RESEARCH SEMINAR IN QUANTITATIVE ECONOMICS
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The U.S. Economic Outlook for 2023–2024
Executive Summary: November 2022

Slowing Momentum

After shrinking for two quarters in a row, real output expanded at a 2.6 percent annualized pace in the third quarter of 2022. Final sales to domestic purchasers added only 0.5 percentage points to headline growth in 2022Q3, though, down from its 2022H1 average of 0.8 percentage points. While consumption expenditures remain resilient, business investment fell. A decline in imports and a jump in exports jointly accounted for 2.8 percentage points of the headline reading. Net exports' outsized contribution is unlikely to be sustained with recessions expected in our key export markets.

The labor market remains tight. Despite a trend toward slowing job gains, August–October employment growth averaged a healthy 289,000 jobs per month. Weekly initial unemployment claims have ticked up in recent weeks but remain remarkably low, despite widespread media discussion of layoffs. The unemployment rate has inched up to 3.7 percent in October, still a low level. Sales of new light vehicles may finally be ready to contribute to growth again. In October, the annualized pace of sales improved to 14.9 million units, the second-best reading since June 2021. While the October reading may have benefitted from one-off factors such as delayed deliveries of earlier orders, the recent dynamics of production and inventories make this increase more likely to prove persistent.

The October Surprise

Inflation dynamics are a key driver of the outlook. The October CPI report came in far below projections, with the annualized monthly pace of core inflation dropping to just 3.3 percent. If the October surprise slowdown in core CPI proves to be both durable and equally visible in core PCE, the chances of the Fed delivering a soft landing will increase dramatically. We expect monthly inflation to tick back up in the next few months. As a result, we judge that the Fed will have to keep raising the fed funds rate through mid-2023, and it will likely take a mild recession to drive inflation down for good.

Many Warnings

There are many developments in the economy consistent with the business cycle peak drawing nigh. Several Federal Reserve districts' manufacturing 6-month ahead indices point to a broad-based deterioration in the outlook for regional manufacturing. The ongoing decline of goods consumption is one driving factor. A significant appreciation of the dollar over 2022 has certainly weighed heavily on the outlook as well. The Institute for Supply Management's diffusion index for manufacturing has hit the stall speed of 50 in the October survey. The share of banks in the Fed's Senior Loan Officer Survey tightening lending standards for commercial and industrial loans, as well as for commercial real estate development, suggests a high degree of caution in business lending. The spread between 10-year and 2-year Treasury bond yields has moved decidedly negative since mid-July—historically a development usually followed by recessions within 12–24 months. But the situation in the housing market is perhaps the most concerning.

Nuclear Winter in Housing

After a two-year period of eye-popping increases in house prices, the housing market appears to have run into a brick wall. Mortgage purchase applications have fallen by 45 percent from the start of the year, while pending home sales have fallen 31 percent year-over-year. The University of Michigan Survey of Consumers' sentiment index of conditions for buying a home has now fallen to its lowest reading since the survey's inception in 1951. Year-over-year home price appreciation has fallen from 20.8 percent in March to 13 percent in August. As mortgage rates have more than doubled, affordability has cratered to levels last seen at the peak of the mid-2000s housing price run-up. Despite this stress, residential construction employment has held up well so far this year, owing to a large backlog of projects. New starts are falling, however, and we think the housing sector is unlikely to bottom until mortgage rates have peaked and existing home prices have stopped falling.

The Captain Has Turned On The Seatbelt Sign

We think the FOMC is eager to avoid its mistakes of the 1970s and '80s and will try to extinguish the current inflationary momentum completely on the first try. As a result, we think the Fed is prepared to tolerate a mild recession if it minimizes risks to longer-term price stability. To conquer inflation, we think the Fed will lift the

fed funds rate above near-term inflation expectations, bringing short-term real yields into positive territory and keeping them there for a while.

As a result, we expect the Fed to continue raising rates into late spring of 2023, albeit at a slower pace than recently. We project a terminal range of 5.25–5.5 percent for the fed funds rate in this cycle. We expect the Fed to hold the fed funds rate flat for the rest of 2023. As inflation gradually slows and unemployment inches up, the Fed will begin easing in 2024.

Divided Government, Most Likely

Partisan control of the House of Representatives is still up in the air ten days after the midterm elections. Regardless of the outcome, the narrow margin lowers the chances of significant fiscal action ahead.

We are projecting significant restraint for discretionary non-defense spending, but sizeable increases in defense spending due to the war in Ukraine and other global threats. We do not anticipate the mild recession in our outlook to entail any meaningful fiscal stimulus.

The 2023–24 Outlook

We expect headline growth to slip but remain in positive territory in 2022Q4–23Q2, supported by resilient consumption expenditures. In 2023H2, as job growth turns negative, consumption spending flatlines and real GDP declines slightly. By early 2024, the Fed begins easing monetary policy and economic activity starts expanding again. By late 2024, quarterly growth rebounds to a 2.4 percent annualized pace. Calendar-year GDP growth registers 1.9 percent in 2022 and remains positive on average for 2023, registering 0.5 percent. The mild recession we project in late 2023 holds average real GDP growth in calendar year 2024 to 0.8 percent.

Price inflation continues to moderate gradually over the next year, as overall consumer demand weakens and a rapidly cooling housing market propagates to lower shelter inflation. Core CPI inflation registers 6.2 percent in 2022, 4.3 percent in 2023, and 2.5 percent in 2024. By early 2024, the quarterly pace of PCE deflator inflation, the Fed's preferred measure, stands at 2.5 percent and falling, allowing the Fed to start easing policy.

As tight monetary policy bites, the pace of monthly payroll job gains decelerates through the middle of next year before the economy starts shedding jobs in 2023Q3. Over 2023Q3–24Q2, payroll employment declines by nearly 750,000 jobs. As a result, calendar-year average payroll employment declines by 400,000 in 2024.

Although we are forecasting an economic slowdown, we expect that pent-up demand will help vehicle sales grow through the period of economic weakness. We expect that light vehicle sales will increase from 13.9 million units in 2022 to 15.5 million units in 2024 as supply chains heal and inventories continue to normalize.

We project single-family starts to bottom in the second half of 2023 amid high mortgage rates and dismal affordability before staging a modest rebound in 2024. Multi-family starts decline more gradually, sustained by low vacancy rates, elevated rents, and a limited increase in unemployment. Total housing starts fall from over 1.5 million units in 2022 to 1.2 million in 2024.

	Actual	RSQE Forecast		
	2021	2022	2023	2024
GDP (billions of current $)	23315.1	25433.7	26726.2	27638.0
Real GDP (billions of 2012 $)	19609.8	19979.6	20075.7	20230.8
% change: year-over-year	5.9	1.9	0.5	0.8
% change: 4th-qtr-to-4th-qtr	5.7	0.4	-0.3	1.9
Nonfarm payroll employment (millions)	146.1	152.0	154.0	153.6
Civilian unemployment rate (%)	5.4	3.6	3.8	4.5
Capacity utilization, total industry (%)	77.4	80.0	79.3	77.8
Inflation (private nonfarm GDP deflator, % change)	4.5	7.1	4.6	2.6
Inflation (CPI-U, % change)	4.7	8.1	4.5	2.5
Inflation (core CPI, % change)	3.6	6.2	4.3	2.5
Light vehicle sales (millions)	14.9	13.9	15.1	15.5
Private housing starts (thousands)	1605.2	1545.4	1233.2	1213.4
3-month Treasury bill rate (%)	0.0	2.1	5.2	4.8
10-year Treasury note rate (%)	1.4	3.0	4.6	4.5
Conventional mortgage rate (%)	3.0	5.5	7.3	6.5
Real disposable income (billions of chained 2012 $)	16130.0	15090.6	15419.3	15580.3
% change	1.9	-6.4	2.2	1.0
Corporate profits after tax (billions of current $)	2749.8	2889.1	2919.6	3067.6
Value of U.S. $ (FRB broad index), % appreciation	-3.9	7.7	7.5	0.0
Current account balance (NIPA basis, billions of current $)	-861.4	-1014.7	-929.8	-834.7
Federal surplus (FY, NIPA basis, billions of current $)	-2948.9	-1081.0	-1215.2	-1296.3

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The U.S. Economic Outlook for 2023–2024

Jacob T. Burton, Gabriel M. Ehrlich, Daniil Manaenkov,
Michael R. McWilliams, and Tereza Ranošová
University of Michigan

Introduction

Real GDP expanded in the third quarter after two quarters of modest contraction. The rebound in growth, however, was largely driven by an outsized contribution of net exports, which is unlikely to be sustained. Meanwhile, private consumption growth slowed, and business investment contracted. We expect domestic demand to hold effectively flat in the first half of 2023 and to contract mildly in the second half of the year, driven by sharply higher interest rates, slowing global growth, and dollar appreciation, to name a few key factors.

Labor market data—the most timely and accurate information we have about the state of the economy—remains resilient despite several negative shocks to the economy over the past year. We expect job gains to continue slowing over the coming months, as many businesses curtail hiring in anticipation of a tougher macroeconomic environment, while the housing market correction takes a bite out of construction employment. We project job growth to turn negative and the unemployment rate to begin edging up meaningfully in the second half of 2023.

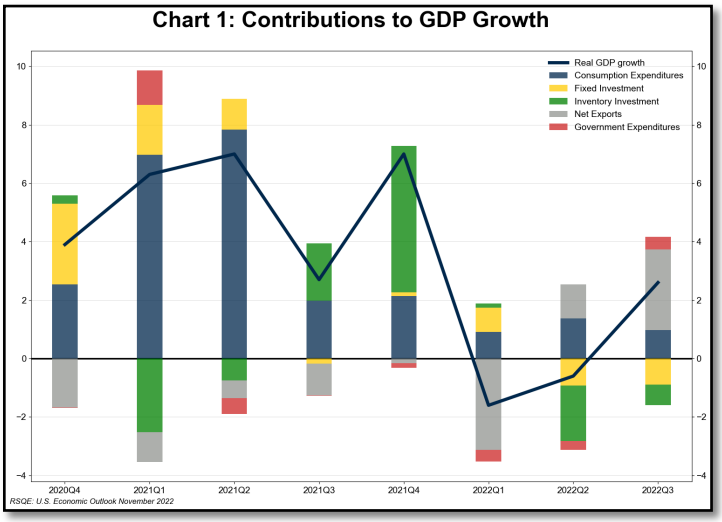
Recent measures of trend inflation show only modest signs of deceleration despite the encouraging CPI report for October. As a result, we expect the Federal Reserve to keep raising rates into

the spring of 2023, albeit at a slower pace than recently. We project a terminal range of 5.25–5.5 percent for the fed funds rate in this cycle. From there, we expect the Fed to hold the fed funds rate flat for the rest of 2023, as inflation gradually falls and unemployment slowly inches up. By early 2024, with inflation falling convincingly toward the Fed's 2.0 percent target and the unemployment rate rising to 4.5 percent, we expect the Fed to start cutting rates again, helping to stabilize the job market.

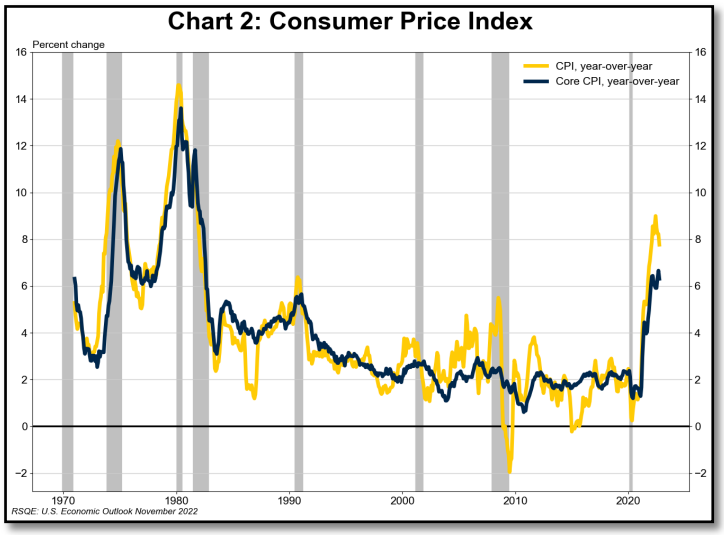
With the election results not yet finalized, this forecast was completed assuming the return of divided government. Hence, we are expecting limited action in fiscal policy, with spending restraint for discretionary non-defense spending, but sizeable increases in defense spending due to the war in Ukraine and other global threats. We do not anticipate the mild recession in our outlook to entail any meaningful fiscal stimulus. Geopolitical and energy supply risks remain prominent, and we are monitoring the evolving situation closely.

The Current State of the Economy

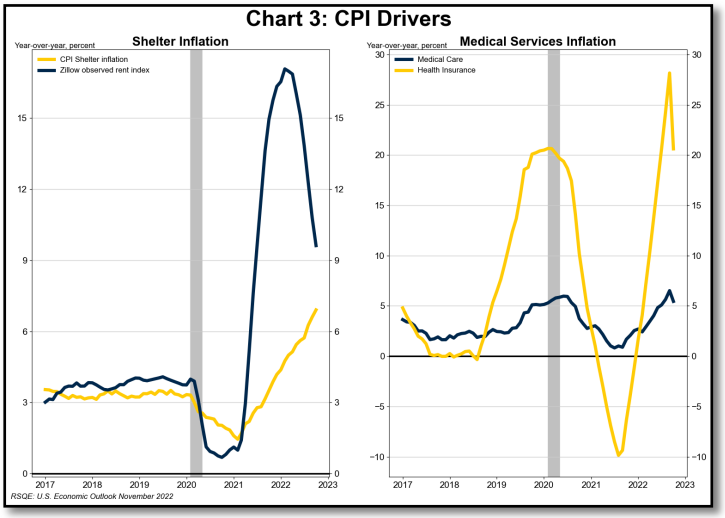
After shrinking for two quarters in a row, real output expanded at a 2.6 percent annualized pace in the third quarter of 2022. Chart 1 shows the growth contributions of the major components of GDP over several recent quarters, as well as the annualized real GDP growth pace. A decline of imports and a jump in exports jointly contributed 2.8 percentage points to the headline reading. Inventory investment was a drag on growth for 2022Q2–Q3. Inventory and net exports together are behind the bulk of real GDP growth variation over the past year. A less volatile metric, final sales of domestic product to domestic purchasers—the sum of consumption, fixed investment, and government spending—added only 0.5 percentage points to headline growth in 2022Q3. That was actually a step down from its 2022H1



average of 0.8 percentage points. While consumption expenditures remain resilient, fixed investment fell, driven by the ailing residential housing sector.

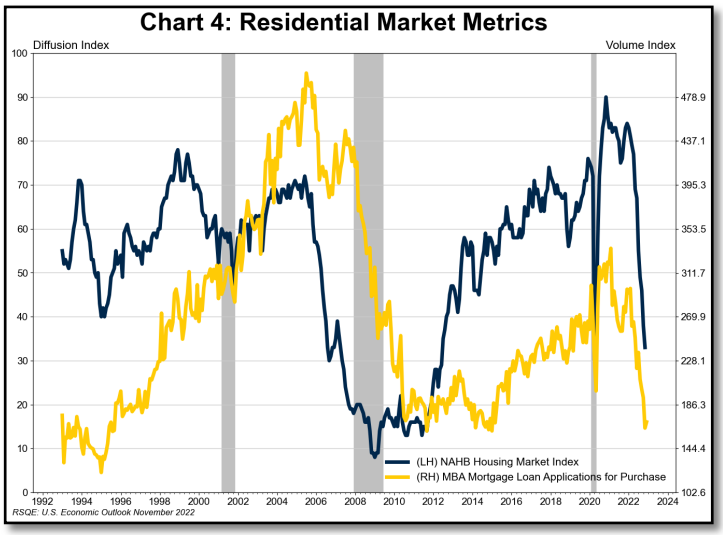


In October, headline 12-month Consumer Price Index (CPI) inflation (shown on Chart 2) dropped below 8.0 percent after seven consecutive monthly readings above that level. Energy prices increased marginally in October after three months of declines. Food inflation moderated considerably, posting the slowest monthly increase since December 2021. The price level for food remains stubbornly high, however, despite agricultural commodities coming off their recent peaks. After gradually decelerating between April and July, the 12-month core CPI inflation rate picked up speed again in August–October, averaging 6.4 percent. The major driver of this acceleration was the shelter component, which accounts for about 40 percent of core CPI. The BLS sampling procedure is slowly picking up the major run-up in new rents that peaked months ago. The left panel of the Chart 3 plots the shelter component of CPI and Zillow's Observed Rent Index. Recent research from BLS suggests that CPI shelter inflation tends to lag carefully constructed repeat rent measures for new tenants by about 5–6 months, pointing to an upcoming deceleration of monthly shelter CPI inflation, although the year-over-year reading may not peak until early 2023.[1] Recent year-

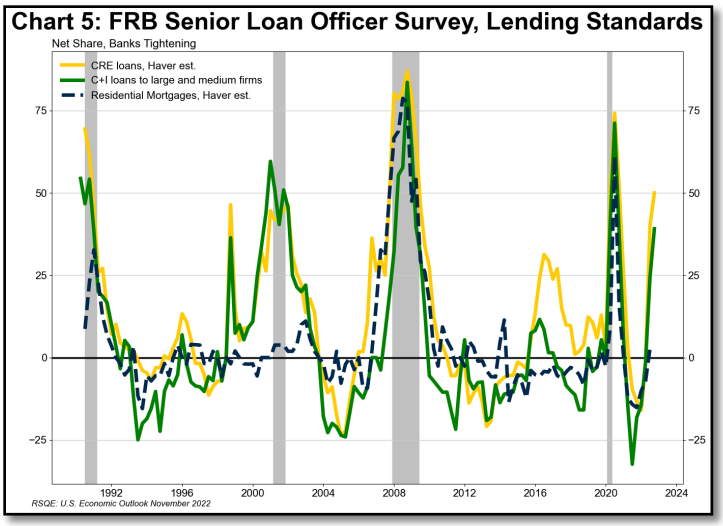


[1] Brian Adams, et.al, "Disentangling Rent Index Differences: Data, Methods, and Scope," BLS Working Paper 555, posted online October 4, 2022, https://www.bls.gov/osmr/research-papers/2022/pdf/ec220100.pdf.

over-year increases in medical and transportation service price inflation have also been significant, with the latter likely stemming partly from tight supply and high prices of diesel and jet fuel. The right panel of Chart 3 shows medical services inflation (accounting for about 10 percent of core CPI), which appears to be driven by annual cycles in the CPI for health insurance premiums, and seems poised to decelerate markedly.[2] Additionally, wholesale used car prices are tumbling fast, which should also help to restrain core CPI inflation. We expect CPI inflation to slow gradually as the momentum in price increases dissipates over time.



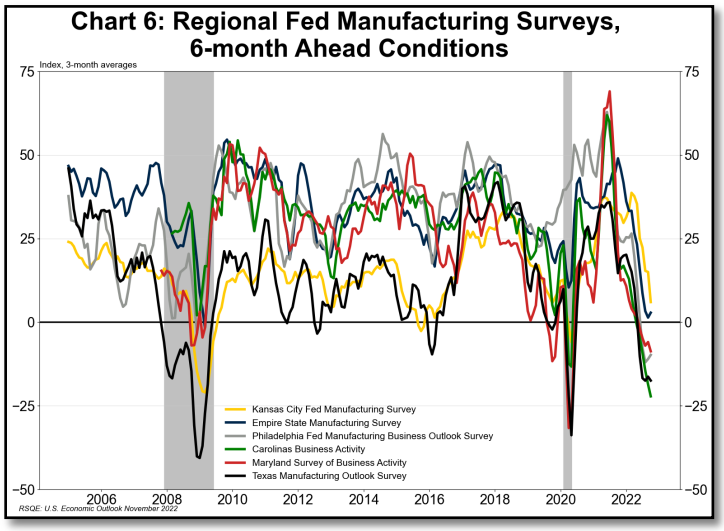
The 30-year fixed mortgage rate has more than doubled since late 2021 and is approaching 7.0 percent. It is no wonder that the housing market is in deep shock. Chart 4 shows the NAHB Housing Market Index alongside the volume of new mortgage applications for purchase reported by the Mortgage Bankers Association. Both indices are back at levels observed around 2013–14, indicating severe stress. The housing market is unlikely to bottom until mortgage rates have peaked and existing home prices are done falling. Despite this stress, residential construction employment has held up well this year through October, owing to a large backlog of projects and a high number of sold units under construction. We expect this sector to start shedding jobs in 2023.



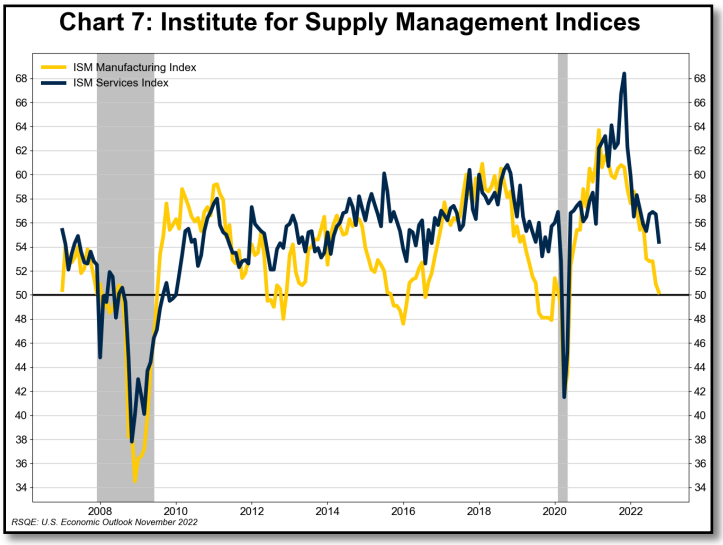
There are many worrying signs elsewhere. Chart 5 displays select metrics from the Fed's Senior Loan Officer Survey. The share of banks tightening lending standards for

[2] However, health insurance prices are calculated differently in the PCE deflator, with different dynamics and relative importance for core PCE. Hence, a deceleration in core CPI due to the health insurance component is unlikely to influence the Fed's thinking.

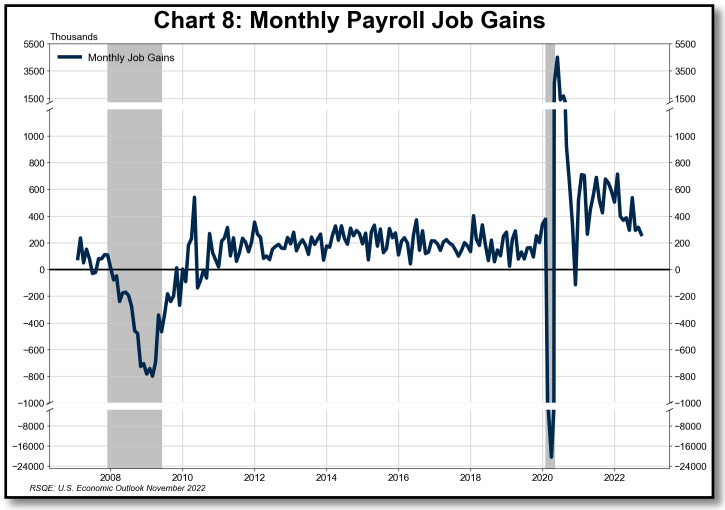
commercial and industrial loans, as well as for commercial real estate development, suggests considerable caution in lending. The lack of tightening for residential mortgages is not particularly surprising given the already tight lending standards over the past decade.



Charts 6 and 7 show that growth in manufacturing activity is also in jeopardy. The available Federal Reserve district manufacturing 6-month ahead indices point to a broad-based deterioration of the outlook for regional manufacturing. The ongoing declines of goods consumption is one driving factor. A significant appreciation of the dollar over 2022 has certainly weighed heavily on the outlook as well. The risk of an imminent energy crisis in Europe this winter wreaking havoc on international supply chains appears to have diminished of late, largely due to expectations of warm winter weather. But in the medium term, energy is likely to remain scarce and expensive in Europe, resulting in a slow-motion supply chain disturbance. The Institute for Supply Management's diffusion index for manufacturing hit the stall speed of 50 in the October survey. The service sector continues to expand, however, albeit at a slowing pace.

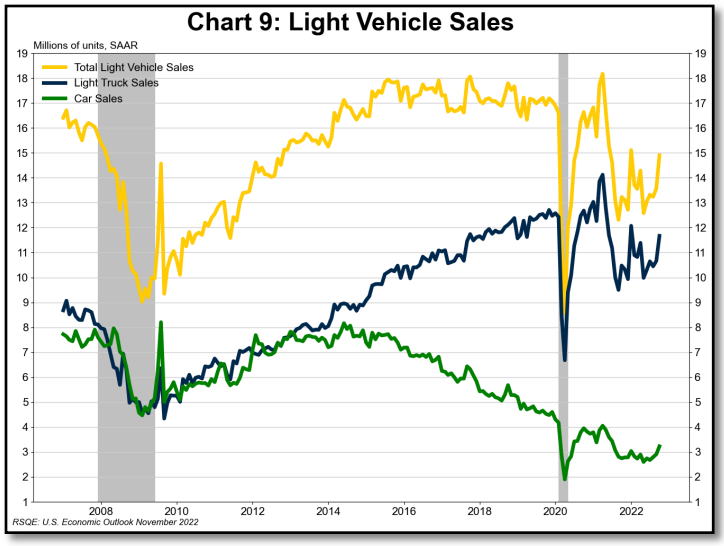


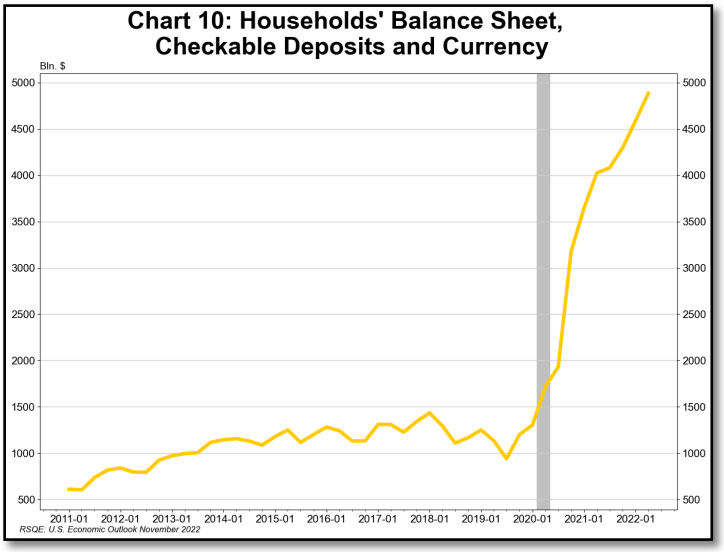
So far, we have highlighted many forward-looking vulnerabilities in the current state of the economy. However, the broadest contemporaneous measures of labor market activity remain quite strong, suggesting that it may take many more months to reach the peak of the current business expansion. Chart 8 shows recent payroll job gains. While there seems to be a trend toward slowing job gains, August–October employment growth averaged a healthy 289,000 jobs. Weekly initial unemployment claims have ticked up in recent weeks, but remain remarkably low despite layoffs



becoming a mainstay in the news. Still, given the generally soft economic outlook, we expect payroll job gains to continue to decelerate gradually over the coming months.

Sales of new light vehicles may be finally ready to contribute to growth again. In October, the annualized pace of sales improved to 14.9 million units, the second-best reading since June 2021. While the October reading may have benefitted from one-off factors such as delayed deliveries of earlier orders, the recent dynamics of production and inventories make this increase more likely to prove persistent. The average pace of domestic light vehicle assemblies between April and October averaged 10.5 million units, a marked improvement over the February 2021–February 2022 average of only 9.0 million units. Dealer inventories are still very low, but the trend toward higher inventory to sales ratios is unmistakable. The latter should help fulfill the pent-up demand in the light vehicle market and, hopefully also slow new vehicle price inflation.





Finally, Chart 10 shows that household cash balances, which ballooned during the pandemic due excess saving and government transfers to households, continued to grow rapidly at least through the second quarter of

2022. This stock of savings suggests that consumer demand is likely to withstand the softening of the labor market that we project.

Overall, the state of the economy remains noisy and challenging to interpret, with many contradictory signals. We believe that the current picture is consistent with still-growing economic activity that is likely to give way to a mild contraction in the second half of next year.

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

Monetary Policy

With inflation running unacceptably high, the Federal Open Market Committee (FOMC) has continued to raise the target range for the federal funds rate aggressively, by 75 basis points at both its September and November meetings. The target range now stands at 3.75–4 percent, which could be characterized as moderately restrictive. The Committee has repeatedly stated a strong commitment to returning inflation to its 2 percent objective.

At its November 2 meeting, the Committee reiterated that "ongoing increases in the target range [for the federal funds rate] will be appropriate." It also emphasized that it would account for the cumulative tightening that has already happened and the lags with which monetary policy operates when determining the future pace of increases. We interpret this language to suggest that there is likely to be a slowdown in the pace of rate increases in the upcoming months, especially in light of the encouraging CPI report for October. The September FOMC meeting participants' median economic projection for the federal funds rate indicated an increase to 4.6 percent by the end of 2023. At the same time, the participants' median economic projection for the pace of deceleration in inflation remained optimistic, with Personal Consumption Expenditure (PCE) inflation moderating to 2.8 percent and the unemployment rate rising to 4.4 percent by the end of next year.

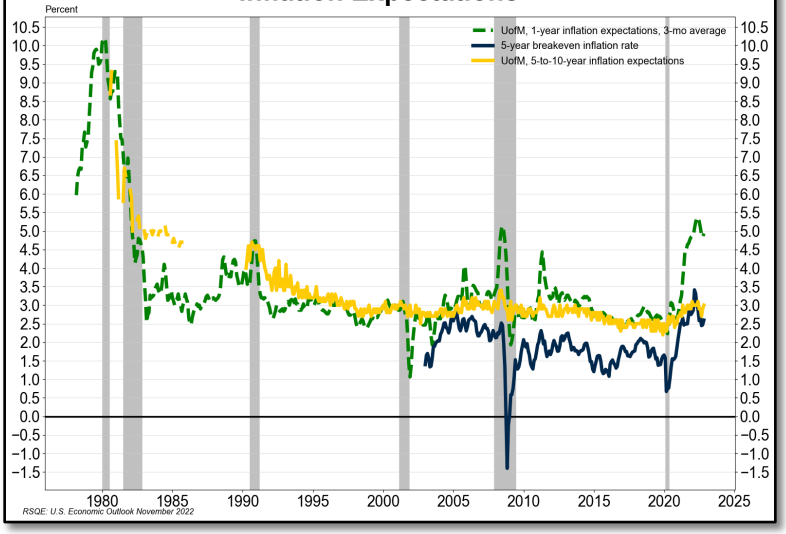
The October CPI report brought new hope on the inflation front. The core CPI increased by only 0.3 percent (equivalent to an annualized pace of approximately 3.3 percent), while the all-item CPI increased by 0.4 percent. However, it remains to be seen if this report was more than a one-time fluke. In the meantime, consumer price inflation remains stubbornly high. The year-over-year growth in core

and all-items CPI in October stood at 6.3 and 7.7 percent, respectively. Inflation has slowed down, especially for goods, partially due to cheaper imports supported by the strong dollar. In contrast, services inflation remains elevated, and shelter inflation specifically is still accelerating, at least as measured. The PCE deflator, the Fed's preferred measure of prices, increased by 6.2 percent year-over-year in September.

The Fed's statutory dual mandate requires a balanced approach in promoting maximum employment as well as price stability. Over the past three months, the labor market has remained very tight. Payroll job gains are still strong. The unemployment rate stayed low at 3.7 percent by October, with the labor force participation rate still significantly below the pre-pandemic level. With inflation running well above the long-term target of 2 percent, the Fed is overwhelmingly likely to continue raising short-term interest rates in the near term.

Inflation expectations will arguably play an important role in determining whether the currently elevated rate of inflation will propagate into higher inflation in the longer term. So far, expectations have remained remarkably stable. Chart 11 shows three measures of inflation expectations. The 5-year breakeven inflation rate came down from over 3 percent in early June to under 2.7 percent by early November.[3] The 5-year-to-10-year inflation expectations from the University of Michigan's Surveys of Consumers has dipped below 3 percent in recent months but poked up to 3.0 percent in the early November survey. These measures suggest that longer-term inflation expectations remain reasonably anchored. Consumers and investors may perceive the current episode of high inflation as stemming from supply shocks that are likely to dissipate

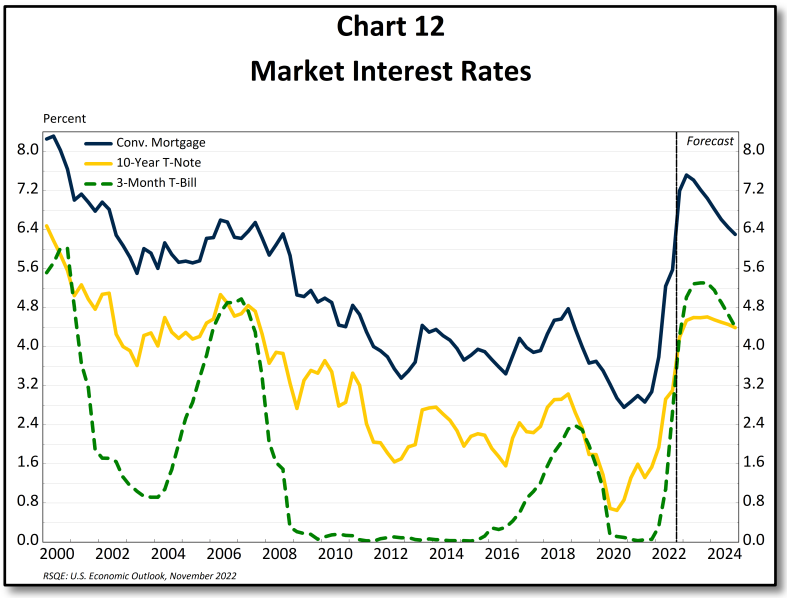
Chart 11
Inflation Expectations



[3] The 5-year breakeven inflation rate is defined as the spread between 5-year nominal Treasury bond yield and 5-year Treasury Inflation Protected Securities yield, and serves as a proxy for the 5-year inflation expectations of financial markets participants.

going forward, or they may believe the Fed will accept a recession if necessary to bring inflation under control.

Since May, the Fed has been reducing the size of its balance sheet, though the pace of the sell-off has been somewhat slower than planned. As of mid-October, the Fed's balance sheet is on track to decline at a steady pace of over 70 billion dollars per month throughout the forecast period.



Our forecast assumes that the Fed will continue raising the target range for the federal funds rate through mid-2023, with the pace of increases slowing in 2023. The average effective fed funds rate surpasses 5 percent in the first half of 2023 and reaches 5.3 percent in the second half. We do not expect the Fed to start cutting rates until early in 2024, consistent with our inflation and labor market outlooks. Chart 12 shows our projections for selected key interest rates. The 3-month Treasury bill rate increases to 4.2 percent in 2022Q4 and 5.3 percent in 2023Q2 before moderating to 4.4 percent by 2024Q4. The 10-year Treasury rate reaches 4.2 percent in 2022Q4. The 10-year rate increases only moderately to 4.6 in 2023Q4, before dipping to 4.4 by the end of 2024, leading to an inverted yield curve over most of our forecast horizon. The 30-year conventional fixed-rate mortgage rate continues climbing, to 7.2 percent in 2022Q4, peaks at 7.5 percent in 2023Q1, and subsides to 6.3 percent by the end of 2024.

Fiscal Policy

The lame duck legislative session is shaping up to be an interesting one, with a packed agenda that stands in contrast with the historical record of limited action during these sessions. The latest continuing resolution funding the government expires on December 16. The annual National Defense Authorization Act, which broadly sets defense policy and authorizes spending, is another must-pass bill

that Congress has passed every year since its inception in 1961. The National Flood Insurance Program expires in mid-December and would have to be reauthorized, as well as any additional funds to help Florida rebuild after Hurricane Ian. The energy permitting reform promised to Senator Manchin as part of the deal to pass the Inflation Reduction Act has been stalled, but it may be necessary for any more legislation to pass. With Democrats most likely losing control of Congress in January 2023, the time is running out for them to move any of their remaining agenda. Additionally, the regular menu of numerous "tax extenders"—previously enacted tax changes such as limits on net interest deductions or 100 percent bonus depreciation that are scheduled to expire—amounts to nearly 100 billion dollars and will also have to be addressed.

Speaker Pelosi has signaled that Democrats will seek to add significant further assistance to Ukraine to the next budget bill, on top of the 12 billion dollars added to the most recent continuing resolution. House Minority Leader McCarthy has voiced concerns about "writing a blank check" for the war in Ukraine and has called for better oversight. These statements, however, closely mirror those made by the then-House Minority Leader Pelosi about the Iraq war funding in the run-up to 2006 elections. Then came the 2007 Iraq war surge, funded by the Democratic Congress. Hence, we expect Congress to keep federal defense spending growth high in the coming years.

Looking beyond the lame duck session, the fiscal outlook is uncertain. The recent British experience, in which a deficit-boosting budget proposal sparked significant bond market turbulence and resulted in a swift change in government and a 180-degree turn in fiscal policy, will bring primary fiscal balances into focus all around the world. The return of divided government likely rules out large revenue increases or mandatory spending reforms, suggesting that the path of discretionary non-defense spending may become the main margin of adjustment.

There are at least two major fiscal focal points on the horizon that could trigger a significant slowdown of federal expenditure growth. The first one is soon, but action is less likely. The pay-as-you-go law of 2010 (PAYGO'10) prescribes sequestration cuts of mandatory spending as a result of legislation that cuts revenues or provides for unfunded mandatory spending increases. The American Rescue Plan of 2021 resulted in a large PAYGO sequestration calculation for 2022, which instead of being waived,

was postponed until 2023. The reconciliation legislation during 2022 added more to potential cuts. Most high-profile mandatory spending programs such as Social Security are exempt, however, and Medicare reductions are limited to 4 percent, or about 36 billion dollars. Yet if not waived by an act of Congress (requiring 60 votes in the Senate), the PAYGO sequestration will trigger more than 100 billion dollars of spending reductions per year. Even if Republicans choose to avoid politically contentious cuts to Medicare, the PAYGO sequestration could become a threat point to extract concessions elsewhere.

The second focal point will likely come in the second half of 2023, when the debt ceiling begins to bind. We believe the debt ceiling fight is more likely than sequestration to alter the trajectory of fiscal spending. A partial replay of the 2011 playbook—when a Republican House leveraged the debt ceiling to enact the Budget Control Act that limited discretionary spending for a least a few years—is certainly possible. Brisk inflation and a much narrower House majority compared to 2011 will likely limit the magnitude of nominal spending cuts Republicans could seek, since in an inflationary environment even a flat path of nominal spending will ensure that the primary federal deficit improves significantly.

While federal tax revenue has grown vigorously in fiscal 2022, it was likely boosted by strong capital gains during 2021 and early 2022, which have since evaporated. Hence, going forward, federal revenues may come under pressure, especially if the economy enters a recession as we project. Additionally, high inflation has resulted in a large adjustment of individual tax brackets for 2023. Because average private compensation growth has not kept pace with inflation, average tax rates are likely to decline. Finally, Congressional Republicans will likely attempt to extend many provisions of the Tax Cuts and Jobs Act of 2017 that are scheduled to expire in the coming years.

The student debt relief program that the Administration rolled out via executive action is currently suspended by a federal appeals court. If allowed to proceed, nearly 300 billion dollars' worth of debt could be cancelled. The American Rescue Plan of 2021 exempted student debt forgiveness from federal taxes, so no jump in revenue would result. State and local taxes will still apply, however, as well as local sales taxes levied on extra consumption that may follow debt cancelation.

The official COVID-19 public health emergency (PHE) declaration is currently scheduled to expire on January 11, 2023. The eventual expiration of the PHE would sunset a good deal of COVID-19-related funding connected to Medicare, Medicaid, CHIP, and private health insurance markets. It would also start to wind down the enhanced 6.2 percentage point federal match on state Medicaid spending. The Administration has been extending the PHE in increments of 90 days and has promised to give at least a 60-day warning before the emergency ends. In August, the Centers for Medicare and Medicaid Services told healthcare provides to start preparing for the PHE expiration. We think the PHE will finally be allowed to expire in the spring of 2023.

We do not expect that the mild recession we project will lead to a meaningful fiscal response, other than the automatic stabilizers already in place.

Table 1 contains fiscal year data and projections for the federal budget on a National Income and Product Accounts (NIPA) basis from 2020 to 2024. In 2022, current expenditures fell by 15.7 percent, as some pandemic-related spending ended. Many programs such as expanded ACA credits, provider relief, and the Medicare payment boost remained in place, however, with current expenditures averaging more than 25 percent above their fiscal 2019 level. In 2023–24, Covid-related transfer payments decline, while inflation pushes other transfers higher, resulting in relatively flat total transfer spending. Consumption expenditures grow, helped by outlays related to the Infrastructure Investment and Jobs Act of 2021 and strong growth of defense spending. We project federal subsidies to continue to shrink toward more normal levels through fiscal 2023–24.

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

				FY Forecast	
	2020	2021	2022	2023	2024
Current receipts	3699.4	4154.9	4907.4	4912.7	4971.9
% change	0.6	12.3	18.1	0.1	1.2
Current expenditures	6422.5	7103.8	5988.4	6127.9	6268.3
% change	36.4	10.6	-15.7	2.3	2.3
Consumption	1152.2	1230.5	1253.5	1298.9	1334.5
% change	6.5	6.8	1.9	3.6	2.7
Transfer payments	4169.8	4789.4	3920.5	3880.1	3888.2
% change	40.3	14.9	-18.1	-1.0	0.2
Federal subsidies	561.6	522.3	167.3	90.6	78.4
% change	687.4	-7.0	-68.0	-45.8	-13.5
Surplus (+) or deficit (-)	-2723.0	-2948.9	-1081.0	-1215.2	-1296.3
Percent of GDP	-12.9	-13.0	-4.3	-4.6	-4.7

RSQE: U.S. Economic Outlook, November 2022

2023–24. As the Fed continues to wind down its portfolio of Treasury securities, at an expected pace of 60 billion dollars per month, those securities will make their way into private hands, pushing the privately held debt-to-GDP ratio higher. As a result, we project the privately held debt-to-GDP ratio to increase from about 72.6 percent in 2022Q3 to nearly 81.1 percent in 2024Q4.

The Housing Market

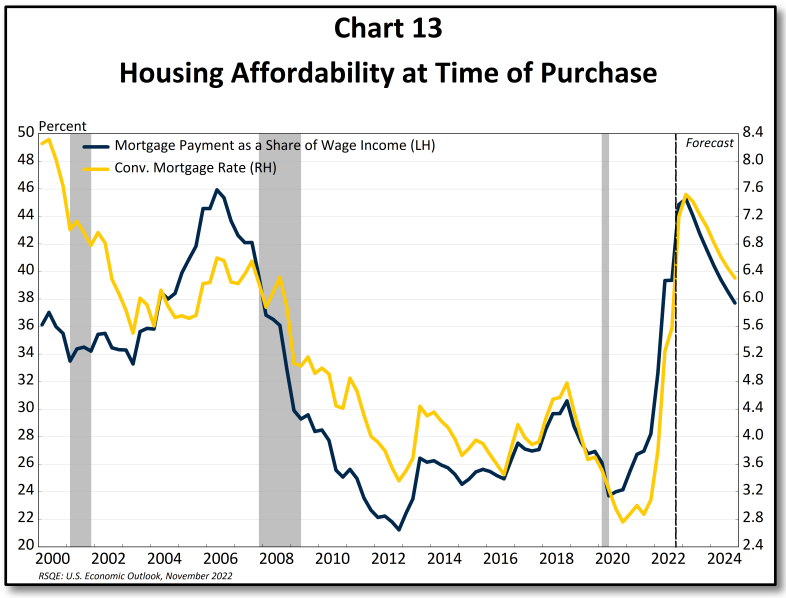
After a two-year period of eye-popping increases in house prices, the housing market appears to have hit a brick wall. Monthly home price inflation, as measured by the seasonally adjusted Case-Shiller National Home Price Index, has reversed abruptly. The year-over-year appreciation rate stood at 20.8 percent in March and receded to 13 percent in August. For comparison, during the housing crash of 2005–2009 it took 9 months for the rate of housing price appreciation to drop by a similar amount—from 14.4 percent in September 2005 to 7.2 percent in June 2006. The declines so far nonetheless pale in comparison to the run-up since the beginning of the pandemic, which cumulatively came to over 40 percent. In our view, though, the rapid turnaround in home price trends is the surest sign that the Federal Reserve's tighter monetary policy is biting. We expect a turbulent time ahead for the housing market, with curtailed homebuyer demand, lower sales volumes, and reduced prices. These developments will weigh on construction activity over the next two years, contributing to our downbeat expectations for economic growth.

The incoming data shows that housing demand is falling sharply in response to the rapid increase in mortgage rates. Annualized sales of new single-family homes have fallen from above 800,000 units at the start of the year to roughly 600,000 units in September, while the sales pace for existing single-family homes has fallen from the mid-5 million units range late last year and early this year to the low 4-million units range this summer.[4] Mortgage purchase applications have fallen by 45 percent from the start of the year, while pending home sales have fallen 31 percent year-over-year. In October, the National Association of Home Builders' Housing Market Index fell to its lowest value since 2012, with the exception of April and May 2020. In November, the University of Michigan Survey of Consumers' sentiment index

[4] The rate of new sales is also likely to be an overestimated due to a high rate of contract cancellations, which the Census Bureau data does not take into account.

of conditions for buying a home has fallen to its lowest reading since the survey's inception in 1951. The index of conditions for selling has held up much better so far, falling to slightly below its pre-pandemic levels over the past few months.

As expected, these headwinds have taken a toll on construction activity as well. The annualized pace of single-family housing starts fell from nearly 1.2 million in the first quarter of the year to 909,000 in the third quarter, still a bit higher than the 2019 pace of 890,000 units. The multi-family market has held up much better to date, with third quarter starts running at a 551,000-unit average pace, ahead of the first-quarter average. As the market has cooled, the months' supply of new single-family homes for sale has climbed from below 6 months at the start of the year to over 9 months in September, substantially above its long-run average of roughly 6 months. Months' supply in the market for existing single-family homes remains at a relatively tight 3.2 months through September, but that is twice the level in January. Higher mortgage rates may be freezing prospective sellers in place, restraining inventory growth in the existing homes market.



The spike in mortgage rates has put a serious dent in housing affordability. In June, the National Association of Realtors' Housing Affordability Index fell to its lowest level since 1985. We expect the modest improvement recorded in July and August to be reversed this fall with a renewed increase in mortgage rates. Chart 13 plots a similar measure of affordability that we calculate—the ratio between a mortgage payment on a newly bought home and average wage income.[5] Despite the run-up in house prices during the pandemic, low mortgage rates kept housing reasonably affordable throughout 2021. As mortgage rates have climbed, affordability has cratered, returning in the third quarter to levels last seen

[5] The mortgage payment is computed assuming no down payment using the contemporaneous average conventional mortgage rate. As a proxy for the 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.

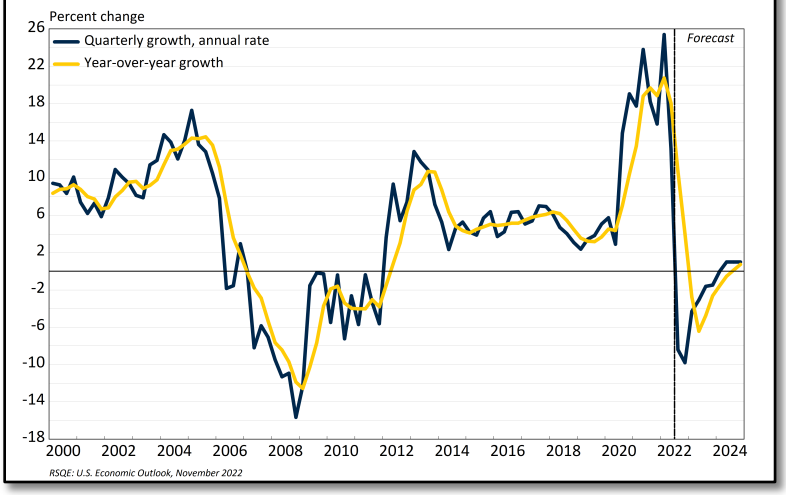
in late 2007. We project that the share of average wage income that would go toward a mortgage payment on a newly purchased home will average 45 percent in the fourth quarter of 2022 and first quarter of 2023.

We expect the dismal affordability situation to continue to put downward pressure on house prices. Still, we project the housing market to hold up much better in this cycle than it did in the aftermath of the 2008 financial crisis. We do not foresee a large increase in distressed sales or mortgage defaults. The Mortgage Banking Association's Mortgage Credit Availability Index suggests that mortgage lending standards have remained much more conservative over recent history than during the run-up to the financial crisis. Mortgage delinquency rates are very low and have continued to decline recently, and foreclosures remain low despite the expiration of pandemic-era regulatory barriers. In the absence of a severe recession with widespread job loss, we expect the mortgage market to adjust to higher rates without severe dysfunction such as the sharp increase in nonperforming loans seen following the financial crisis.

Chart 14 shows the historical and forecast paths of year-over-year and annualized quarterly rates of home price appreciation as measured by the Case-Shiller Home Price Index. We have penciled in a 2.2 percent decline for national house prices in the third quarter of 2022, which comes to 8.4 percent at an annualized rate. We project prices to continue falling through 2023, producing a cumulative decline of 7.2 percent from the peak in the second quarter of 2022 through the fourth quarter of 2023. Prices hold steady to start 2024 and then begin to rise slightly as falling mortgage rates bring relief to the market. We project the Case-Shiller Home Price Index to register nominal appreciation of 0.7 percent year-over-year by the end of 2024. Taking into account inflation, however, real home prices are

Chart 14

Case-Shiller National Single-Family Home Price Index



projected to decline throughout the forecast, falling by a cumulative 13.8 percent from their peak in 2022Q2.

Energy Markets

We have seen gyration after gyration in the energy markets. The Henry Hub natural gas price benchmark ended the summer a little over 9 dollars per thousand cubic feet, but it recently dipped as low as 5 dollars in late October, as a warmer than expected European winter forecast softened potential demand needs throughout the continent, while a lengthy repair at Freeport LNG terminal in Texas constrained exports. Since then, the price of natural gas has increased to around 6 dollars per thousand cubic feet with news of a colder winter here in the U.S. and the resumption of inventory restocking in Europe. The U.S. has taken the lead in replacing Russian gas exports to the European Union since the Russian invasion of Ukraine, motivated by higher prices. Natural gas prices are roughly three times what they were at the end of 2019, and it will take time to increase supply via new natural gas terminals. We expect prices to remain elevated until more production comes down the pipeline. In the meantime, we expect a gradual pass-through of natural gas prices into consumer heating and electricity costs.

The price of West Texas Intermediate crude oil (WTI) averaged 88 dollars per barrel in October 2022 after peaking at around 120 dollars per barrel in early June. The price of WTI is up roughly 6 dollars year-over-year and 37 dollars above its pre-pandemic level.

During late September, oil prices began to tick up, breaking the downward trend that had been in place since the beginning of June 2022. The prospects for the downward trend to resume depend on how a handful of supply factors balance out. The recent supply cuts of 2 million barrels per day, or roughly 2 percent of global oil supply, from countries in the Organization of the Petroleum Exporting Countries (OPEC) have brought OPEC's supply below expected levels. The still-evolving Western sanctions on Russian oil further complicate the matter. The Group of Seven (G7) has agreed to a price cap on Russian oil, which is set to kick in early in December with unknown repercussions. Russia's production has held up better than initially predicted owing to supply diversions to China and India, which has limited market disruption.

On the domestic supply side, U.S. crude oil production averaged 11.3 million barrels per day in 2021. The U.S. Energy Information Administration (EIA) forecasts U.S. crude oil production to average 11.8 million barrels per day in 2022 and 12.3 million barrels per day in 2023, which would break the previous annual record set in 2019. Most of this oil is likely to come from increased new well productivity because the total rig counts as reported by Baker Hughes have recently flatlined just below pre-pandemic levels.

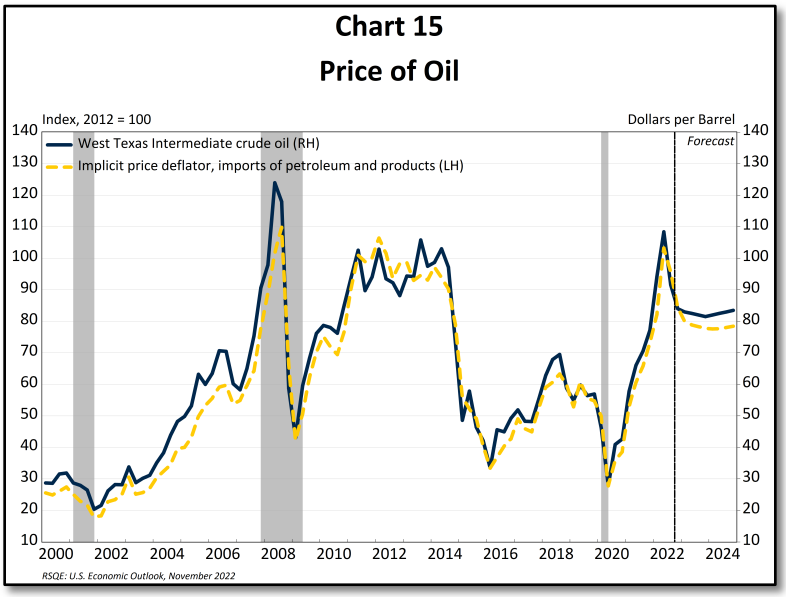


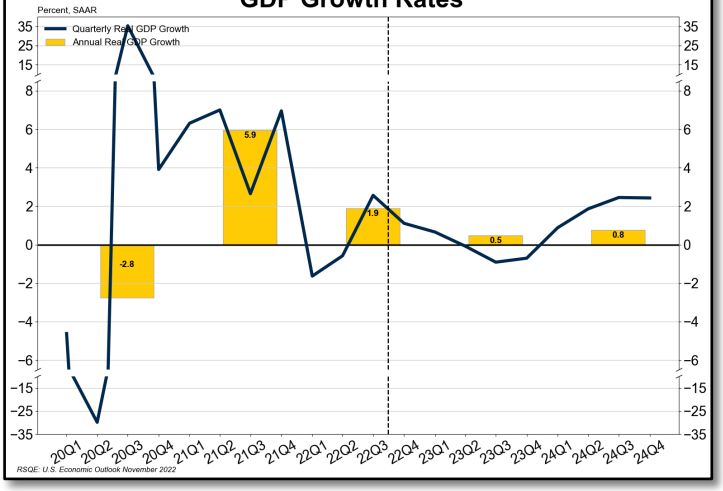
Chart 15 depicts our forecast for WTI prices and the implicit price deflator for imports of petroleum. The solid blue line illustrates the quarterly path of WTI prices, and the dashed yellow line depicts the price index for imports of petroleum products. We expect the price of oil to edge down during 2023 as global economic growth slows. It is projected to average roughly 82 dollars per barrel by the end of 2023, and then inch up to 84 dollars per barrel by the end of 2024.

The price deflator of imported oil is an important driver of gasoline prices for domestic consumers. Imported oil prices are driven by oil price benchmarks other than the WTI. Imported oil prices are expected to fall almost 20 percent from the third quarter of 2022 to the third quarter of 2023, in part due to the narrowing of the Brent–WTI price spread. We expect the price deflator to continue to edge down, by approximately 0.5 percent per quarter, in 2023Q4–24Q1. As economic expansion resumes, we expect the price of imported oil to increase modestly throughout the final three quarters of 2024. By the end of our forecast in the fourth quarter of 2024, we expect that the price of imported oil will stand 24 percent below its recent peak in the second quarter of 2022, but 43 percent above its pre-pandemic level.

The Forecast for 2023–2024

Following the November meeting of the FOMC, Chair Powell assessed that the path to an economic "soft landing" has narrowed. We agree. One mistake from the early 1980s that the Fed is eager not to repeat is taking its foot off the brake pedal at the first sign of inflation easing, only to have to slam on brakes again. We believe that to extinguish the current inflationary momentum on the first try, the Fed will work to lift the very short end of the real yield curve into positive territory and keep it there for a while. That requires raising the fed funds rate above near-term inflation projections. The recent pace of core PCE inflation—a tough-to-beat benchmark of inflation forecasting—has hovered around 5 percent in recent months. Unless the October surprise slowdown in core CPI proves to be both durable and equally visible in core PCE, short-term policy rates still have a ways to climb. Long-term rates will continue to rise, and remain elevated for longer than many observers currently expect. We now judge that it will likely require a mild recession to drive inflation down for good. The question then becomes: "When will it start?" We think the current momentum in the labor market and consumption spending is strong enough to keep the economy from turning over for a few quarters. But as the housing market contracts, businesses turn cautious due to deteriorating economic projections, banks tighten credit further, and households increase their saving, the economy's momentum will fade. While the range of plausible outcomes remains wide, we think the economy will tip over into a mild and brief recession by 2023H2.

Chart 16
GDP Growth Rates



- After two quarters of headline declines in real GDP, growth rebounded in 2022Q3, driven by strong net exports.
- We expect headline growth to moderate but remain positive in 2022Q4–23Q2, supported by resilient consumption expenditures.
- In 2023H2, as job growth turns negative, consumption spending flatlines, and real GDP declines slightly.
- By early 2024, the Fed begins easing monetary policy and GDP growth returns. By late 2024, quarterly growth rebounds to a 2.4 percent annualized pace.
- Calendar-year GDP growth registers 1.9 percent in 2022 and remains positive on average for 2023, registering 0.5 percent. The mild recession we project in late 2023 holds average real GDP growth in calendar year 2024 at 0.8 percent.

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

	'22Q3	'22Q4	'23H1	'23H2	'24
Real GDP (% change, AR)	2.6	1.1	0.3	-0.8	1.9
Contributions to real GDP growth					
Final sales to domestic purchasers	0.5	1.2	0.2	-0.7	1.5
Consumption	1.0	2.0	1.0	-0.1	0.6
Nonresidential fixed investment	0.5	0.2	0.0	-0.1	0.6
Residential investment	-1.4	-0.9	-0.7	-0.3	0.2
Government purchases	0.4	-0.0	-0.1	-0.0	0.1
Net exports	2.8	0.9	-0.0	0.4	0.0
Inventory investment	-0.7	-1.0	0.1	-0.6	0.4

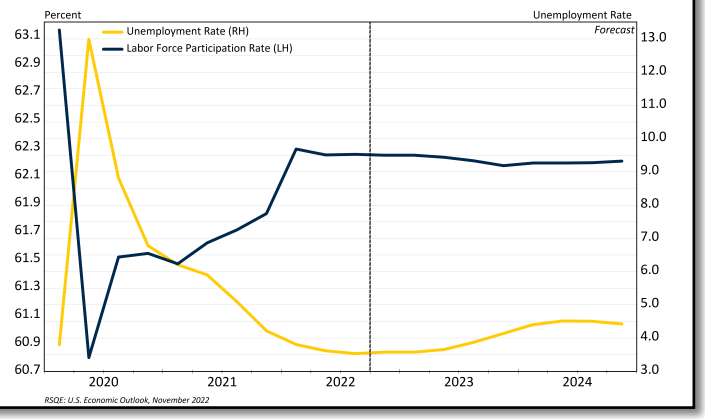
RSQE: U.S. Economic Outlook, November 2022

- In 2022Q4, solid growth in consumption of services and the increase in real spending on vehicles together account for 2.0 percentage points of GDP growth. Consumption's contribution shrinks throughout 2023 as spending on goods comes back to earth.
- Declining goods consumption will mean fewer imports. Recessions in Europe and the United Kingdom, however, will hold export growth back. Hence, net exports do add to growth in some quarters but only moderately.
- The headwind to residential investment from the ongoing housing rout continues through all of 2023. In 2024, with mortgage rates declining steadily, residential investment adds to growth.
- Governments' contribution to growth runs close to zero in most quarters of the forecast. The boost from federal defense spending is offset by the drag from federal nondefense and state and local spending.
- Inventory investment subtracts from growth in four out of the next five quarters but adds to growth in 2024.

Chart 17

Labor Force Participation Rate

and Unemployment Rate



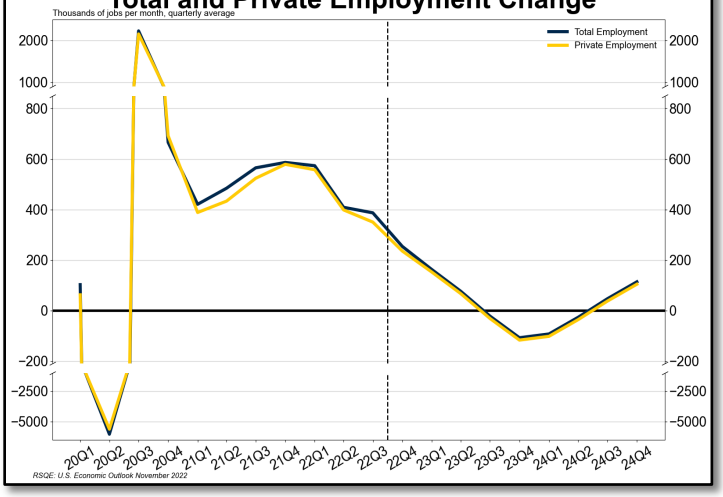
- The introduction of 2020 Census population controls pushed the reported labor force participation rate up by about 0.3 percentage points, to 62.2 percent in January. Since then, there has been no recovery in labor force participation. The unemployment rate has inched up to 3.7 in October.

- The labor force participation rate stays virtually unchanged despite a mild recession, hovering at 62.2 percent in 2023 and 2024. The anemic rebound largely reflects early retirements that prove impossible to reverse.

- As tight monetary policy puts a dent in demand, the labor market gradually loosens. The unemployment rate rises to 4.1 percent by the end of 2023 and tops out at 4.5 percent in mid-2024.

Chart 18

Total and Private Employment Change



- Payroll employment finally surpassed pre-pandemic levels in August, and growth has remained robust since. Payroll job gains slowed down to an average of 381,000 per month in the third quarter. In October, the economy added an additional 261,000 jobs.

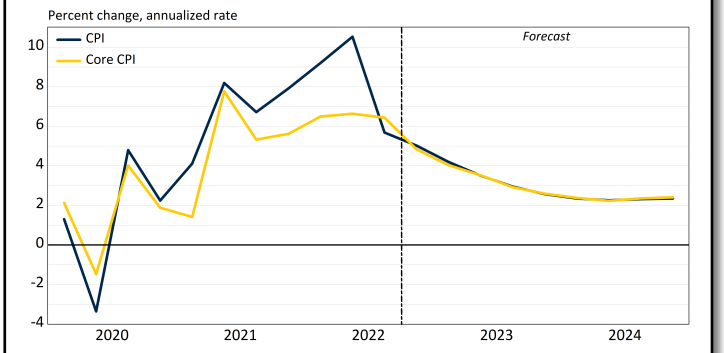
- In the near term, the pace of job gains continues to fall. Further recovery in leisure and hospitality, as well as modest gains in government employment, contribute to several more months of positive job growth.

- By 2023Q3, tight monetary policy bites, and the economy starts shedding jobs. Over 2023Q3–24Q2, total employment declines by nearly 750,000 jobs.

- Positive but modest job growth resumes in 2024. Monthly payroll job gains average 47,000 in 2024Q3 and 114,000 in 2024Q4.

Chart 19

Consumer Price Index



4th Quarter to 4th Quarter % Change

Core CPI	1.62	5.01	6.10	3.27	2.34
CPI	1.20	6.72	7.59	2.31	2.32

RSQE: U.S. Economic Outlook, November 2022

- The annualized quarterly paces of core and headline CPI inflation clocked 6.4 and 5.7 percent, respectively, in 2022Q3. Hefty declines in the price of oil and an appreciating dollar have pushed inflation down. The October CPI report surprised, with the annualized pace of core inflation dropping to 3.3 percent, but it will take a series of similar readings in core PCE to convince the Fed.

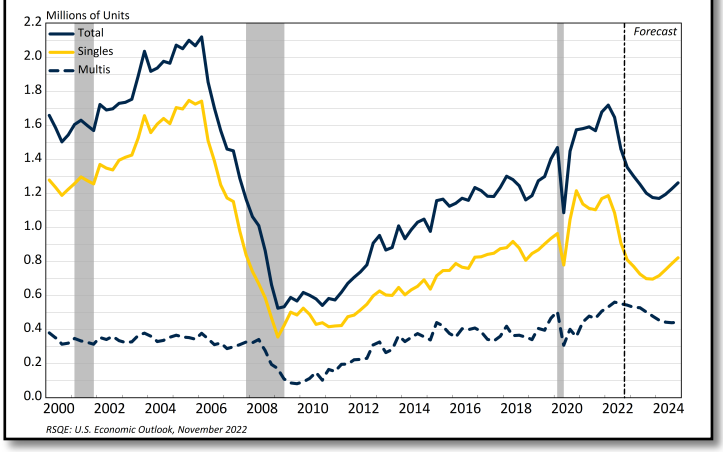
- Price inflation continues to moderate gradually over the next year, as overall consumer demand weakens and a rapidly cooling housing market propagates to lower shelter inflation.

- Core CPI inflation registers 6.1 percent year-over-year in 2022Q4, 3.3 percent in 2023Q4, and 2.3 percent in 2024Q4. With oil and food price inflation remaining moderate, all-item and core CPI inflation converge in 2023–24.

- The year-over-year change in the PCE deflator, the Fed's preferred measure of inflation, falls to near 2 percent by the second half of 2024, but runs above that level throughout our forecast horizon.

Chart 20

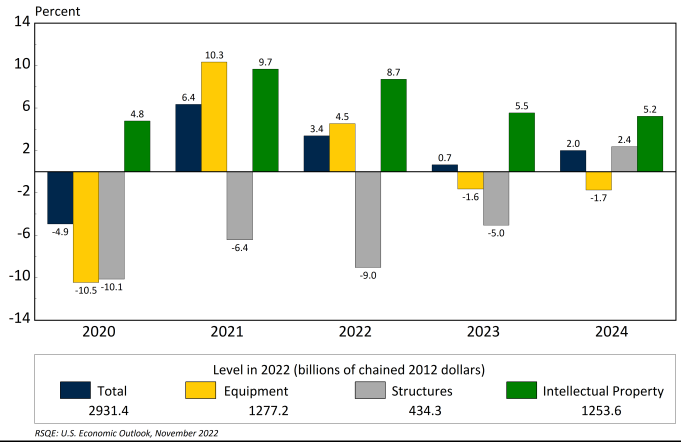
Housing Starts



- The annual pace of single-family housing starts fell from 1.2 million units in the first quarter of 2022 to 0.9 million in the third quarter.
- Multi-family housing starts have held up better so far this year. The third quarter pace of 550,000 units was only 10,000 units below the second quarter's. Starts in 2022Q2–Q3 ran at the fastest pace since 1986.
- We project single-family starts to fall to a 700,000-unit pace by the second half of 2023 amid high mortgage rates before staging a modest rebound in 2024. Total single-family starts fall from nearly 1 million units in 2022 to 720,000 units in 2023 and climb to 770,000 units in 2024.
- Multi-family starts decline more gradually, sustained by low vacancy rates, elevated rents, and a limited increase in unemployment. They slide from nearly 550,000 units in 2022 to 510,000 units in 2023 and 440,000 units in 2024.

Chart 21

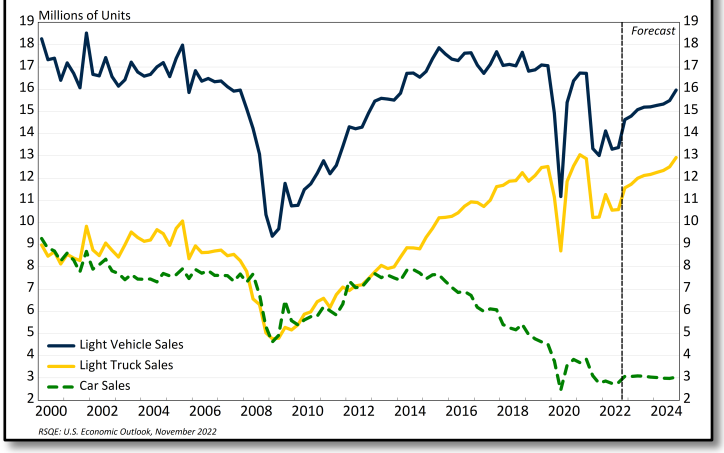
Growth of Real Nonresidential Fixed Investment



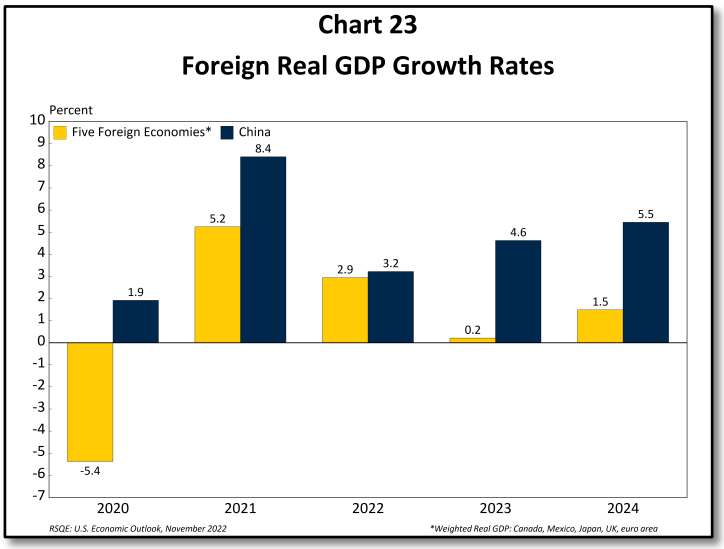
- Strong growth in intelectual property investment compensates for the continued decline in nonresidential structures investment in 2022.
- Investment in new cars and trucks falls by 11.5 percent in 2022, due to a slow recovery of light vehicle production, a marked decline in vehicle leases, and a decline in sales of highly equipped trims due to easing supply chain stress.
- In 2023, as high interest rates subtract from potential returns, investment growth cools in all sectors. Investment in equipment declines by 1.6 percent in 2023 and a further 1.7 percent in 2024, despite modest growth in investment in new trucks.
- Investment in nonresidential structures falls by 5 percent in 2022, held back by cautiousness about the future of office work and recession fears. Modest growth returns in 2024. Investment in intellectual property grows by 5.5 and 5.2 percent in 2023 and 2024, respectively.

Chart 22

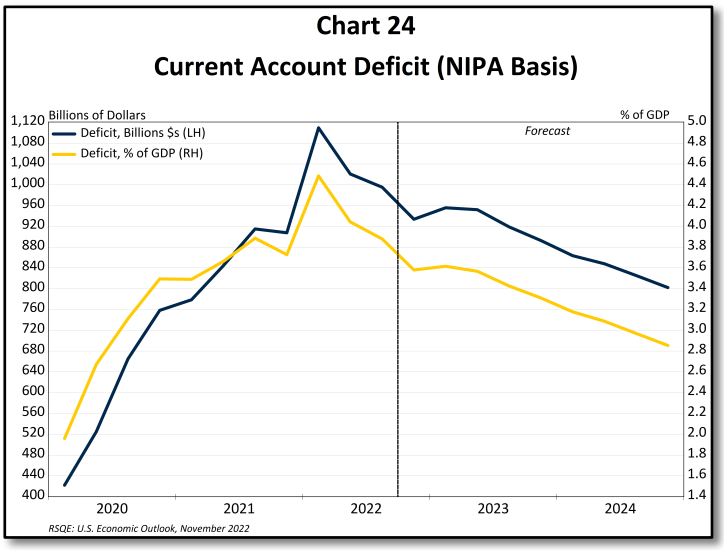
Light Vehicle Sales



- The annualized light vehicle sales pace increased from 13.6 million units in September to 14.9 million units in October, surpassing expectations.
- Although we are forecasting an economic slowdown, we expect that pent-up demand will help vehicle sales grow throughout the mild recession. The recent trend toward higher domestic assemblies and inventories should help fulfill that demand.
- The sales pace of light vehicles increases from 15.2 million units in 2023Q4 to 16.0 million units in 2024Q4 as supply chains heal and inventories continue to normalize.
- We project prices for new vehicles to remain elevated, although increases in production should help push new vehicle inflation below that of all-item inflation, slowly improving affordability. Unfortunately, high prices will prevent purchase-hungry consumers from ordering the buffet, delaying the return to the 17-million-unit sales pace beyond our forecast horizon.



- 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. For near-term projections, we lean heavily on surveys of professional economists covering those countries.
- Projected calendar-year growth for our key trade partners excluding China is expected to average a solid 2.9 percent this year. In 2023, recessions hit the United Kingdom and the Eurozone. Growth in the five countries averages just 0.2 percent in 2023 and rebounds to 1.5 percent in 2024.
- China's continued adherence to its "zero Covid" approach of pandemic management has led to several regional lockdowns this year. That strategy is projected to lower calendar 2022 real GDP growth to 3.2 percent. China's real GDP growth rebounds to 4.6 percent in 2023, and then accelerates to 5.5 percent in 2024.



- The current account deficit exploded during the pandemic, rising from 1.9 percent of GDP in 2019Q4 to 4.5 percent in 2022Q1, as the pandemic-driven rotation from services to goods boosted imports, and strong demand proved persistent.
- The current account deficit remained elevated in 2022, dipping slightly to 3.9 percent of GDP by the third quarter. An appreciating dollar contributed to a robust demand for imports.
- In the near term, the value of the dollar remains high in the global context, propping up imports despite a slowing domestic economy.
- As consumption continues to shift back from goods to services and overall demand cools off, imports pull back relative to GDP in 2023H2–24. Yet weaker growth in our export markets slows the narrowing of the current account deficit, which shrinks to 3.3 and 2.9 percent of GDP by 2023Q4 and 2024Q4, respectively.

Risks to the Forecast

Our forecast remains subject to large uncertainties. Since the spring, there have been two main topics that have represented the bulk of the risks to our forecast. The first set of risks continues to come from the Russian invasion of Ukraine, the resulting energy crisis in Europe, and other yet-to-surface consequences of the war. The second set of risks concern the duration and extent of above-target U.S. inflation, as well as the degree of monetary tightening required to restore price stability. A related risk that has arisen more recently is a more severe downturn in the housing market than we currently forecast.

Europe is currently grappling with significantly elevated energy prices, with EU households reportedly paying double what they paid a year ago for natural gas. The embargo on Russian oil and

other restrictions on the import of Russian energy inputs put forward as a reaction to the invasion are major contributors. So is the decision by Russia itself to restrict exports to Europe, a move that predated the sabotage of the Nord Stream pipelines. EU governments have been encouraging homes and businesses to reduce energy consumption to avoid power cuts. The risk of outright energy shortages and rationing this winter have diminished in recent weeks as the rapid run-up of LNG imports and forecasts for a mild winter likely make existing stockpiles of energy commodities sufficient. Over the medium term, however, Europe could still be looking at a severe disruption of its energy-intensive sectors.

Several policies designed to further limit purchases of Russian oil are scheduled to begin this winter. While our baseline forecast does not envision a spike in oil prices, if these measures prove effective in removing Russian oil from the market, at least temporarily, we could see one around the turn of the year. Alternatively, if the hot war transitions into a frozen conflict, some sanctions could be relaxed, lifted, or bypassed with little pushback, bringing more Russian oil onto the global markets and lowering prices significantly.

The risk of a major escalation in the war in Ukraine is very small in probability, but severe in its potential impact. If Russia escalates further, perhaps by using tactical nuclear weapons or inflicting serious damage to nuclear power plants, the U.S. and its allies would likely respond with at least a severe intensification of the ongoing economic warfare. Further sanctions on Russia and its allies, as well as countries who have been buying the bulk of Russia's oil redirected from Europe, would put additional stress on the global trade and political order.

Rising costs of living across the world also bring the risk of political instability and unsustainable political demands, which puts governments in a precarious position. Many are digging deep into their fiscal space to insulate vulnerable households. Rising deficits and global uncertainty, however, are already putting pressure on the valuation of currencies other than the US dollar. The recent experience of the British Pound may be a cautionary tale against further unsustainable deficits.

We expect the Fed to succeed in taming inflation via further increases in short-term interest rates and a reduction in the size of its balance sheet, but at the cost of a mild and brief recession. Still, even though the latest CPI report showed some improvement, we would like to see a more persistent decline

in inflation before we breathe sighs of relief. If the October inflation surprise proves to be a fluke followed by a strong rebound in inflation, higher than expected policy rates would be required to make a meaningful dent in inflation. In his most recent press conference, Chair Powell indicated a more cautious approach was possible, but also echoed that the Fed has a long way to go, and interest rates may need to go higher than the Fed previously thought. More restrictive monetary policy than we are anticipating would likely make the downturn we are projecting more severe. On the other hand, if the October report proves to be the first in a series of good inflation news, the Fed may end its tightening cycle earlier, boosting the outlook for interest-sensitive industries and possibly delivering the soft landing against the odds.

The rapid increase in interest rates on Treasury bonds—the lifeblood of the financial system—may lead to unpleasant surprises for financial stability. Coupled with the possibility of a more severe recession than we envision, along with further disruptions of energy markets and additional sharp changes in global currency values, the possibility of an upcoming episode of significant global financial stress should not be discounted.

We expect house prices to fall substantially but not catastrophically over the next year. If, however, the housing market sees a larger price correction, and distressed sales and mortgage defaults rise sharply, that would amplify the economic downturn in our forecast. It is also possible, however, that demand for housing proves more resilient. Throughout the pandemic, many signs have pointed to an increase in demand for physical space. If this shift proves permanent, the correction in the market could be less severe, with construction growth returning earlier than we currently project.

The much-hypothesized overshoot of service consumption that did not materialize this year may still come to pass. We believe it would require inflation to subside, wages to catch up to higher prices, and labor to migrate from the goods sector back into services, alleviating the service-sector labor shortage. Such a development could help the economy avoid recession.

At the time of this writing, it appears likely that Republicans will have won enough Congressional seats in the November 8 midterm elections to produce a divided government by the narrowest of margins. If Democrats somehow retain their majorities in Congress, a single-party government could lead to less fiscal consolidation than we are forecasting. Likewise, an extremely thin majority in one chamber of

Congress could disappear unexpectedly. Combined with the possibility of a swift reduction in inflation, the rest of the Build Back Better agenda could be resurrected, which could boost near-term GDP growth at the likely cost of larger deficits.

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

In keeping with our longstanding tradition, Table 3 shows RSQE's forecast record for real GDP/GNP growth.[6] The final row shows the evolution of our forecast for calendar year 2022 real GDP growth. With economic volatility significantly elevated due to the Russian invasion of Ukraine and lingering aftereffects of the pandemic, we will defer a detailed review of our forecast errors until a more tranquil economic time. Our November 2021 and February 2022 forecasts for calendar 2022 growth did not feature the war in Ukraine, and partially in consequence featured much tamer inflation projections and far less aggressive monetary policy. By August, two quarters of negative GDP prints, sharply higher inflation and energy prices, and dramatically higher longer-term interest rates had led to a hefty downward revision of our real GDP growth projection. In our present forecast, we have nudged the 2022 growth forecast up somewhat relative to August, reflecting better than expected third-quarter growth and a resilient labor market. Thus, we project an absolute forecast error of 2.1 percentage points for 2022.

[6] 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	5.6
1974	2.3	0.5	−1.1	−0.5
1975	−1.1	−2.3	−3.5	−0.2
1976	5.9	6.7†	6.2	5.4
1977	4.3	4.9	5.2	4.6
1978	3.6	4.1	3.5	5.5
1979	2.0	2.8	1.5	3.2
1980	−0.3	0.3†	−1.4	−0.3
1981	1.4	1.6	1.8	2.5
1982	1.1	−0.1	−1.3	−1.8
1983	3.4	3.2	3.2	4.6
1984	6.5	6.2	7.2	7.2
1985	3.8	4.6	2.5	4.2
1986	2.9	3.3	2.4	3.5
1987	3.3	3.2	2.5	3.5
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	1.9
1991	1.5	0.4	−0.1	−0.1
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	3.9
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	1.5
2012	2.4	2.2	2.2	2.3
2013	2.0	1.9	1.6	1.8
2014	2.7	2.6	2.1	2.3
2015	3.1	2.9	2.6	2.7
2016	2.6	2.3	1.5	1.7
2017	2.3	2.1	2.2	2.3
2018	2.5	2.6	2.9	2.9
2019	2.7	2.4	2.3	2.3
2020	1.7	2.1	−4.9	−2.8
2021	4.2	4.8	5.8	5.9
2022	4.0	4.1	1.5	1.9**

* 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 2022.