which have been a major source of disinflation over the last couple quarters. As we described in a recent note, used car wholesale auction prices, which lead consumer prices, have rebounded by 7½% over the last couple months (Exhibit 1). The increase likely reflects a combination of spillovers from temporary disruptions to new car production that have already begun to subside and a more persistent drag on used car supply from fewer expiring consumer leases and rental car fleet sales. While we expect used car prices to still fall substantially on net this year, the pace of declines is likely to moderate in coming months, and we have raised our December 2023 year-over-year used car inflation forecast from -15% to -7½% (worth +0.10pp to overall core PCE inflation).

Exhibit 1: Used Car Auction Prices Have Inflected Higher

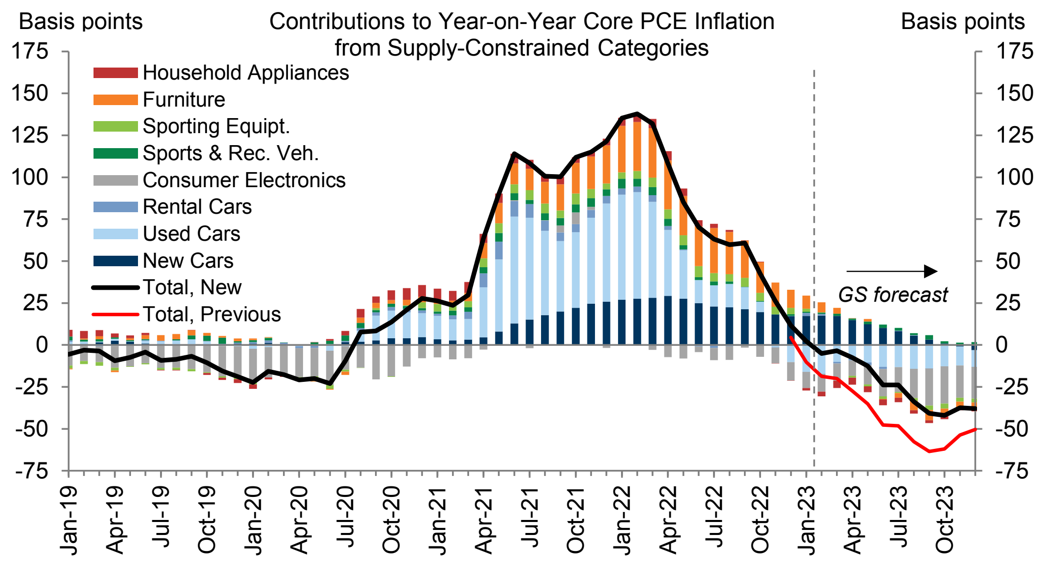


*Adjusted for depreciation for comparability to the CPI measure. February 2023 reflects mid-month measure.

Source: Department of Labor, Manheim, Goldman Sachs Global Investment Research

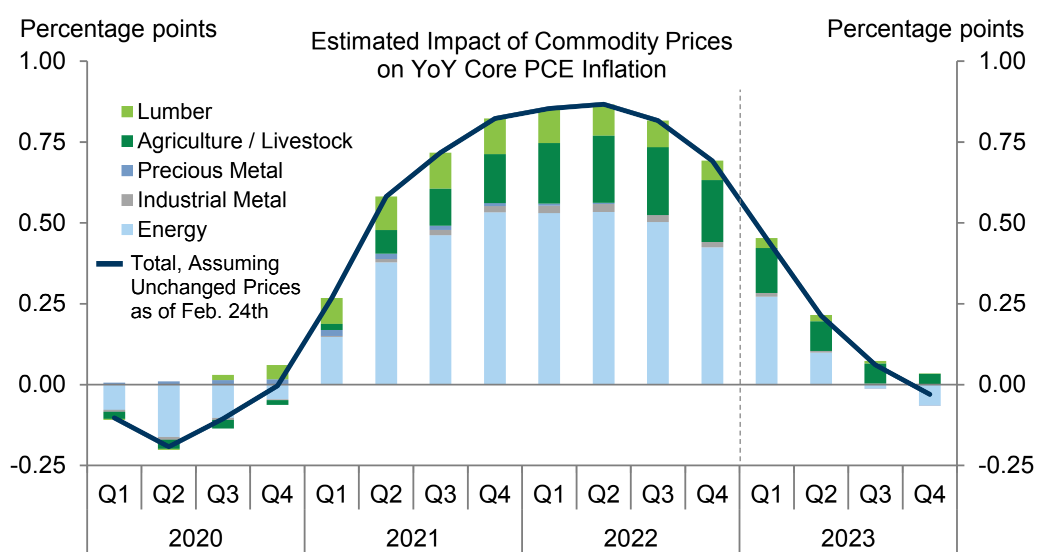
Despite the upgrade to used car prices, we still expect an outright decline in overall core goods prices on net this year (-0.8% YoY for Dec. 2023). Supply chain recovery is well underway: our transportation analysts' supply chain congestion scale has fallen to levels not seen since 2020, lowering transportation costs and allowing inventories to rebuild and competition to reverse the scarcity effects that raised retail margins and consumer prices earlier in the pandemic (Exhibit 2). A waning boost from prior commodity price inflation will also help core goods inflation to resume the normal deflationary trend (Exhibit 3).

Exhibit 2: We Now Expect Supply-Constrained Goods Categories to Contribute -0.35pp to Year-Over-Year Core Inflation in December 2023 (vs. -0.50pp Previously), Compared to -0.10pp In January



Source: Goldman Sachs Global Investment Research

Exhibit 3: We Estimate That the Boost From Commodity Price Increases to Year-on-Year Core PCE Inflation Will Decline From 70bp in 2022Q4 to 45bp in 2023Q1 and -5bp in 2023Q4



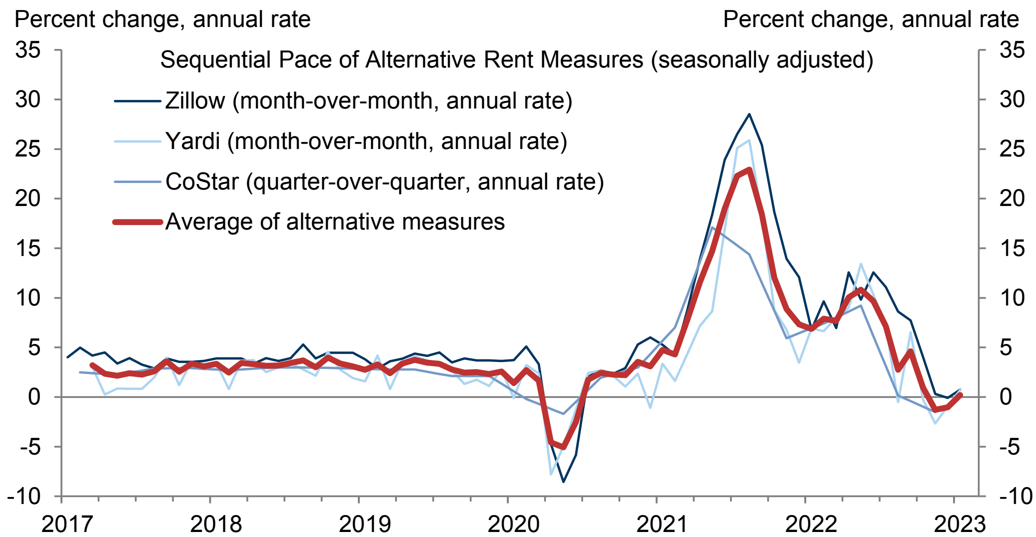
Source: Goldman Sachs Global Investment Research

Slowing But Still-Elevated Shelter Inflation

News on shelter inflation has been mixed. Shelter inflation slowed by 0.10pp to +0.69% month-over-month in January but the category has not slowed as meaningfully as we'd expected over the last few months.

Exhibit 4 shows that the best web-based alternative measures of new tenant rents—which had seen outright declines in Q4—were unchanged in January (Exhibit 5) and we expect new lease rent growth to remain meaningfully below pre-pandemic levels this year.

Exhibit 4: The Best Alternative Measures of New Lease Rent Growth Stopped Falling on a Sequential Basis in January

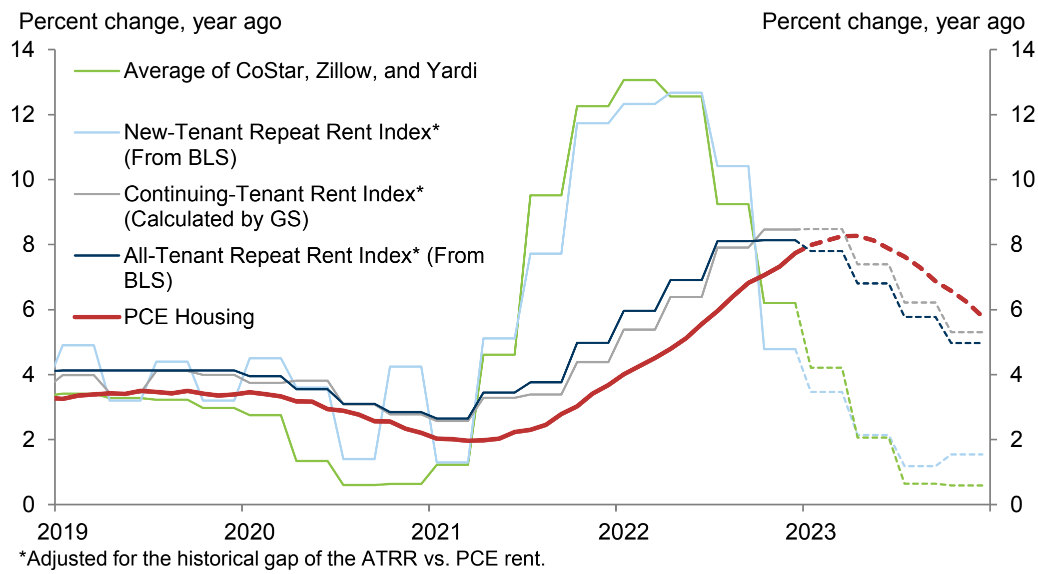


Source: Zillow, Yardi, CoStar, Goldman Sachs Global Investment Research

Exhibit 5 shows that in our model of shelter inflation, we are assuming roughly 1% year-over-year new lease rent growth in 2023 (green and light blue lines). This below-trend assumption partly reflects our expectation that the large backlog of multifamily housing units already under construction—which now is roughly 2% of the stock of existing rental units (Exhibit 6)—and an already elevated rate of completions will contribute to a moderate increase in the rental vacancy rate and exert downward pressure on prices.

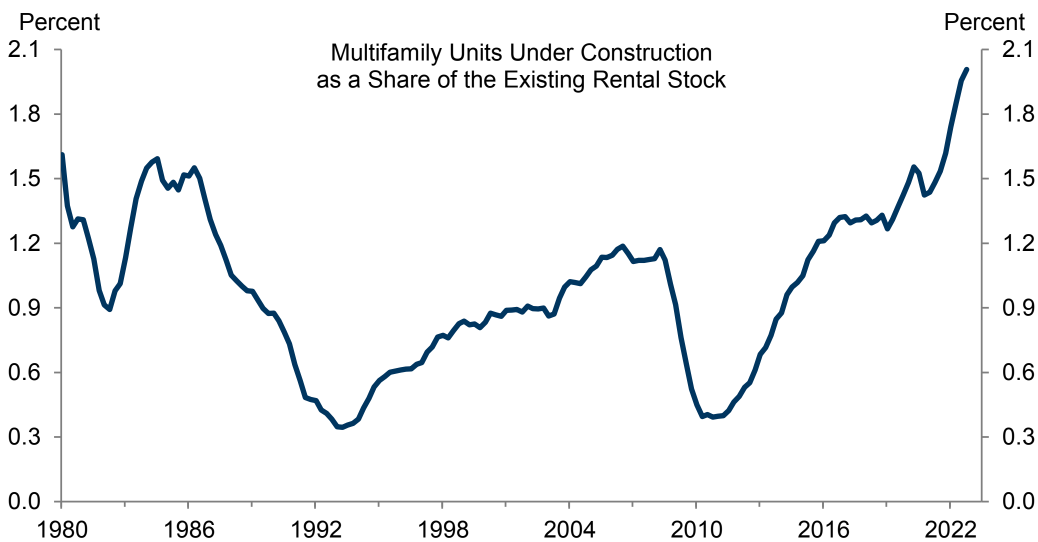
Slow new lease rent growth will allow the "catch-up effect" from continuing leases converging on current market rates to wane over the course of the year (Exhibit 5, gray line). Because continuing leases make up most of the shelter inflation sample, we expect overall rent growth—including both new and continuing leases—to follow a similar path (dark blue line). Correspondingly, we forecast that year-over-year PCE shelter inflation (red line) will increase from +8% today to a peak of over +8¼% in March before falling to +5¾% in December.

Exhibit 5: We Expect Year-over-Year PCE Housing Inflation to Peak Over 8¼% in March Before Falling to 5¾% by December



Source: Department of Labor, Federal Reserve, Goldman Sachs Global Investment Research

Exhibit 6: The Backlog of Multifamily Units Under Construction Has Continued to Grow

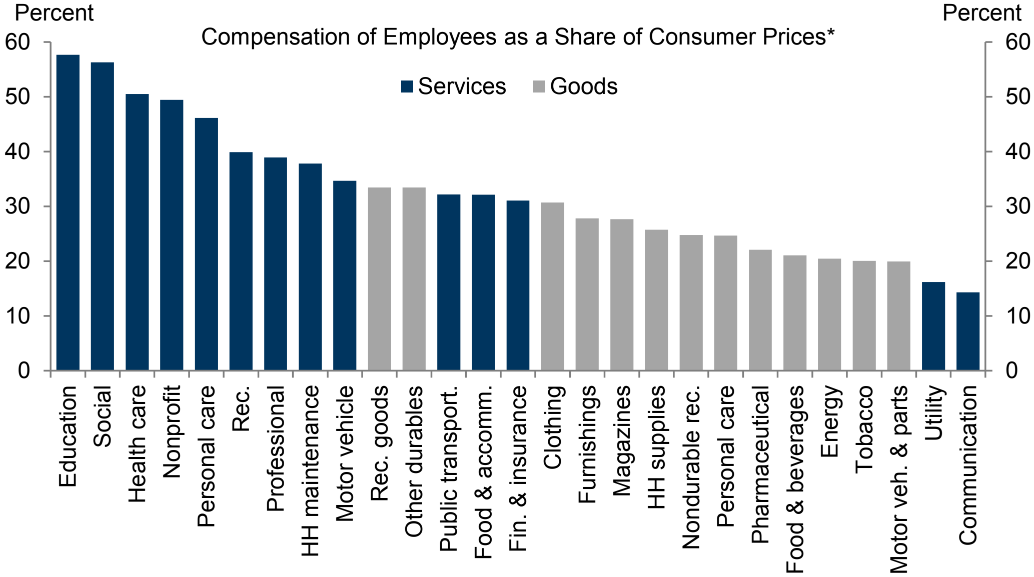


Source: Department of Commerce

Sticky Core Services Ex. Shelter Inflation

News on core services inflation ex. shelter has also been mixed. On one hand, wage growth has slowed substantially—our wage tracker has fallen from a peak of almost 6% on a quarterly annualized basis to around 4½% today—and high sensitivity to wage growth is a shared feature of many consumer services categories because of their relatively high labor cost share of output (Exhibit 7).

Exhibit 7: Wages Account for Almost 40% of Final Consumer Prices on Average Across Services Categories vs. 25% Across Goods Categories

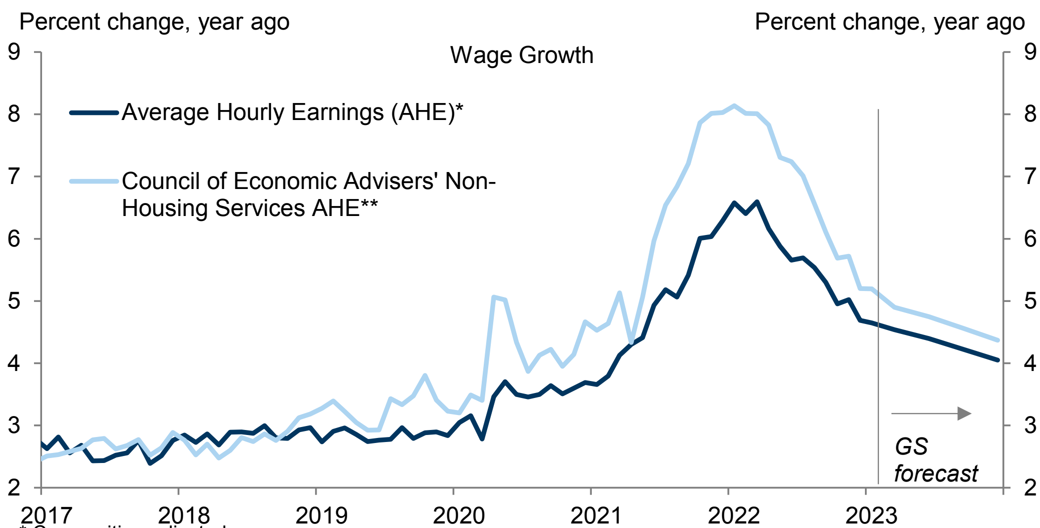


* Compensation of employees by final producer (i.e. not accounting for labor costs further up the supply chain). Calculated by combining BEA's PCE bridge and KLEMS data set.

Source: Department of Commerce, Goldman Sachs Global Investment Research

But on the other hand, the slowdown in wage growth will only feed through to services inflation gradually and with a lag. Additionally, wage growth is likely to remain firmer in the industries most relevant for services inflation. The Council of Economic Advisers recently introduced a wage growth measure that places greater weight on the wage growth of industries that make up a greater share of labor costs for core non-housing services. Exhibit 8 shows that this measure (light blue line) is currently running above economywide wage growth (dark blue line), and our industry-level wage growth forecasts suggest that the measure will remain modestly above economywide wage growth over the course of the year (GS year-over-year forecasts for E2023: AHE: +4.0%, CEA's measure: +4.4%).

Exhibit 8: We Expect Relatively Stronger—But Still Slowing—Wage Growth This Year Across the Industries that Matter Most for Core Services Ex. Housing Inflation



* Composition-adjusted.
** The CEA's NHS AHE is a weighted average of detailed industry-level production and non-supervisory wage growth, where each industry is weighted by each its share of labor costs for core non-housing services consumption.

Source: Council of Economic Advisers, Department of Labor, Goldman Sachs Global Investment Research

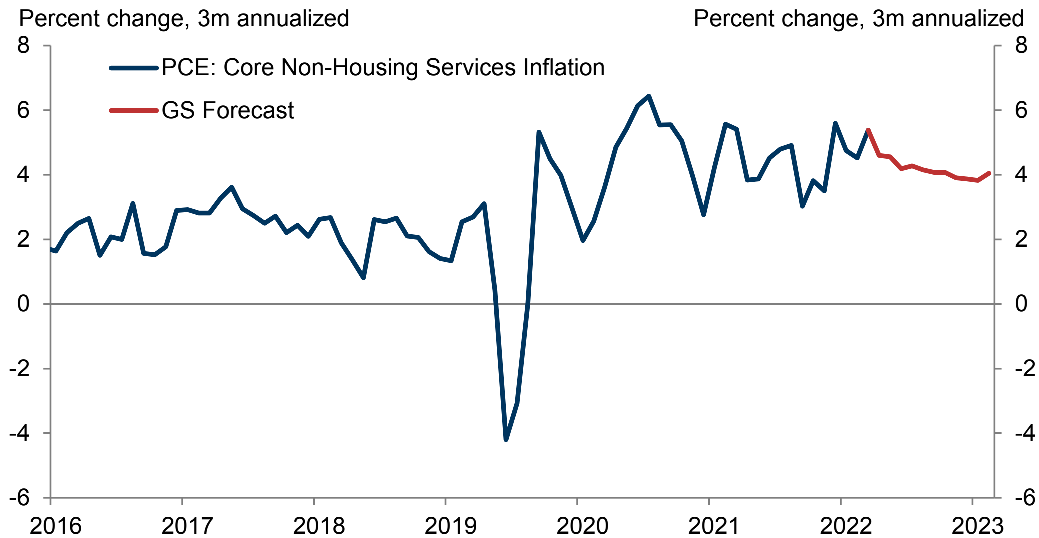
We expect the disinflationary pressure on services inflation from lower wage growth to be partly offset by idiosyncratic factors, which appear less favorable on net this year. In particular, we expect financial services and health care inflation to accelerate from the currently low levels.

The fastest decline since 2009 in the portfolio management and investment advice services subcategory explained much of the weakness in financial services inflation over the last year. We expect that the stabilization of that subcomponent—which tends to track the performance of equity markets—and higher interest rates will push year-over-year PCE financial services and insurance inflation from +0.6% in January to +3.6% in December, compared to its pre-pandemic pace of +4.8% (2017-19 average).

The labor market for health care workers remains severely imbalanced and pricing has yet to catch up to the wage and cost environment. As discussed here, PCE healthcare inflation has been range-bound at around 2½%, despite worsening labor shortages and a double-digit rise in hospital expenses per patient. Health care inflation tends to lag the cost environment, and government statisticians are now playing catch up: the 4.3% annual price increase for Medicare treatments for fiscal 2023 (October 2022-September 2023) reflects the fastest pace in over 15 years. We forecast year-over-year PCE healthcare inflation to rise from +2.1% in January to +4.0% in December, compared to its pre-pandemic pace of +1.7%.

We've left our core non-housing services inflation forecast roughly unrevised on net, with inflation for the category remaining roughly stable on a year-over-year basis this year (at +4¼%) and slowing moderately on a sequential basis (from +5.4% 3m annualized in January to +4% in December).

Exhibit 9: We Expect Core Non-Housing Services Inflation (3m Annualized) to Fall From +5.4% Currently to a Still-Elevated +4% by Year-End

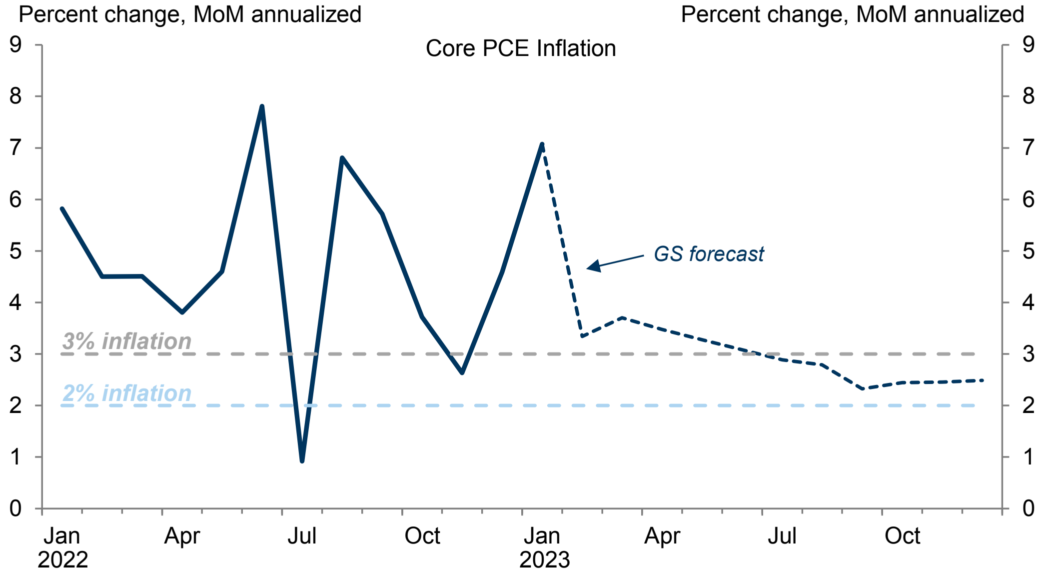


Source: Department of Commerce, Goldman Sachs Global Investment Research

A Frontloaded Upgrade to Our Sequential Inflation Forecast

Taken together, we forecast core PCE inflation will still fall significantly this year, from +4.7% currently to +3.3% in December (vs. our forecast at the start of the month of +2.9%). Our detailed core PCE component-level forecasts are available in the appendix. On a sequential basis, the increase in our forecast is concentrated in 2023H1 (+0.5pp to +3.4% annualized, Feb.-June avg.), mostly reflecting our higher path for used car inflation and to a lesser extent a slightly higher path for shelter inflation over the next couple months. Under our new forecast, core PCE inflation remains above 3% annualized through midyear (Exhibit 10), which, in our view, keeps the balance of risks to our forecast of the terminal funds rate range tilted to the upside.

Exhibit 10: We Expect Month-Over-Month Annualized Core PCE Inflation to Remain Above 3% Through Midyear

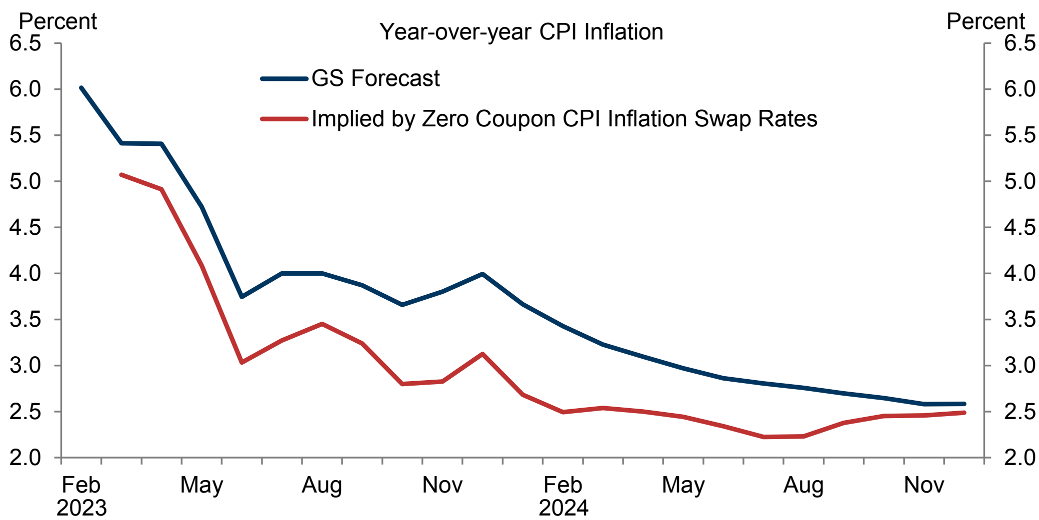


Source: Department of Commerce, Goldman Sachs Global Investment Research

Our Forecast vs. the TIPS Market

Exhibit 11 compares our forecast for year-over-year headline CPI—in which used car and shelter prices have a larger weight relative to core PCE inflation—to market-implied inflation expectations. In our view, market pricing appears too optimistic about the inflation outlook, embedding an almost 1pp larger decline this year relative to our own forecast for +4.0% year-over-year inflation in December 2023 (previous GS forecast: +3.3%).

Exhibit 11: Market-Implied Inflation Expectations for December 2023 Year-Over-Year Headline CPI Inflation Are Almost 1pp Below Our Forecast of 4.0%



Source: Goldman Sachs Global Investment Research

Ronnie Walker

Appendix

	Weight	Jan. 2023 YoY	GS Bottom-up Core PCE Forecast Dec. 2023 YoY	Dec. 2023 Contribution to Change	Dec. 2024 YoY	Dec. 2024 Contribution to Change
Core PCE	***100.0***	**4.7**	**3.3**	**-1.4**	**2.3**	**-2.4**
Core Goods	***26.9***	**2.8**	**-0.8**	**-0.9**	**-1.1**	**-0.9**
New Vehicles	*2.5*	7.5	-1.4	-0.2	-2.0	-0.2
Used Vehicles	*1.6*	-9.9	-7.5	0.0	-8.6	0.0
Household Appliances	*0.5*	-3.1	-4.3	0.0	-2.2	0.0
Video, Audio, Computers	*2.4*	-3.9	-9.0	-0.1	-8.5	-0.1
Recreational Vehicles	*0.6*	1.1	2.8	0.0	1.1	0.0
Jewelry, Watches	*0.7*	5.0	2.1	0.0	1.1	0.0
Clothing & Footwear	*3.2*	2.6	3.1	0.0	1.3	0.0
Pharma & Medical	*4.1*	3.0	1.0	-0.1	0.5	-0.1
Pets Products	*0.6*	11.9	2.3	-0.1	2.4	-0.1
Expenditures Abroad	*0.1*	-0.7	0.6	0.0	-2.1	0.0
Residual Core Goods	*10.6*	5.1	-0.3	-0.5	-0.1	-0.5
Core Services	***73.1***	**5.4**	**4.6**	**-0.6**	**3.4**	**-1.5**
Housing	*16.9*	8.0	5.8	-0.4	3.7	-0.7
Ground Transportation	*0.4*	3.7	1.9	0.0	1.8	0.0
Air Transportation	*1.1*	28.6	1.8	-0.3	3.3	-0.2
Food Services & Accommodation	*8.6*	7.3	5.3	-0.2	3.3	-0.3
Financial Services & Insurance	*8.5*	0.6	3.5	0.3	3.6	0.3
Medical Services	*17.7*	2.1	4.0	0.4	3.2	0.2
Foreign Travel	*1.4*	12.9	6.5	-0.1	2.5	-0.1
Residual Core Services	*18.5*	6.4	4.6	-0.4	3.5	-0.6
Core services ex. housing	*56.3*	4.6	4.3	0.0	3.4	0.0

Source: Department of Commerce, Goldman Sachs Global Investment Research

The US Economic and Financial Outlook

THE US ECONOMIC AND FINANCIAL OUTLOOK
(% change on previous period, annualized, except where noted)

	2020	2021	2022 (f)	2023 (f)	2024 (f)	2025 (f)	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4
OUTPUT AND SPENDING														
Real GDP	**-2.8**	**5.9**	**2.1**	*1.7*	*1.6*	*1.9*	**-1.6**	**-0.6**	**3.2**	**2.7**	*1.8*	*1.1*	*1.2*	*1.2*
Real GDP (annual=Q4/Q4, quarterly=yoy)	**-1.5**	**5.7**	**0.9**	*1.3*	*1.9*	*1.9*	**3.7**	**1.8**	**1.9**	**0.9**	*1.8*	*2.2*	*1.7*	*1.3*
Consumer Expenditures	**-3.0**	**8.3**	**2.8**	*2.0*	*1.8*	*1.9*	**1.3**	**2.0**	**2.3**	**1.4**	*3.0*	*1.5*	*1.5*	*1.5*
Residential Fixed Investment	**7.2**	**10.7**	**-10.7**	*-13.9*	*1.0*	*3.0*	**-3.1**	**-17.8**	**-27.1**	**-25.9**	*-8.1*	*-7.5*	*-2.5*	*0.0*
Business Fixed Investment	**-4.9**	**6.4**	**3.8**	*2.5*	*2.6*	*3.6*	**7.9**	**0.1**	**6.2**	**3.3**	*3.1*	*1.0*	*0.9*	*1.1*
Structures	**-10.1**	**-6.4**	**-6.9**	*-1.3*	*1.4*	*3.0*	**-4.4**	**-12.7**	**-3.6**	**8.5**	*-2.9*	*-3.0*	*-1.5*	*-0.5*
Equipment	**-10.5**	**10.3**	**4.3**	*2.0*	*1.9*	*3.0*	**11.4**	**-2.1**	**10.6**	**-3.2**	*5.3*	*1.0*	*0.0*	*0.0*
Intellectual Property Products	**4.8**	**9.7**	**8.9**	*4.9*	*3.9*	*4.5*	**10.8**	**8.9**	**6.8**	**7.4**	*4.0*	*3.0*	*3.0*	*3.0*
Federal Government	**6.2**	**2.3**	**-2.5**	*3.1*	*0.8*	*0.0*	**-5.3**	**-3.4**	**3.7**	**5.9**	*3.0*	*3.0*	*3.0*	*1.5*
State & Local Government	**0.4**	**-0.5**	**0.6**	*1.4*	*1.0*	*1.0*	**-0.4**	**-0.6**	**3.7**	**2.3**	*0.8*	*1.0*	*1.0*	*1.0*
Net Exports ($bn, '12)	**-923**	**-1,233**	**-1,357**	*-1,235*	*-1,265*	*-1,282*	**-1,489**	**-1,431**	**-1,269**	**-1,238**	*-1,235*	*-1,222*	*-1,233*	*-1,249*
Inventory Investment ($bn, '12)	**-55**	**-19**	**125**	*78*	*66*	*60*	**215**	**110**	**39**	**136**	*89*	*75*	*75*	*75*
Industrial Production, Mfg.	**-6.3**	**5.7**	**3.0**	*0.4*	*2.4*	*3.2*	**3.6**	**2.9**	**-1.2**	**-2.9**	*1.3*	*1.4*	*1.7*	*1.8*
HOUSING MARKET														
Housing Starts (units, thous)	**1,395**	**1,605**	**1,556**	*1,332*	*1,409*	*1,525*	**1,720**	**1,647**	**1,450**	**1,405**	*1,450*	*1,362*	*1,272*	*1,244*
New Home Sales (units, thous)	**831**	**769**	**641**	*572*	*679*	*795*	**776**	**609**	**580**	**599**	*568*	*574*	*568*	*579*
Existing Home Sales (units, thous)	**5,636**	**6,128**	**5,081**	*3,995*	*4,270*	*4,586*	**5,983**	**5,367**	**4,777**	**4,197**	*3,865*	*3,952*	*4,039*	*4,125*
Case-Shiller Home Prices (%yoy)*	**9.5**	**18.8**	*7.1*	*-2.6*	*0.9*	*2.3*	**20.0**	**19.6**	**13.1**	*7.1*	*0.5*	*-4.7*	*-4.3*	*-2.6*
INFLATION (% ch, yr/yr)														
Consumer Price Index (CPI)**	**1.3**	**7.2**	**6.4**	*4.0*	*2.6*	*2.5*	**8.0**	**8.6**	**8.3**	**7.1**	*5.9*	*4.6*	*4.0*	*3.8*
Core CPI **	**1.6**	**5.5**	**5.7**	*3.7*	*2.6*	*2.5*	**6.3**	**6.0**	**6.3**	**6.0**	*5.5*	*5.1*	*4.4*	*3.8*
Core PCE** †	**1.5**	**5.0**	**4.6**	*3.3*	*2.3*	*2.2*	**5.3**	**5.0**	**4.9**	**4.8**	*4.6*	*4.3*	*3.9*	*3.4*
LABOR MARKET														
Unemployment Rate (%)^	**6.7**	**3.9**	**3.5**	*3.6*	*3.6*	*3.6*	**3.6**	**3.6**	**3.5**	**3.5**	*3.5*	*3.5*	*3.6*	*3.6*
U6 Underemployment Rate (%)^	**11.7**	**7.3**	**6.5**	*7.0*	*7.0*	*7.0*	**7.0**	**6.7**	**6.7**	**6.5**	*6.8*	*6.9*	*7.0*	*7.0*
Payrolls (thous, monthly rate)	**-774**	**606**	**401**	*162*	*108*	*80*	**561**	**329**	**423**	**291**	*272*	*125*	*125*	*125*
Employment-Population Ratio (%)^	**57.4**	**59.5**	**60.1**	*60.2*	*60.1*	*59.9*	**60.1**	**59.9**	**60.1**	**60.1**	*60.2*	*60.2*	*60.2*	*60.2*
Labor Force Participation Rate (%)^	**61.5**	**62.0**	**62.3**	*62.5*	*62.3*	*62.1*	**62.4**	**62.2**	**62.3**	**62.3**	*62.4*	*62.4*	*62.4*	*62.5*
Average Hourly Earnings (%yoy)	**4.9**	**4.2**	**5.3**	*4.3*	*3.8*	*3.5*	**5.6**	**5.6**	**5.3**	**4.9**	*4.5*	*4.4*	*4.2*	*4.0*
GOVERNMENT FINANCE														
Federal Budget (FY, $bn)	**-3,132**	**-2,775**	**-1,375**	*-1,250*	*-1,350*	*-1,600*	--	--	--	--	--	--	--	--
FINANCIAL INDICATORS														
FF Target Range (Bottom-Top, %)^	**0-0.25**	**0-0.25**	**4.25-4.5**	*5.25-5.5*	*4.5-4.75*	*3.5-3.75*	**0.25-0.5**	**1.5-1.75**	**3-3.25**	**4.25-4.5**	*4.75-5*	*5.25-5.5*	*5.25-5.5*	*5.25-5.5*
10-Year Treasury Note^	**0.93**	**1.52**	**3.88**	*4.20*	*4.00*	*4.00*	**2.32**	**2.98**	**3.83**	**3.88**	*3.65*	*4.10*	*4.25*	*4.20*
Euro (€/$)^	**1.22**	**1.13**	**1.07**	*1.07*	*1.15*	*1.15*	**1.11**	**1.05**	**0.98**	**1.07**	*1.05*	*1.02*	*1.03*	*1.07*
Yen ($/¥)^	**103**	**115**	**132**	*129*	*125*	*125*	**121**	**136**	**145**	**132**	*134*	*133*	*134*	*129*

* Weighted average of metro-level HPIs for 381 metro cities where the weights are dollar values of housing stock reported in the American Community Survey. Annual numbers are Q4/Q4.
** Annual inflation numbers are December year-on-year values. Quarterly values are Q4/Q4.
† PCE = Personal consumption expenditures. ^ Denotes end of period.
Note: Published figures in bold.

Source: Goldman Sachs Global Investment Research

Economic Releases

Please see the US Week Ahead for upcoming economic releases and forecasts.

Disclosure Appendix

Reg AC

We, Jan Hatzius, Alec Phillips, David Mericle, Spencer Hill, CFA, Joseph Briggs, Ronnie Walker, Tim Krupa and Manuel Abecasis, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

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