Goldman Sachs | Economics Research

12 November 2023 | 5:28PM EST

US Economics Analyst

2024 US Economic Outlook: Final Descent (Mericle)

Jan Hatzius
+1(212)902-0394 | jan.hatzius@gs.com
Goldman Sachs & Co. LLC

Alec Phillips
+1(202)637-3746 | alec.phillips@gs.com
Goldman Sachs & Co. LLC

David Mericle
+1(212)357-2619 |
david.mericle@gs.com
Goldman Sachs & Co. LLC

Spencer Hill, CFA
+1(212)357-7621 | spencer.hill@gs.com
Goldman Sachs & Co. LLC

Ronnie Walker
+1(917)343-4543 |
ronnie.walker@gs.com
Goldman Sachs & Co. LLC

Tim Krupa
+1(202)637-3771 | tim.krupa@gs.com
Goldman Sachs & Co. LLC

Manuel Abecasis
+1(212)902-8357 |
manuel.abecasis@gs.com
Goldman Sachs & Co. LLC

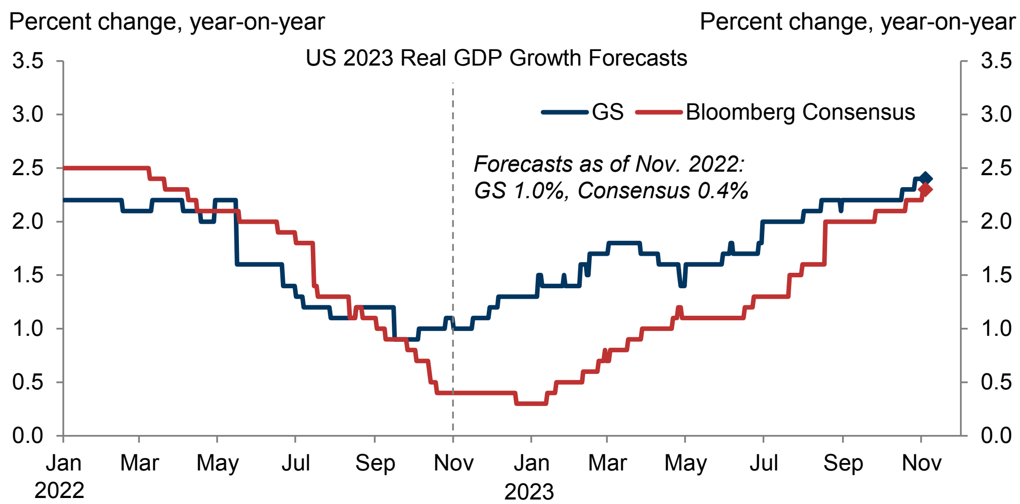
- The US economy defied recession fears in 2023 and made substantial progress toward a soft landing. The key surprise has been much stronger than expected GDP growth, though this has not prevented the labor market from continuing to rebalance or inflation from continuing to fall.
- The hard part of the inflation fight now looks over. It was fair to wonder last year whether labor market overheating and an at times unsettling high inflation mindset could be reversed painlessly. But these problems now look largely solved, the conditions for inflation to return to target are in place, and the heaviest blows from monetary and fiscal tightening are well behind us. As a result, we now see only a historically average 15% probability of recession over the next 12 months.
- Core inflation has fallen sharply from its pandemic peak and should begin its final descent in 2024. We see further disinflation in the pipeline from rebalancing in the auto, housing rental, and labor markets, though we expect a small offset from a delayed acceleration in healthcare. Wage growth has fallen most of the way to its 3.5% sustainable pace, and surveys suggest it will get there next year. All of this should push core PCE inflation to around 2.4% by December 2024.
- We expect GDP to grow 1.8% in 2024 on a Q4/Q4 basis (or 2.1% on a full-year basis), again easily beating low consensus expectations. We forecast just under 2% consumption growth, with real disposable income growth of nearly 3% partly offset by a 1pp rise in the saving rate. We also forecast slower business investment growth of roughly 2% as the surge in manufacturing facility investment driven by CHIPS Act and Inflation Reduction Act subsidies slows, and flat residential investment as the housing shortage continues to temper the impact of reduced affordability.
- We expect the FOMC to deliver its first rate cut in 2024Q4 once core PCE inflation falls below 2.5%. We then expect one 25bp cut per quarter until 2026Q2, when the fed funds rate would reach 3.5-3.75%, a higher equilibrium rate than last cycle. While we do not have any major macroeconomic shocks in our 2024 forecast, we think the bar to cut in response to a growth scare will be low in coming years and would not be surprised by insurance cuts at some point.
- Two key risks remain top of mind. The first is geopolitical conflict and the risk of

a spike in oil prices. While possible, we think this would more likely be a setback in the inflation fight than a gamechanger. The second is the risk that something could "break" in the abrupt transition to a higher interest rate regime. Our analysis suggests that the risks are real but manageable, in part because the Fed would be at liberty to cut in response next year and will have plenty of room.

2024 US Economic Outlook: Final Descent

The US economy defied recession fears in 2023 and made substantial progress toward a soft landing. The key surprise this year has been much stronger than expected GDP growth (Exhibit 1). We had seen reacceleration as the key risk at the start of the year as the drag on growth from monetary and fiscal policy tightening subsided, but we assumed if it materialized while inflation was still high, the Fed would likely hike more aggressively to ensure that demand growth remained subdued so that supply could continue to catch up. Why didn't it? In the spring the banking stress heightened concern about raising rates too much, and by the summer it became clear that strong GDP growth was not preventing the labor market from continuing to rebalance or wage growth and inflation from continuing to fall after all.

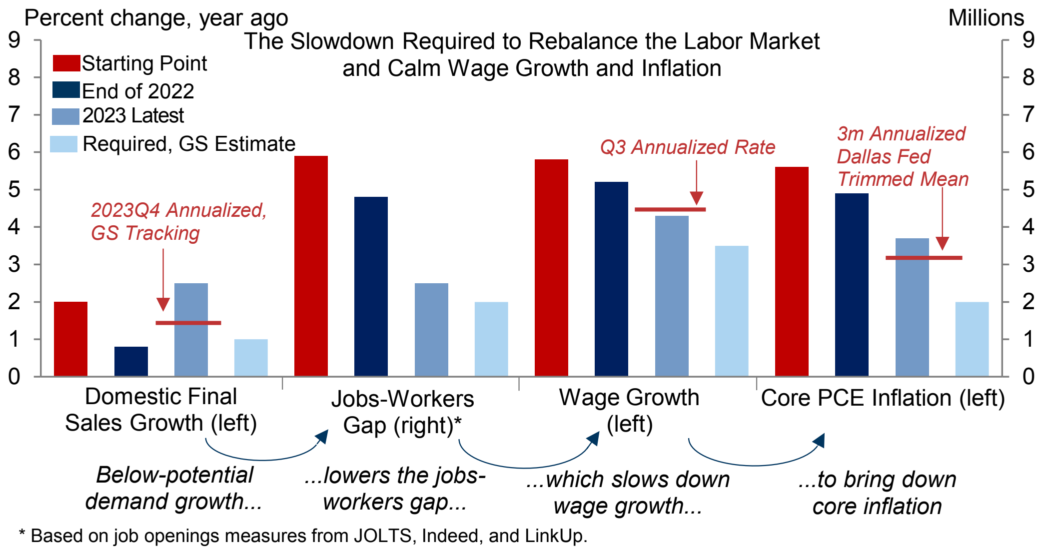
Exhibit 1: Stronger Than Expected GDP Growth Was the Key Surprise of 2023 ...



Source: Goldman Sachs Global Investment Research, Bloomberg

In fact, despite strong growth, progress on both fronts has been faster this year than last (Exhibit 2). How have we been able to have it both ways in 2023? Part of the answer is the outperformance of the supply side: labor supply has not just mostly recovered but more than recovered, transitory influences on wages and prices have faded or reversed, and high prices have cured themselves by, for example, incentivizing massive construction of rental housing. More surprising at first glance is why labor demand has been contained even as final demand for goods and services accelerated and recession fears faded, but we suspect this reflects the logic that drives the non-linearity of the Beveridge curve, where extremely tight labor markets create a feedback loop between workers quitting and employers preemptively posting more job openings, which can heat up quickly but can cool down quickly too.

Exhibit 2: ... But Strong Demand Growth Has Not Prevented the Labor Market from Rebalancing Substantially Further or Wage Growth and Inflation from Falling This Year



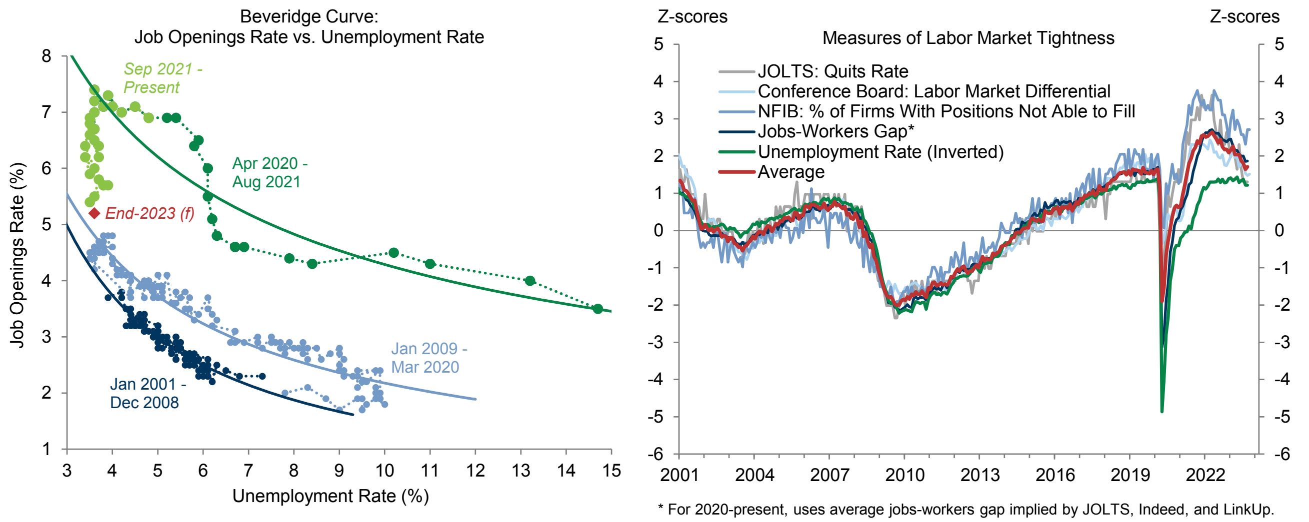
Source: Goldman Sachs Global Investment Research

The Hard Part Is Over

It was fair to wonder at the outset of the Fed's hiking cycle whether extreme labor market overheating and an at times unsettling high inflation mindset could be reversed painlessly without a recession. After all, to expect this was to expect something historically unprecedented. While we felt strongly that there was a coherent way to navigate these problems gently, that did not mean it would be simple.

But at this point the hard part of the inflation fight looks over. Following a vertical drop on the Beveridge curve (Exhibit 3, left), the unemployment rate is barely changed but other measures of labor market tightness have fallen sharply and are now on average only slightly above pre-pandemic levels (Exhibit 3, right). This cooling off to date is likely good enough or nearly good enough because inflation was a bit too low before the pandemic, and this means that further below-potential growth is no longer needed.

Exhibit 3: After a Painless Rebalancing Captured by the Vertical Drop on the Beveridge Curve, Measures of Labor Market Tightness Are Now Only Slightly Above Pre-Pandemic Levels on Average



Source: Goldman Sachs Global Investment Research, Department of Labor, The Conference Board, NFIB

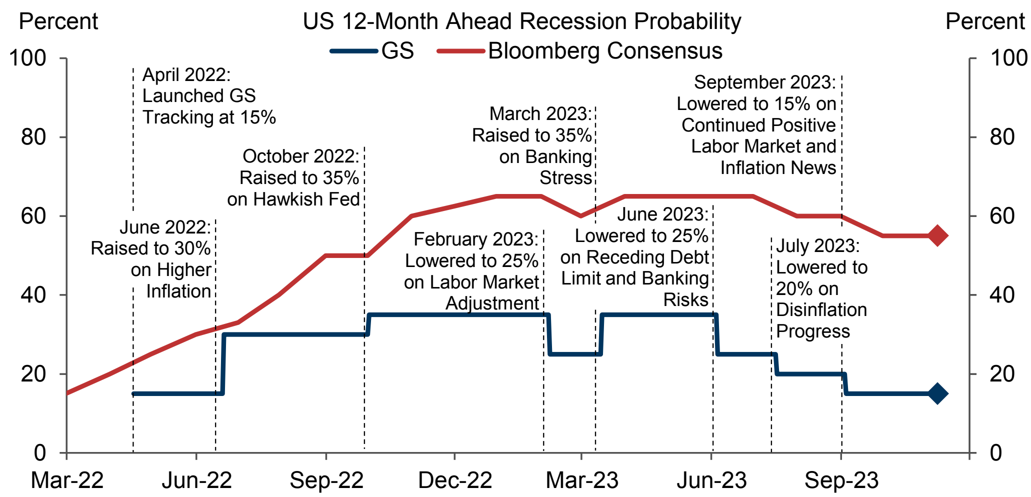
Inflation psychology has normalized too from the days when prices seemed to be spiking everywhere and many businesses and workers felt it was only fair that their own prices and wages rise accordingly. The Fed's composite inflation expectations index has fallen sharply to a roughly target-consistent level as the price shocks associated with reopening and shortages have become a more distant memory (Exhibit 4).

Exhibit 4: Inflation Expectations Have Fallen Sharply to Roughly Target-Compatible Levels

Source: Federal Reserve Board

With the more daunting problems largely solved, the conditions for inflation to return to target in place, and the heaviest blows from monetary and fiscal tightening well behind us (Exhibit 10 below), we now see only a historically average 15% probability of recession over the next 12 months. The consensus, in contrast, still sees a much higher recession probability of 48% over the next 12 months (Exhibit 5).

Exhibit 5: With the Hard Part of the Inflation Fight Now Behind Us, We See Only a Historically Average Recession Probability of 15% Over the Next 12 Months

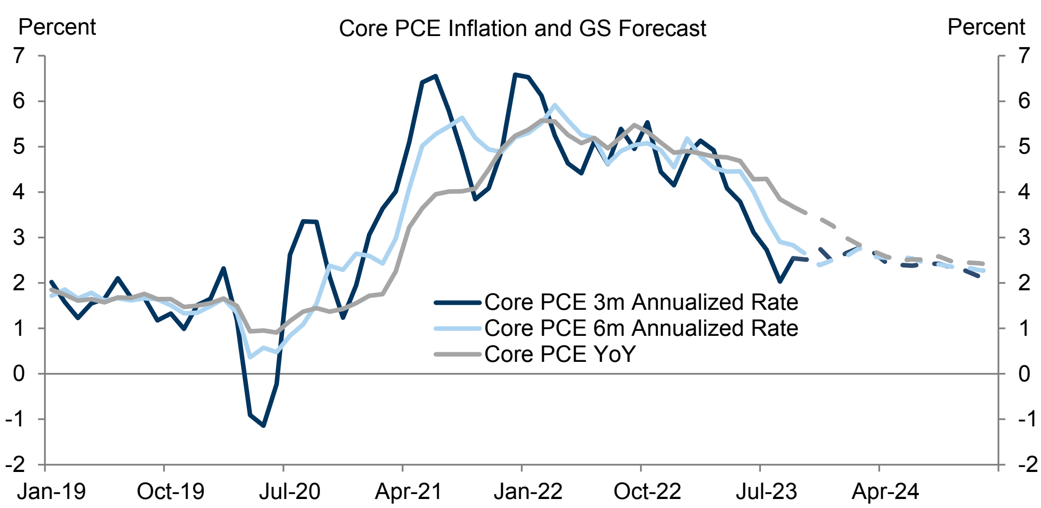


Source: Goldman Sachs Global Investment Research, Bloomberg

2024 Inflation Outlook: Final Descent

Inflation has fallen sharply from its pandemic peak and should begin its final descent in 2024. Core PCE inflation is down from a 5.5-6% to a 2.5-3% sequential annualized pace (Exhibit 6), and other measures of the underlying trend such as the trimmed mean and the median have softened significantly as well.

Exhibit 6: Core Inflation Has Fallen Sharply from the Peak and Is on Track to Fall Further in 2024

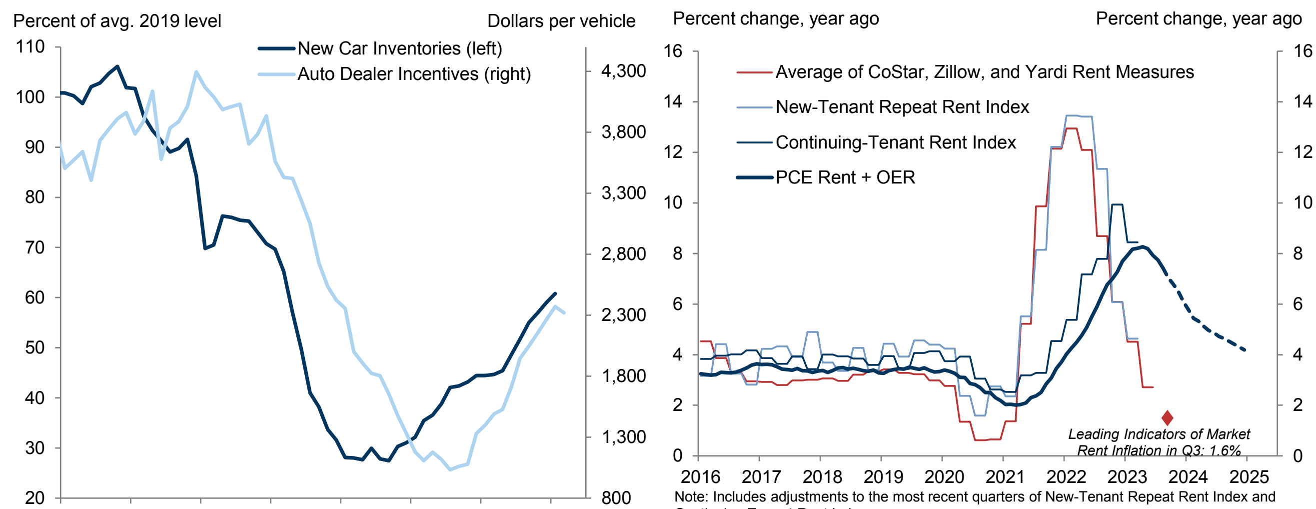


Source: Goldman Sachs Global Investment Research, Department of Commerce

We see further disinflation in the pipeline from rebalancing in the auto, housing rental, and labor markets. In the auto market, it took longer than expected but eventually fixing supply chain problems, restoring production to normal levels, and rebuilding inventories reintroduced competition among dealers and manufacturers that has begun to reverse shortage-driven price spikes. Inventory levels have more room to recover in 2024, and new and used car prices have further to fall (Exhibit 7, left).

In the housing rental market, normalization of elevated pandemic demand and a large increase in apartment supply has slowed leading indicators of new tenant rent inflation to a 1-2% annualized pace this year (Exhibit 7, right). The official housing inflation numbers have slowed less because they also cover continuing tenant rents, which fell behind the rapid growth of market rates in 2021 and 2022 and have been catching up. But we estimate that the gap between market rates and continuing tenant rents has fallen from 7.5% to around 2%, meaning that catch-up is coming to an end and the official numbers should converge more quickly toward the slower pace of the leading indicators next year.

Exhibit 7: There Is More Disinflation in the Pipeline on the Goods Side from Autos and on the Services Side from Shelter

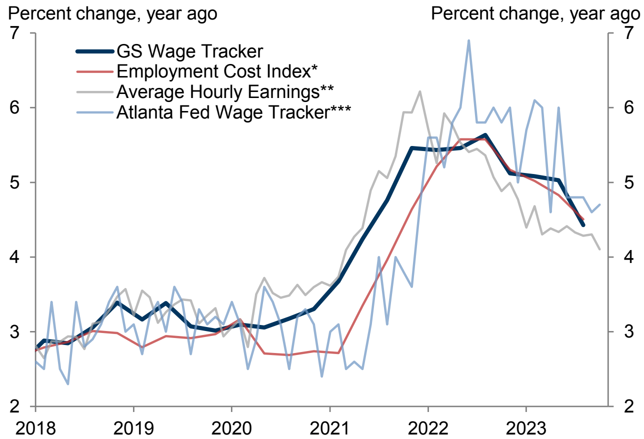


Note: Includes adjustments to the most recent quarters of New-Tenant Repeat Rent Index and Continuing-Tenant Rent Index

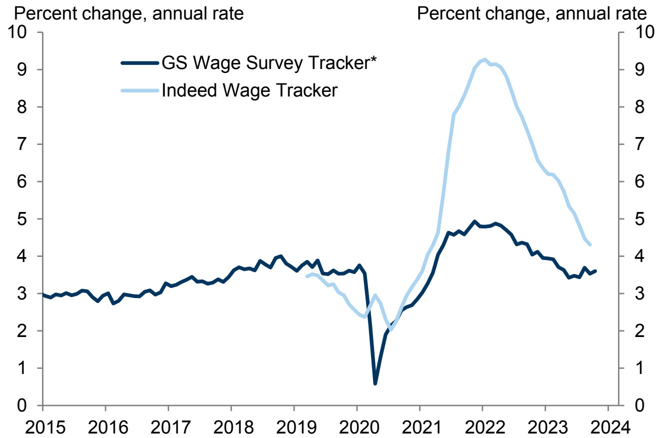
Source: Goldman Sachs Global Investment Research, Department of Commerce, CoStar, Zillow, Yardi, Department of Labor

In the labor market, a narrower jobs-workers gap and lower year-ahead inflation expectations have brought our wage growth tracker down from a peak of 5.6% year-on-year to 4.4%, and business surveys point to a further decline next year to roughly the 3.5% rate that we estimate would be compatible with 2% inflation (Exhibit 8). While recent headlines about union wage demands have sparked concern about a reacceleration, the wage hikes they have won have not been as large as advertised, and unionized workers' wage growth rate is a lagging indicator because they tend to have longer-lasting contracts.

Exhibit 8: Wage Growth Is Slowing, and Business Surveys Point to Further Deceleration Next Year to the 3.5% Rate Compatible with 2% Inflation



Note: Our wage tracker extracts the common signal from several high-quality wage growth measures. *Private industry workers ex-incentive paid occupations. **All private industry workers, GS composition-adjusted from 2020-2021. ***Non-smoothed median wage growth, adjusted down by 0.5pp to account for composition difference from other measures.



* Average of NFIB, Dallas Fed manufacturing, Dallas Fed services, Richmond Fed Manufacturing, Richmond Fed services, NY Fed services, and Kansas City Fed services, scaled to 6-month annualized average hourly earnings.

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

We expect a small offset to these disinflationary pressures from a delayed acceleration in the healthcare sector, where multi-year contracts have so far prevented large cost increases from flowing through fully to prices.

These and other trends are summarized in our component-level forecast table (Exhibit 9) and described in more depth in our 2024 Inflation Outlook. We expect core PCE goods inflation to fall from 0.1% now to -1.2% in December 2024, housing services to fall from 7.2% to 4.1%, and core services ex-housing to fall from 4.3% to 3.4%, implying a decline in overall core PCE inflation from 3.7% to 2.4% by December 2024. Core CPI inflation is likely to run hotter this fall and winter, but we expect it to fall to 2.7% by December 2024.

While we are confident that core inflation will fall meaningfully further next year, it is worth bearing in mind that it was hard to forecast even in the pre-pandemic decades of low and stable inflation, when the average absolute year-ahead forecast error for private sector and Fed forecasters was about 0.4pp. Surprises of that magnitude should not be surprising, and they are large enough to influence Fed policy.

Exhibit 9: We Expect Core PCE Inflation to Fall to 3.3% by December 2023 and 2.4% by December 2024, with Declines in Most Categories Partly Offset by a Delayed Acceleration in Health Care Services

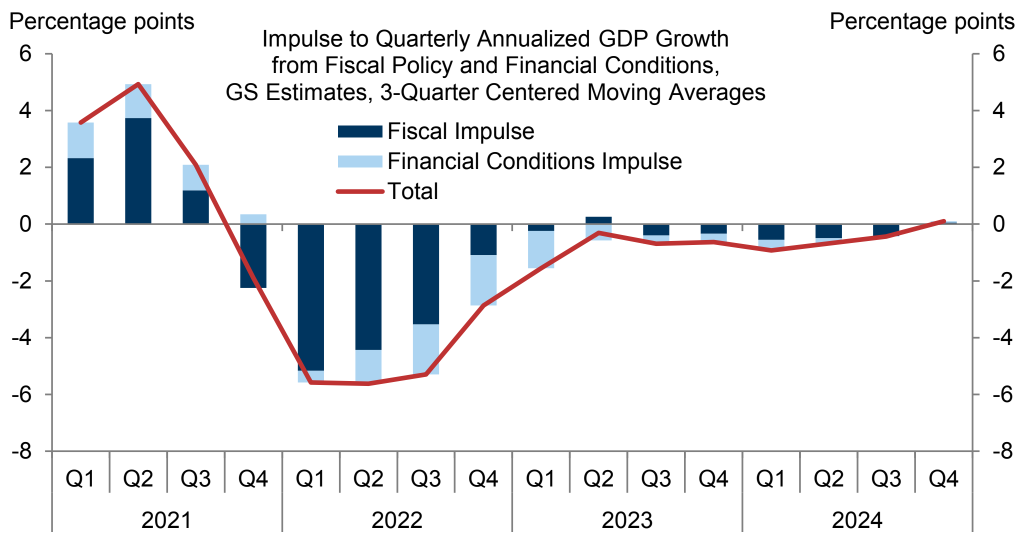
			GS Bottom-up Core PCE Forecast			
		Sep. 2023	Dec. 2023		Dec. 2024	
	Weight	YoY	YoY	Contribution to Change	YoY	Contribution to Change
Core PCE	***100.0***	**3.7**	**3.3**	-0.4	**2.4**	-1.3
Core Goods	***26.1***	**0.1**	**0.0**	0.0	**-1.2**	-0.3
New Vehicles	*2.4*	2.6	0.7	0.0	-1.7	-0.1
Used Vehicles	*1.5*	-8.0	-7.3	0.0	-5.5	0.0
Household Appliances	*0.5*	-6.4	-8.2	0.0	-3.5	0.0
Video, Audio, Computers	*2.5*	-7.1	-6.0	0.0	-9.0	0.0
Recreational Vehicles	*0.6*	2.0	0.7	0.0	1.0	0.0
Jewelry, Watches	*0.6*	0.5	0.2	0.0	1.1	0.0
Clothing & Footwear	*3.1*	2.4	2.6	0.0	0.3	-0.1
Pharma & Medical	*3.9*	3.4	3.7	0.0	1.9	-0.1
Pets Products	*0.7*	4.8	3.4	0.0	1.3	0.0
Expenditures Abroad	*0.1*	11.5	6.7	0.0	0.5	0.0
Residual Core Goods	*10.1*	0.1	0.1	0.0	-0.7	-0.1
Core Services	***73.9***	**5.0**	**4.4**	-0.4	**3.6**	-1.1
Housing	*17.4*	7.2	6.3	-0.1	4.1	-0.5
Ground Transportation	*0.4*	2.2	2.1	0.0	1.9	0.0
Air Transportation	*1.2*	3.5	0.2	0.0	3.9	0.0
Food Services & Accommodation	*8.3*	6.0	4.8	-0.1	3.5	-0.2
Financial Services & Insurance	*8.2*	5.6	5.1	0.0	3.4	-0.2
Medical Services	*18.3*	2.3	2.6	0.1	3.3	0.2
Foreign Travel	*1.4*	-0.7	-4.6	-0.1	2.6	0.0
Residual Core Services	*18.7*	5.4	5.0	-0.1	3.5	-0.4
Core services ex. housing	*56.5*	4.3	3.8	-0.3	3.4	-0.5

Source: Goldman Sachs Global Investment Research, Department of Commerce

2024 Growth Outlook: Holding Up at Higher Rates

We think that the main reason the economy accelerated from 2022 to 2023 is that the impact of fiscal and monetary policy tightening on GDP growth diminished sharply. The impact should be similar next year, with a bit of further drag from both fiscal tightening and the recent tightening in financial conditions worth about ¼-½pp in total.

Exhibit 10: The Drag on GDP Growth from Fiscal and Monetary Policy Tightening Peaked in 2022, Declined Sharply in 2023, and Should Remain Modest in 2024



Source: Goldman Sachs Global Investment Research

Below we discuss the growth outlook by GDP component. Our return to a textbook *C + I + G + NX* approach and our traditional forecasting models marks the end of the period when assumptions about special factors such as virus spread or supply chain disruptions played a large role in cyclical trends.

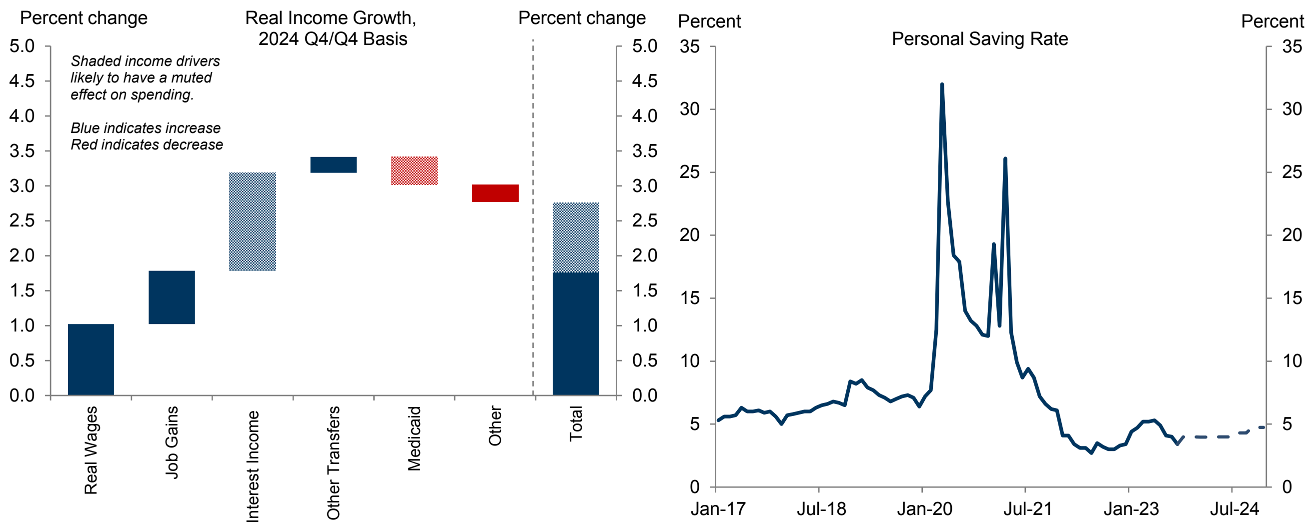
Consumption

Our 2024 Consumer Outlook notes that we expect slowing but solid job gains, roughly 1% real wage growth, and a large increase in household interest income to fuel real disposable income growth of nearly 3% next year (Exhibit 11). Interest income will accrue mostly to the top income quintile, where we expect 4% real income growth, versus just 1½% for the bottom income quintile.

We expect strong income growth to be partly offset by a 1pp rise in the saving rate. The saving rate ought to be very low at the moment because both the precautionary and retirement motives for saving are weak at a time when the layoff rate is low and the wealth-to-income ratio is historically high, but it is a little too low compared to its pre-pandemic level, when the same was true to a slightly lesser degree.

On net, real income growth of just under 3% and a 1pp rise in the saving rate imply consumption growth of just under 2% in 2024 on a Q4/Q4 basis. The last few years have seen large shifts in the composition of consumer spending between goods and services, but we think that these are largely over. While the share of services in total consumer spending remains below its pre-pandemic level, this appears to be due to the large increase in the share of people working from home, which has now stabilized.

Exhibit 11: We Expect Real Disposable Income Growth of Just Under 3% to Be Partially Offset by a Modest Rise in the Saving Rate, Resulting in Consumption Growth of Just Under 2% in 2024

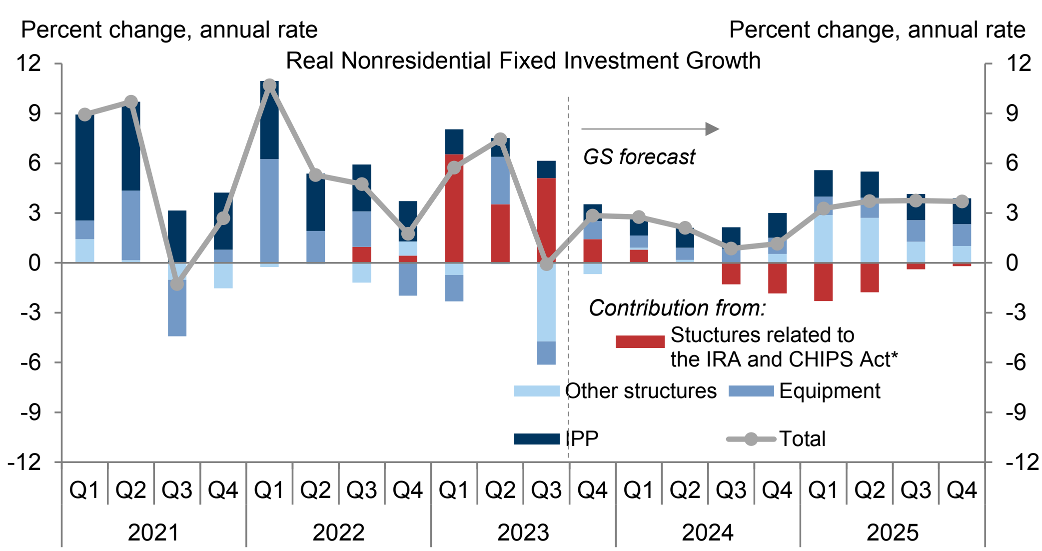


Source: Goldman Sachs Global Investment Research, Department of Commerce

Business investment

Our 2024 Business Investment Outlook highlights two key headwinds and two key tailwinds. The headwinds are the end of the surge in new manufacturing facility investment driven by CHIPS Act and Inflation Reduction Act subsidies, which accounted for all of the net growth in business investment this year, and more difficult financing conditions, especially for commercial real estate. The tailwinds are rising investment in artificial intelligence and less self-restraint as business leaders' recession fears fade. We expect these forces to net out to business investment growth of 1¾% in 2024.

Exhibit 12: Business Investment Is Likely to Decelerate in 2024 as the Growth Boost to Manufacturing Structures from CHIPS Act and Inflation Reduction Act Subsidies Fades



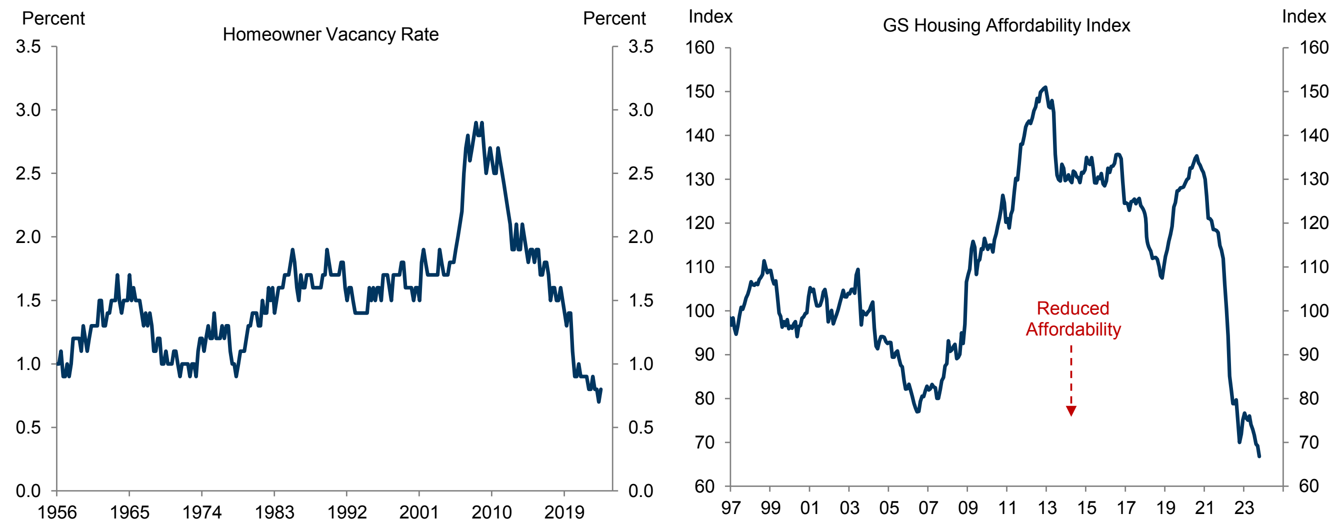
*GS estimate based on analysis of public announcements of structures investment and construction spending.

Source: Goldman Sachs Global Investment Research, Department of Commerce

Residential investment

Our 2024 Housing Outlook calls for higher mortgage rates to keep existing home sales very weak next year at around 3.8mn because nearly all mortgage holders are paying interest rates below market rates, which makes moving costly, but to have less impact on homebuilding, where a serious national shortage of single-family homes should continue to temper the impact of higher mortgage rates. Overall, we expect residential investment to end 2024 roughly flat. The same competing forces—low affordability but very tight supply—should generate modest home price growth of about 1% next year.

Exhibit 13: We Forecast Roughly Flat Residential Investment in 2024 as the Housing Shortage Continues to Temper the Impact of the Decline in Affordability Caused by Higher Home Prices and Mortgage Rates



Source: Goldman Sachs Global Investment Research, Department of Commerce

Government spending

We are penciling in roughly flat federal spending and 0.5% growth in state and local spending in 2024. We continue to see some risk of a government shutdown either this week or early next year, which would shift growth between quarters, and some downside risk to our full-year forecast if Congress continues to avoid shutdowns through temporary extensions, which would lead to automatic spending cuts that take effect in May, resulting in a step-down in funding of 0.4% of GDP in 2024Q2 and 2024Q3.

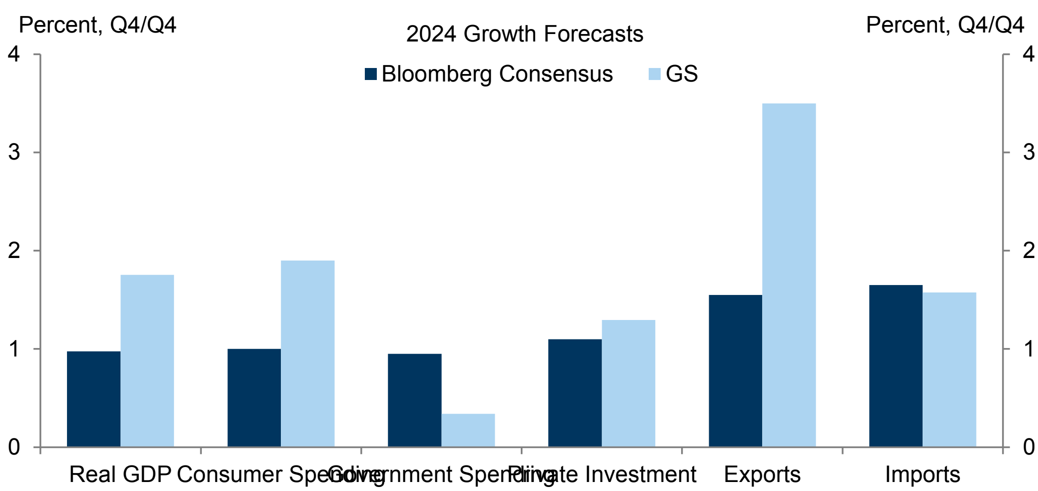
Net exports

Our 2024 Trade Outlook notes that US imports have come down from an elevated level fueled by pandemic stimulus, but US exports remain depressed. We expect a recovery in foreign growth next year to boost demand for US exports, narrowing the trade deficit enough in 2024 to contribute 0.2pp to GDP growth. Beneath the surface, some changes in US trade patterns—the increase in petroleum net exports due to rising shale production in response to higher prices, and the decline in travel services exports due to tighter visa restrictions—look likely to persist.

Total GDP

Adding up these components, we expect real GDP to grow 1.8% in 2024 on a Q4/Q4 basis (or 2.1% on a full-year basis), once again easily beating low consensus expectations (Exhibit 14).

Exhibit 14: Our 2024 Q4/Q4 GDP Growth Forecast of 1.8% Is Well Above the Consensus Forecast of 1.0%



Source: Goldman Sachs Global Investment Research, Bloomberg

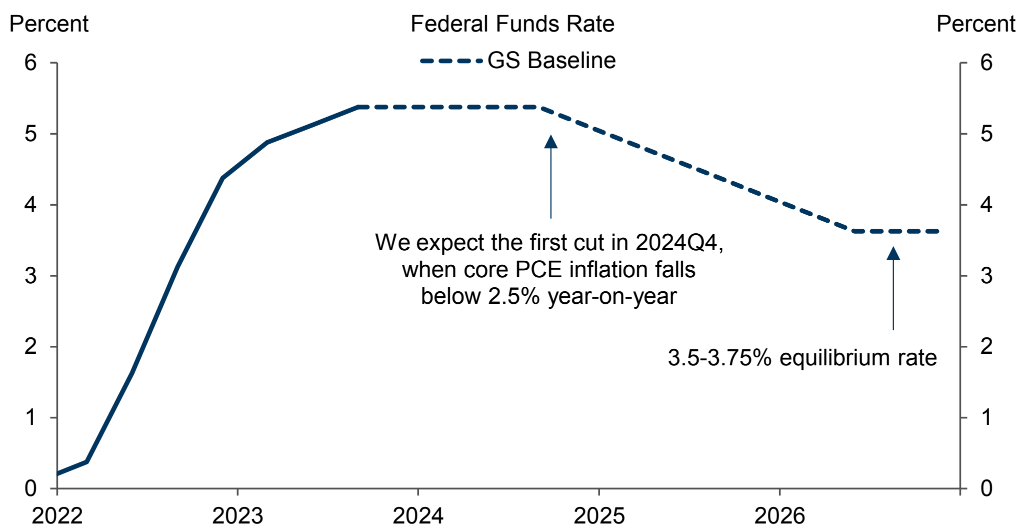
GDP growth near the economy's potential growth rate should mean roughly stable labor market conditions in 2024. We put the current trend pace of job growth at around 175k per month and expect it to slow to 130k in 2024H1 and 100k in 2024H2, near our slightly higher than usual estimate of the breakeven pace that would stabilize the unemployment rate while immigration remains elevated. We do not attach much significance to the recent modest rise in the unemployment rate and expect it to continue hovering in the mid-to-high 3s next year because the layoff rate remains low and job openings remain even higher than in 2019—one of the best labor markets in US history—in nearly every industry.

2024 Fed Outlook: A Long Road to Rate Cuts and a Higher Equilibrium Rate

We expect the FOMC to deliver its first rate cut in 2024Q4 once core PCE inflation falls below 2.5%. We then expect one 25bp cut per quarter until 2026Q2, when the fed funds rate would reach 3.5-3.75% (Exhibit 15). While we see rate cuts next year as optional in that they are not necessary to avoid recession, we expect the FOMC to conclude that while neutral might not be as low as the 2.5% median longer run dot, it probably is not as high as 5.25-5.5%, so some amount of normalization makes sense as inflation falls. We think this rationale is enough to cut to 3.5-3.75% but probably not further. Our forecast could be thought of as a compromise between Fed officials who see little reason to keep the funds rate high once the inflation problem is solved and those who see little reason to stimulate an already-strong economy.

We expect the equilibrium rate to be higher than last cycle because the post-financial crisis headwinds are behind us, much larger fiscal deficits that boost aggregate demand are likely to persist, the funds rate is approaching equilibrium from above rather than below, and the r* narrative is changing. We discussed these issues in a recent Q&A on Fed policy, financial conditions, and the neutral rate.

Exhibit 15: We Expect the FOMC to Deliver Its First Rate Cut in 2024Q4 and Then Cut 25bp Per Quarter to an Equilibrium Rate of 3.5-3.75%, Higher Than Last Cycle

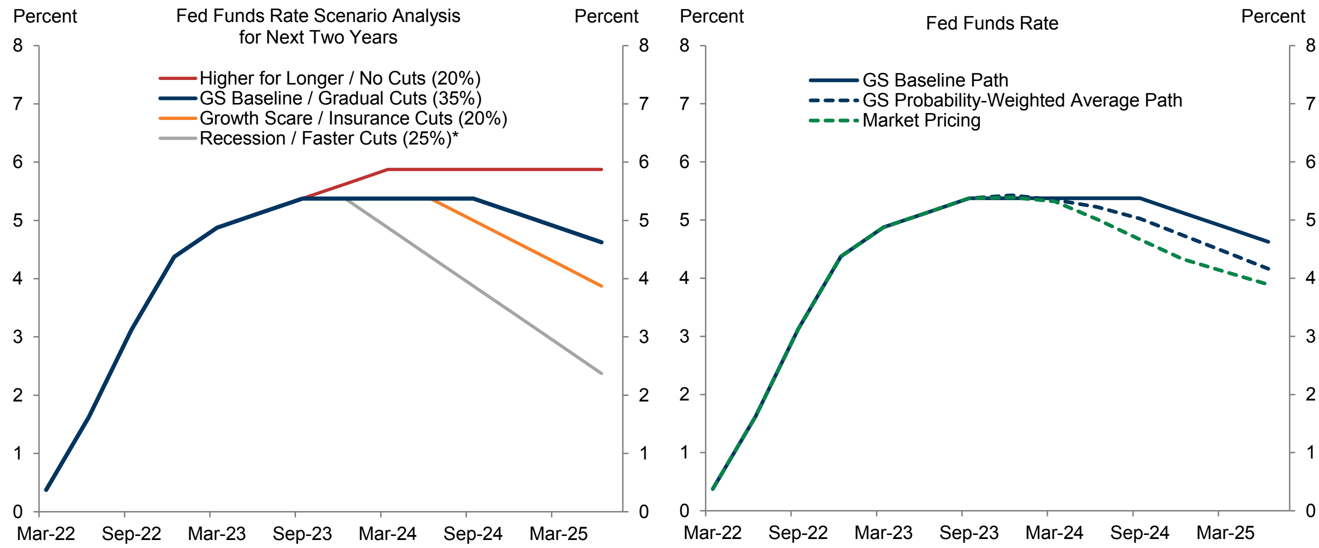


Source: Goldman Sachs Global Investment Research

Other paths are also possible. The FOMC undertook two dovish pivots last cycle in response to growth scares that did not look like serious recession threats to us, and if the bar for responding was low last cycle, it will likely be even lower starting from a higher funds rate of 5.25-5.5%. As a result, while we do not have any major macroeconomic shocks in our forecast for 2024, we would not be surprised by insurance cuts at some point.

The judgmental probabilities that we assign to several plausible paths for the funds rate over the next couple of years—no rate cuts, gradual normalization as inflation falls in our baseline, insurance cuts, and cuts in a potential recession—imply a probability-weighted average Fed path that is below our baseline path but somewhat above market pricing, although much less so than earlier this year (Exhibit 16).

Exhibit 16: We Expect the First Rate Cut in 2024Q4, Though Insurance Cuts at Some Point Are Also a Risk; Market Pricing Is Now Slightly More Dovish Than Our Views, Though Much Less So Than Earlier This Year



* This is a probability of a recession happening at any point over the next two years. Our 12-month recession probability is 15%.

Source: Goldman Sachs Global Investment Research

Risks to Our 2024 Outlook

Two key risks remain top of mind. The first is geopolitical conflict and the risk of a spike in oil prices. While possible, we think this would more likely be a setback in the inflation fight than a gamechanger. We doubt that a spike in oil prices alone would take us back to the inflation environment of late 2021 and 2022, when price spikes were widespread across many commodities and other goods in short supply. After all, the US economy saw many large fluctuations in energy prices in the twenty years before the pandemic that had much more limited effects on core inflation and inflation expectations.

The second risk is that something could "break" in the abrupt transition to a higher interest rate regime. We think most of the impact of higher interest rates is already behind us, and the impact yet to come—in particular from the looming corporate debt maturity wall—will be modest. Our analysis suggests that the costs of an unwinding of other potential risks—valuations in financial markets, unprofitable firms in the corporate sector, and large deficits in the public sector—would be meaningful but manageable. A major reason is that if any of these risks materialized as a major growth headwind next year, the FOMC would likely feel at liberty to cut in response in a way it would not have last year, and it will have plenty of room to do so. In fact, if higher rates cause problems and the Fed cuts in response, investors might well revise their expectations of future interest rates part way back down, which would provide further relief.

David Mericle

The US Economic and Financial Outlook

(% change on previous period, annualized, except where noted)

	2022	2023 (f)	2024 (f)	2025 (f)	2026 (f)	2027 (f)	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2024 Q3	2024 Q4
OUTPUT AND SPENDING														
Real GDP	**1.9**	2.4	2.1	1.9	1.9	2.0	**2.2**	**2.1**	**4.9**	1.6	1.8	1.6	1.7	1.9
Real GDP (annual=Q4/Q4, quarterly=yoy)	**0.7**	2.7	1.8	1.9	1.9	2.0	**1.7**	**2.4**	**2.9**	2.7	2.6	2.4	1.7	1.8
Consumer Expenditures	**2.5**	2.2	2.1	1.9	1.9	2.0	**3.8**	**0.8**	**4.0**	1.9	1.9	1.9	1.9	1.9
Residential Fixed Investment	**-9.0**	-11.5	-1.5	2.6	3.2	2.4	**-5.3**	**-2.2**	**3.9**	-7.0	-4.0	1.0	2.0	2.0
Business Fixed Investment	**5.2**	4.2	2.2	2.7	3.7	3.6	**5.7**	**7.4**	**-0.1**	2.9	2.8	2.1	0.9	1.2
Structures	**-2.1**	11.4	1.7	0.1	3.2	3.0	**30.3**	**16.1**	**1.6**	3.3	4.0	0.8	-6.0	-6.0
Equipment	**5.2**	0.1	1.9	3.0	3.5	3.2	**-4.1**	**7.7**	**-3.8**	2.9	2.0	2.0	2.5	2.8
Intellectual Property Products	**9.1**	4.5	2.9	3.9	4.3	4.5	**3.8**	**2.7**	**2.6**	2.5	2.8	3.0	3.5	4.0
Federal Government	**-2.8**	4.1	1.3	0.0	0.0	0.0	**5.2**	**1.1**	**6.1**	2.0	0.6	0.0	0.0	0.0
State & Local Government	**0.2**	3.6	1.3	0.9	1.0	1.0	**4.6**	**4.7**	**3.7**	2.0	0.0	0.1	0.9	0.9
Net Exports ($bn, '17)	**-1,051**	-932	-899	-895	-900	-887	**-935**	**-928**	**-938**	-926	-907	-902	-894	-892
Inventory Investment ($bn, '17)	**128**	47	55	60	60	60	**27**	**15**	**81**	64	60	50	50	60
Industrial Production, Mfg.	**2.7**	-0.4	1.8	3.1	3.4	3.4	**-0.3**	**0.3**	**0.0**	1.7	2.1	2.3	2.7	3.1
HOUSING MARKET														
Housing Starts (units, thous)	**1,551**	1,388	1,335	1,430	1,515	1,535	**1,385**	**1,450**	**1,359**	1,358	1,335	1,325	1,325	1,355
New Home Sales (units, thous)	**637**	686	723	771	781	858	**638**	**691**	**724**	690	708	708	728	747
Existing Home Sales (units, thous)	**5,081**	4,093	3,838	4,244	4,372	5,005	**4,327**	**4,250**	**4,023**	3,773	3,740	3,796	3,863	3,952
Case-Shiller Home Prices (%yoy)*	**7.5**	3.5	0.6	3.8	4.9	4.9	**2.3**	**-0.2**	2.2	3.5	3.1	1.6	0.2	0.6
INFLATION (% ch, yr/yr)														
Consumer Price Index (CPI)**	**6.4**	3.3	2.5	2.3	2.4	2.3	**5.8**	**4.1**	**3.6**	3.2	3.0	2.6	2.5	2.5
Core CPI **	**5.7**	4.0	2.7	2.5	2.5	2.4	**5.6**	**5.2**	**4.4**	4.1	3.7	3.1	3.1	2.8
Core PCE** †	**4.9**	3.3	2.4	2.2	2.1	2.1	**4.8**	**4.6**	**3.9**	3.4	2.8	2.5	2.5	2.4
LABOR MARKET														
Unemployment Rate (%)^	**3.5**	3.8	3.7	3.6	3.6	3.6	**3.5**	**3.6**	**3.8**	3.8	3.7	3.7	3.7	3.7
U6 Underemployment Rate (%)^	**6.5**	7.0	6.8	6.8	6.8	6.7	**6.7**	**6.9**	**7.0**	7.0	6.8	6.8	6.8	6.8
Payrolls (thous, monthly rate)	**399**	222	115	80	75	75	**312**	**201**	**233**	142	130	130	100	100
Employment-Population Ratio (%)^	**60**	60.3	60.2	60.1	59.9	59.7	**60.4**	**60.3**	**60.4**	60.3	60.3	60.3	60.3	60.2
Labor Force Participation Rate (%)^	**62**	62.6	62.5	62.3	62.1	61.9	**62.6**	**62.6**	**62.8**	62.6	62.6	62.6	62.6	62.5
Average Hourly Earnings (%yoy)	**5.3**	4.3	4.0	3.6	3.6	3.6	**4.5**	**4.3**	**4.3**	4.2	4.2	4.1	3.9	3.8
GOVERNMENT FINANCE														
Federal Budget (FY, $bn)	**-1,375**	***-1,700***	-1,700	-1,900	-1,900	-2,050	--	--	--	--	--	--	--	--
FINANCIAL INDICATORS														
FF Target Range (Bottom-Top, %)^	**4.25-4.5**	5.25-5.5	5-5.25	4-4.25	3.5-3.75	3.5-3.75	**4.75-5**	**5-5.25**	**5.25-5.5**	5.25-5.5	5.25-5.5	5.25-5.5	5.25-5.5	5-5.25
10-Year Treasury Note^	**3.88**	4.30	4.30	4.25	4.25	4.25	**3.48**	**3.81**	**4.59**	4.30	4.60	4.60	4.50	4.30
Euro (€/$)^	**1.07**	1.06	1.15	1.15	1.15	1.15	**1.09**	**1.09**	**1.06**	1.06	1.08	1.10	1.11	1.15
Yen ($/¥)^	**132**	150	135	135	135	135	**133**	**144**	**149**	150	152	154	152	135

* 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

Disclosure Appendix

Reg AC

We, Jan Hatzius, Alec Phillips, David Mericle, Spencer Hill, CFA, 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.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

Disclosures

Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with subject company, public appearances and trading securities held by the analysts.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of Global Investment Research of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests and a copy of Goldman Sachs' Australian Sell-Side Research Independence Policy Statement are available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Brazil:** Disclosure information in relation to CVM Resolution n. 20 is available at https://www.gs.com/worldwide/brazil/area/gir/index.html. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 20 of CVM Resolution n. 20, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. **Canada:** This information is being provided to you for information purposes only and is not, and under no circumstances should be construed as, an advertisement, offering or solicitation by Goldman Sachs & Co. LLC for purchasers of securities in Canada to trade in any Canadian security. Goldman Sachs & Co. LLC is not registered as a dealer in any jurisdiction in Canada under applicable Canadian securities laws and generally is not permitted to trade in Canadian securities and may be prohibited from selling certain securities and products in certain jurisdictions in Canada. If you wish to trade in any Canadian securities or other products in Canada please contact Goldman Sachs Canada Inc., an affiliate of The Goldman Sachs Group Inc., or another registered Canadian dealer. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst - SEBI Registration Number INH000001493, 951-A, Rational House, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9001. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. Investment in securities market are subject to market risks. Read all the related documents carefully before investing. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Goldman Sachs (India) Securities Private Limited Investor Grievance E-mail: india-client-support@gs.com. Compliance Officer: Anil Rajput |Tel: + 91 22 6616 9000 | Email: anil.m.rajput@gs.com. **Japan:** See below. **Korea:** This research, and any access to it, is intended only for "professional investors" within the meaning of the Financial Services and Capital Markets Act, unless otherwise agreed by Goldman Sachs. Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **New Zealand:** Goldman Sachs New Zealand Limited and its affiliates are neither "registered banks" nor "deposit takers" (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand. This research, and any access to it, is intended for "wholesale clients" (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests is available at: https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Research reports do not constitute a personalized investment recommendation as defined in Russian laws and regulations, are not addressed to a specific client, and are prepared without analyzing the financial circumstances, investment profiles or risk profiles of clients. Goldman Sachs assumes no responsibility for any investment decisions that may be taken by a client or any other person based on this research report. **Singapore:** Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), which is regulated by the Monetary Authority of Singapore, accepts legal responsibility for this research, and should be contacted with respect to any matters arising from, or in connection with, this research. **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union and United Kingdom: Disclosure information in relation to Article 6 (2) of the European Commission Delegated Regulation (EU)

(2016/958) supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council (including as that Delegated Regulation is implemented into United Kingdom domestic law and regulation following the United Kingdom's departure from the European Union and the European Economic Area) with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of conflicts of interest is available at https://www.gs.com/disclosures/europeanpolicy.html which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan Type II Financial Instruments Firms Association, The Investment Trusts Association, Japan, and Japan Investment Advisers Association. Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Global product; distributing entities

Goldman Sachs Global Investment Research produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Public Communication Channel Goldman Sachs Brazil: 0800 727 5764 and / or contatogoldmanbrasil@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Canal de Comunicação com o Público Goldman Sachs Brasil: 0800 727 5764 e/ou contatogoldmanbrasil@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom.

Goldman Sachs International ("GSI"), authorised by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA, has approved this research in connection with its distribution in the United Kingdom.

European Economic Area: GSI, authorised by the PRA and regulated by the FCA and the PRA, disseminates research in the following jurisdictions within the European Economic Area: the Grand Duchy of Luxembourg, Italy, the Kingdom of Belgium, the Kingdom of Denmark, the Kingdom of Norway, the Republic of Finland and the Republic of Ireland; GSI - Succursale de Paris (Paris branch) which is authorised by the French Autorité de contrôle prudentiel et de resolution ("ACPR") and regulated by the Autorité de contrôle prudentiel et de resolution and the Autorité des marches financiers ("AMF") disseminates research in France; GSI - Sucursal en España (Madrid branch) authorized in Spain by the Comisión Nacional del Mercado de Valores disseminates research in the Kingdom of Spain; GSI - Sweden Bankfilial (Stockholm branch) is authorized by the SFSA as a "third country branch" in accordance with Chapter 4, Section 4 of the Swedish Securities and Market Act (Sw. lag (2007:528) om värdepappersmarknaden) disseminates research in the Kingdom of Sweden; Goldman Sachs Bank Europe SE ("GSBE") is a credit institution incorporated in Germany and, within the Single Supervisory Mechanism, subject to direct prudential supervision by the European Central Bank and in other respects supervised by German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and Deutsche Bundesbank and disseminates research in the Federal Republic of Germany and those jurisdictions within the European Economic Area where GSI is not authorised to disseminate research and additionally, GSBE, Copenhagen Branch filial af GSBE, Tyskland, supervised by the Danish Financial Authority disseminates research in the Kingdom of Denmark; GSBE - Sucursal en España (Madrid branch) subject (to a limited extent) to local supervision by the Bank of Spain disseminates research in the Kingdom of Spain; GSBE - Succursale Italia (Milan branch) to the relevant applicable extent, subject to local supervision by the Bank of Italy (Banca d'Italia) and the Italian Companies and Exchange Commission (Commissione Nazionale per le Società e la Borsa "Consob") disseminates research in Italy; GSBE - Succursale de Paris (Paris branch), supervised by the AMF and by the ACPR disseminates research in France; and GSBE - Sweden Bankfilial (Stockholm branch), to a limited extent, subject to local supervision by the Swedish Financial Supervisory Authority (Finansinpektionen) disseminates research in the Kingdom of Sweden.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by Global Investment Research. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (https://www.sipc.org).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research, unless otherwise prohibited by regulation or Goldman Sachs policy.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is focused on investment themes across markets, industries and sectors. It does not attempt to distinguish between the prospects or performance of, or provide analysis of, individual companies within any industry or sector we describe.

Any trading recommendation in this research relating to an equity or credit security or securities within an industry or sector is reflective of the investment theme being discussed and is not a recommendation of any such security in isolation.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur.

Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options and futures disclosure documents which are available from Goldman Sachs sales representatives or at https://www.theocc.com/about/publications/character-risks.jsp and https://www.fiadocumentation.org/fia/regulatory-disclosures_1/fia-uniform-futures-and-options-on-futures-risk-disclosures-booklet-pdf-version-2018. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Differing Levels of Service provided by Global Investment Research: The level and types of services provided to you by Goldman Sachs Global Investment Research may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to https://research.gs.com.

Disclosure information is also available at https://www.gs.com/research/hedge.html or from Research Compliance, 200 West Street, New York, NY 10282.