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The U.S. Economic Outlook for 2023–2025

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Executive Summary

TL; DR

We expect the U.S. economy to avoid a recession over the next two years. Real GDP expands by 2.4 percent this year, 1.7 percent next year, and 2.0 percent in 2025. The unemployment rate is projected to inch up through 2025Q1, peaking at just 4.3 percent. Inflation will continue to moderate toward the Fed's objective, allowing the FOMC to start relaxing monetary policy late in 2024. We expect most medium- and long-term interest rates to stabilize in the near term and to start declining gradually beginning in mid-2024.

After a Hot Summer, Mild Hangover Ahead

The annualized pace of economic growth unexpectedly rocketed up to 4.9 percent in 2023Q3, the strongest reading since 2021Q4 and more than double the pace during the first half of this year. Broad-based growth of consumption expenditures contributed 2.7 percentage points to the headline. Real disposable income fell, however, so consumers had to cut back on savings to fund the splurge.

In the near term, with real disposable income growing at a modest pace, student loan interest payments resuming, and interest rates rising, we expect that the consumption growth bonanza will make way for some old-fashioned restraint, at least temporarily.

Blame It on The Bond Vigilantes

The U.S. Treasury debt marking is not having a good year, with multiple dramatic moves in long-term interest rates. The 10-year yield reached 4.0 percent early in March before retreating to about 3.3 percent this spring amid stress in the banking sector. The 10-year yield resumed rising after that, nearly breaching 5.0 percent in October before stepping back a bit in November. The gyrations of near-term policy expectations in response to new economic data and reactions to Fed communications can only go so far in explaining the bond rout.

Some have suggested that the "bond vigilantes," investors who aim to influence fiscal policy with their market actions, might be making an appearance. To us, the recent volatility appears to be driven more by the underlying uncertainty about the path of the economy, the trajectory of fiscal deficits, and the corresponding term premium.

Housing Unaffordability Spiral

The existing home market is in a weird spot. Housing affordability has cratered amid resilient prices and high mortgage rates. But as more potential sellers get locked in by their low mortgage rates, the inventory of homes for sale shrinks, fueling further upward pressure on prices. We remain cautiously optimistic about the new residential construction market. As the inventory drought in the existing home market persists, the pace of single-family housing construction will continue to climb after a small near-term correction in response to mortgage rates rising toward 7.5 percent.

Dual Mandate Progress

The recent rout in the bond market is especially surprising given that both sides of the Fed's dual mandate have been moving in the desired directions. The 3-month average (annualized) rate of core PCE inflation briefly registered 2.5 percent in September, down sharply from 4.9 percent in March. The labor market has softened somewhat in 2023 in the face of tightening monetary conditions, but it is arguably still on the tighter side relative to the "full employment" mandate, as the Fed sees it.

The Last Mile Issue?

One major question this year has been the extent to which monetary tightening has contributed to the disinflation. If supply chain normalization and an increase in labor supply have been the major driving forces of the recent disinflation, more monetary policy action may be required to go the last mile on inflation.

We judge that tight monetary policy has played a considerable role in the disinflation, working against *pent-up demand and excess savings. Thus, we believe the Fed has reached the terminal rate for this tightening cycle and envision the first rate cut late in 2024.*

Interest Payments to Exceed Defense Spending

Starting in 2023Q4 and continuing through the end of our forecast, federal interest expenses are projected to exceed defense consumption and gross investment combined, with the gap widening to some $160 billion in fiscal 2025. Since 1929, when the currently published statistics begin, there has not been a single such year, and only in 1998 were the two even close.

As a result, despite the primary fiscal deficit improving from 2.5 percent in fiscal 2023 to 1.6 percent in fiscal 2025, the overall federal deficit averages about 6.0 percent in 2024–25. With stark divisions in Congress, and even inside the GOP, the prospects of any fiscal adjustment look minimal.

The 2023–25 Outlook

Despite the upbeat 2023Q3 reading, we expect the GDP growth pace to slow sharply in 2023Q4, to 1.5 percent, and to stay below the longer-run trend for most of 2024. As more consumers run down their pandemic-era excess savings, high interest rates bite into consumption growth. By late 2024, with inflation solidly on its way down to the 2.0 percent target and the unemployment rate inching up, the Fed will start cutting its policy rate. We expect real growth to surpass 2.0 percent shortly after. On a Q4-to-Q4 basis, real GDP grows by 2.7 percent in 2023. Growth slows to 1.2 percent during 2024 and then rebounds to 2.2 percent during 2025.

We expect inflation to continue to converge towards the Fed's 2 percent goal over the next year as shelter inflation continues to decelerate and consumer goods inflation stays muted. Core CPI inflation registers 4.0 percent year over year in 2023Q4 before slowing to 3.0 percent in 2024Q2, 2.8 percent in 2024Q4, and 2.5 percent in 2025Q4. Headline CPI inflation outpaces core for a few quarters in 2024, as gasoline prices stay above their year-prior levels.

The slowing trend in job gains persists in the forecast through 2024Q4, but monthly gains never dip below 60,000 jobs. Job growth picks up in 2025 but stays muted because of productivity improvements in the wake of a lengthy tight labor market. The economy will add 1.7 million jobs in 2024 and 1.0 million in 2025. The unemployment rate gradually rises from 3.9 percent in 2023Q4 to 4.3 percent in 2025Q1. It then hovers near that level throughout 2025.

The pace of light vehicle sales is expected to recover slowly from October's 15.5-million-unit pace to 16.2 million in the second half of 2024, as the soft patch in the broader economy and high vehicle loan interest rates dampen growth. As economic growth starts re-accelerating late in 2024 and interest rates fall, vehicle sales rev up, reaching 16.5 million in 2025.

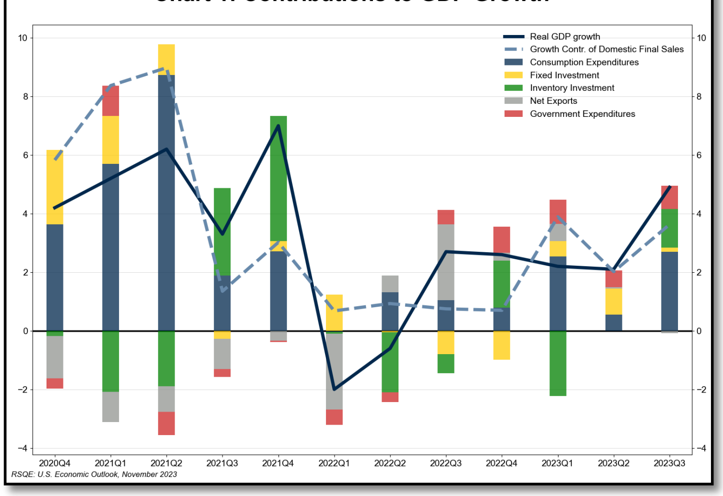
As the inventory drought in the existing home market persists, single-family housing starts increase by 72,000 units between 2023 and 2025. As the influx of completed units to the rental market and rising vacancy rates weighs on multi-family construction, multi-family starts decline from the red-hot 547,000 units in 2022 to 465,000 this year and fall by a further 59,000 units in 2024, before edging up by 17,000 in 2025. As a result, total housing starts decline by about 26,000 units, to roughly 1,350,000, in 2024 and climb to just over 1,400,000 in 2025.

	Actual	**RSQE Forecast**		
	2022	2023	2024	2025
GDP (billions of current $)	25744.1	27373.0	28628.7	29858.9
Real GDP (billions of 2017 $)	21822.0	22351.7	22730.5	23175.3
% change: year-over-year	1.9	2.4	1.7	2.0
% change: 4th-qtr-to-4th-qtr	0.7	2.7	1.2	2.2
Nonfarm payroll employment (millions)	152.6	156.2	157.9	158.9
Civilian unemployment rate (%)	3.6	3.7	4.1	4.2
Capacity utilization, total industry (%)	80.3	79.4	79.2	79.2
Inflation (private nonfarm GDP deflator, % change)	7.1	3.8	2.8	2.3
Inflation (CPI-U, % change)	8.0	4.2	3.2	2.6
Inflation (core CPI, % change)	6.1	4.8	3.0	2.6
Light vehicle sales (millions)	13.8	15.5	16.0	16.5
Private housing starts (thousands)	1551.3	1373.6	1347.8	1403.5
3-month Treasury bill rate (%)	2.0	5.1	5.2	4.6
10-year Treasury note rate (%)	3.0	4.0	4.5	4.4
Conventional mortgage rate (%)	5.3	6.8	6.8	6.2
Real disposable income (billions of chained 2017 $)	16116.9	16744.8	16962.1	17329.4
% change	-6.0	3.9	1.3	2.2
Corporate profits after tax (billions of current $)	2980.5	3012.6	3220.1	3376.4
Value of U.S. $ (FRB broad index), % appreciation	6.7	0.3	2.4	0.0
Current account balance (NIPA basis, billions of current $)	-985.8	-867.2	-897.1	-938.8
Federal surplus (FY, NIPA basis, billions of current $)	-1114.8	-1560.6	-1719.4	-1747.0

The Current State of the Economy

The annualized pace of economic growth unexpectedly rocketed up to 4.9 percent in the third quarter of 2023, the strongest reading since 2021Q4 and more than double the pace during the first half of this year.[1] Chart 1 shows the growth rate of real GDP and the growth contributions of the major components of GDP over recent quarters. While inventory investment added a hefty 1.3 percentage points to the third quarter's total growth reading, the 2.1 percentage point jump in the contribution of personal consumption was the largest driver behind the acceleration. Real disposable income fell, however, so consumers had to cut back on savings to fund the splurge. The government sector contributed at least half a percentage point to growth for the fifth consecutive quarter, largely driven by strong hiring at the state and local level.[2] Fixed investment's contribution registered just 0.2 percentage points, all due to the growth of single-family housing starts, while nonresidential fixed investment stalled.

Chart 1: Contributions to GDP Growth

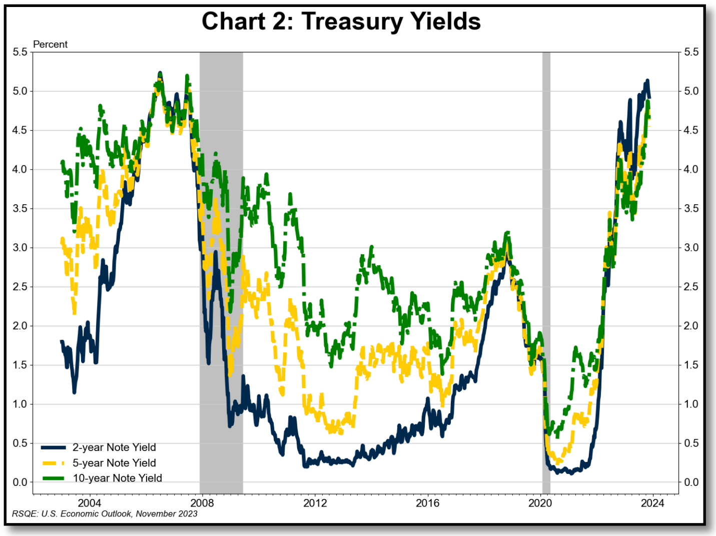


Despite the strong 2023Q3 reading, we are still expecting the pace of growth to fall below its long-term trend over the next several quarters, as high interest rates bite and the labor market gradually cools.

The sudden burst of brisk economic growth occurred against the backdrop of rapidly tightening financial conditions, as shown by yields for 2-, 5-, and 10-year Treasury notes on Chart 2. After rising precipitously over 2022, longer-term yields took a step back amid the banking stress episode in March 2023. Long-term rates have since resumed their upward march, climbing past their March levels in the

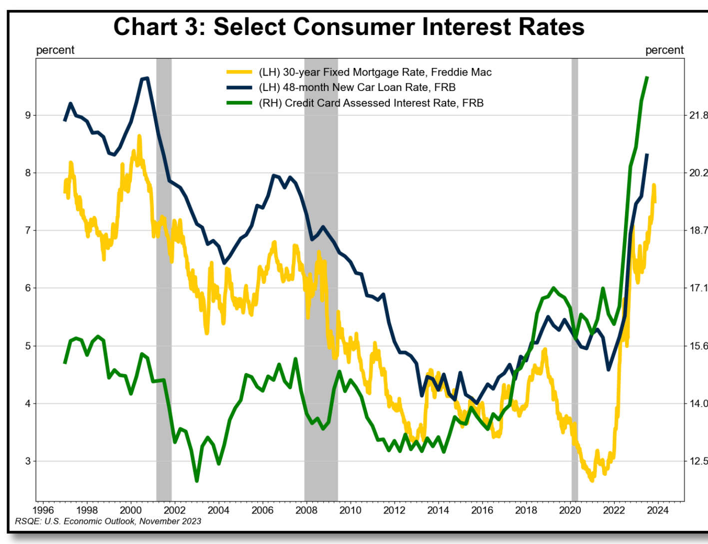
[1] The results of the 16th comprehensive update of the National Economic Accounts released in late September 2023 revised many GDP components going back a decade or more. The update moderately attenuated estimates of output loss during the depth of the pandemic, as well as the strength of the subsequent recovery. The dynamics of the economy since 2022, however, remain similar to previous estimates in the revised data. We will highlight the more meaningful revisions where relevant.

[2] The bulk of government consumption expenditures reflect employee compensation.



second half of the year. Furthermore, the negative spread between the 10-year and the 2-year yields that opened around mid-2022 has narrowed considerably. Historically, this spread turning negative has often preceded recessions by one to two years. Negative spreads have typically closed via the 2-year yield collapsing more quickly than longer-dated yields as recessions have approached. Currently, the spread appears to be closing via longer-dated yields catching up to the 2-year rate, an unusual development that likely undermines the current value of this spread as a recession indicator. Two likely explanations are: either the markets are increasingly coming to believe in the "higher fed funds rate for longer" narrative; or the term premium is rising sharply, reflecting longer-term economic and political risks.[3]

Either way, long-term rates are up sharply, leading to further increases in key consumer interest rates, shown on Chart 3. In the third quarter, the new vehicle finance rate rose to 8.3 percent, the highest reading in 22 years. Interest rates on credit card balances jumped to 22.8 percent, more than 5 percentage points above the highest reading from 1994, when the data became available, to 2021. Conventional 30-year fixed mortgage rates rose from an average of 6.4 percent in the first half of 2023 to above 7.0 percent in the third quarter. In



[3] The term premium is the difference between long-term yields and the expected average of short-term yields over the same maturity.

late October, mortgage rates spiked to 7.8 percent, averaging 7.6 percent for the month. We expect growth in interest-sensitive sectors to soften unless rates retreat significantly very soon.

The recent rout in bond rates is quite puzzling, given that both sides of the Fed's dual mandate have been moving in the desired direction. With employment and output holding up better and inflation decelerating more quickly than previously expected, the scenario of a recession accompanied by a rapid decline in rates appears to be becoming relatively less likely in the market's view. The news on inflation has generally been encouraging in recent months. Looking past the recent movements in the prices of energy and food, core Consumer Price Index (CPI) inflation has decelerated dramatically. The 3-month annualized pace of core CPI inflation retreated from around 5.0 percent in May to just over 3.0 percent in September. Year-over-year core Personal Consumption Expenditure (PCE) deflator inflation slowed from (an upwardly revised) 4.6 percent in 2023Q2 to 3.9 percent in 2023Q3, with the annualized quarterly inflation rate dipping to 2.4 percent in 2023Q3.[4] Despite these encouraging developments, some near-term challenges remain. Chart 5 shows the recent dynamics of the housing and medical services components of the CPI. CPI shelter inflation peaked late this spring and has started to normalize. The pace of the deceleration, however, has been frustratingly slow compared to the prior ramp-up, despite the sharp deceleration of privately compiled metrics of new tenant rents over the past year. We

Chart 4: Core Consumer Price Index Inflation

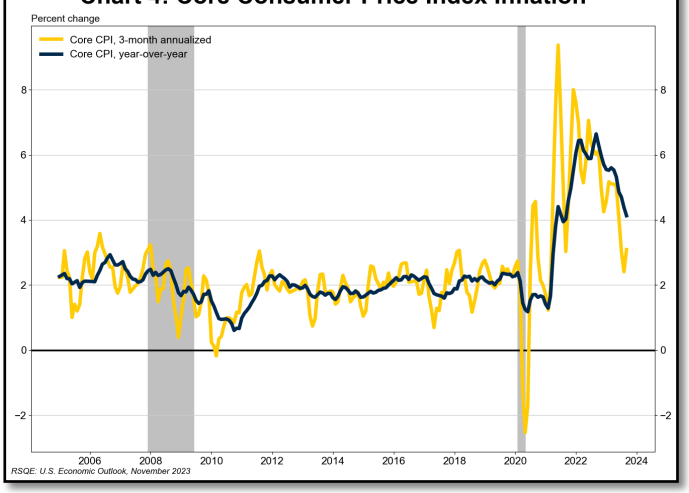
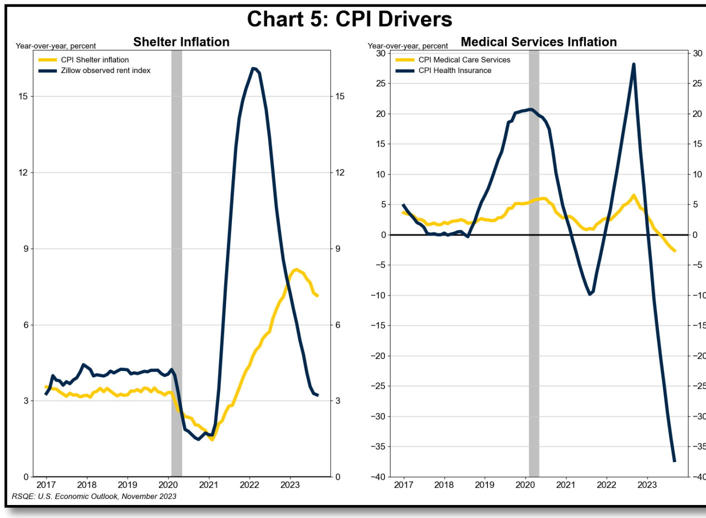


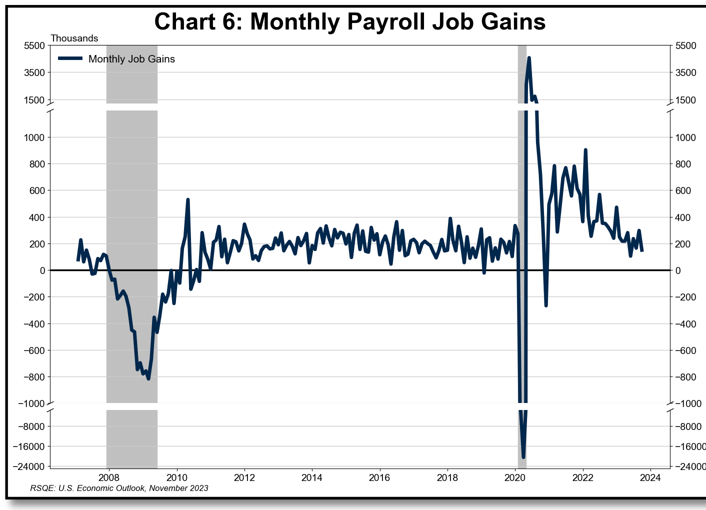
Chart 5: CPI Drivers



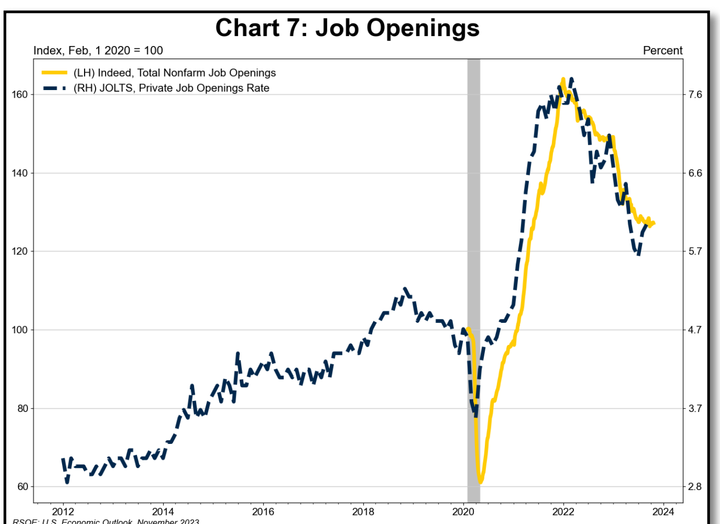
[4] Core PCE inflation over the 2022Q2–23Q2 period was revised from 4.4 percent to 4.6 percent as part of the comprehensive revision to the National Economic Accounts.

expect shelter inflation to continue decelerating, but the absolute readings will likely remain elevated for some time.

Medical services inflation has held the annualized monthly core CPI inflation rate down by about 0.2 percentage points over the past year, largely due to the details of the process the Bureau of Labor Statistics (BLS) uses to impute health insurance prices.[5] Because of recent changes to that procedure, beginning with the October 2023 CPI report, health insurance inflation will likely start boosting annualized core CPI inflation by about 0.1–0.2 percentage points every month through at least next April. Despite these headwinds, we expect inflation to continue to normalize, but not as quickly as one could have hoped.



The remarkable resilience of the labor market in the face of sharply higher interest rates continues to raise the odds of an economic "soft landing." October's headline reading of 150,000 payroll jobs added was likely held down by nearly 30,000 striking auto workers and an estimated additional 40,000 workers or so on temporary layoffs due to automotive production disruptions.[6] Accounting for those disruptions, the pace of monthly job gains was in the healthy 200,000 per month range, but it was down from about 300,000 jobs per month observed early in 2023. There are other signs that the labor market is cooling off. As shown on Chart 7, the rate of private job openings has been trending down since early 2022, with similar

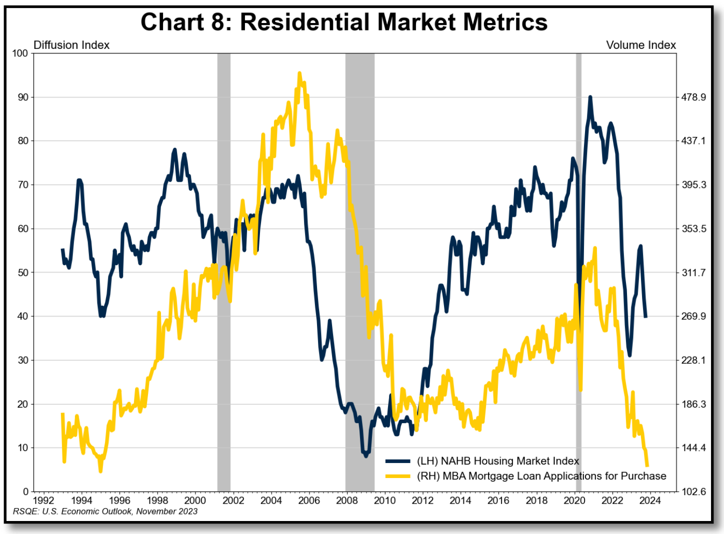


[5] The current process relies on annual health insurance industry data on the evolution of the ratio of benefits paid to premiums collected. The annual 2022 data will be phased in over a period of six months beginning in October 2023. In April 2024, the BLS will transition to using semi-annual health insurance information.

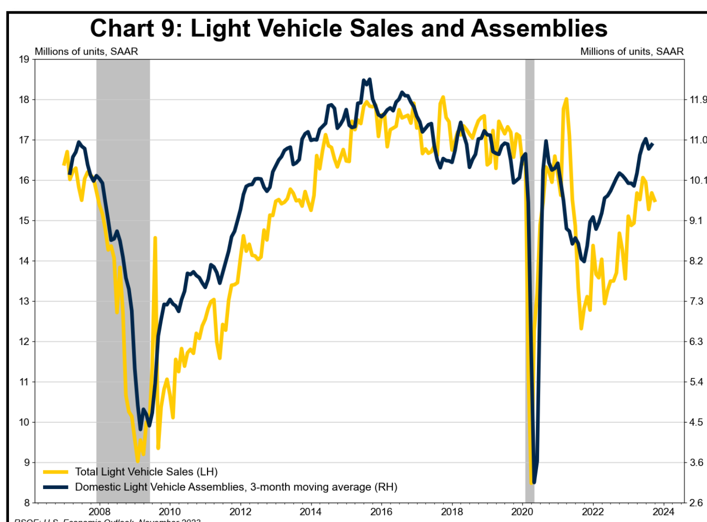
[6] See RSQE's "The Michigan Economic Outlook for 2024–2025" to be released here on November 17th, 2023.

dynamics measured by the total nonfarm job openings on Indeed.com. The unemployment rate rose to 3.9 percent in October due to a 350,000-person decline in household employment. However, the BLS-supplied household employment series that corrects for conceptual differences between the household and payroll employment measures showed a 190,000-job gain. The pace of wage gains appears to be slowing gradually. The signs that the labor market is losing steam appear to have contributed to the sharp drop in bond yields that commenced after the release of the October jobs report.

Chart 8 shows that the single-family residential market already appears to be feeling the effects of the increase in mortgage rates in the second half of the year. Between December 2022 and July 2023, the National Association of Home Builders' (NAHB's) Housing Market Index rose from a deeply depressed reading of 31 to a modestly expansionary level of 56. In August–October, the index slid back into contraction, falling to 40. The rate of decline in the Mortgage Bankers Association's index of loan applications for purchases has re-accelerated, with loan applications falling to their lowest level since 1995. The index started falling off a cliff in 2021, before virtually leveling off during the March–July 2023 period. However, we remain cautiously optimistic that the volume of residential single-family construction will take only a small step back before returning to growth, filling the large void in the overall housing market left by homeowners locked into low-rate mortgages.



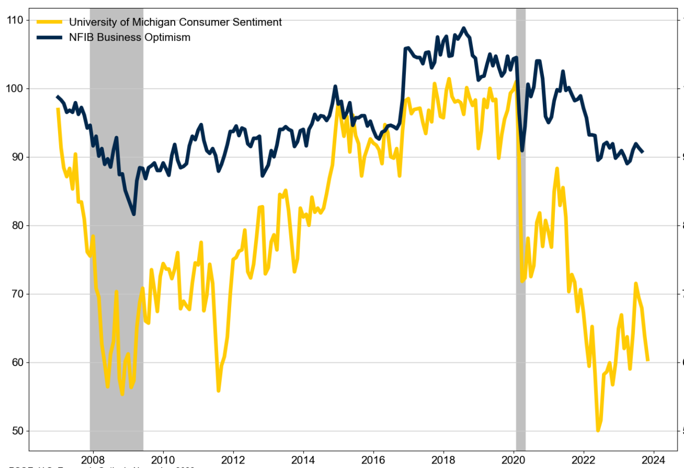
Likewise, the light vehicle market appears to be sputtering with new vehicle loan rates at 20-year highs. The annualized vehicle sales pace improved to 16.0 million units in



June, but it has averaged only 15.5 million from August to October. The slowdown occurred despite domestic light vehicle production running roughly even with its 2019 pace so far this year.

Consumer and small business sentiment indices remain depressed and arguably disconnected from the "hard" economic data. The National Federation of Independent Businesses' (NFIB's) Business Optimism Index has been stuck around 90, a level last observed during the Great Recession and its aftermath. The University of Michigan Consumer Sentiment Index appeared to be on the upswing through July, rebounding from the debt ceiling showdown-induced dip in May 2023. Consumer confidence has slid again since then, as reflected by deteriorations both in the current economic conditions index and in the index of consumer expectations.

Chart 10: Consumer and Small Business Sentiment

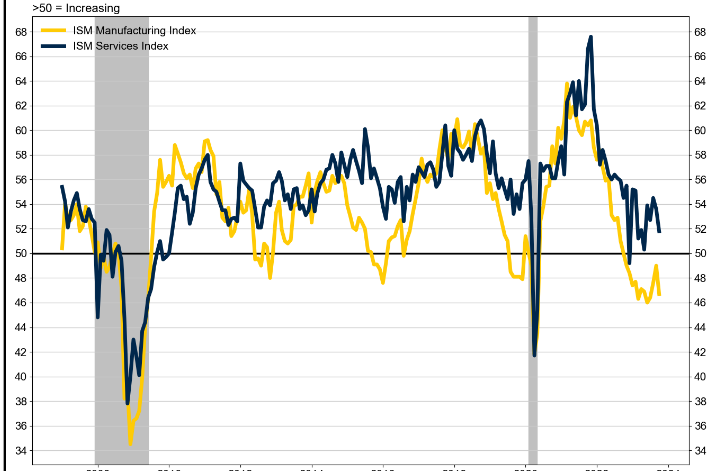


RSQE: U.S. Economic Outlook, November 2023

Chart 11 shows the Institute for Supply Management's (ISM's) Purchasing Manager Indices for manufacturing and services. Readings below 50 are consistent with slowing business activity. The index for manufacturing had started to improve in the third quarter, but it crashed back to 46.7 in October, possibly due to the auto workers' strike against the Detroit Three. However, the Federal Reserve's index of industrial production appears to have stabilized, with muted growth so far in 2023. Furthermore, most 6-month ahead outlook surveys conducted by regional Federal Reserve Banks suggest that the manufacturing outlook is gradually improving. The ISM's services index declined in September and October, but it remains in expansionary territory.

Chart 11: Institute for Supply Management Indices

>50 = Increasing



RSQE: U.S. Economic Outlook, November 2023

Overall, the state of the economy remains noisy and challenging to interpret. We believe that the current picture is consistent with moderately slowing growth of economic activity from a healthy starting point. In our view, the probability of a recession starting soon has declined considerably in recent months.

Next, we outline several key policy and economic assumptions underlying the forecast.

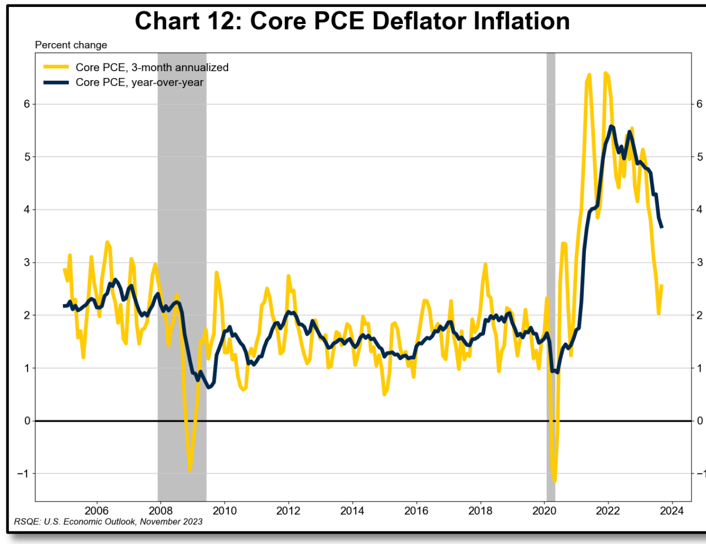
Monetary Policy

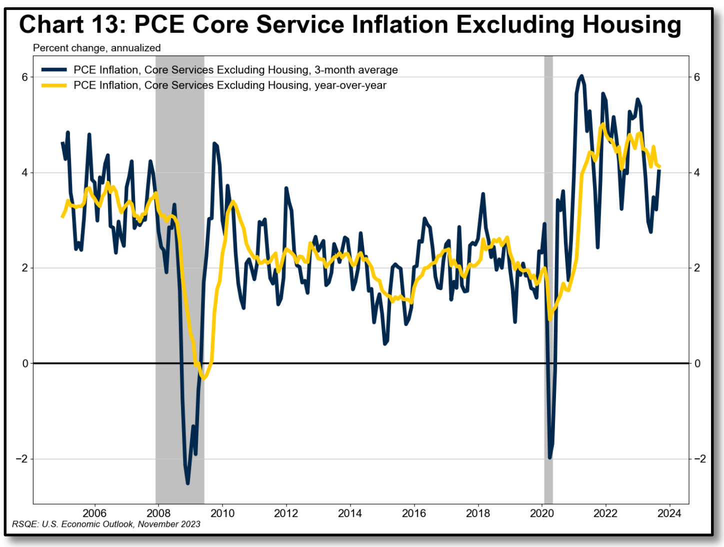
The Federal Open Market Committee (FOMC) has slowed the pace of its monetary policy tightening campaign significantly this year, and it may now have reached the terminal level of short-term interest rates for this cycle. The Committee remains committed to bringing inflation down to its 2.0 percent objective. After hiking the federal funds rate by 25 basis points in each of its first three meetings of the year, the Committee decided to forego a rate hike at its June meeting. The FOMC raised the target range by a further 25 basis points in July to 5.25–5.5 percent and opted to hold at that range in both its September and November meetings.

After both the September and November meetings, FOMC members mentioned that "holding the target range steady… allows the Committee to assess additional information," further emphasizing the importance of taking cumulative tightening and monetary policy lags into account. In the press conference following the November meeting, Fed Chair Jay Powell mentioned that "the risk of doing too much versus the risk of doing too little are getting closer to balance." We interpret this language as signaling that the Fed will continue its wait-and-see approach for now.

The September FOMC meeting participants' median economic projection for the federal funds rate indicated an end to the current tightening cycle at the 5.5–5.75 percent target range by the end of the year, implying one more 25 basis point hike in the lone meeting left this year in December. It is worth noting that there was some disagreement, with seven of nineteen participants projecting no change in the target range by year-end. The Committee maintained its belief that inflation would continue to normalize, with the participants' median projection of Personal Consumption Expenditure (PCE) inflation falling to 3.3 percent by the end of this year and 2.5 percent by the end of 2024. At the same time, the median projection sees the unemployment rate rising to 3.8 percent at the end of this year and 4.1 percent by the end of 2024.

Core PCE inflation, a key metric for forecasting future inflation, stood at 3.7 percent year-over-year in September. This metric has been falling consistently over the past year from the September 2022 reading of 5.5 percent. The year-over-year improvement was due in part to the recent deceleration in monthly inflation. The 3-month average (annualized) rate briefly registered 2.0 percent in August, the lowest reading since December 2020, before reaccelerating to 2.5 percent in September. This rapid deceleration of trend inflation provides support for the Fed's current wait-and-see approach.





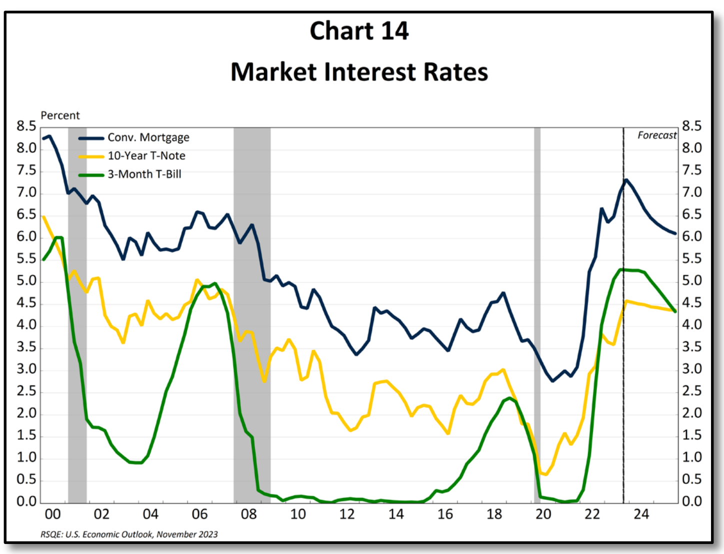
However, inflation in core non-housing services, roughly a 50 percent slice of private consumption, has shown little evidence of sustained easing. A slowdown in nominal wage growth is likely necessary for disinflation in this sector, given its sensitivity to wage pressures.

The Fed's statutory dual mandate requires a balanced approach to promoting maximum employment alongside price stability. The labor market has held up remarkably well in 2023 in the face of tightening monetary conditions, but job growth has followed a decelerating trend. Total nonfarm payroll employment increased by 165,000 jobs in August, 297,000 in September, and 150,000 in October. Those gains were well below the 2022 monthly average of 399,000, but they show that labor demand remains strong in the post-pandemic market. This resilience gives the Fed a longer runway to keep rates elevated as it attempts to direct a soft landing.

Most measures of inflation expectations have remained well-anchored in 2023, supporting the Fed's efforts to maintain economic stability. The economic costs of reining in inflation would likely be much larger if high inflation were to become engrained in long-term plans and contracts. With several recent high-profile union contract negotiations concluding with hefty wage bumps locked in for the next few years, the Fed will be on high alert for any signs of inflation expectations rising. The 5-year-to-10-year inflation expectations measure from the University of Michigan's Surveys of Consumers has remained around 3 percent throughout 2023.

We believe that our forecast is most consistent with a Fed that is done hiking in the current cycle, keeping the fed funds target rate range at 5.25–5.5 percent. We project the Fed to start cutting rates slowly in late 2024. At that time, we project unemployment to be edging up slightly and the annualized quarterly pace of core PCE inflation to be running around 2.3 percent. With the fed funds rate still around 5.3 percent, the implied short-term real interest rate of 3.0 percent will likely appear overly restrictive given the softening labor market and normalizing inflation. We expect the Fed to cut rates slowly, however, by 25 basis points at roughly every third meeting.

Chart 14 shows our projections for selected key interest rates. The 3-month Treasury bill rate follows our projected effective federal funds rate path and stays at 5.3 percent during 2024H1 before declining to 5.0 percent by 2024Q4 and 4.3 percent by 2025Q4. The 10-year Treasury rate rises to 4.6 percent in 2023Q4 and falls to 4.4 percent in 2024Q4, where it remains through 2025, leading to a relatively flat yield curve by the end of 2025. Mortgage rates decline more quickly than longer-term government bond yields as the excess spread that has developed between them shrinks toward more normal levels. The 30-year conventional fixed-rate mortgage rate briefly rises to 7.3 percent in 2023Q4 before receding to 6.5 percent in 2024Q4 and 6.1 percent by 2025Q4.



Fiscal Policy

This past September in Washington turned into a waiting game, in which everyone witnessed just how close Congress can dance with deadlines. The seven-week continuing resolution, which did not include additional funding for Ukraine or border security provisions, garnered sufficient bipartisan support to pass and was signed into law less than two hours before the September 30 deadline. House Speaker Kevin McCarthy's bipartisan deal not only averted a government shutdown, but it also helped him enter history as the first House Speaker to be removed from the post. With several prominent Republican representatives unable to unite the caucus, the party turned to less established candidates. His successor, Mike Johnson, had maintained a limited public profile prior to being selected on October 25th.

The war between Israel and Hamas that began in October presents a new challenge to arriving at a new budget deal. President Biden recently requested 106 billion dollars for supplemental national security funding, combining funding for Israel, Ukraine, Taiwan, and U.S.–Mexico border security, out of which 61.4 billion dollars would go to Ukraine and 14.3 billion dollars to Israel. We expect the request to face objections from Congressional Republicans. Alternatively, an aid bill passed by the House would provide Israel with 14.5 billion dollars by cutting funding from the IRS. The Congressional Budget Office (CBO) estimates that doing so would cost more than 26 billion dollars of lost tax collections. We believe the bill has little chance of becoming law and should be considered a successful attempt by Speaker Johnson to build unity within his caucus.

In the near term, contentious fights over several appropriation bills are pretty much guaranteed leading up to November 17, when the current continuing resolution is set to expire. Although we expect a compromise to be reached in the familiar last-minute fashion, the progress towards all twelve appropriation bills has been abysmal, with seven passed by the House and only three by the Senate. Should another stopgap bill be passed, Speaker Johnson has indicated that the next deadline is likely to be January 15th. If no full-year budget is in place on January 1st, 2024, the Fiscal Responsibility Act (FRA) of 2023 prescribes a 4.1 percent reduction in the defense spending cap and a 4.7 percent increase in the non-defense spending cap, leading to a quarter-percent decrease in the total discretionary spending limits from their original fiscal 2024 limits outlined in the FRA. However, these new caps will not be enforced until April and will reset back to original levels if Congress passes a full-year budget. The ultimate fiscal policy path is likely to feature a robust increase in defense spending with some spending restraints for discretionary non-defense spending.

Table 1 shows fiscal year data and our projections for the federal budget on a National Income and Product Accounts basis from 2022 to 2025. Federal current receipts experienced a substantial increase of 16.1 percent in fiscal 2022, primarily driven by outstanding capital gains tax collections.

Table 1
Federal Budget, NIPA Basis
(Billions of Dollars)

			FY Forecast	
	2022	**2023**	**2024**	**2025**
Current receipts	4899.6	4749.3	4866.3	5140.6
% change	16.1	-3.1	2.5	5.6
Current expenditures	6014.4	6309.9	6585.8	6887.6
% change	-15.0	4.9	4.4	4.6
Consumption	1215.2	1305.6	1388.8	1449.4
% change	1.1	7.4	6.4	4.4
Transfer payments	3954.9	4002.8	3985.1	4101.8
% change	-17.6	1.2	-0.4	2.9
Federal subsidies	172.9	102.9	84.5	66.0
% change	-66.8	-40.5	-17.9	-21.9
Interest payments	671.3	898.6	1127.4	1270.4
% change	21.8	33.8	25.5	12.7
Surplus (+) or deficit (-)	-1114.8	-1560.6	-1719.4	-1747.0
Percent of GDP	-4.4	-5.8	-6.1	-5.9

RSQE: U.S. Economic Outlook, November 2023

However, those gains evaporated in 2023 as reported capital gains fell, contributing to a 3.1 percent decline in current receipts. Looking ahead, we anticipate receipts to continue re-aligning with the growth trajectory of nominal GDP, increasing by about 4.1 percent per year on average in 2024–25.

On the other hand, federal expenditures dropped by 15 percent in 2022 as most pandemic-related spending phased out. Expenditures returned to growth in 2023, increasing by 4.9 percent. We expect growth to continue at a similar pace over the next two years, by 4.4 percent in 2024 and 4.6 percent in 2025, primarily driven by skyrocketing interest payments. Transfer payments are set to return to restrained growth of 2.9 percent by fiscal 2025 as COVID-related federal programs wind down. The Inflation Reduction Act, however, extended the pandemic-era expanded Affordable Care Act credits through 2025. Additionally, we project subsidies to continue shrinking toward their pre-pandemic levels through fiscal 2025. In fiscal 2023, however, interest payments on the federal debt saw the largest increase in RSQE's history, 33.8 percent, due to sharply higher interest rates. With our expectation that the Fed will begin cutting rates in late 2024, the growth of interest payments will decelerate to 25.5 percent in 2024 and 12.7 percent in 2025.

The federal deficit narrowed from 12.4 percent of GDP in 2021 to 4.4 percent in 2022 due mainly to a one-time boost in revenue and the phasing out of the COVID-related spending surge. Unfortunately, the prospect of further progress on deficit reduction is remote. With rising interest expenses and no significant revenue-raising reform in sight, we believe that the federal deficit is on a trajectory to remain wide over our forecast horizon, reaching 6.1 percent of GDP in fiscal 2024 and edging down to 5.9 percent in fiscal 2025. As the Fed continues to reduce its holdings of Treasury securities at a rate of 60 billion dollars per month, the privately held debt-to-GDP ratio is poised to increase by more than what deficits alone would imply, rising from 77.4 percent in 2023Q3 to 85.3 percent by 2025Q4.

The Housing Market

The housing market has been a jumble of contradictions recently. Several metrics have set multidecade highs or lows, but they are telling different stories. In a nutshell, sales volumes in the existing home market have been tumbling, but prices and mortgage rates are both rising, creating a dire situation for affordability.

Thirty-year conventional mortgage rates have now averaged above 6 percent for over a year and above 7 percent for the past three months. In October, rates crept above 7.5 percent, reaching their highest level since November 2000. Yet somehow, house prices have recently started to rise again after a brief period of declines in the second half of 2022. The seasonally adjusted Case-Shiller National Home Price Index rose to its all-time high in August, the most recent month for which we have data, 2.6 percent above its year-ago level. Tight inventories of existing homes are constraining sales and supporting prices to some extent, as potential sellers are locked in by the low mortgage rates they secured in the past. Higher mortgage rates are also hurting demand, though. This combined dynamic is stressing the market, leading to plummeting sales of existing homes. Existing single-family home sales fell to an annualized pace of just above 3.5 million in September, 16 percent below the pace a year prior. But even at that slow sales rate, months' supply of single-family existing homes edged up to just 3.3 from 3.0 one year ago, suggesting only a slightly looser inventory level.

Leading indicators of existing home sales show no clear signs of an impending turnaround. In October, mortgage purchase applications fell to their lowest level since 1994. The University of Michigan

Survey of Consumers' sentiment index of conditions for buying a home has been hovering near a record-low level since mid-2022.

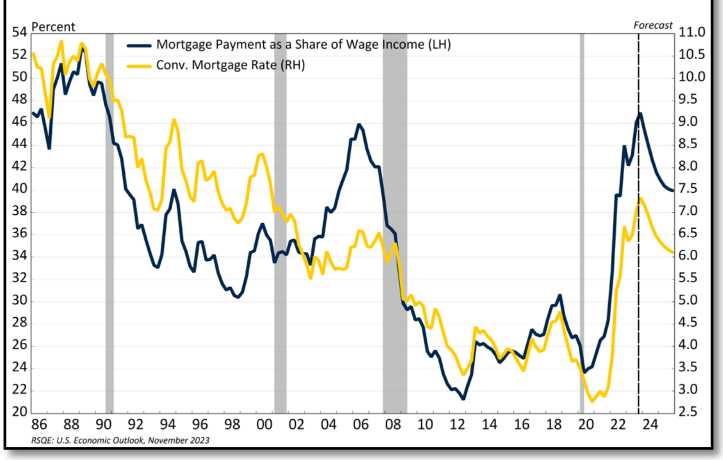


Chart 15
Housing Affordability at Time of Purchase

Housing affordability has cratered amid resilient prices and high mortgage rates. The National Association of Realtors' Housing Affordability Index fell to its worst level since 1985 in August before ticking up slightly in September. Chart 15 plots a similar measure of affordability that we calculate—the ratio between a mortgage payment on a newly bought home and the average wage income per worker.[7] We estimate that the share of average wage income required for a mortgage payment on a newly purchased home stood at 46.1 percent in the third quarter of this year, the highest since 1990, and 0.1 percentage point above the worst reading in the mid-2000s housing price run-up. We project that share to rise to 46.9 percent in the fourth quarter before declining to 40.0 percent by the end of 2025 as mortgage rates reverse course.

Activity in the market for new single-family homes has held up better so far. Annualized sales of new single-family homes have rebounded from their post-pandemic low of 583,000 units in 2022Q3 to 724,000 in 2023Q3, above the 2019 average. The NAHB's Housing Market Index, which measures builders' sentiment in the market for new single-family homes, enjoyed a partial rebound earlier this year after collapsing throughout 2022. Sentiment has begun falling again since July, though, weighed down partly by a decline in traffic from prospective buyers. In October, the index stood between its January and February values.

New construction activity has reacted more closely to movements in mortgage rates recently. Single-family starts fell by nearly thirty percent from the first quarter of 2022 to the first quarter of 2023

[7] The mortgage payment is computed assuming no down payment using the contemporaneous average conventional mortgage rate. As a proxy for mortgage size, we index the median home price in 2012 to cumulative house price growth since that time as measured by the Case-Shiller Home Prices Index. Average wage is computed by dividing total wage income by employment level in the BLS' household survey.

as mortgage rates rose. They have since rebounded partially to an annual pace of 961,000 in the third quarter of this year, likely spurred by the lull in mortgage rates in the first half of the year and the shortage of homes in the existing market. Meanwhile, the months' supply of new single-family homes for sale fell from a peak of 10.1 months in July 2022 to 6.9 months in September 2023. A "balanced" market is probably below 6 months' worth of supply, suggesting that the market is making good progress working through the supply overhang that developed last year. Following the slowdown in traffic from prospective buyers, we expect to see a further slowdown in new single-family sales, which would set the market back a bit. Overall, though, we remain cautiously optimistic about the single-family residential construction market, in which builders can adjust prices and tailor their products to market needs.

The multi-family construction market appears to be in a tougher spot than the single-family market. Last year, multi-family starts reached their highest total since 1986, at 547,000. The pace of starts has flagged during 2023, though, averaging 398,000 in the third quarter amid an influx of new supply, higher financing costs, a slowdown in market rents, and rising vacancy rates.

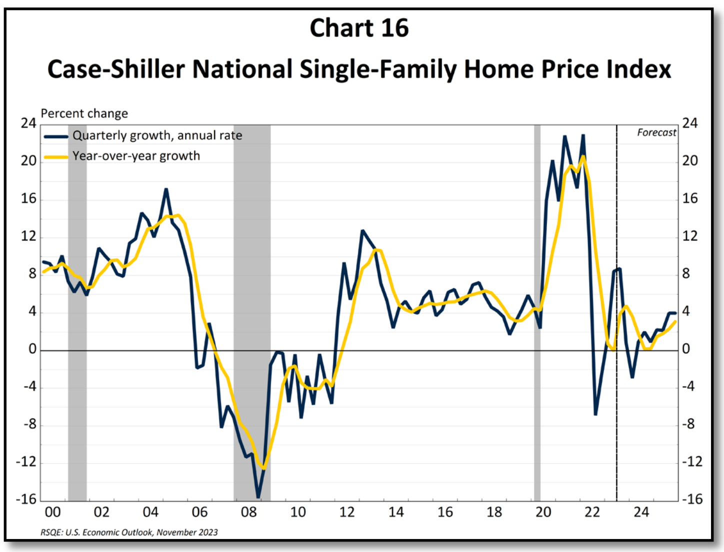


Chart 16
Case-Shiller National Single-Family Home Price Index

Chart 16 shows the historical and forecast paths of year-over-year and quarterly annualized rates of home price appreciation, as measured by the seasonally adjusted Case-Shiller Home Price Index. Based on our internal nowcasting model, we have penciled in an increase of 2.1 percent for national house prices in 2023Q3 followed by a smaller increase of 0.2 percent in 2023Q4 (equivalent to annualized rates of 8.8 percent and 0.8 percent, respectively). Prices dip by 2.9 percent on an annualized quarterly basis in 2024Q1 before resuming their ascent, accelerating to a solid pace of 4 percent annualized appreciation by 2025H2 as mortgage rates decline. In year-over-year terms, we are forecasting the index to rise by 4.8 percent in 2023Q4, 0.2 percent in 2024Q4, and 3.1 percent in 2025Q4.

Energy Markets

Oil prices increased markedly from August through October after remaining at depressed levels for the first half of the year. After averaging 75 dollars per barrel between January and July, the price of West Texas Intermediate (WTI) crude oil averaged 85 dollars per barrel in August through October. These price increases have reflected ongoing supply restraint, an improving economic outlook, and heightened political uncertainty. Early in November, however, oil prices dropped abruptly back to the mid-70 dollar per barrel range, possibly reflecting a lower probability of wide-scale escalation in the Middle East. It remains to be seen if prices stay at that level or retrace some or all of their unexpected decline.

The Organization for Petroleum Exporting Countries and its allies (OPEC+), led by Saudi Arabia, has continued to stick to the production cuts they first announced in the summer. Saudi Arabia and Russia both confirmed that they plan to continue their additional voluntary cuts through at least the end of the year, indicating that Saudi Arabia will continue producing with 3 million barrels per day spare capacity. The Israel–Hamas war has not yet impacted global oil production, but the possibility that the war could broaden into a regional conflict has created significant uncertainty for future oil supply and market volatility.

Crude oil production from the non-OPEC+ countries continues to increase, driven by the United States. Domestic production in August reached 13 million barrels per day, up almost 9 percent from one year ago. U.S. production is expected to continue growing in 2024, albeit at a much slower rate. The total number of active rigs drilling new and exploratory wells, as reported by Baker Hughes in early November, declined almost 20 percent from one year ago, to 618. In addition, the number of drilled but uncompleted wells has been declining from the highs in 2020 and 2021. With low oil prices in 2020, it was not profitable to complete many wells that had previously been drilled. Completing this stock of previously drilled wells was a relatively inexpensive way to boost production after oil prices rebounded.

On the demand side, strong Chinese oil demand has fueled overall consumption growth in 2023 and is expected to continue doing so next year. Oil demand in China has increased by 2 million barrels per day relative to last year, driven in large part by a surge in travel and transportation fuels. Industry analysts expect demand to continue growing in 2024, driven predominately by growth in China, India, and other non-OECD countries.

Natural gas prices remain well below their 2022 highs as we enter the winter heating season. Prices at the Henry Hub averaged 2.58 dollars per million British thermal units (MMBTu) in August, down more than two-thirds from one year earlier. October prices picked up slightly to 2.98 dollars per MMBTu but stayed considerably lower than last year's prices. Domestic production of natural gas has increased dramatically in 2023 and is expected to keep growing through the remainder of 2023 and into 2024, though at a much slower rate. The Energy Information Association (EIA) expects domestic consumption of natural gas to hold roughly constant year-over-year as weather forecasters expect temperatures to be similar to last year's relatively mild winter. Additional natural gas production is primarily driven by rising liquified natural gas (LNG) exports, enabled by expanded LNG export capacity in the U.S. and import capacity in Europe. Looking forward, we anticipate prices to increase moderately over the forecast horizon.

Chart 17
Price of Oil

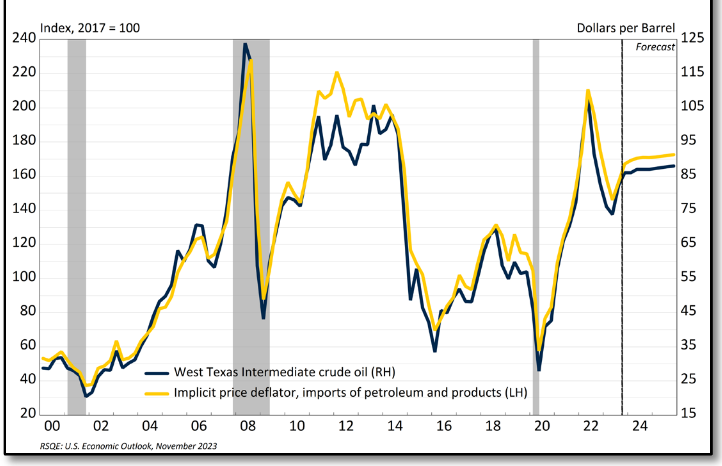
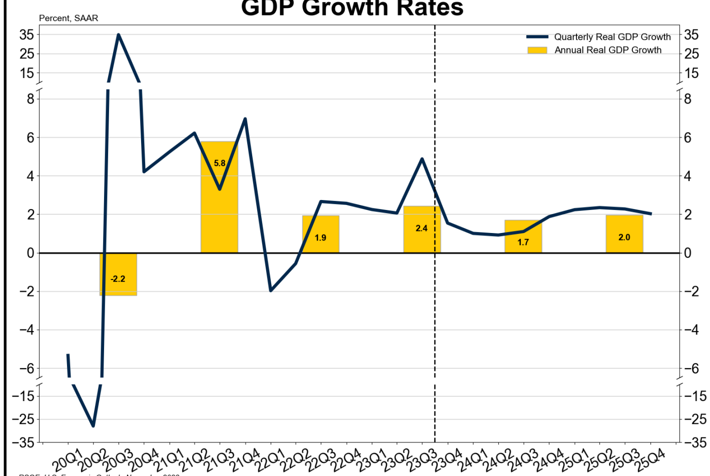


Chart 17 shows our forecast for WTI prices in blue and the implicit price deflator for imports of petroleum in yellow. Following the increase in crude oil prices through October, we expect the price of WTI to grow slowly from its elevated starting point over our forecast horizon, reaching 88 dollars per barrel by the end of 2025. The implicit price deflator for imported petroleum products, which is driven by global oil price benchmarks other than WTI, has historically been a more relevant metric for domestic gasoline prices. We expect the spread between the Brent oil benchmark and WTI to remain constant at roughly 4.5 dollars per barrel over our forecast horizon after narrowing earlier this year.

The Forecast for 2023–2025

The economic news has surprised to the upside recently. We place more stock in the rapid decline in core inflation than in the third quarter's real GDP growth bonanza. If the recent disinflation persists as we expect, it will allow the Fed to switch gears to a less restrictive monetary policy. Neither additional disinflation nor continued resilience of real economic activity is guaranteed, however, so economic uncertainty remains high. One major puzzle this year has been the extent to which monetary tightening has contributed to the disinflation considering the persistence of growth and the strength of the labor market. If supply chain normalization and an increase in labor supply have been the major driving forces of disinflation, more monetary policy action may be required to go the last mile on inflation. That theory could also explain why longer-term bond rates have moved so much higher over recent months despite the considerable progress on inflation. At this point, we suspect that tight monetary policy has played an important role in the disinflation, working against pent-up demand and excess savings. As a result, we believe the Fed has reached the terminal rate for this tightening cycle and envision the first rate cut late in 2024. On the fiscal side, the turmoil in the House following the previous stopgap funding bill exposed the inability of the slim current majority to reach internal consensus. We believe the disunity makes further high-stakes fiscal standoffs less likely, reducing the risk of an abrupt tightening of fiscal policy. That assessment provides a slight boost to our near-term baseline outlook.

Chart 18
GDP Growth Rates



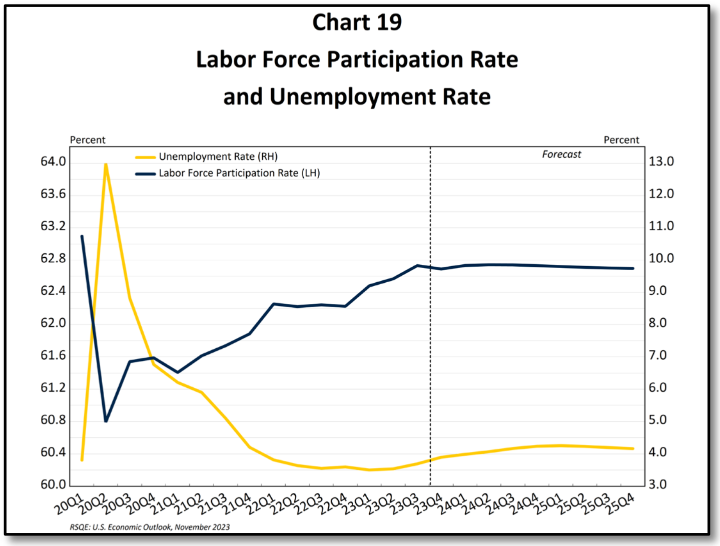
- Strong growth of consumption and inventory restocking pushed the annualized pace of real GDP growth to 4.9 percent in the summer quarter—its fastest pace since 2021Q4.
- Despite the upbeat 2023Q3 reading, we expect the pace of GDP growth to slow sharply in 2023Q4, to 1.5 percent, and to stay below longer-run trend for most of 2024. As more consumers run down their pandemic-era excess savings, high interest rates bite into consumption growth.
- By late 2024, with inflation solidly on its way down to the 2.0 percent target and unemployment inching up, the Fed will start cutting the policy rate. We expect real growth to surpass 2.0 percent shortly after.
- On a calendar year basis, real GDP growth averages 2.4 percent in 2023. Growth slows to 1.7 percent in 2024 and then rebounds to 2.0 percent in 2025.

Table 2
Contributions to the Growth of Real GDP
(Average quarterly contributions, percentage points at annual rate)

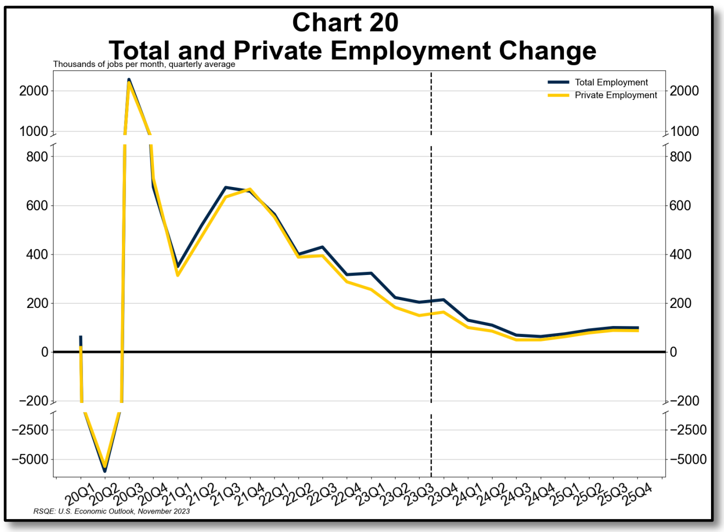
	'23Q3	'23Q4	'24H1	'24H2	'25
Real GDP (% change, AR)	4.9	1.5	1.0	1.5	2.2
Contributions to real GDP growth					
Final sales to domestic purchasers	3.7	1.7	0.9	2.0	2.2
Consumption	2.7	1.3	0.3	1.1	1.3
Nonresidential fixed investment	-0.0	0.3	0.4	0.5	0.5
Residential investment	0.2	-0.2	-0.1	0.1	0.2
Government purchases	0.8	0.3	0.4	0.3	0.2
Net exports	-0.1	0.7	-0.3	-0.1	-0.2
Inventory investment	1.3	-0.9	0.3	-0.3	0.2

RSQE: U.S. Economic Outlook, November 2023

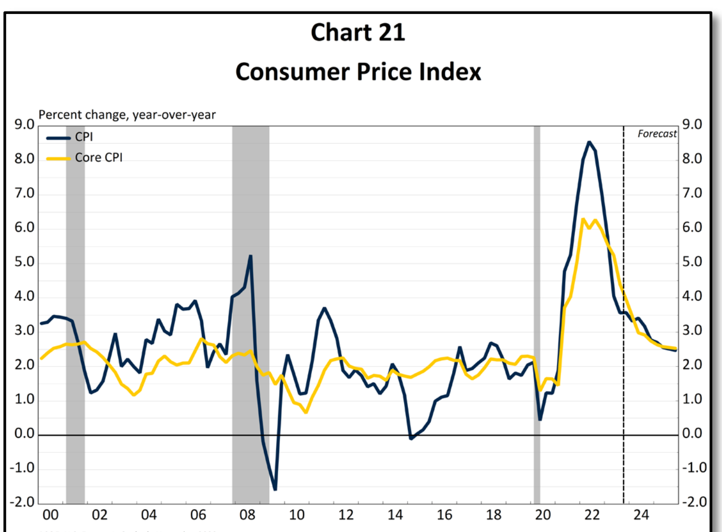
- Consumption expenditures' 2023Q3 growth contribution of 2.7 percentage points was broad-based across durables, nondurables, and services.
- With muted real disposable income growth in 2023H2 and the student loan interest payments resumption, we expect that consumption's contribution to growth will fall to 1.3 percentage points in 2023Q4 and only 0.3 percentage points in 2024H1.
- Residential investment is projected to suffer through another soft patch in 2023Q4–24H1, as mortgage rates linger above 7.0 percent. Business fixed investment, on the other hand, adds to growth in every forecast quarter, thanks to strong investment in equipment and intellectual property products.
- As the state and local government hiring spree moderates, government's fiscal year growth contribution slows from 0.8 percentage points during 2023 to the still-solid 0.2–0.4 percentage point range.



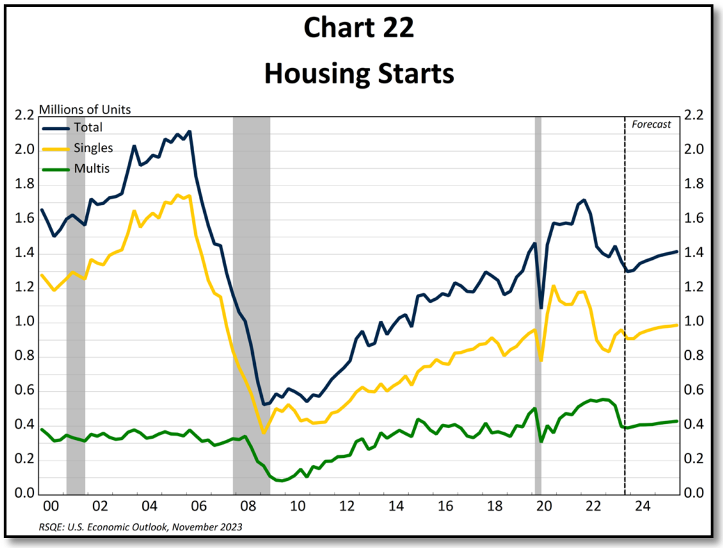
- The labor market remains healthy, but it is showing signs of cooling off. The headline unemployment rate crept up to 3.9 percent in October after reaching a 50-year low of 3.4 percent on two occasions in the first half of the year.
- After hovering at 62.6 percent from March to July, the labor force participation rate improved to 62.8 percent in August. It then dipped to 62.7 percent in October.
- The labor force participation rate holds steady at the current rate of 62.7 percent throughout our forecast. The lack of further improvement reflects the difficulty of recruiting enough individuals into this already tight labor market to offset the ongoing retirements of the baby boom generation.
- Tighter monetary conditions take a further toll on the labor market early in the forecast. The unemployment rate rises to 3.9 percent in 2023Q4 and 4.1 percent by 2024Q2 before topping out at 4.3 percent in 2025Q1. It then hovers at 4.2 percent throughout 2025 as the Fed loosens the reins.



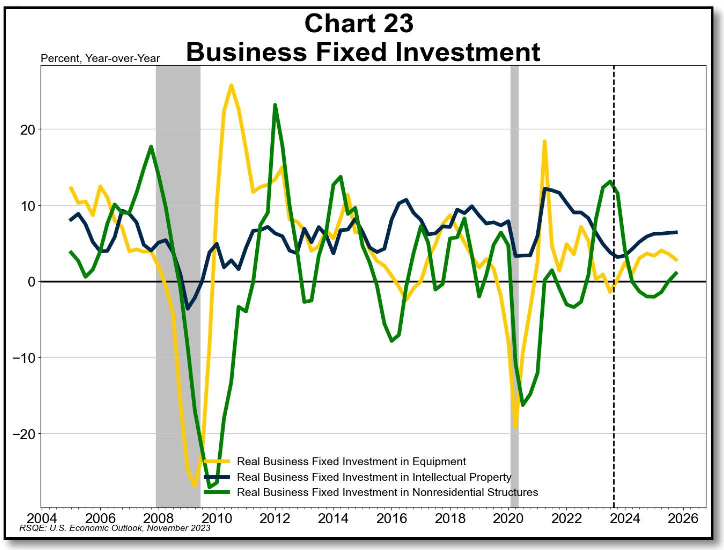
- Payroll employment gains continue their gradual downward trend. The labor market has averaged 240,000 new jobs per month so far in 2023, slower than the 2022 average of 399,000 but faster than the 2019 average of 163,000.
- The downward trend in job gains persists in the forecast through 2024Q4, but the average monthly readings cling to positive territory. Job growth reaccelerates during 2025, so that on a Q4-to-Q4 basis, the economy adds 1.1 million jobs in both 2024 and 2025.
- Job gains will stay modest as the pace of real GDP growth falls below 1 percent at the beginning of 2024. Several years of a tight labor market are likely to result in faster productivity growth in the forecast. As a result, the recovery in job growth in 2025 is muted.
- The government sector keeps adding jobs throughout the forecast, albeit at a much slower pace compared to 2023.



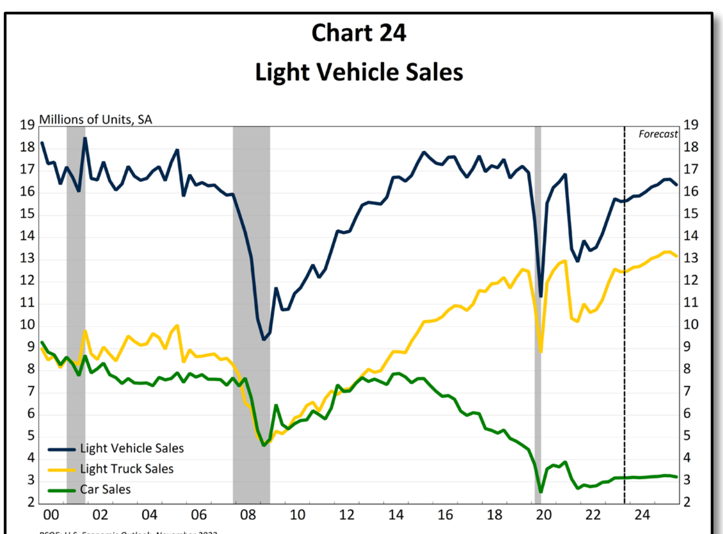
- All-items CPI inflation came in at a 3.6 percent annualized pace in 2023Q3, while core inflation registered a 2.8 percent pace. The shelter category continues to be the largest contributor to core inflation, although it has slowed in recent months.
- We expect inflation to continue to converge towards the Fed's 2 percent goal over the next year as shelter inflation continues to decelerate and consumer goods inflation stays muted.
- Core CPI inflation registers 4.0 percent year over year in 2023Q4 before slowing to 3.0 percent in 2024Q2, 2.8 percent in 2024Q4, and 2.5 percent in 2025Q4.
- Headline CPI inflation outpaces core for a few quarters in 2024, as gasoline prices stay above their year-prior levels.
- The year-over-year change in the PCE deflator, the Fed's preferred inflation measure, gradually slows from 3.3 percent in 2023Q4 to 2.2 percent in 2025Q4.



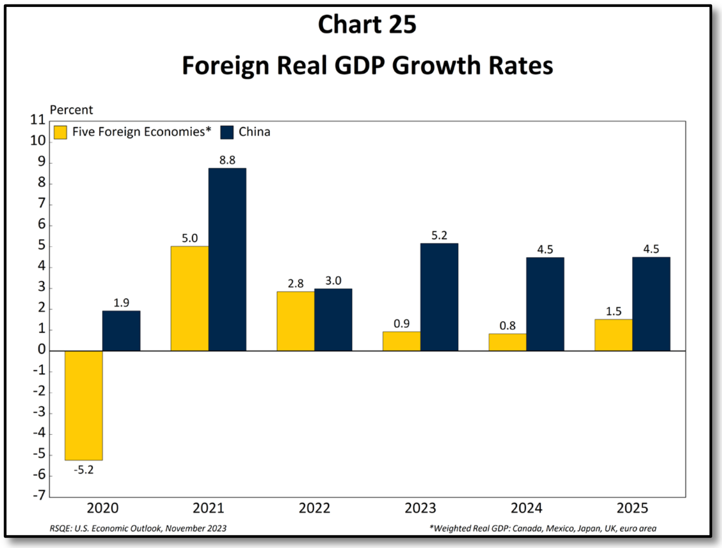
- Single-family housing starts have proven resilient lately, climbing from an annualized pace of 834,000 in 2023Q1 to 961,000 in 2023Q3.
- We project that starts will dip slightly amid punishing mortgage rates, to around a 910,000-unit pace in 2023Q4–2024Q1. As the inventory drought in the existing home market persists, the pace of single-family starts climbs to 965,000 by 2024Q4 and 988,000 by 2025Q4.
- Multi-family starts totaled 547,000 last year, their highest level since 1986. They have cooled sharply this year, though, from 552,000 units at an annual pace in 2023Q1 to 398,000 in 2023Q3. The influx of completed units to the rental market and rising vacancy rates are weighing on multi-family construction.
- We project a tepid recovery from here. Multi-family starts register a 390,000-unit annual pace in 2023Q4, 410,000 in 2024Q4, and 429,000 in 2025Q4.



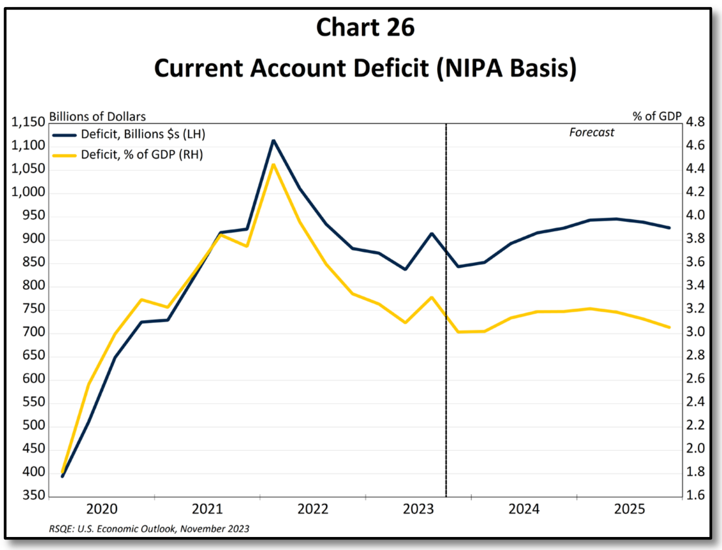
- Growth of real business investment in equipment has stalled this year after notching a healthy 5.3 percent pace during 2022. We project year-over-year growth to register 0.3 percent in 2023Q4, as investment growth in new cars and trucks sputters in 2023H2. Equipment investment growth recovers to 3.6 percent in 2024Q4 and 2.8 percent in 2025Q4.
- An avalanche of investment in new microchip factories late in 2022 and in 2023 results in a year-over-year increase of investment in nonresidential structures of 11.6 percent in 2023Q4. As microchip plant investment starts to diminish, aggregate nonresidential construction declines by 2 percent by 2024Q4, before rebounding by 1 percent by 2025Q4.
- Investment in intellectual property slows to 3.2 percent growth year-over-year in 2023Q4, coming off recent pandemic-induced highs. By 2025, the pace of growth ramps up above 6.0 percent.



- The UAW strike hampered the seasonal growth of the Detroit Three's inventory in October, but the sluggish sales pace averted a decrease as well. Meanwhile, the rest of the industry experienced an 11 percent increase in inventory during October.
- The annualized pace of light vehicle sales is expected to recover slowly from October's 15.5-million-unit pace to 16.2 million in the second half of 2024, as the soft patch in the broader economy and high vehicle loan interest rates dampen growth.
- As interest rates fall and economic growth starts re-accelerating late in 2024, vehicle sales rev up, reaching 16.5 million in 2025.
- Sales of light trucks account for nearly all of the sales growth over our forecast horizon. Car sales, however, stall during the forecast.



- To forecast demand for U.S. exports, we construct a trade-weighted index of real GDP for six of our major export markets: Canada, Mexico, China, Japan, the United Kingdom, and the euro area. We group the economies excluding China into one composite because China's growth trajectory differs substantially from the others'.
- GDP for China and the five-country composite grew at a similar pace for the first time in decades in 2022.
- Growth has diverged markedly in 2023. China's economy accelerates to 5.2 percent growth for the claendar year, helped by government stimulus and the exit from "zero covid" measures. The five economies jointly slow, as economic growth in the eurozone and the United Kingdom stalls.
- In 2024, the five-economy average grows only by 0.8 percent. In 2025, growth edges up, reaching 1.5 percent, still a bit below the 2010–19 average.
- In China, property sector troubles and slowing external demand growth will result in 2024–25 GDP growth stepping down to a 4.5 percent annual pace.



- Thanks to a slower pace of imports and sustained export growth, the current account deficit continues to retreat from its recent high of 4.5 percent of GDP in 2022Q1 to 3.0 percent in 2023Q4.
- Export growth continues to be driven primarily by oil and related products, further supported by vehicles and the export of services.
- Import growth is dampened by slowing consumption growth. As demand softens, imports nudge down from 13.6 percent as a share of GDP in 2023Q4 to 13.4 percent in 2025Q4.
- However, net factor income from the rest of the world continues to fall relative to GDP, as domestic interest rates stay high, while business profits abroad grow slowly.
- Consequently, the current account deficit edges down but remains elevated, reaching 3.2 percent of GDP in 2024Q4 and 3.1 percent in 2025Q4.

Risks to the Forecast

Our forecast is subject to several uncertainties. The first risk is that we may be mis-reading the economy's current strength and momentum. The next set of risks concerns inflation and monetary policy. The third set relates to the commercial real estate (CRE) sector and its implications for the banking industry. Additionally, the fiscal environment is also quite uncertain and poses a few risks. Finally, the geopolitical situation is currently quite volatile. We will continue to monitor these risk developments.

Perhaps the broadest-based risk to our forecast is that we have significantly overestimated the economy's current momentum. We have certainly been surprised by the economy's resilience to date in the face of rising interest rates. Some remaining excess consumer savings from the pandemic era and rising personal incomes have helped consumers to keep spending, while backlogs of demand in the housing and vehicle markets have supported ongoing production activity in those interest-sensitive industries. It may be that, like Wile E. Coyote, households and businesses suddenly realize the ground has run out beneath them. If so, the Federal Reserve may well react too slowly to prevent a recession from developing, given its focus on bringing inflation durably back to target and its necessary reliance on backward-looking data. There are many instances in history in which the economy seemed to be in good health in real time, but which we recognize in retrospect, with better data, as the beginning of a recession. That is not our base case right now, but it is an important risk to bear in mind as we move into the new year.

The past few months have seen an encouraging deceleration in inflation. One upside risk to our forecast is that inflation may decelerate more quickly than we expected, while the labor market remains resilient, allowing the Fed to cut rates without much softening in the labor market. This would alleviate the high-mortgage rate pressure on potential home buyers and boost other interest-rate-sensitive sectors. Still, given our relatively benign forecast, we see the risks as being tilted toward higher rather than lower inflation.

The delinquency rate for commercial real estate loans has been creeping up since the second half of 2022 amid new post-pandemic work and shopping patterns. The banking sector has been feeling the fallout, which could pose a risk to the broader economy if the situation evolves more adversely than we currently expect. Community banks are particularly exposed to CRE loans. Although bank capital positions are healthy on average, the stress from this sector is likely to linger for some time, creating additional stress among regional banks, and dampen overall economic growth relative to our forecast.

Although we do not expect any consequential stand-offs in Congress over funding the government throughout fiscal 2024, a confrontation that results in a lengthy shutdown of the federal government is certainly possible. While unlikely, such a shutdown could force a measurable level of immediate fiscal consolidation, dampening our outlook. The results of the November 2024 elections could also lead to a significant shift in fiscal policy.

Finally, the geopolitical situation is currently volatile, with two major active wars and many economic confrontations. One major downside risk is that the current war between Israel and Hamas might escalate into a broader regional conflict. A broader war would almost certainly constrain global oil supply at least temporarily and would likely disrupt popular trade routes, creating supply chain stress, and putting upward pressure on inflation. The situation could certainly get worse, but it could also improve. A significant de-escalation of the war in Ukraine or the economic tensions with China, for instance, would relieve some external pressure on inflation and reduce the urgency of reconfiguring supply chains.

We consider the balance of risks to the outlook to be broadly neutral because of our judgment that the Federal Reserve has ample space to loosen monetary policy to offset many of the potential negative shocks we have described.

Appendix 1: Brief Review of the Previous Year's Forecast

In line with our longstanding tradition, Table 3 shows RSQE's forecast record for real GDP/GNP growth.[8] The final row illustrates the evolution of our real GDP growth forecast for calendar year 2023. The economy has exhibited remarkable resilience this year, far surpassing our November 2022 and February 2023 forecasts. With a deceleration in headline inflation and increasing signs of a soft-landing scenario in July, we raised our August outlook to 2.1 percent. In our current forecast, we nudged our 2023 growth projection up relative to our August estimate, reflecting a strong summer and a resilient labor market. The 2.4 percent real GDP growth we now expect for 2023 translates into an absolute forecast error of 1.9 percentage points.

[8] We no longer include the table of our real GNP level forecast spanning 1953 to 1990. Please contact us if you would like to receive a copy of this table.

Table 3
Review of Past Real GNP/GDP Forecasts
(Figures represent % change over the preceding year in real GNP from 1971 through 1991 and in real GDP beginning with 1992.)

	RSQE Forecast			
	Preceding November	February/March	August/September	Observed*
1971	3.3	3.8	2.9	3.3
1972	5.7	5.4	6.3	5.3
1973	7.1	7.2	6.2	5.9
1974	2.3	0.5	−1.1	−0.4
1975	1.1	−2.3	−3.5	−0.4
1976	5.9	6.7†	6.2	5.5
1977	4.3	4.9	5.2	4.7
1978	3.6	4.1	3.5	5.5
1979	2.0	2.8	1.5	3.5
1980	−0.3	0.3†	−1.4	−0.3
1981	1.4	1.6	1.8	2.4
1982	1.1	−0.1	−1.3	−1.7
1983	3.4	3.2	3.2	4.5
1984	6.5	6.2	7.2	7.1
1985	3.8	4.6	2.5	3.8
1986	2.9	3.3	2.4	3.2
1987	3.3	3.2	2.5	3.4
1988	2.9	2.3	3.8	4.2
1989	2.9	2.5	2.6	3.7
1990	2.7	2.5	1.1	2.0
1991	1.5	0.4	−0.1	−0.2
1992	2.2	1.6	1.7	3.5
1993	2.7	3.2	2.3	2.8
1994	2.4	3.9	3.5	4.0
1995	2.4	3.3	3.0	2.7
1996	2.6	1.7	2.2	3.8
1997	2.4	3.2	3.3	4.4
1998	2.6	2.9	3.1	4.5
1999	1.5	3.5	3.7	4.8
2000	3.1	4.1	5.1	4.1
2001	3.6	1.6	1.6	1.0
2002	0.4	2.5	2.2	1.7
2003	2.5	2.4	2.4	2.8
2004	5.1	4.7	4.3	3.8
2005	3.5	3.5	3.7	3.5
2006	3.4	3.6	3.3	2.8
2007	2.4	2.4	1.8	2.0
2008	2.4	1.0	1.4	0.1
2009	−1.0	−3.7	−2.5	−2.6
2010	2.3	2.9	2.6	2.7
2011	2.1	3.1	1.6	1.6
2012	2.4	2.2	2.2	2.3
2013	2.0	1.9	1.6	2.1
2014	2.7	2.6	2.1	2.5
2015	3.1	2.9	2.6	2.9
2016	2.6	2.3	1.5	1.8
2017	2.3	2.1	2.2	2.5
2018	2.5	2.6	2.9	3.0
2019	2.7	2.4	2.3	2.5
2020	1.7	2.1	−4.9	−2.2
2021	4.2	4.8	5.8	5.8
2022	4.0	4.1	1.5	1.9
2023	0.5	1.2	2.1	2.4**

* Observed refers to the chained real growth rates as currently published.
† Forecasts published in June 1976 and April 1980.
** Estimated by RSQE as of November 2023.

Appendix 2: Textual Analysis of past RSQE U.S. Forecast Documents

RSQE has been producing numerical forecasts and publishing forecast narratives for over 70 years. As part of an effort to make our forecasts more accessible to the public, we have started to make our current forecast reports available to the public free of charge. We hope to release our full archive of forecasts to the public soon as well. We are working with the University of Michigan Library to assess the feasibility of digitizing and opening access to our extensive archives of forecast publications all the way back to the 1950s.

In this appendix, we use common textual analysis tools on parts of our archive that we have already digitized, our U.S. forecast documents since late 1982. We assess whether the contents of our forecast narratives contain any extra information beyond our numerical forecasts. We construct simple metrics measuring sentiment in our forecast documents and test for forecasting power beyond our own numerical forecasts. We find that our growth projections consistently perform well over four quarters. Moreover, our forecast texts have additional predictive power for economic growth. We view these results as suggestive evidence that our writing complements our econometric forecasts.

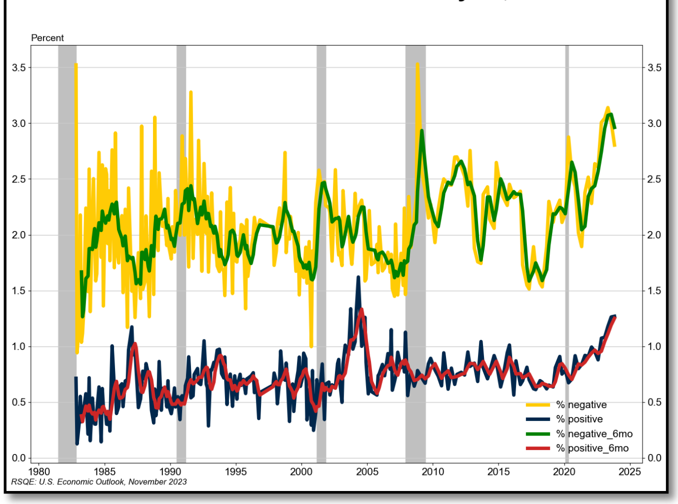
We follow the methodology of Loughran and McDonald (2016), which is very popular in financial document analysis. We deploy their dictionary on our forecast texts to classify words used in our documents into several groups: Negative, Positive, Uncertainty, Litigious, Strong Modal, Weak Modal, and Constraining. [9] Table 4 shows a small portion of the dictionary as an example.

Table 4: Sample Words from the Loughran-McDonald Dictionary

Word	Negative	Positive	Uncertainty	Litigious	Strong Modal	Weak Modal	Constraining
LOST	x						
LOWEST					x		
LOYAL		x					
LUCRATIVE		x					
…							
MOTHBALLING	x						
MOTIONS				x			
MUST					x		
NEARLY			x			x	
NECESSITATE							x

[9] Tim Loughran and Bill McDonald, 2016, Textual Analysis in Accounting and Finance: A Survey, Journal of Accounting Research, 54:4,1187–1230.

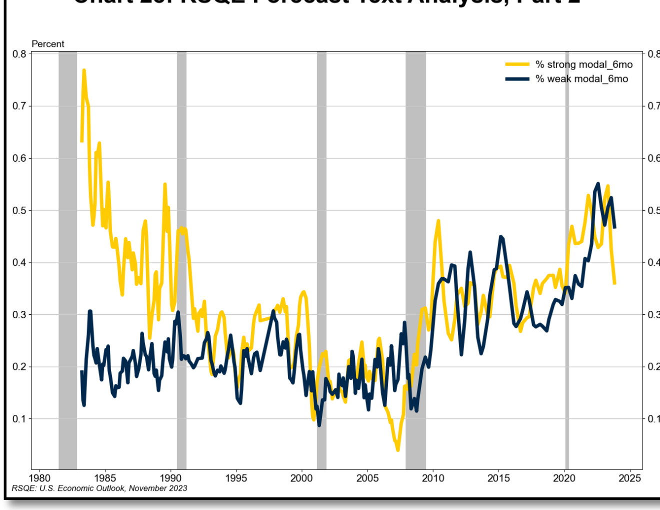
Chart 27: RSQE Forecast Text Analysis, Part 1



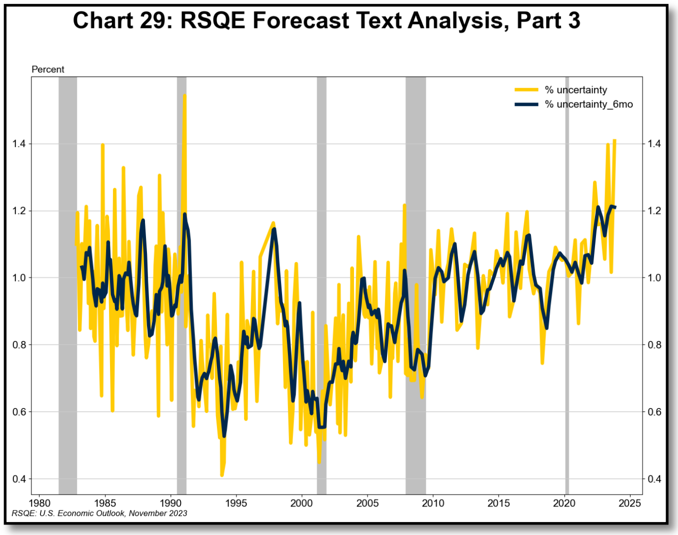
We then compute shares of positive, negative, strong modal, weak modal, and uncertainty words for each forecast document, and chart some of the resulting time series below.

Chart 27 shows the shares of positive and negative words in our forecast documents. The first thing that we note is that the shares are quite volatile between nearby forecasts. Part of that volatility could be due to our institutional history. The frequency of our forecasts has varied over time. At various times, we have produced between 4 and 9 forecasts per year, and some of the forecasts during periods with higher reporting frequency were short updates without much text. For this reason, we also chart positive and negative word frequencies smoothed over 6-month periods. We have shaded recession periods with gray bars. One obvious observation is that our forecast narratives have been and continue to be heavy on negative words, which we use 2–4 times as often as positive words. Second, the frequency of negative words appears to rise during recessions, while the frequency of positive words is not obviously cyclical. Since 2021, the shares of both positive and negative words have increased substantially.

Chart 28: RSQE Forecast Text Analysis, Part 2



The next chart shows the 6-month moving-average share of strong modal words, such as "never", "always", and weak modal words like "appears", "might", etc. There does not appear to be any discernable cyclical pattern. However, there is a notable uptick in our use of weak modal words after the Great Recession, and a further increase following the pandemic. Our final chart shows the share of words



associated with uncertainty. One might expect to see uncertainty-associated word frequency rise preceding recessions or other inflection points, but we do not see much evidence of that pattern in our forecasts.

Our next step is to examine whether our wording choices contain information that is not captured in our forecast numbers. To do so, we regress actual real GDP/GNP growth readings (as first released) over the 1–4 quarters following the forecast release on our original forecasts for real GDP/GNP growth over the same period, and one or more of the time series described above.[10] To reduce noise, we constrain our sample to months when forecast text documents had more than 3,000 words.[11] We also omit forecasts made after 2018 to prevent the unexpected contraction due to the COVID-19 pandemic from skewing our findings. In Table 5, we report our estimates of the main coefficients and the levels of their statistical significance, as well as overall coefficients of regression determination—the R^2. As it turns out, only the share of negative words has any predictive power, while the other textual time series appear to be uninformative. Hence, we omit those other regressions here.

Table 5: Regression Results, 1983–2018 sample

	Dependent Variable: Cumulative Real GDP/GNP growth over N subsequent quarters							
	N=1	N=1	N=2	N=2	N=3	N=3	N=4	N=4
RSQE 1-quarter ahead growth forecast	0.79***	0.75***						
RSQE 2-quarter ahead cumulative growth forecast			0.83***	0.78***				
RSQE 3-quarter ahead cumulative growth forecast					0.85***	0.82***		
RSQE 4-quarter ahead cumulative growth forecast							0.82***	0.80***
% Negative Words		-0.90***		-1.1***		-0.99***		-0.80***
Regression Adjusted R^2	48.4%	50.7%	43.1%	47.4%	39.6%	43.4%	32.5%	35.6%

*** statistically significant at 1% level

[10] We forecast real GNP from 1971 through 1991 and real GDP beginning in 1992.
[11] This step eliminates most of the short forecast updates we published between 1982 and 2007 in the months of February, May, October, and December.

Based on our analysis to date, it appears that the amount of negative sentiment in our forecast texts contained some additional information content not embedded in our numerical forecast projections. Including the share of negative words in our simple accounting regressions raises the coefficient of determination by 2–3 percentage points. We interpret these results as suggesting that there was information available at the times we produced our forecasts that did not translate into our numerical forecast, but which we expressed through our writing. One possible explanation for this pattern may be that we write our forecast reports after we have finalized our forecast numbers, so we sometimes have access to meaningful additional data while writing that was unavailable when producing the numerical forecast.

One implication of these results is that reading our forecast reports may convey additional information that is not imparted only by reviewing our numerical forecasts. As we continue to digitize our archives and expand our dataset, we look forward to exploring additional dimensions of the data and assessing the robustness of these findings.