and timing. (See the box "Housing Services Inflation and Market Rent Measures" in Part 1.)

Employment and earnings across groups. A strong labor market over the past two years has been especially beneficial for historically disadvantaged groups of workers. As a result, many of the long-standing disparities in employment and wages by sex, race, ethnicity, and education have narrowed, and some gaps reached historical lows in 2023 and the first half of 2024. However, despite this narrowing, significant disparities in absolute levels across groups remain. (See the box "Employment and Earnings across Demographic Groups" in Part 1.)

Monetary policy independence, transparency, and accountability. Congress has established a statutory framework that specifies the long-run objectives of monetary policy—maximum employment and stable prices—and gives the Federal Reserve operational independence in conducting monetary policy. In this framework, the Federal Reserve makes determinations about the monetary policy actions that are most appropriate for achieving the dual-mandate goals that Congress has assigned to it. The Federal Reserve recognizes that independence is a trust given to it by Congress and the American people and that with independence comes the need to be transparent about, and accountable for, its monetary policy decisions. Transparency also improves monetary policy's effectiveness. The Federal Reserve promotes transparency by providing information about FOMC decisions through policy communications and a variety of publications. The means by which the Federal Reserve informs the American people about its monetary policy decisions include official FOMC statements, monetary policy reports, and Committee meeting minutes and transcripts, as well as speeches, press conferences, and congressional testimony given by Federal Reserve officials. (See the box "Monetary Policy Independence, Transparency, and Accountability" in Part 2.)

Federal Reserve's balance sheet and money markets. The size of the Federal Reserve's balance sheet has continued to decrease since February as the FOMC has reduced its securities holdings. Reserve balances, the largest liability on the Federal Reserve's balance sheet, and usage of the overnight reverse repurchase agreement facility—another Federal Reserve liability—both declined. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets" in Part 2.)

Monetary policy rules. Simple monetary policy rules, which prescribe a setting for the policy interest rate in response to the behavior of a small number of economic variables, can provide useful guidance to policymakers. With inflation easing over the past year, the policy rate prescriptions of most simple monetary policy rules have decreased recently and now call for levels of the federal funds rate that are close to or below the current target range for the federal funds rate. (See the box "Monetary Policy Rules in the Current Environment" in Part 2.)

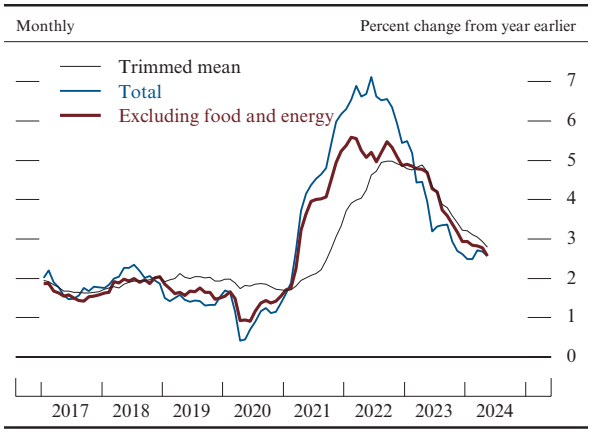
Part 1
Recent Economic and Financial Developments

Domestic Developments

Inflation eased notably last year and has shown modest further progress in recent months

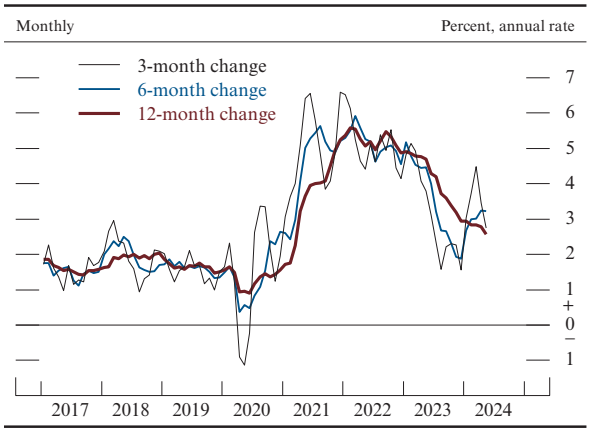
Inflation stepped down markedly last year and has shown modest further progress so far this year. Inflation remains elevated, though, and is still above the Federal Open Market Committee's (FOMC) longer-run objective of 2 percent. The price index for personal consumption expenditures (PCE) rose 2.6 percent over the 12 months ending in May, down from the 4.0 percent pace a year ago but little changed since the end of last year (figure 1). After having slowed markedly in the second half of 2023, monthly core PCE price inflation—which excludes food and energy prices and is generally considered a better guide to the direction of future inflation—firmed in the first quarter of this year and then eased somewhat in April and May. As a result, the 12-month change in core PCE prices declined from the 4.7 percent pace in May of last year to 2.9 percent in December and moved down further this year, to 2.6 percent in May (figure 2). A similar message is evident from the trimmed mean measure of PCE prices constructed by the Federal Reserve Bank of Dallas, which provides an alternative approach to reducing the influence of idiosyncratic price movements. The index increased 2.8 percent over the 12 months ending in May, a pace that is somewhat slower than at the end of last year (as shown in figure 1).

1. Personal consumption expenditures price indexes



Source: For trimmed mean, Federal Reserve Bank of Dallas; for all else, Bureau of Economic Analysis; all via Haver Analytics.

2. Core personal consumption expenditures price index

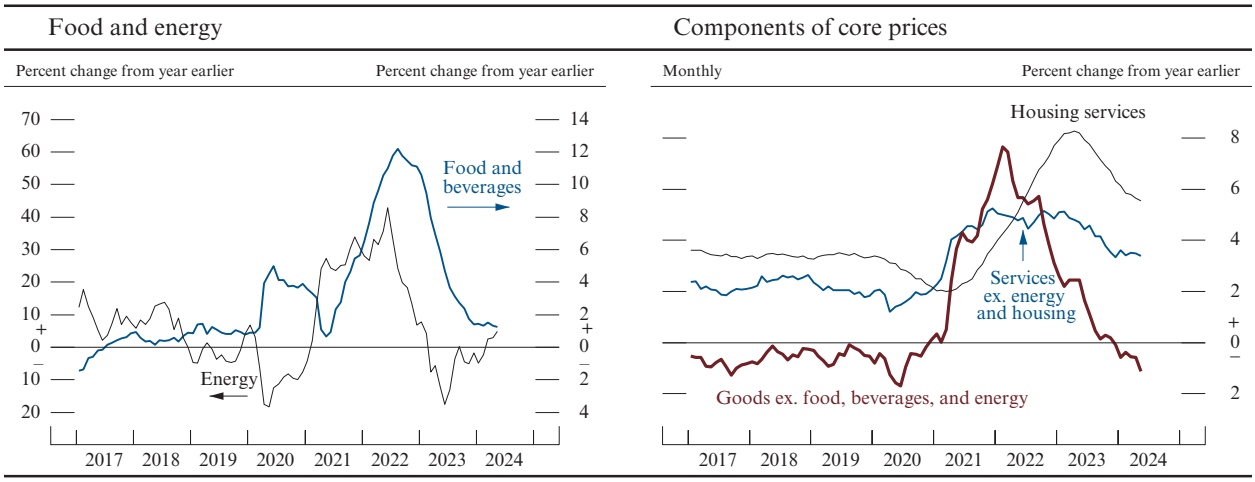


Source: Bureau of Economic Analysis, personal consumption expenditures via Haver Analytics.

Consumer energy prices have increased, while food price inflation has flattened out

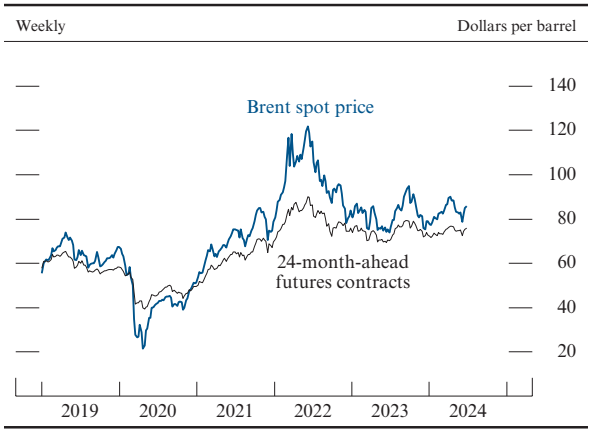
PCE energy prices increased 4.8 percent in the 12 months ending in May after having declined 12.3 percent over the preceding 12 months

3. Subcomponents of personal consumption expenditures price indexes



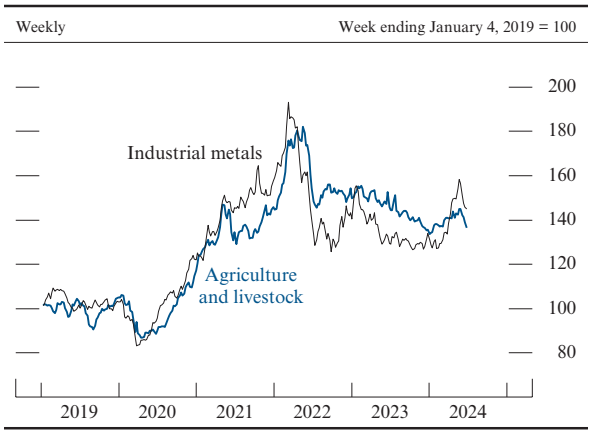
NOTE: The data are monthly.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

4. Spot and futures prices for crude oil



NOTE: The data are weekly averages of daily data and extend through June 28, 2024.
SOURCE: ICE Brent Futures via Bloomberg.

5. Spot prices for commodities



NOTE: The data are weekly averages of daily data and extend through June 28, 2024.
SOURCE: For industrial metals, S&P GSCI Industrial Metals Spot Index; for agriculture and livestock, S&P GSCI Agriculture & Livestock Spot Index; both via Haver Analytics.

(figure 3, left panel). Oil prices increased, on net, in the first half of this year (figure 4). Prices rose amid concerns about escalation of the conflict in the Middle East, additional costs of rerouting some oil shipping away from the Red Sea, and ongoing production cuts by OPEC (Organization of the Petroleum Exporting Countries) and its allies. Continuing geopolitical tensions, including tensions emanating from the conflicts in the Middle East and Ukraine, pose an upside risk to energy prices.

Prices of agricultural commodities and livestock edged up, on net, over the first half of this year after having come down markedly in 2022 and 2023 from the highs reached at the start of Russia's war on Ukraine in early 2022 (figure 5). As a result of these movements, the 12-month change in PCE food prices slowed substantially from its peak of 12.2 percent in August 2022 to just 1.2 percent in May (as shown in figure 3, left panel).

Prices of both energy and food products are of particular importance for lower-income households, for which such necessities account for a large share of expenditures. Reflecting the sharp increases seen in 2021 and 2022, these price indexes are 25 percent and 32 percent higher than in 2019, for food and energy, respectively.

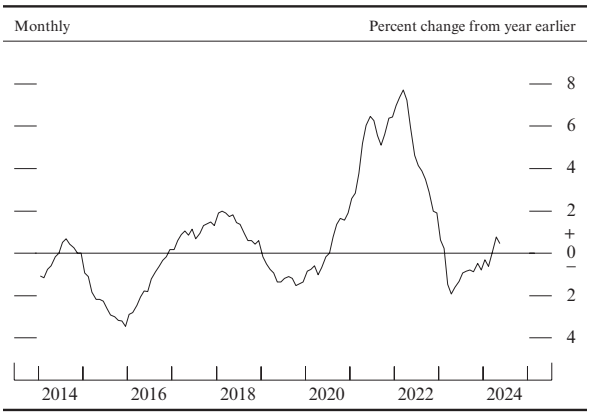
Core goods prices increased modestly this year after having declined sharply in the second half of 2023

In assessing the outlook for inflation, it is helpful to consider three separate components of core prices: core goods, housing services, and core nonhousing services. After posting notable declines in the second half of last year, core goods prices increased modestly, on net, over the first months of this year. This development likely reflects, in part, movements in nonfuel import prices, which turned up in recent months after having declined, on net, over 2023 (figure 6). Smoothing through these monthly movements, prices for core goods over the 12 months ending in May moved down 1.1 percent, similar to their pre-pandemic rate of decline, after having increased 2.5 percent over the previous 12-month period (figure 3, right panel). The progress on inflation for core goods reflects improvements in supply–demand imbalances. Indeed, the supply chain issues and other capacity constraints that had earlier boosted inflation so much continued to ease, though at a more gradual pace this year than over the past two years, and supply–demand conditions in goods markets appear to be relatively balanced. For example, the shares of respondents to the Quarterly Survey of Plant Capacity Utilization citing insufficient supply of labor or materials as reasons for producing below capacity, which had increased considerably during the pandemic, have continued to fall and are now near pre-pandemic levels (figure 7).

Housing services price inflation continued to slow gradually but remains elevated . . .

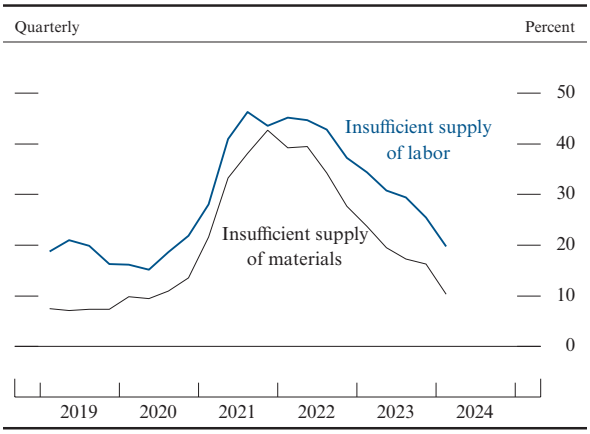
The 12-month change in housing services prices moved down from more than 8 percent in May 2023 to 5.5 percent in May of this year but is still well above its pre-pandemic level (as shown in figure 3, right panel). Market rent inflation, which measures increases in rents for *new* housing leases to *new* tenants, has fallen markedly since late 2022 to near pre-pandemic rates, and this slowdown points to continued easing of housing services inflation over the

6. Nonfuel import price index



SOURCE: Bureau of Labor Statistics via Haver Analytics.

7. Reasons for operating below full capacity



NOTE: The series are the share of firms selecting each reason for operating below full capacity.
SOURCE: U.S. Census Bureau: Quarterly Survey of Plant Capacity Utilization.

year ahead. (The box "Housing Services Inflation and Market Rent Measures" provides further details.)

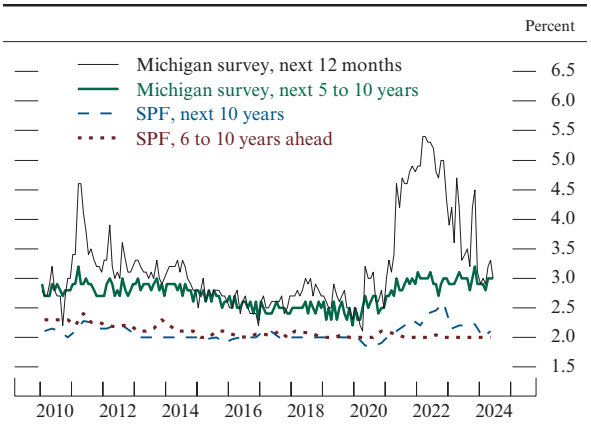
. . . while core nonhousing services price inflation flattened out so far this year

Finally, price inflation for core nonhousing services—a broad group that includes services such as travel and dining, financial services, and car repair—slowed last year but flattened out, on net, in the first five months of this year. Core nonhousing services prices rose 3.4 percent in the 12 months ending in May, down from 4.7 percent a year ago but little changed since the end of last year (as shown in figure 3, right panel). The lack of further progress this year is due in large part to price increases in volatile categories—for example, portfolio management services, which can be influenced by idiosyncratic factors, such as swings in the stock market, more than supply and demand conditions. Because labor is a significant input to these service sectors, the ongoing deceleration in labor costs—supported by softening labor demand and improvements in labor supply—suggests that disinflation will eventually resume for this category.

Measures of longer-term inflation expectations have been stable; shorter-term expectations have been volatile but are generally lower than a year earlier

The generally held view among economists and policymakers is that inflation expectations influence actual inflation by affecting wage- and price-setting decisions. Survey-based measures of expected inflation over a longer horizon have generally been moving sideways over the past year, within the range seen during the decade before the pandemic, and they appear broadly consistent with the FOMC's longer-run 2 percent inflation objective. This development is seen for surveys of households, such as the University of Michigan Surveys of Consumers, and for surveys of professional forecasters (figure 8). For example, the median forecaster in the Survey of Professional

8. Measures of inflation expectations



NOTE: The data for the Michigan survey are monthly and extend through June 2024. The Survey of Professional Forecasters (SPF) data are quarterly and extend through 2024:Q2.

SOURCE: University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia, SPF.

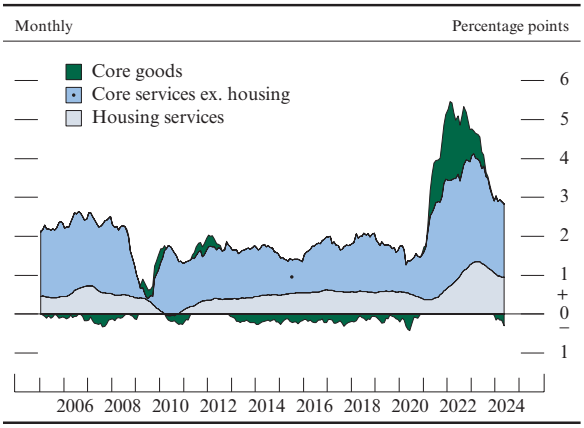
Housing Services Inflation and Market Rent Measures

The price index for housing services includes rents explicitly paid by renters as well as implicit rents that homeowners would have to pay if they were renting their homes known as owners' equivalent rent (OER). This index is an important component of the price index for personal consumption expenditures (PCE), composing about 15.5 percent of the total PCE price index. Housing services prices started accelerating in 2021, and, as figure A illustrates, the contribution of these prices to the 12-month change in the core PCE price index increased notably, reaching a peak of 1.4 percentage points in 2023. In May 2024, the contribution of this component stood at 1.0 percentage point, down from its peak but still well above the 0.5 percentage point that was typical before the COVID-19 pandemic.

The PCE price index for housing services is derived from two components of the consumer price index (CPI): rent of primary residence and OER.[1] The rent of primary residence index measures the average rent paid by tenants. OER estimates the rent that homeowners would pay if they were renting their homes without furnishings or utilities and is derived from rental data for units in the same neighborhood, with an adjustment for structure type.[2]

Because the price index for housing services measures average rent for all tenants—both new tenants and existing tenants—its changes are more subdued and tend to lag changes in rent measures for new leases, described later. Because rental agreements typically last for 12 months, most renters will not see an immediate increase in their rent even if the rent for new leases increases sharply. Additionally, the Bureau of Labor Statistics, the agency responsible for computing the CPI, reports that when rent increases occur for

A. Contributions to 12-month change in core personal consumption expenditures price index



SOURCE: Bureau of Economic Analysis via Haver Analytics; Federal Reserve Board staff calculations.

units, they are typically smaller for continuing tenants renewing their lease than they are for new tenants.[3]

This lag implies that measures of rent growth for new leases can help predict future changes in the PCE price index for housing services. Over the past few decades, private firms have started publishing various "market rent" measures that track the average rent for new leases by new tenants.[4] For example, the

(continued on next page)

1. The sum of the weights of these two components in the total CPI is 34.4 percent, considerably higher than their weight in the total PCE price index.

2. The typical structure type varies significantly across owner- and tenant-occupied units: Owner-occupied homes are mostly single-family units, while renter-occupied homes are roughly evenly divided between single-family and multifamily units. Constructing the OER measure involves reweighting the sample of rent quotes for a given area to reflect the relative importance of owner-occupied housing in that area. See slide 13 of Robert Cage (2019), "Measurement of Owner Occupied Housing in the U.S. Consumer Price Index" (Washington: Bureau of Labor Statistics, November 15), https://www.bea.gov/system/files/2019-11/bea_tac_nov2019_cage.pdf.

3. See Ben Houck (2022), "Housing Leases in the U.S. Rental Market," *Spotlight on Statistics* (Washington: Bureau of Labor Statistics, September), https://www.bls.gov/spotlight/2022/housing-leases-in-the-u-s-rental-market/home.htm.

4. PCE prices for housing services differ from these market rent measures for reasons beyond the fact that market rent measures are limited to new leases to new tenants. In addition, the discrepancy arises from the methodology used for index construction (for example, the rent measures used in the PCE price index sample a given residence only once every six months), the representativeness of the sample, and the way in which the measure controls for quality adjustments. Moreover, market rent measures capture the "asking" prices posted by landlords, while the rent measures used in the PCE price index gauge the rent that tenants actually pay. Among these factors, whether all leases are used (as opposed to only new leases) appears to be the main contributor to this discrepancy. See Brian Adams, Lara Loewenstein, Hugh Montag, and Randal Verbrugge (2024), "Disentangling Rent Index Differences: Data, Methods, and Scope," *American Economic Review: Insights,* vol. 6 (June), pp. 230–45.

Housing Services Inflation *(continued)*

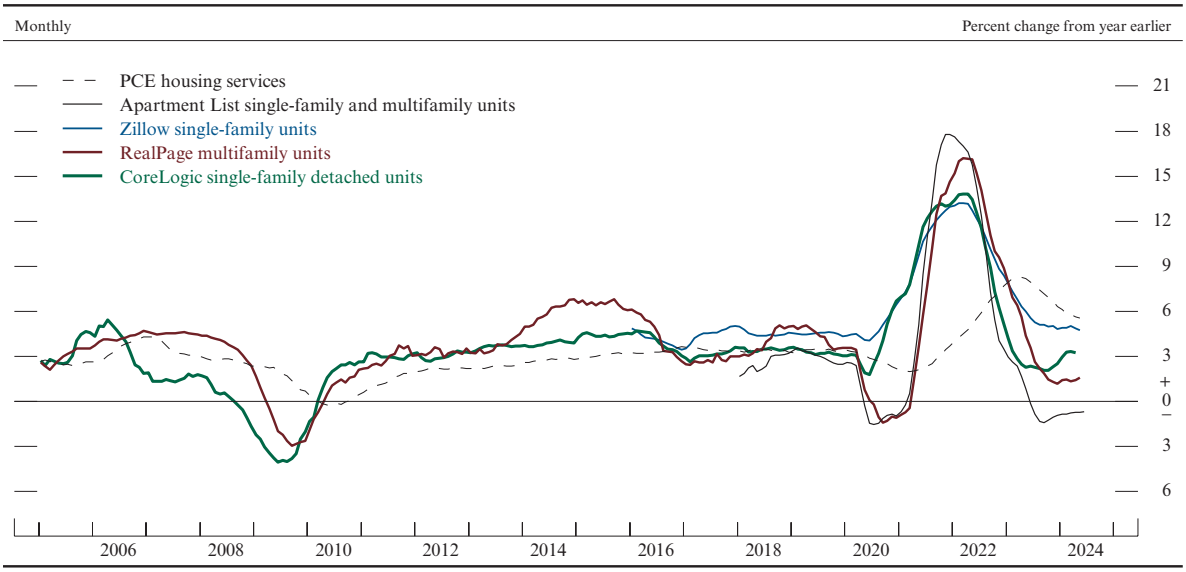
CoreLogic Single-Family Rent Index measures changes in average market rents for single-family homes. Other measures include the Zillow, Apartment List, and RealPage indexes, which vary in terms of the type of unit they cover (single-family versus multifamily), their methodologies, and the representativeness of the national rental market.[5]

Figure B illustrates that, historically, the year-over-year change in market rents is an informative leading indicator for the year-over-year change in PCE housing

(continued)

5. The Zillow Observed Rent Index for single-family residences, available beginning in 2015, focuses on changes in asking rents for single-family units. The RealPage Rent Index, available beginning in 1996, measures changes in average market rents across professionally managed multifamily apartment buildings. The Apartment List National Rent Index, available beginning in 2017, measures changes in median market rents across the entire rental market for both single-family and multifamily units. To calculate unit-level rent growth, all these measures, including the CoreLogic index, use the repeat-rent methodology to control for differences in property characteristics among the units listed for rent in different periods.

B. Housing rents



NOTE: CoreLogic data extend through April 2024, Zillow data start in January 2016, and Apartment List data start in January 2018 and extend through June 2024. Zillow, CoreLogic, Apartment List, and RealPage measure market-rate rents—that is, rents for a new lease by a new tenant. PCE is personal consumption expenditures.

SOURCE: Bureau of Economic Analysis, PCE, via Haver Analytics; CoreLogic, Inc.; Zillow, Inc.; Apartment List, Inc. via Haver Analytics; RealPage, Inc.; Federal Reserve Board staff calculations.

services prices, with the market rent measure typically leading the PCE measure by one year.[6] This relationship is particularly evident in the periods following the Great Recession and the COVID-19 pandemic. For example, PCE housing services inflation reached a peak of 8.3 percent in April 2023, exactly one year after the 12-month change for the CoreLogic index reached its peak of 13.8 percent.

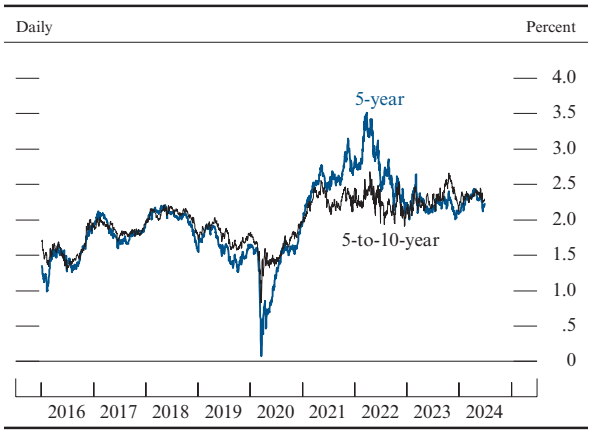
Since mid-2022, each of these measures of market rents has decelerated and returned to a growth rate similar to or below its average pre-pandemic pace.[7] While the PCE price index for housing services also began decelerating in mid-2023, its current rate of increase remains well above the average rate seen in the years before the pandemic. As noted earlier, changes in the PCE price index for housing services tend to lag changes in market rents because rental contracts typically last for a year and rents for existing tenants take some time to catch up to the rents charged to new tenants. In particular, the rise in measures of market rents, including the CoreLogic Single-Family Rent Index and the Zillow Observed Rent Index, from the onset of the pandemic until now has been larger than the corresponding increase in the PCE price index for housing services, suggesting that the PCE price measure has not yet fully caught up with the current state of the rental market.[8] However, as long as market rents continue to increase moderately, PCE housing services inflation should gradually decline and eventually return to its pre-pandemic pace as well. However, significant uncertainty remains regarding the timing of this decline and whether market rent inflation will, in fact, remain moderate.

6. Several studies use market rent measures to predict housing services inflation. See, for instance, Marijn A. Bolhuis, Judd N.L. Cramer, and Lawrence H. Summers (2022), "The Coming Rise in Residential Inflation," *Review of Finance,* vol. 26 (September), pp. 1051–72; and Kevin J. Lansing, Luiz E. Oliveira, and Adam Hale Shapiro (2022), "Will Rising Rents Push Up Future Inflation?" FRBSF Economic Letter 2022-03 (San Francisco: Federal Reserve Bank of San Francisco, February), https://www.frbsf.org/wp-content/uploads/sites/4/el2022-03.pdf.

7. In addition, the Bureau of Labor Statistics has recently started publishing a quarterly rent index for new tenants (the New Tenant Rent Index). While the New Tenant Rent Index is subject to revision with each release, the year-over-year growth of this index declined from its peak of 12.9 percent in the second quarter of 2022 to 0.4 percent in the first quarter of 2024, the lowest reading since the second quarter of 2010. See Bureau of Labor Statistics (n.d.), "New Tenant Rent Index," webpage, https://www.bls.gov/pir/new-tenant-rent.htm.

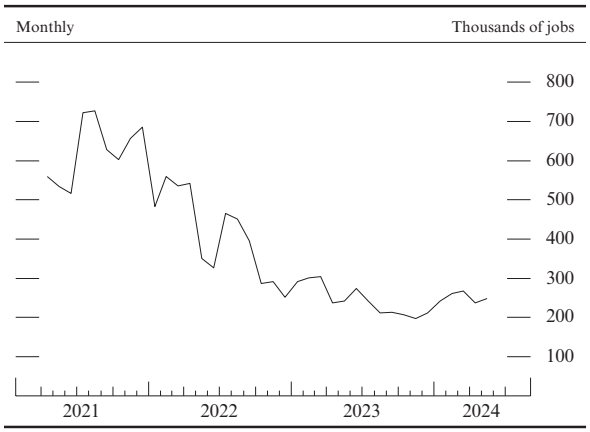
8. Between January 2020 and April 2024, the CoreLogic Single-Family Rent Index and the Zillow Observed Rent Index have increased 32 percent and 38 percent, respectively, while PCE prices for housing services have increased 23 percent. See Christopher D. Cotton (2024), "A Faster Convergence of Shelter Prices and Market Rent: Implications for Inflation," Current Policy Perspectives 2024-4 (Boston: Federal Reserve Bank of Boston, June), https://www.bostonfed.org/-/media/Documents/Workingpapers/PDF/2024/cpp20240617.pdf.

9. Inflation compensation implied by Treasury Inflation-Protected Securities



NOTE: The data are at a business-day frequency and are estimated from smoothed nominal and inflation-indexed Treasury yield curves.
SOURCE: Federal Reserve Bank of New York; Federal Reserve Board staff calculations.

10. Nonfarm payroll employment



NOTE: The data shown are a 3-month moving average of the change in nonfarm payroll employment.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

Forecasters, conducted by the Federal Reserve Bank of Philadelphia, continued to expect PCE price inflation to average 2 percent over the five years beginning five years from now.

Inflation expectations over a shorter horizon—which tend to follow observed inflation more closely and tend to be more volatile—have moved down, on net, since the middle of 2022 to near the range seen during the decade before the pandemic. In recent months, the median value for inflation expectations over the next year as measured in the Michigan survey has been generally lower than readings from a year earlier. Similarly, expected inflation for the next year as measured in the Survey of Consumer Expectations, conducted by the Federal Reserve Bank of New York, has also declined, on average, from a year earlier.

Market-based measures of longer-term inflation compensation, which are based on financial instruments linked to inflation such as Treasury Inflation-Protected Securities, are also broadly in line with readings seen in the years before the pandemic and consistent with PCE inflation returning to 2 percent. These measures have been little changed, on net, since the beginning of the year (figure 9).

The labor market remains strong

Payroll employment gains have been strong, averaging 248,000 per month over the first five months of the year. Job gains slowed from the first half to the second half of last year but appear to have picked up, on net, so far this year (figure 10). Recent job gains have been broad based, with over 60 percent of industries expanding their employment, on net, over the three months ending in May. That said, gains have been particularly strong in health care and in state and local governments, where employment remains below the levels implied by pre-pandemic trends.[2]

2. Administrative data from the Quarterly Census of Employment and Wages (QCEW) suggest that job growth last year was solid, but not as strong as reported in the Current Employment Statistics (CES). The CES

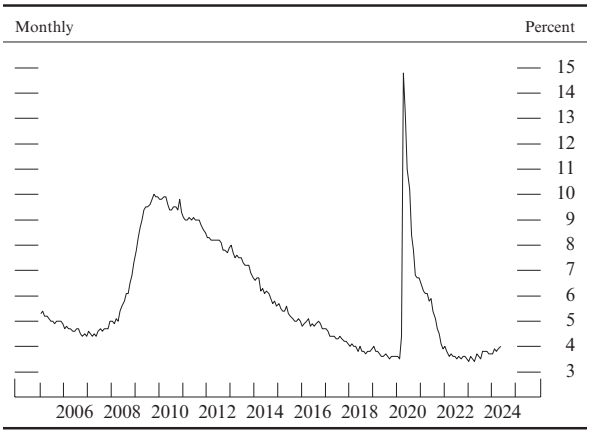
The unemployment rate has edged up since the middle of 2023 but was still at a historically low level of 4.0 percent in May. Through May, the unemployment rate has remained at or below 4 percent for over two years (figure 11). Unemployment rates among most age, educational attainment, sex, and ethnic and racial groups remain near their respective historical lows (figure 12).

Labor demand has been gradually cooling . . .

Demand for labor remained strong in the first half of 2024 but has continued to cool gradually, on net, from its very elevated levels of early 2022. Job openings, as measured in the Job Openings and Labor Turnover Survey (JOLTS), have continued to fall from their all-time high recorded in March 2022 but are

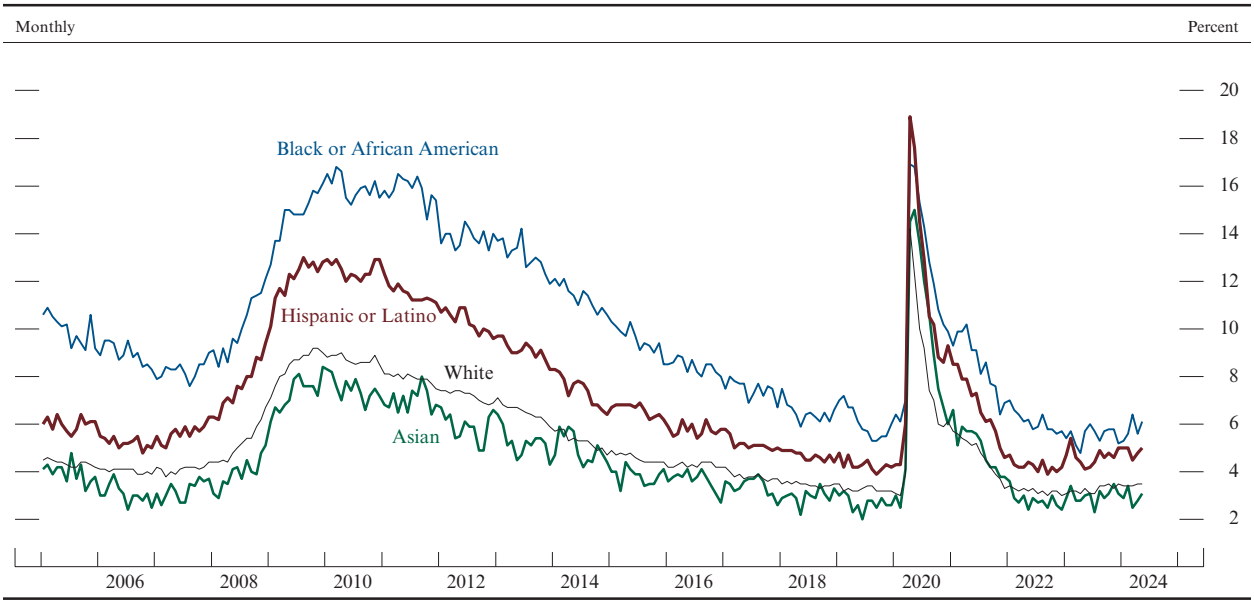
payroll data will be revised in early 2025, when the Bureau of Labor Statistics benchmarks these data to employment counts from the QCEW as part of its annual benchmarking process.

11. Civilian unemployment rate



SOURCE: Bureau of Labor Statistics via Haver Analytics.

12. Unemployment rate, by race and ethnicity



NOTE: Unemployment rate measures total unemployed as a percentage of the labor force. Persons whose ethnicity is identified as Hispanic or Latino may be of any race. Small sample sizes preclude reliable estimates for Native Americans and other groups for which monthly data are not reported by the Bureau of Labor Statistics.

SOURCE: Bureau of Labor Statistics via Haver Analytics.

still slightly above pre-pandemic levels.[3] An alternative measure of job vacancies using job postings data from the large online job board Indeed also shows that while vacancies have proceeded to move gradually lower through the first half of 2024, they have remained above pre-pandemic levels.[4] Consistent with the decline in job vacancies, the National Federation of Independent Business (NFIB) survey indicated that on net, in May, fewer firms planned to add workers over the next three months than was the case at the end of 2023; firms' hiring plans reported in the NFIB survey have been trending down since the middle of 2021.

The cooling in labor demand has been mostly due to reductions in firm hiring, as indicators of layoffs, such as initial claims for unemployment insurance and the rate of layoffs and discharges in the JOLTS report, have remained at historically low levels.

. . . and labor supply has increased further . . .

Meanwhile, the supply of labor has continued to increase on net. While labor force participation has leveled off over the past year, the U.S. population increased strongly because of high levels of immigration.

The labor force participation rate (LFPR)—which measures the share of people either working or actively seeking work—increased solidly from the beginning of 2021 through the middle of 2023 but appears to have

3. Some analysts have noted that the vacancy-posting behavior of firms may have changed since 2019 in ways that lift the number of vacancies. For example, multi-establishment firms may be posting vacancies for a single job opening at several or all of its establishments if the new job allows workers to work remotely from any establishment. These multiple job postings may result in overcounting of job vacancies in establishment-level measures, such as those from JOLTS and Indeed. Alternatively, after having experienced an exceptionally strong labor market in 2022, firms may now be more willing to post vacancies for positions that they are unlikely to fill immediately.

4. Indeed job postings data are available on the company's Hiring Lab portal at https://data.indeed.com/#/postings.

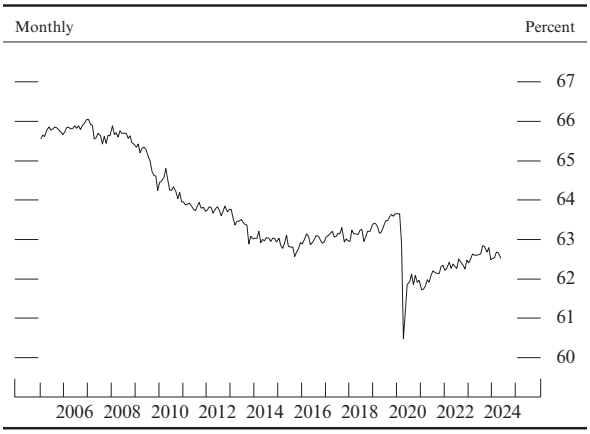
flattened out at a relatively high level since then. The LFPR was 62.5 percent in May, a touch below its average level over the past 12 months (figure 13). Notably, the post-pandemic recovery in the LFPR has differed widely across demographic groups, with the participation rate for women aged 25 to 54 reaching all-time highs in recent months and the participation rate for individuals older than 55 exhibiting no signs of recovery. (The box "Employment and Earnings across Demographic Groups" provides further details.)

Labor supply has also been boosted in recent years by relatively strong population growth due to a notable expansion in immigration. Though official estimates by the Census Bureau show a robust increase in population growth in 2022 and 2023, recent estimates by the Congressional Budget Office indicate that actual population growth may have been considerably higher. The most recent data suggest that immigration is somewhat slower than the strong rates seen late last year.[5]

. . . resulting in a normalization of labor market conditions

With cooling labor demand and rising labor supply, the labor market became gradually less tight over the first half of this year, although it nevertheless remains strong. The balance between demand and supply in the labor market appears similar to that during the period immediately before the pandemic.

13. Labor force participation rate



NOTE: Data are monthly, and values before January 2024 are estimated by Federal Reserve Board staff in order to eliminate discontinuities in the published history.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

5. A recent report from the Congressional Budget Office (CBO) estimates that immigration in 2022 and 2023 was considerably higher than in the Census Bureau's estimates. See Congressional Budget Office (2024), *The Demographic Outlook: 2024 to 2054* (Washington: CBO, January), https://www.cbo.gov/publication/59697. Recent studies have put more weight on the CBO estimates, in part because the Census Bureau is using lagged estimates of immigration from the American Community Survey, while the CBO is using more recent, high-frequency data. See Wendy Edelberg and Tara Watson (2024), "New Immigration Estimates Help Make Sense of the Pace of Employment," Hamilton Project (Washington: Brookings Institution, March), https://www.brookings.edu/wp-content/uploads/2024/03/20240307_ImmigrationEmployment_Paper.pdf.

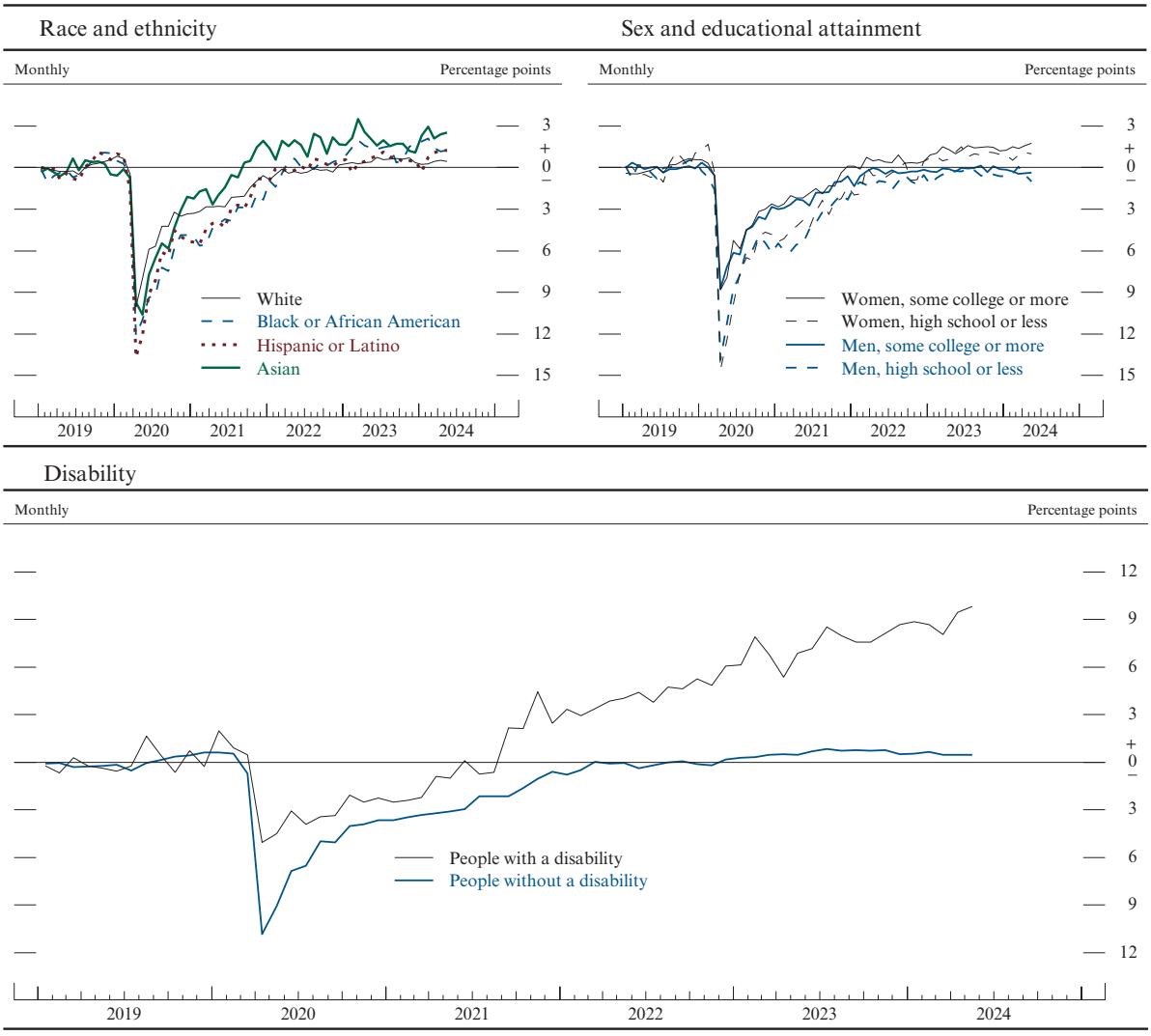
Employment and Earnings across Demographic Groups

At the aggregate level, solid labor demand and improved labor supply, together with ongoing gains in productivity and falling inflation, have resulted in high rates of employment and rising real wages over the past year. This solid labor market performance has been broadly shared and has been especially beneficial for historically disadvantaged groups of workers. As a result, many of the long-standing disparities in employment and wages by sex, race, ethnicity, and education have narrowed, and some gaps reached historical lows in 2023 and the first half of 2024. However, despite this narrowing, significant disparities in absolute levels across groups remain.

Among prime-age people (aged 25 to 54), the employment-to-population (EPOP) ratio for Black or African American workers remained near its historical peak in the first half of 2024, and the gap in the EPOP ratio between prime-age Black and white workers fell to its lowest point in almost 50 years. Similarly, prime-age Hispanic or Latino workers' EPOP ratio has increased notably over the first part of 2024 and is now more than 1 percentage point above its 2019 level (figure A, top-left panel). That improvement has further reduced the EPOP ratio gap between Hispanic or Latino workers and white workers from already

(continued)

A. Prime-age employment-to-population ratios compared with the 2019 average ratio, by group



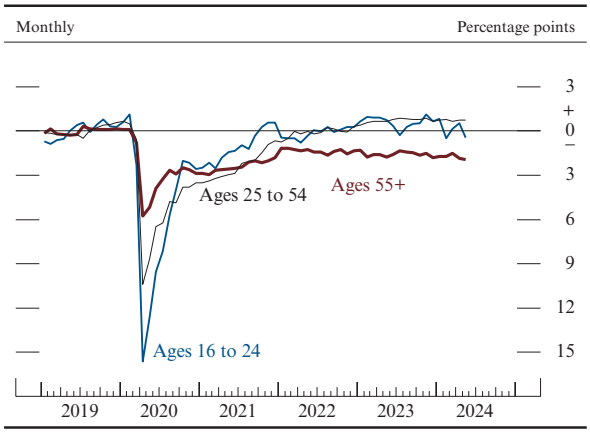
NOTE: Prime age is 25 to 54. All series are seasonally adjusted by the Federal Reserve Board staff.
SOURCE: Bureau of Labor Statistics; U.S. Census Bureau, Current Population Survey; Federal Reserve Board staff calculations.

historically low levels. Although the EPOP ratio for prime-age Asian workers has moved somewhat lower over the past year, it remains historically high and above its 2019 level.[1]

The EPOP ratio for prime-age women has continued to increase steadily, reaching another record high in the first few months of 2024, whereas the EPOP ratio for prime-age men has been mostly flat over the past year, near its level in the year before the pandemic (figure A, top-right panel). As a result, the EPOP ratio gap between prime-age men and women fell to a record low this year. The increase in the female EPOP ratio relative to the pre-pandemic period is (almost) entirely attributable to rising labor force participation, which had also been increasing briskly before the pandemic, consistent with a growing share of women with a college degree.[2] Other factors, including strong labor market conditions and greater availability of remote-work options, may have also contributed to rising prime-age female labor force participation.[3]

Among prime-age persons with a disability, the EPOP ratio has surged well above its 2019 level during the past few years (figure A, bottom panel). Some of this increase is likely due to the unique labor market circumstances of the past few years. With tight labor market conditions, employers may have been relatively more likely to hire persons with a disability than in other times. Additionally, the rise of remote work may have enabled persons with a disability to work without the challenges of on-site work. However, some of the increase could stem from a change in the composition of this group, as the number of persons with a disability rose following the pandemic, which may have raised the average employment rate for this group.[4] For persons without a disability, the EPOP ratio is little changed from its 2019 level.

B. Employment-to-population ratios relative to 2019 average, by age



NOTE: Data before January 2023 are estimated by Federal Reserve Board staff in order to eliminate discontinuities in the published history.
SOURCE: Bureau of Labor Statistics; U.S. Census Bureau, Current Population Survey; Federal Reserve Board staff calculations.

Although most groups have shown robust employment gains over the past few years, the EPOP ratio for people aged 55 or older remains approximately 2 percentage points below its 2019 level and has changed little since late 2021 (figure B). This shortfall is attributable to a persistent increase in the rate of retirement among this group. Most of the increase in retirement relative to 2019 is due to the continued aging of the baby-boom generation, a trend that was expected to have occurred even without the pandemic.[5] However, retirements have also been

(continued on next page)

1. As monthly series have greater sampling variability for smaller groups, we do not plot EPOP ratio estimates for American Indians or Alaska Natives.
2. For a discussion of the contribution of educational attainment to prime-age female labor force participation before the pandemic, see Didem Tüzemen and Thao Tran (2019), "The Uneven Recovery in Prime-Age Labor Force Participation," Federal Reserve Bank of Kansas City, *Economic Review*, vol. 104 (Third Quarter), pp. 21–41, https://www.kansascityfed.org/Economic%20Review/documents/652/2019-The%20Uneven%20Recovery%20in%20Prime-Age%20Labor%20Force%20Participation.pdf.
3. For a discussion on access to remote work and participation rates, see Maria D. Tito (2024), "Does the Ability to Work Remotely Alter Labor Force Attachment? An Analysis of Female Labor Force Participation," FEDS Notes (Washington: Board of Governors of the Federal Reserve System, January 19), https://doi.org/10.17016/2380-7172.3433.
4. The increase in the number of persons with a disability may be linked to cases of long COVID, which, while debilitating, might not limit work as much as other types of disabilities. As a result, an influx of relatively higher-employment individuals into the disabled category could have raised employment rates for this group even if no individual's employment changed.
5. For example, as baby boomers have continued to age, the median age of the population aged 55 or older increased from 66 in 2019 to 67 in the first half of 2024, and the median age of that group is expected to continue increasing into the future. This shift in the composition of the 55-or-older population has naturally lowered the observed EPOP ratio for this group nearly 0.5 percentage point per year, as EPOP ratios are lower at older ages.

Employment and Earnings *(continued)*

elevated above the level expected from aging alone, mostly for individuals aged 65 or older.[6]

While employment disparities across many demographic groups are now within historically narrow ranges, substantial gender, racial, and ethnic gaps remain, underscoring long-standing structural factors. Currently, prime-age women are employed at a rate 10 percentage points less than men, while prime-age Black and Hispanic workers are employed at a rate 3 to 4 percentage points less than white workers.

Similar to employment, a continued strong labor market has supported strong nominal wage growth, and as inflation has come down, that strong nominal wage growth has translated into higher real wage growth. Real wage growth has been comparatively robust for historically disadvantaged groups. As shown in the top-left panel of figure C, real wage growth—as measured by the Federal Reserve Bank of Atlanta's Wage Growth Tracker and deflated by the personal consumption expenditures price index—was consistently stronger for workers in lower wage quartiles compared with the top quartiles during the pandemic and early recovery, but now all quartiles are experiencing similar growth.[7]

Strong wage growth across the income distribution is reflected in the experiences of different demographic groups. Wage growth for nonwhite workers has been a bit stronger than that for white workers for much of the past year (figure C, top-right panel). Wages for women and men have grown essentially in tandem over the past year (figure C, bottom-left panel).[8] Real wage growth for workers with a high school diploma or less remains strong and has been rising a bit faster than for workers with more education, on average, over the past few years (figure C, bottom-right panel).

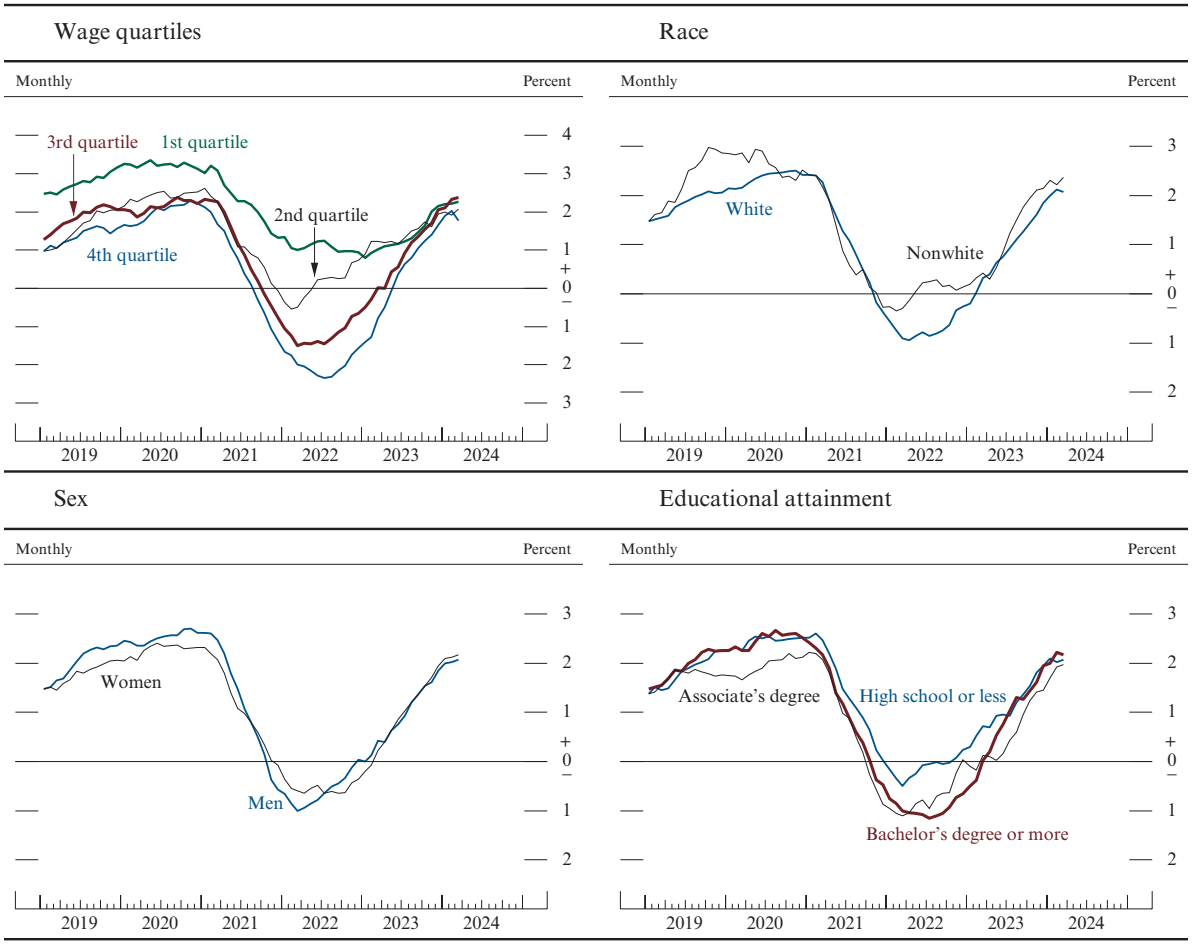
(continued)

6. For an analysis on the increase in retirements following the pandemic, see Joshua Montes, Christopher Smith, and Juliana Dajon (2022), " 'The Great Retirement Boom': The Pandemic-Era Surge in Retirements and Implications for Future Labor Force Participation," Finance and Economics Discussion Series 2022-081 (Washington: Board of Governors of the Federal Reserve System, November), https://doi.org/10.17016/FEDS.2022.081.

7. To reduce noise due to sampling variation, which can be pronounced when considering disaggregated groups' wage changes, the series shown in figure C are the 12-month moving averages of the groups' median 12-month real wage changes. Thus, by construction, these series lag the actual real wage changes. Wage data extend through March 2024 only to avoid complications stemming from changes in the underlying data source.

8. The measure of real wage growth shown in the figure uses the same price index for all groups, but inflation experiences can differ across demographic groups because of differences in what they purchase or where they shop. See Jacob Orchard (2021), "Cyclical Demand Shifts and Cost of Living Inequality," working paper, February (revised September 2022).

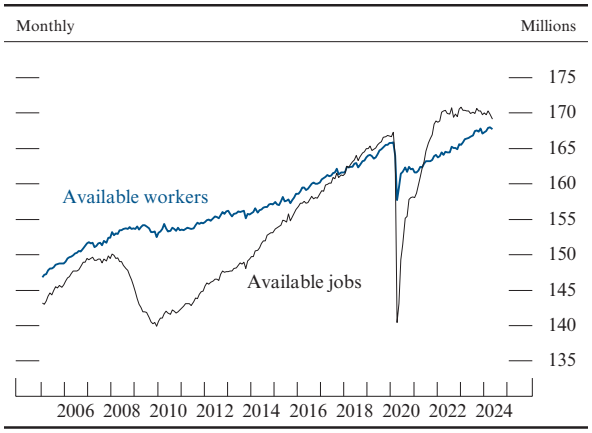
C. Median real wage growth, by group



NOTE: The data extend through March 2024. Series show 12-month moving averages of the median percent change in the hourly wage of individuals observed 12 months apart, deflated by the 12-month moving average of the 12-month percent change in the personal consumption expenditures price index. In the top-left panel, workers are assigned to wage quartiles based on the average of their wage reports in both Current Population Survey outgoing rotation group interviews; workers in the lowest 25 percent of the average wage distribution are assigned to the 1st quartile, and those in the top 25 percent are assigned to the 4th quartile.

SOURCE: Federal Reserve Bank of Atlanta, Wage Growth Tracker; Bureau of Labor Statistics; U.S. Census Bureau, Current Population Survey.

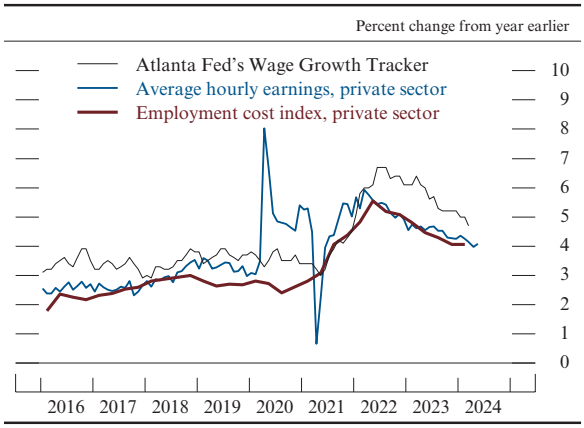
14. Available jobs versus available workers



NOTE: Available jobs are employment plus job openings as of the end of the previous month. Available workers are the labor force. Data for employment and labor force before January 2024 are estimated by Federal Reserve Board staff in order to eliminate discontinuities in the published history.

SOURCE: Bureau of Labor Statistics via Haver Analytics; U.S. Census Bureau; Federal Reserve Board staff calculations.

15. Measures of change in hourly compensation



NOTE: For the private-sector employment cost index, change is over the 12 months ending in the last month of each quarter; for private-sector average hourly earnings, the data are 12-month percent changes; for the Atlanta Fed's Wage Growth Tracker, the data are shown as a 3-month moving average of the 12-month percent change and extend through March 2024.

SOURCE: Bureau of Labor Statistics; Federal Reserve Bank of Atlanta, Wage Growth Tracker; all via Haver Analytics.

A variety of labor market indicators support this assessment. The ratio of job openings to unemployment has fallen notably from its peak of about 2.0 in spring 2022 to 1.2 in May, the same as its average in 2019. Similarly, the gap between the number of total available jobs (measured by employed workers plus job openings) and the number of available workers (measured by the size of the labor force) has also moved down markedly from its peak of 6.1 million in spring 2022 to 1.4 million in May and is only a bit above its 2019 average of 1.2 million (figure 14). The unemployment rate has continued to edge up this year and reached 4.0 percent in May, modestly higher than in 2019. In addition, the percentage of workers quitting their jobs each month, an indicator of the availability of attractive job prospects, has continued to move down this year and, though still elevated, is now modestly below its pre-pandemic level. Similarly, the share of respondents to the Conference Board Consumer Confidence Survey reporting that jobs are plentiful has continued to move down and is somewhat lower than its level in 2019. Furthermore, the NFIB survey indicates that firms' perceptions of labor market tightness have come down from their recent peaks and returned to their pre-pandemic range. Finally, business contacts surveyed for the Federal Reserve's May 2024 Beige Book reported signs of a cooling labor market—including easing in hiring plans, better labor availability, and modest wage growth—and, similar to 2019, cited some difficulty finding workers in selected industries or areas.[6]

Wage growth remains elevated but has slowed

Consistent with the easing in labor market tightness, nominal wage growth continued to slow so far this year, though it remains above its pre-pandemic pace and likely too high, given productivity trends, to be consistent with 2 percent inflation over time (figure 15). Total hourly compensation, as measured by the

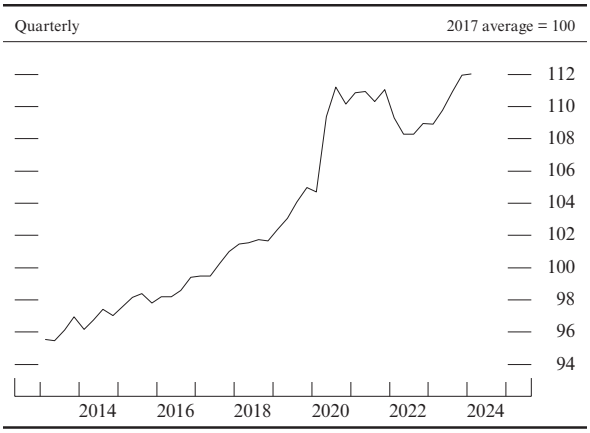
6. See the May 2024 Beige Book, available on the Board's website at https://www.federalreserve.gov/monetarypolicy/beigebook202405.htm.

employment cost index, increased 4.1 percent over the 12 months ending in March, a noticeable slowing from the peak increase of 5.5 percent in mid-2022. Other aggregate measures of labor compensation, such as average hourly earnings (a less comprehensive measure of compensation) and the Federal Reserve Bank of Atlanta's Wage Growth Tracker (which reports the median 12-month wage growth of individuals responding to the Current Population Survey), have also continued to slow from their recent peaks in 2022 but remain well above their pre-pandemic growth rates. Wage growth has not normalized to the same extent as the measures of labor market tightness cited earlier, suggesting that there is some persistence in the adjustment process to past shocks. With PCE prices having risen 2.6 percent over the 12 months through May, these nominal wage measures suggest that most workers saw increases in the purchasing power of their wages over the past year.

Labor productivity has increased at a moderate pace with significant volatility

The extent to which nominal wage gains raise firms' costs and act as a source of inflation pressure depends importantly on the pace of productivity growth. Labor productivity in the business sector—the ratio of output to hours worked—has been extremely volatile since the pandemic began. It increased sharply in 2020, moved roughly sideways in 2021, declined strongly in 2022, and then rebounded solidly in 2023 (figure 16). Averaging through these large swings, business-sector productivity has increased at a moderate annual average rate of 1½ percent since the onset of the pandemic, in line with the average rate of growth observed during the previous business cycle (from the fourth quarter of 2007 to the fourth quarter of 2019).

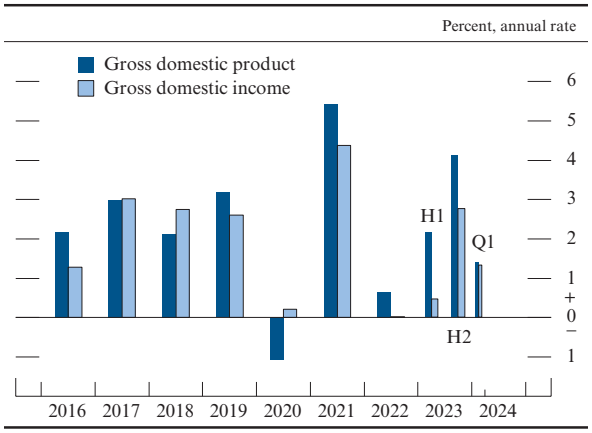
16. U.S. labor productivity



NOTE: The data are output per hour in the business sector.
SOURCE: Bureau of Labor Statistics via Haver Analytics.

The pace of future productivity growth is highly uncertain. It is possible that productivity growth could remain at around its current moderate pace. However, it is also possible that the rapid adoption of new technologies like artificial intelligence (AI)

17. Change in real gross domestic product and gross domestic income



NOTE: The key identifies bars in order from left to right.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

and robotics, as well as the high rate of new business formation brought about by the pandemic, could boost productivity growth above that pace in coming years.

Growth in gross domestic product moderated in the first quarter, but private domestic demand remained solid

After expanding at a robust pace in the second half of last year despite restrictive financial conditions, real gross domestic product (GDP) decelerated to a moderate annual growth rate of 1.4 percent in the first quarter of this year (figure 17). The step-down was due in large part to sizable drags from net exports and inventory investment; these categories of expenditures tend to be volatile even in normal times and have been even more so since the pandemic. Growth in private domestic final purchases—that is, consumer spending, business fixed investment, and residential investment—also moderated in the first quarter but remained solid.[7] Among these components of GDP, consumer spending rose strongly in the second half of last year and decelerated in the first quarter as goods spending declined while services spending continued to rise solidly. Business fixed investment increased at a moderate pace in the first quarter as a result of strength in nontransportation equipment spending and intellectual property investment, while nonresidential structures slowed after surging in 2023. Residential investment grew rapidly in the first quarter, reflecting, for the most part, increases in existing home sales and construction of single-family homes.

7. Real gross domestic income (GDI) has been notably weaker than GDP in recent years; both series measure the same economic concept, and any difference between the two figures reflects measurement error in one or both series. GDI is reported to have increased at a pace only slightly slower than GDP in the first quarter but had risen notably less than GDP over the previous three years. As a result, productivity calculated from the income side of the national accounts would be considerably weaker than the published figures over the past three years.

After having returned to pre-pandemic levels in late 2021, manufacturing output has been little changed, on net, since then. While motor vehicle production has continued to rebound from earlier disruptions, factory production outside of motor vehicles has drifted down somewhat. The diffusion indexes of new orders from various national and regional surveys of manufacturers remained mostly soft in June, suggesting continued modest weakness in coming months.

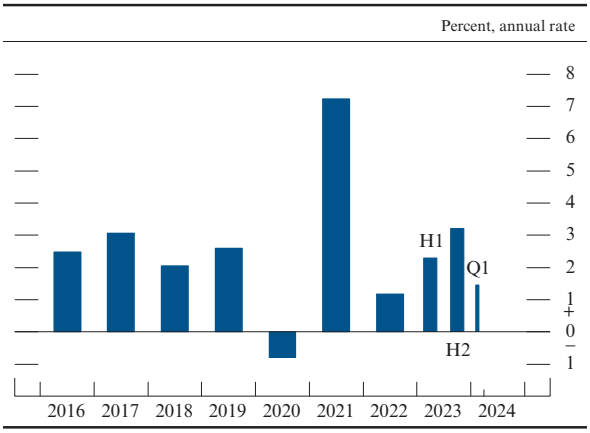
Consumer spending growth has been resilient but eased this year

Consumer spending adjusted for inflation grew at a solid rate of 2.7 percent in 2023 but slowed in the first quarter to a moderate 1.5 percent pace (figure 18). The resilience in consumer spending last year in the face of high interest rates likely reflected strong job gains and rising real wages. Indeed, real disposable personal income increased at a robust 3.8 percent rate in 2023. In addition, last year's spending was bolstered by households drawing down their liquid assets, such as checking accounts, and relying more on credit.

More recently, the easing in consumer spending growth in the first quarter was accompanied by a softening in some household spending fundamentals along with somewhat restrictive financial conditions. Disposable personal income growth moderated in the first quarter after a robust pace last year. While household finances appear healthy in the aggregate, credit card and auto loan delinquencies continued to rise in the first quarter, suggesting that a growing share of households are experiencing some financial stress.

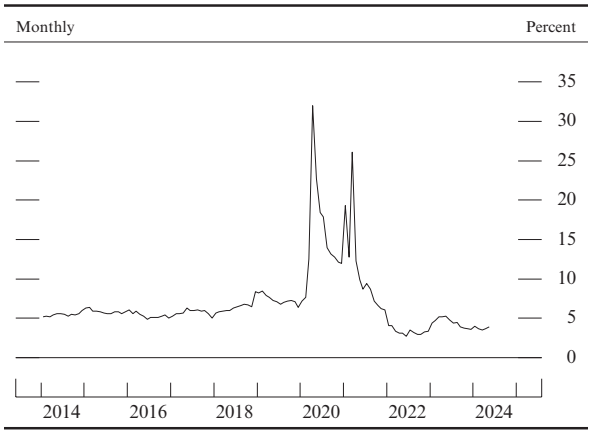
Despite the recent easing in consumer spending growth, households continue to spend more of their income than is typical. The saving rate—the difference between current income and spending, as a share of income—was 3.8 percent in the first quarter and has been well below its pre-pandemic average of over 6 percent for nine consecutive

18. Change in real personal consumption expenditures



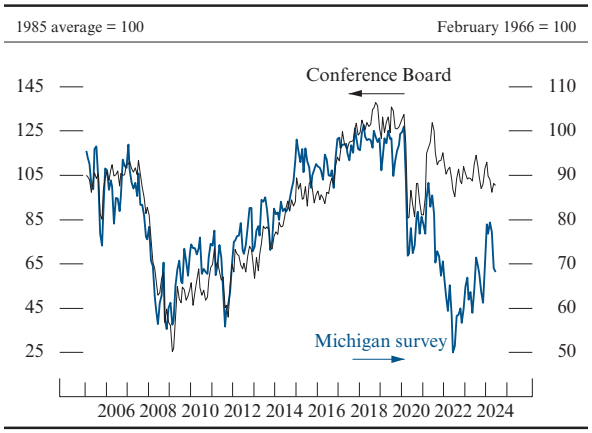
Source: Bureau of Economic Analysis via Haver Analytics.

19. Personal saving rate



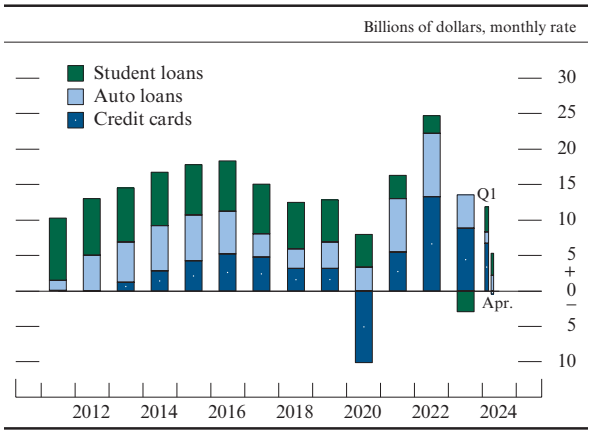
SOURCE: Bureau of Economic Analysis via Haver Analytics.

20. Indexes of consumer sentiment



NOTE: The data are monthly and extend through June 2024.
SOURCE: University of Michigan Surveys of Consumers; Conference Board.

21. Consumer credit flows



NOTE: Credit card balances were little changed in 2011 and 2012.
SOURCE: Federal Reserve Board, Statistical Release G.19, "Consumer Credit."

quarters (figure 19). This low saving rate likely reflects in large part the effects of high wealth and still-strong balance sheets of higher-income households.

Consumer spending since the pandemic has been more robust than measures of consumer sentiment would suggest. The indexes of consumer sentiment published by both the University of Michigan and the Conference Board remain well below their pre-pandemic levels. Although the Michigan survey index has improved markedly since spring 2022, it is further below its pre-pandemic level than the Conference Board index, which puts more weight on labor market conditions (figure 20).

Consumer financing conditions remain somewhat restrictive

Consumer financing conditions have been somewhat restrictive, reflecting high borrowing costs and tight bank lending standards. Interest rates for consumer credit products such as new credit cards and auto loans edged down in recent months but remained elevated. In the April Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), conducted by the Federal Reserve Board, banks reported continued tightening of lending standards for consumer loans in the first quarter, likely reflecting increases in delinquency rates. Indeed, credit card and auto loan delinquency rates—measured as the fraction of balances that are at least 30 days past due—have increased from their 2021 lows and are above the levels observed just before the pandemic.

Even so, financing has been generally available to support consumer spending. Consumer credit expanded moderately, on net, during the first four months of the year, driven by still-solid growth in credit card balances and modest growth in auto loans and student loans (figure 21).

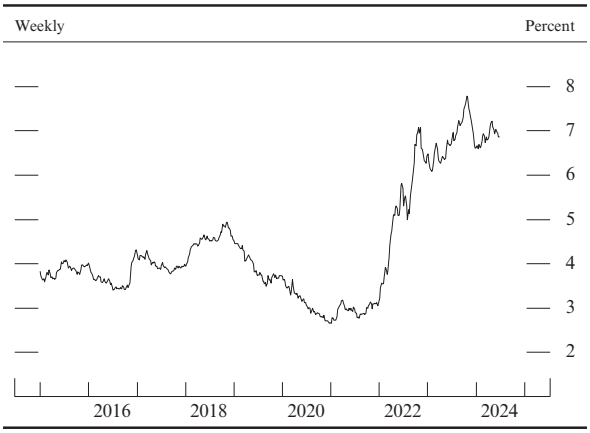
Residential investment turned around and has increased since mid-2023

After rising sharply between early 2022 and late 2023, mortgage interest rates have fallen back some since last fall but, at around 7 percent, remain well above their pre-pandemic peak in 2018 (figure 22). Following the sharp rise in mortgage rates, residential investment declined steeply in 2022 and fell further in the first half of last year but has picked up since mid-2023. Solid income growth and the declines in interest rates late last year have provided support for residential investment demand so far this year. Indeed, residential investment rose sharply in the first quarter.

Sales of existing homes have moved up a touch this year but remain at very low levels. Relatively high mortgage interest rates and house prices have reduced affordability and depressed homebuying sentiment. Moreover, though new listings of existing homes have increased modestly this year, the supply of existing homes for sale remains quite low, as many homeowners are reportedly "rate locked"—unwilling to move and take out a new mortgage while mortgage rates are relatively high. Many households purchased homes or refinanced when fixed mortgage rates were at historically low levels in 2020 and 2021, and, as a result, the majority of outstanding mortgages have interest rates below 4 percent (figure 23).

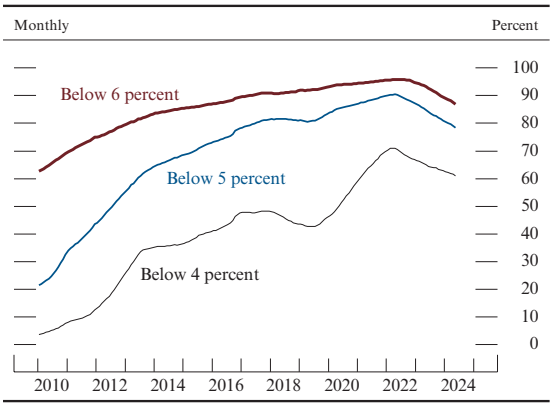
In contrast to existing home sales, sales of new homes declined when mortgage rates first increased, but they bounced back fairly quickly and have remained around their pre-pandemic levels. The new home market has likely been supported by demand from buyers who are unable to find homes in the existing home market and by homebuilder interest rate incentives (figure 24).

22. Mortgage interest rates



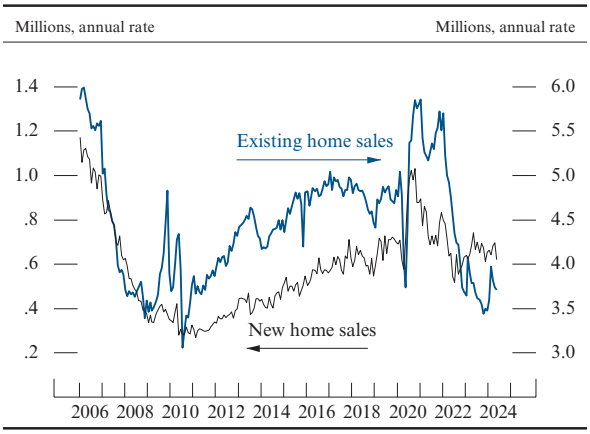
NOTE: The data are contract rates on 30-year, fixed-rate conventional home mortgage commitments and extend through June 27, 2024.
SOURCE: Freddie Mac Primary Mortgage Market Survey via Haver Analytics.

23. Distribution of interest rates on outstanding mortgages



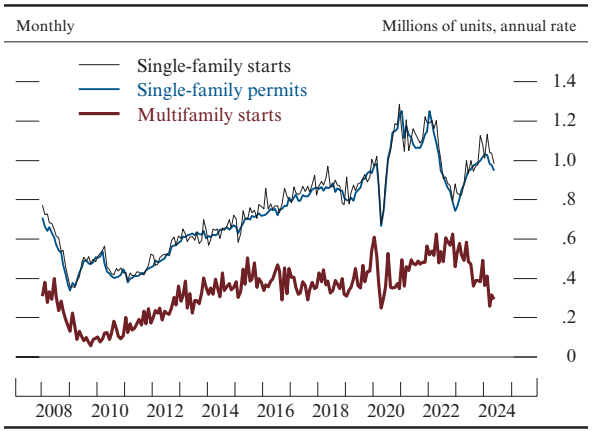
NOTE: The sample only includes outstanding mortgages current on their payments.
SOURCE: ICE, McDash®.

24. New and existing home sales



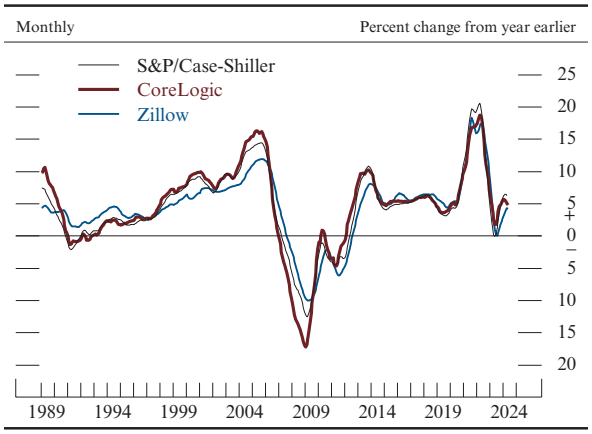
NOTE: The data are monthly. New and existing home sales include only single-family sales.
SOURCE: For new home sales, U.S. Census Bureau; for existing home sales, National Association of Realtors; all via Haver Analytics.

25. Private housing starts and permits



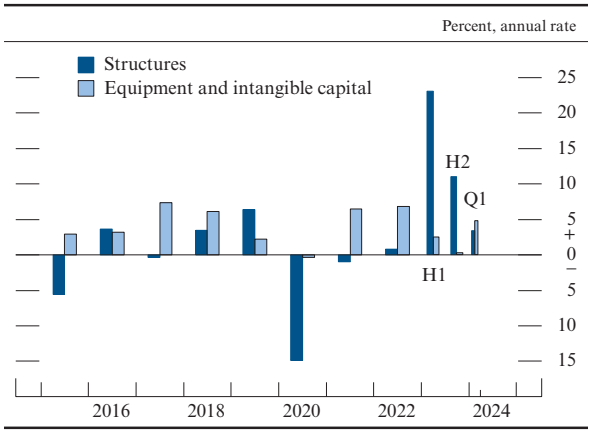
SOURCE: U.S. Census Bureau via Haver Analytics.

26. Growth rate in house prices



NOTE: S&P/Case-Shiller data extend through April 2024.
SOURCE: CoreLogic, Inc., Home Price Index; Zillow, Inc., Real Estate Data; S&P/Case-Shiller U.S. National Home Price Index. The S&P/Case-Shiller index is a product of S&P Dow Jones Indices LLC and/or its affiliates. (For Dow Jones Indices licensing information, see the note on the Contents page.)

27. Change in real business fixed investment



NOTE: Business fixed investment is known as "private nonresidential fixed investment" in the national income and product accounts. The key identifies bars in order from left to right.
SOURCE: Bureau of Economic Analysis via Haver Analytics.

The relative strength in new home demand encouraged builders to increase housing construction last year, boosting starts and permits for single-family housing (figure 25). In recent months, though, single-family housing starts and permits have drifted back down, likely because of high builder inventories and some easing in new home demand. Reflecting these demand and supply factors, house price growth slowed rapidly in 2022 from a historically high pace and has remained moderate since then (figure 26).

The balance of demand and supply in the multifamily housing market is fundamentally different from that in the single-family housing market, as it is dominated by rental units. Sharp increases in rents in 2021 and 2022 encouraged a dramatic increase in multifamily starts in those years, creating large amounts of new supply. With many units still under construction and weak rental growth since 2022, multifamily starts have been declining since last year (as shown in figure 25).[8]

Capital spending increased at a moderate pace

Business investment spending rose moderately in 2023 and in the first quarter of this year, supported by strong sales growth and improvements in business sentiment and profit expectations—and despite high interest rates (figure 27). However, the sources of strength in business investment shifted recently. Investment in structures—which had surged in early 2023 because of a boom in manufacturing construction, especially for factories that produce semiconductors or electric vehicle batteries—decelerated in the second half of 2023 and has slowed further so far this year, although the level of structures investment remains much higher than in

8. For additional discussion, see the box "Recent Housing Market Developments" in Board of Governors of the Federal Reserve System (2024), *Monetary Policy Report* (Washington: Board of Governors, March), pp. 19–21, https://www.federalreserve.gov/publications/files/20240301_mprfullreport.pdf.

previous years. Starting late last year, growth in business investment in nontransportation equipment and intellectual property stepped up, supported by gains in high-technology equipment spending and software investment.

Business financing conditions are somewhat restrictive, but credit remains generally available

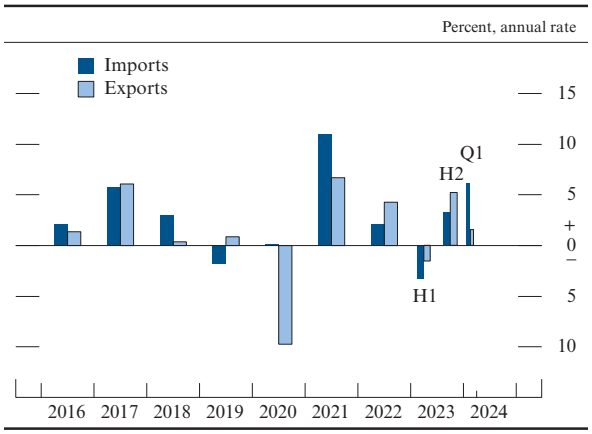
Although businesses face somewhat restrictive financing conditions, as interest rates are still elevated, credit remains generally available to most nonfinancial corporations. Banks continued to tighten lending standards for all business loan types over the first quarter of this year, and even though business loan growth at banks increased in the first five months of the year, it stayed tepid. In contrast, issuance of corporate bonds remained strong so far this year, although well below the levels that prevailed at the beginning of the tightening cycle.

For small businesses, which are more reliant on bank financing than large businesses, credit conditions remained tight but stable over the first half of this year. Surveys indicate that credit supply for small businesses tightened modestly, while interest rates on loans to small businesses were little changed, staying near the top of the range observed since 2008. In addition, while loan default rates have continued to increase, delinquency rates stabilized in the first part of the year at levels that slightly exceeded their pre-pandemic rates. Finally, loan originations have remained stable over the past year and above the range observed before the pandemic, suggesting that credit continues to be available for small businesses.

Net exports were a drag on GDP growth

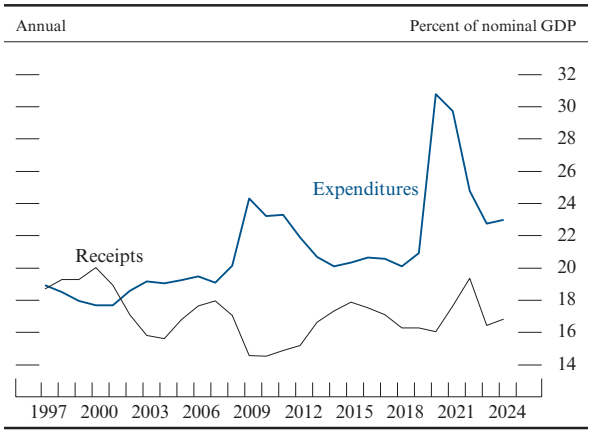
On balance, net exports subtracted 0.7 percentage point from U.S. GDP growth in the first quarter of this year after having contributed about one-tenth to annualized GDP growth in the second half of last year. After moderate growth in the second half of

28. Change in real imports and exports of goods and services



SOURCE: Bureau of Economic Analysis via Haver Analytics.

29. Federal receipts and expenditures



NOTE: Through 2023, the receipts and expenditures data are on a unified-budget basis and are for fiscal years (October to September); gross domestic product (GDP) is for the 4 quarters ending in Q3. For 2024, receipts and expenditures are for the 12 months ending in May; GDP is the average of 2023:Q4 and 2024:Q1.

SOURCE: Department of the Treasury, Financial Management Service; Office of Management and Budget and Bureau of Economic Analysis via Haver Analytics.

last year, real imports of goods and services have stepped up further this year despite some deceleration in U.S. GDP growth. By contrast, real export growth has slowed significantly, as some categories with especially strong growth in the second half of last year declined this year, particularly industrial supplies and materials (figure 28). The current account deficit as a share of GDP widened slightly in the first quarter of 2024 and remains wider than before the pandemic.

Federal fiscal policy actions were roughly neutral for GDP growth last year and so far this year

Federal purchases grew modestly in 2023 and moved sideways in the first quarter of the year. The overall contribution of discretionary federal fiscal policy to real GDP growth appears to have been roughly neutral last year and in the first quarter of this year, as the unwinding of pandemic-related policies offset the boost to consumption and investment from policies enacted after the pandemic.

The budget deficit and federal debt remain elevated

After surging to about 15 percent of GDP in fiscal year 2020, the budget deficit declined through fiscal 2022 as the imprint of the pandemic faded (figure 29). The budget deficit moved up to 6.3 percent of GDP in fiscal 2023 as net interest outlays increased, while tax receipts declined from their elevated level in 2022. Debt service costs have moved up sharply in recent years—as a result of higher interest rates and a higher level of debt—and are at their highest level in over two decades. The primary deficit—the difference between noninterest outlays and receipts—has moved down, on net, since fiscal 2020 and moved sideways in 2022 to 2023, as the effects of a decline in noninterest outlays as a share of GDP were offset by a decline in receipts as a share of GDP.

As a result of the unprecedented fiscal support enacted early in the pandemic, federal debt held by the public jumped roughly 20 percentage

points to close to 100 percent of GDP in 2020—the highest debt-to-GDP ratio since 1947 (figure 30). The debt-to-GDP ratio has moved roughly sideways since then, as upward pressure from large primary deficits has been offset by strong nominal GDP growth.

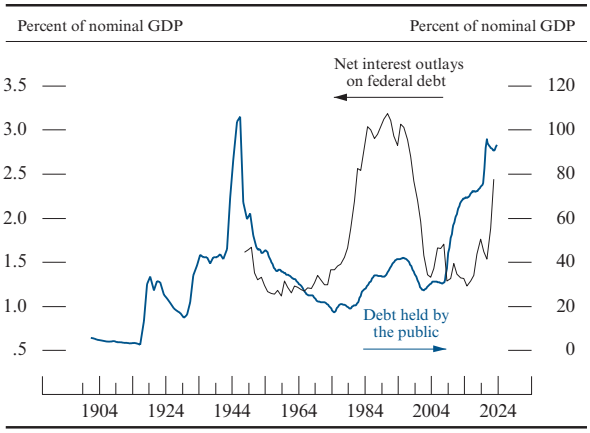
Most state and local government budget positions remained strong . . .

Federal policymakers provided a historically high level of fiscal support to state and local governments during the pandemic; this aid, together with robust state tax collections in 2021 and 2022, left the sector in a strong budget position overall (figure 31). Although state tax revenues weakened in 2023 and early this year—mainly reflecting a normalization of receipts from elevated levels in 2022, as well as the effects of recently enacted tax cuts in some states—taxes as a percentage of GDP remained near recent historical norms. Moreover, states' total balances—that is, including rainy day fund balances and previous-year surplus funds—continued to be near all-time highs. Nevertheless, budget situations varied widely across states, with some states—particularly those that depend heavily on capital gains tax collections—facing tighter budget conditions. At the local level, overall property tax receipts rose briskly in 2023 and continued to increase at an elevated rate in the first quarter.

. . . contributing to brisk growth in employment and construction spending

Employment in state and local governments rose strongly in 2023 and early this year and has now recovered from the drop during the pandemic, though it is still below the level implied by the pre-pandemic trend (figure 32). This surge in state and local employment reflects the waning of pandemic-related headwinds such as a big increase in retirements early in the pandemic and slower wage growth relative to that in the private sector. Similarly, real construction outlays grew at a historically high rate last year, reflecting easing bottlenecks and support from federal grants, and are now somewhat above their pre-pandemic levels.

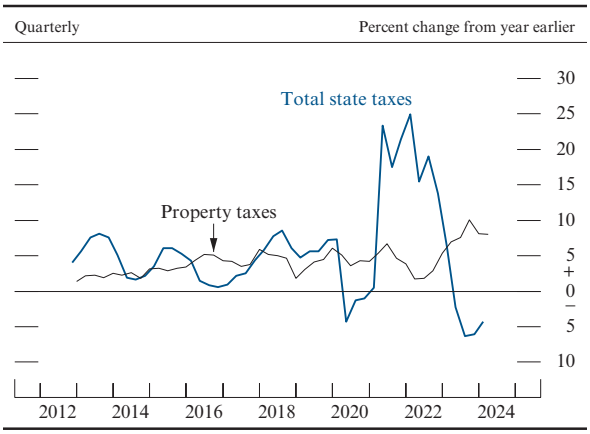
30. Federal government debt and net interest outlays



NOTE: The data for net interest outlays are annual, begin in 1948, and extend through 2023. Net interest outlays are the cost of servicing the debt held by the public, offset by certain types of interest income the government receives. Federal debt held by the public equals federal debt excluding most intragovernmental debt, evaluated at the end of the quarter. The data for federal debt are annual from 1901 to 1951 and a 4-quarter moving average thereafter. GDP is gross domestic product.

SOURCE: For GDP, Bureau of Economic Analysis via Haver Analytics; for federal debt, Congressional Budget Office and Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

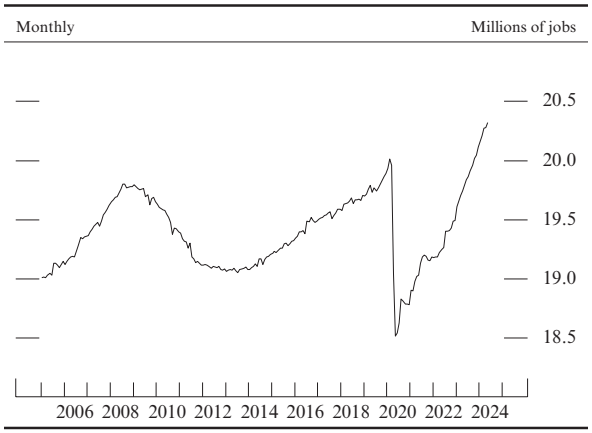
31. State and local tax receipts



NOTE: Receipts shown are year-over-year percent changes of 4-quarter moving averages and begin in 2012:Q4. Property taxes are primarily collected by local governments.

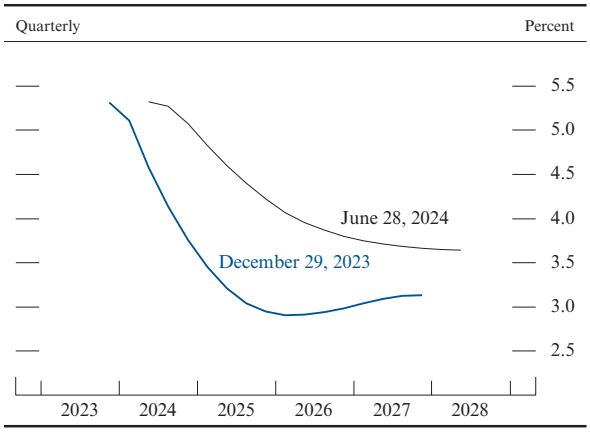
SOURCE: U.S. Census Bureau, Quarterly Summary of State and Local Government Tax Revenue.

32. State and local government payroll employment



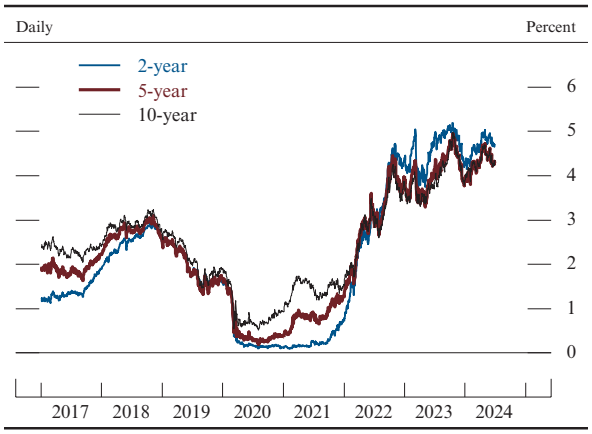
SOURCE: Bureau of Labor Statistics via Haver Analytics.

33. Market-implied federal funds rate path



NOTE: The federal funds rate path is implied by quotes on overnight index swaps—a derivative contract tied to the effective federal funds rate. The implied path as of December 29, 2023, is compared with that as of June 28, 2024. The path is estimated with a spline approach, assuming a term premium of 0 basis points. The December 29, 2023, path extends through 2027:Q4 and the June 28, 2024, path through 2028:Q2.
SOURCE: Bloomberg; Federal Reserve Board staff estimates.

34. Yields on nominal Treasury securities



SOURCE: Department of the Treasury via Haver Analytics.

Financial Developments

The expected level of the federal funds rate over the next few years is higher since the beginning of the year

Over the late winter and early spring, the market-implied federal funds rate path moved up, boosted by above-expectations inflation data that prompted market participants to reassess the monetary policy restraint required to return inflation to 2 percent. The rise in the path was partially reversed since late April amid mixed but generally softer-than-expected data on real activity and inflation. Since the beginning of the year, on net, the market-implied federal funds rate path rose substantially (figure 33). Financial market prices currently suggest that investors expect the federal funds rate to decline to about 4.9 percent and 4.0 percent by year-ends 2024 and 2025, respectively. Roughly consistent with market-implied measures, respondents to the Blue Chip Financial Forecasts survey have significantly revised upward their expectations for the path of the federal funds rate, with the average respondent in the July survey expecting the federal funds rate to decline to 5.0 percent in the fourth quarter of 2024—0.6 percentage point higher than anticipated at the end of last year.

Yields on U.S. nominal Treasury securities are higher on net

Consistent with the upward revision in the market-implied federal funds rate path, yields on shorter-term Treasury securities rose notably between mid-February and late April before retracing some of the increase afterward. Yields on longer-term nominal Treasury securities moved similarly with yields on shorter-term nominal Treasury securities. On balance, nominal Treasury yields are moderately higher than at the beginning of the year across the maturity spectrum (figure 34). An increase in real yields—as measured by yields on Treasury Inflation-Protected Securities—accounted for a large portion of the rise in nominal Treasury yields, especially at longer maturities.

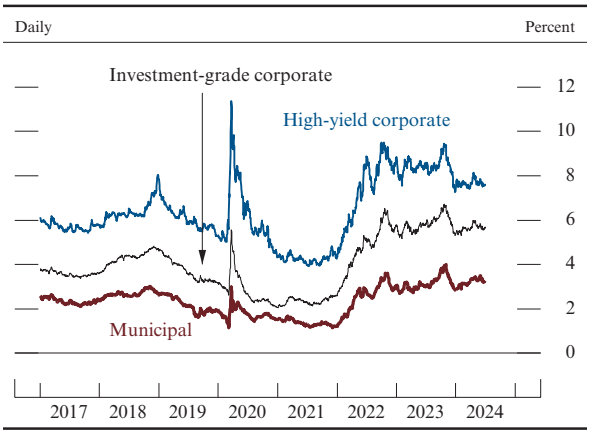
Yields on other long-term debt fluctuated with Treasury yields

Yields on corporate bonds generally followed the movements in longer-term Treasury yields and increased since the beginning of the year for both the investment- and speculative-grade segments of the market (figure 35). Both yield spreads on investment- and speculative-grade corporate bonds over comparable-maturity Treasury securities remain near the low end of their respective historical distributions as corporate bond investors appeared to be pricing in a generally optimistic outlook. Yields on municipal bonds remain at elevated levels relative to rates prevailing before the recent tightening cycle, having increased moderately since January. Meanwhile, spreads of municipal bond yields to yields on comparable-maturity Treasury securities were relatively little changed, on net, and are at compressed levels relative to their historical distribution. Yields on agency mortgage-backed securities (MBS)—an important influence on home mortgage interest rates—increased since the start of the year (figure 36). Agency MBS spreads to Treasury securities remain elevated relative to pre-pandemic levels, due in part to elevated interest rate volatility, which increases the risk of holding MBS.

Broad equity price indexes increased

Broad equity price indexes rose substantially since the start of the year, on net, led by large technology firms (figure 37). While equity prices remained sensitive to inflation news, equity investors appeared to be generally sanguine about the prospect of inflation coming down without a sharp downturn in activity. First-quarter corporate earnings releases, which were generally solid, also supported equity valuations. Meanwhile, equity prices for small-cap firms were little changed. Equity prices for large banks increased, on net, while equity prices for regional banks declined, reflecting lingering concerns about the health of these banks related in part to the quality of their commercial real estate loans. One-month option-implied volatility on the S&P 500

35. Corporate bond yields, by securities rating, and municipal bond yield

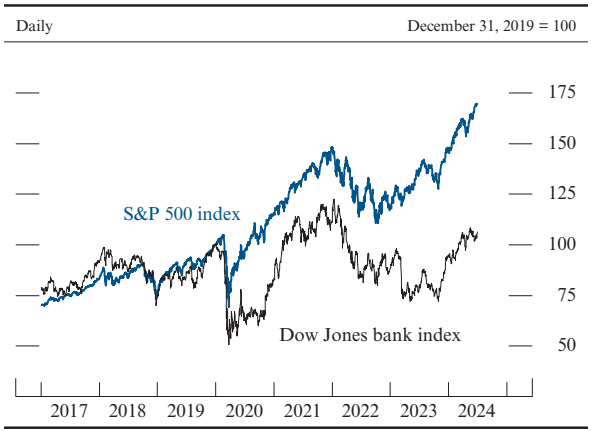


NOTE: Investment-grade corporate reflects the effective yield of the ICE Bank of America Merrill Lynch (BofAML) triple-B U.S. Corporate Index (C0A4). High-yield corporate reflects the effective yield of the ICE BofAML High Yield Index (H0A0). Municipal reflects the yield to worst of the ICE BofAML U.S. Municipal Securities Index (U0A0).
SOURCE: ICE Data Indices, LLC, used with permission.

36. Yield and spread on agency mortgage-backed securities

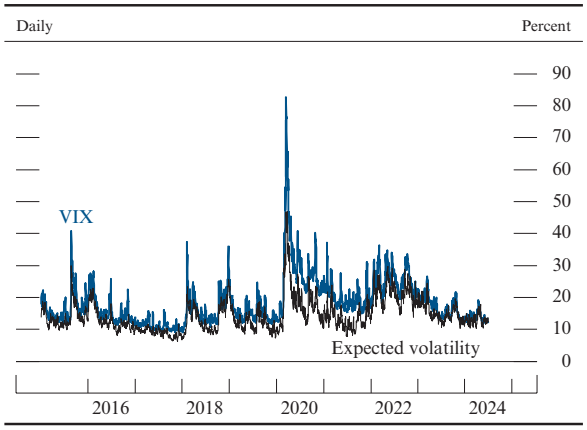
NOTE: The data are daily. Yield shown is for the uniform mortgage-backed securities 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value for dates after May 31, 2019; for earlier dates, the yield shown is for the Fannie Mae 30-year current coupon. Spread shown is to the average of the 5-year and 10-year nominal Treasury yields.
SOURCE: Department of the Treasury; J.P. Morgan. Courtesy of J.P. Morgan Chase & Co., Copyright 2024.

37. Equity prices



SOURCE: S&P Dow Jones Indices LLC via Bloomberg. (For Dow Jones Indices licensing information, see the note on the Contents page.)

38. S&P 500 volatility



NOTE: The VIX is an option-implied volatility measure that represents the expected annualized variability of the S&P 500 index over the following 30 days. The expected volatility series shows a forecast of 1-month realized volatility, using a heterogeneous autoregressive model based on 5-minute S&P 500 returns.

SOURCE: Cboe Volatility Index® (VIX®) via Bloomberg; Refinitiv DataScope; Federal Reserve Board staff estimates.

index—the VIX—fluctuated somewhat, reaching its peak so far this year in early April amid increased inflation concerns and geopolitical tensions, but quickly retraced and ended the period little changed (figure 38). Currently, the VIX stands close to its typical historical level that was observed before the pandemic. (For a discussion of financial stability issues, see the box "Developments Related to Financial Stability.")

Major asset markets functioned in an orderly manner, despite some indicators pointing to low liquidity

Functioning of the Treasury securities market has continued to be orderly. While a number of measures of Treasury market liquidity remain low by historical standards, some of these measures—such as on-the-run securities market depth, a measure of the availability of securities to transact at the best quoted prices—improved modestly since January. Liquidity in the equity market remained low compared with pre-pandemic levels, and liquidity conditions deteriorated slightly since the beginning of the year. The depth of the S&P 500 futures market decreased a bit, and the price impact increased slightly. Corporate and municipal bond markets continued to function well, and trading conditions remained stable; transaction costs in these markets continued to be fairly low by historical standards.

Short-term funding market conditions remained stable

Conditions in overnight money markets remained stable, with spreads of money market rates to the Federal Reserve's administered rates roughly unchanged outside of month-end dates. Since the beginning of the year, the effective federal funds rate has stayed 7 basis points below the interest rate on reserve balances, and other unsecured overnight rates have been around similar levels with limited volatility. The Secured Overnight Financing Rate has remained 1 or 2 basis points above the offering rate on the overnight

Developments Related to Financial Stability

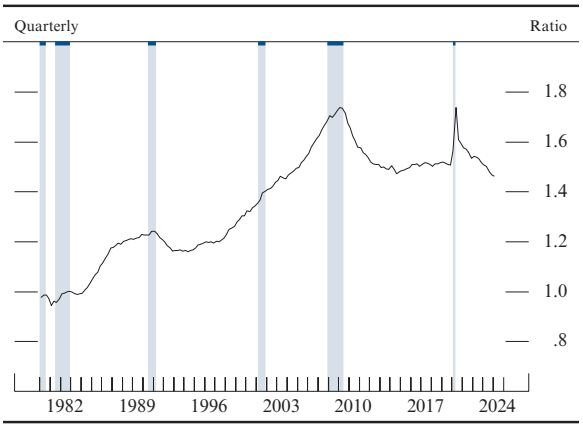
This discussion reviews vulnerabilities in the U.S. financial system. The framework used by the Federal Reserve Board for assessing the resilience of the U.S. financial system focuses on financial vulnerabilities in four broad areas: asset valuations, business and household debt, leverage in the financial sector, and funding risks. All told, the financial system remains sound and resilient. Valuations increased to levels that were high relative to fundamentals across major asset classes, with equity prices growing faster than expected earnings and residential property prices remaining high relative to market rents. Credit to nonfinancial businesses and households relative to gross domestic product (GDP) continued to decline, falling to nearly a two-decade low. Most banks continued to report solid capital levels, but fair value losses on fixed-rate assets remained sizable. In addition, some banks continued to rely significantly on uninsured deposits. Hedge fund leverage grew to historical highs, driven primarily by borrowing by the largest hedge funds.

Valuations rose further to levels that were high relative to fundamentals across major asset classes. Equity prices grew faster than expected earnings, pushing the compensation for equity risk—computed as the difference between the inverse of the forward price-to-earnings ratio and expected real yields on 10-year Treasury securities—to its lowest level since 2007. Corporate bond spreads narrowed and currently stand at levels close to historical lows. Amid limited supply of homes available for sale, residential property prices remained high relative to market rents, standing near their peaks. Conditions in commercial real estate (CRE) markets continued to deteriorate, with declining transaction prices in most segments reflecting weak demand. Nominal long-term Treasury yields increased moderately since the beginning of the year and stayed close to their highest levels over the past decade and a half.

The balance sheets of nonfinancial businesses and households remained strong. The combined debt of both sectors as a share of GDP continued to decline and sat close to its lowest level in two decades (figure A). The decline is due to decreases in both business- and household-sector debt relative to GDP (figure B). Furthermore, business debt continued to decline in real terms, and debt-servicing capacity

(continued on next page)

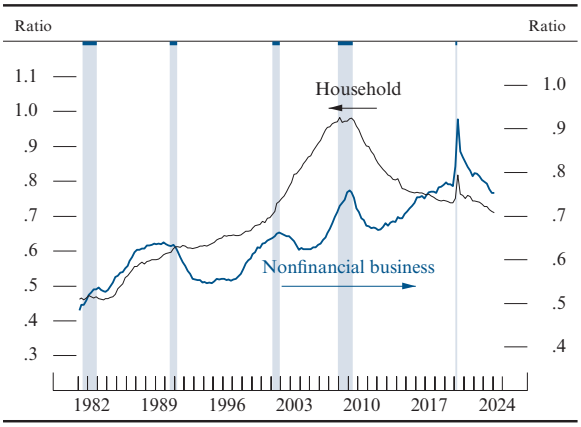
A. Private nonfinancial-sector credit-to-GDP ratio



NOTE: The shaded bars with top caps indicate periods of business recession as defined by the National Bureau of Economic Research: January 1980 to July 1980, July 1981 to November 1982, July 1990 to March 1991, March 2001 to November 2001, December 2007 to June 2009, and February 2020 to April 2020. GDP is gross domestic product.

SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; Bureau of Economic Analysis, national income and product accounts; Federal Reserve Board staff calculations.

B. Nonfinancial business and household debt-to-GDP ratios



NOTE: The data are quarterly. The shaded bars with top caps indicate periods of business recession as defined by the National Bureau of Economic Research: July 1981 to November 1982, July 1990 to March 1991, March 2001 to November 2001, December 2007 to June 2009, and February 2020 to April 2020. GDP is gross domestic product.

SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; Bureau of Economic Analysis, national income and product accounts; Federal Reserve Board staff calculations.

Developments Related to Financial Stability *(continued)*

stayed solid for most public firms—in large part due to strong earnings, large cash buffers, and low borrowing costs on existing debt. In addition, the pass-through of higher interest rates into debt-servicing costs continues to be muted because the share of long-term, fixed-rate liabilities remained sizable. Corporate bond default rates have returned to their average levels, rising from their low points in 2021 but declining from their peaks in the second half of 2023, suggesting that credit quality is stabilizing with pockets of stress continuing for the riskiest borrowers. Expectations of year-ahead defaults stayed somewhat elevated relative to their history. Household balance sheets are still sound, as most homeowners have ample home equity cushions and strong credit histories. Borrowers with prime credit scores—for whom delinquency rates remained low and stable across credit markets—correspond to more than 60 percent of all borrowers and continued to account for most of household debt outstanding.

Regarding vulnerabilities in the financial sector, most banks continued to report capital levels well above regulatory requirements. However, fair value losses on fixed-rate assets remained sizable for some banks, while parts of banks' CRE portfolios are facing stress. Despite a moderation in deposit outflows, higher funding costs—together with expected increases in loss provisions for CRE and consumer loans—could put downward pressure on banks' profits and their ability to build capital through retained earnings. Outside the banking sector, hedge fund leverage stayed near historical highs, partly due to funds' substantial positions in the Treasury futures basis trade. Leverage at broker-dealers continued to be near historically low levels, but limited capacity or willingness of broker-dealers to intermediate in Treasury markets during market stress remained a structural vulnerability. Life insurers' leverage increased and stood around its median.

Liquidity at most domestic banks remained ample, with limited reliance on short-term wholesale funding. However, some banks' reliance on uninsured deposits remained high, and bond mutual funds' exposure to interest rate risk continued to be significant. Structural vulnerabilities remained in other short-term funding markets. Prime and tax-exempt money market funds, as well as other cash-investment vehicles and stablecoins, continued to be vulnerable to runs. Bond and loan funds remain susceptible to redemptions during periods of stress, with more severe pressures possible if assets become more illiquid or redemptions become unusually large. In addition, life insurers continued to rely on a higher-than-average share of nontraditional liabilities.

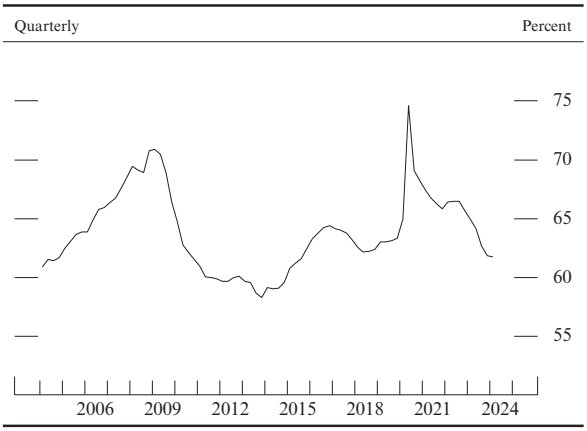
reverse repurchase agreement (ON RRP) facility, except for short-lived upward pressure around month-ends. Take-up at the ON RRP facility declined in the first quarter, reflecting an increase in the net supply of Treasury bills and the associated upward pressure on bill yields relative to the offered rate on ON RRP investments as well as relatively more attractive rates on other short-term investments such as private repurchase agreements. However, the pace of decline in take-up slowed somewhat in the second quarter, primarily because of a decline in net bill supply. (See the box "Developments in the Federal Reserve's Balance Sheet and Money Markets" in Part 2.)

Assets under management of prime and government money market funds (MMFs), the largest investors in the ON RRP facility, trended up as they continued to offer favorable yields relative to most bank deposits. Prime MMFs increased liquid asset holdings and decreased weighted average maturities to satisfy the Securities and Exchange Commission's reform requirements that became effective in April. Several institutional prime funds announced conversions to government funds, while a handful announced closures, citing the reform's liquidity fees starting in October as the main driver behind the decision. However, these announced conversions and closures are unlikely to materially affect the funds' usage of the ON RRP facility, because only minor additional portfolio changes will be required for conversions and because the decline in money fund assets due to funds closing is likely too small relative to total investments in the facility.

Bank credit continued to expand at a slow pace

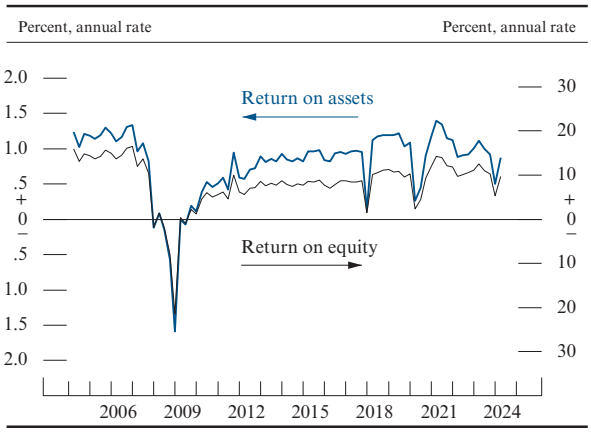
Banks' total loan holdings grew at about a 2 percent annualized rate in the first five months of the year, modestly up from a 1.3 percent rate in the fourth quarter of 2023. The still-tepid loan growth likely reflects the effects of higher interest rates, tighter credit standards, and economic uncertainty

39. Ratio of total commercial bank credit to nominal gross domestic product



SOURCE: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States"; Bureau of Economic Analysis via Haver Analytics.

40. Profitability of bank holding companies



NOTE: The data are quarterly.
SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Holding Companies.

(figure 39). Banks in the SLOOS reported generally tighter standards and weaker demand over the first quarter of 2024, extending trends for standards and demand that have been reported since the middle of 2022. Delinquency rates continued to climb to above their longer-run average for commercial real estate and consumer loans in the first quarter of 2024 but remained in ranges observed before the pandemic across most other credit segments. Bank profitability picked up in the first quarter—reversing the dip in the fourth quarter of 2023—mainly driven by recent rising noninterest income and reduced loan loss provisions. Bank profitability levels are still below those that prevailed before the pandemic, reflecting rising funding costs and subdued loan demand (figure 40).

International Developments

Foreign economic growth rose after a soft patch in the second half of 2023

After a soft patch in the second half of 2023, foreign activity appears to have improved in both advanced foreign economies (AFEs) and emerging market economies (EMEs). In AFEs, growth rates returned to moderate levels despite the effects of restrictive monetary policy as lower inflation improved real household incomes. In Europe, energy-intensive sectors continue to struggle amid ongoing structural adjustment to past increases in energy prices following Russia's 2022 invasion of Ukraine.

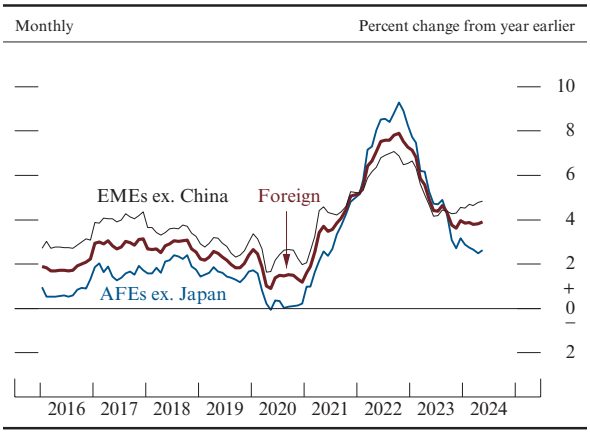
In EMEs, economic growth was supported by a rebound in exports. In addition, industrial production in emerging Asia was supported by rising global demand for high-tech products, driven in part by the AI and electric vehicle sectors. China was a significant contributor to the pickup in foreign aggregate growth, boosted by both strong exports and fiscal policy support, even though household spending expanded only moderately. Notably, activity in China's property sector remained extremely weak and house prices fell sharply,

prompting the authorities to introduce new policy support measures.

Inflation abroad continued to ease but remains above central bank targets in most regions

Foreign headline inflation has continued to stabilize overall since the middle of last year, primarily reflecting disinflation in AFE food and energy prices (figures 41 and 42). That said, the pace of disinflation has proved to be slower than expected and uneven across countries and economic sectors. As in the U.S., the deceleration in goods prices abroad has generally outpaced that in services prices. Inflation remains above target in Europe but has been near zero in China. In many economies, the main risks to continued disinflation include both domestic factors, such as sustained wage pressures, and external geopolitical factors, such as Russia's war against Ukraine and developments in the Middle East, which pose risks for supply chain disruptions, increased trade costs, and higher energy prices.

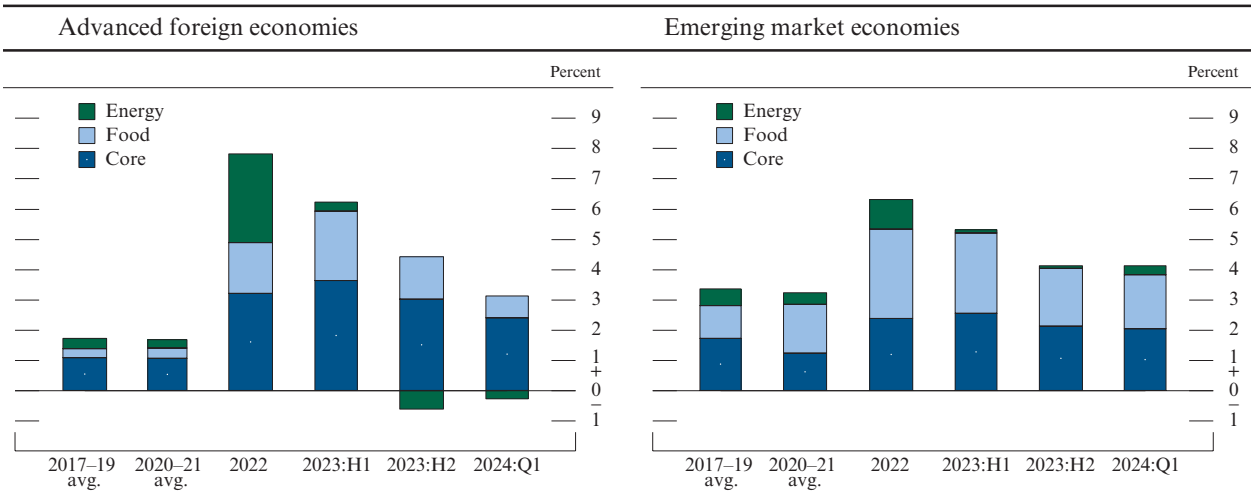
41. Consumer price inflation in foreign economies



NOTE: The advanced foreign economy (AFE) aggregate is the average of Canada, the euro area, and the U.K., weighted by shares of U.S. non-oil goods imports. The emerging market economy (EME) aggregate is the average of Argentina, Brazil, Chile, Colombia, Hong Kong, India, Indonesia, Israel, Malaysia, Mexico, the Philippines, Russia, Saudi Arabia, Singapore, South Korea, Taiwan, Thailand, and Vietnam, weighted by shares of U.S. non-oil goods imports. The foreign aggregate is the import-weighted average of all aforementioned countries. The inflation measure is the Harmonised Index of Consumer Prices for the euro area and the consumer price index for other economies.

SOURCE: Federal Reserve Board staff calculations; Haver Analytics.

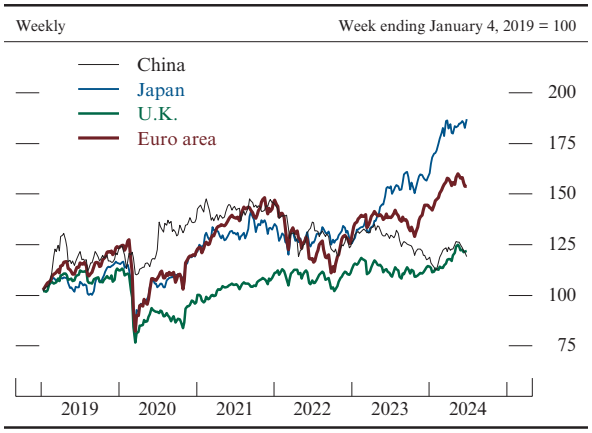
42. Components of foreign consumer price inflation



NOTE: The advanced foreign economy aggregate is the average of Canada, the euro area, and the U.K., weighted by shares of U.S. non-oil goods imports. The emerging market economy aggregate is the average of Argentina, Brazil, Chile, Colombia, Hong Kong, India, Indonesia, Israel, Malaysia, Mexico, the Philippines, Russia, Saudi Arabia, Singapore, South Korea, Taiwan, Thailand, and Vietnam, weighted by shares of U.S. non-oil goods imports, and begins in 2017:Q2. The inflation measure is the Harmonised Index of Consumer Prices for the euro area and the consumer price index for other economies. The data show percent changes from year-ago levels.

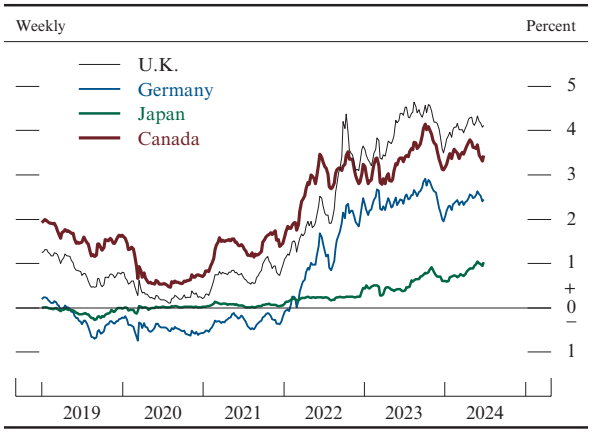
SOURCE: Federal Reserve Board staff calculations; Haver Analytics.

43. Equity indexes for selected foreign economies



NOTE: The data are weekly averages of daily data and extend through June 28, 2024.
SOURCE: For the euro area, Dow Jones Euro Stoxx Index; for Japan, Tokyo Stock Price Index; for China, Shanghai Composite Index; for the U.K., FTSE 100 Index; all via Bloomberg. (For Dow Jones Indices licensing information, see the note on the Contents page.)

44. Nominal 10-year government bond yields in selected advanced foreign economies



NOTE: The data are weekly averages of daily benchmark yields and extend through June 28, 2024.
SOURCE: Bloomberg.

Foreign central banks cut policy rates but remain cautious

Many foreign central banks have noted progress in lowering inflation and easing resource tightness and have indicated that they expect further progress. Some have begun to cut their policy rates while continuing to stress a data-dependent approach.

In EMEs, several central banks began easing monetary policy late in 2023. AFE central banks began to cut rates in the second quarter. The Swiss National Bank, Sweden's Riksbank, the Bank of Canada, and the European Central Bank all cut their policy rates amid easing inflation. Policy rate paths implied by financial market pricing indicate that markets expect other AFE central banks to begin reducing interest rates later this year. Still, most foreign central bank communications have also emphasized upside risks to inflation from persistent core services inflation, currency depreciation, and geopolitical tensions. Japan has been a notable exception: Amid persistently high Japanese inflation, the Bank of Japan (BOJ) ended its negative interest rate policy and yield curve control in March.

Equity prices rose even as sovereign bond yields in advanced foreign economies increased

Foreign equity indexes rose significantly across AFEs and EMEs, consistent with above-expectations economic data and strong corporate earnings in many economies (figure 43). Nevertheless, investors withdrew from EME-focused investment funds as higher advanced-economy yields weighed on their demand for EME assets. In addition, some recent elections abroad contributed to notable movements in equities and other asset prices.

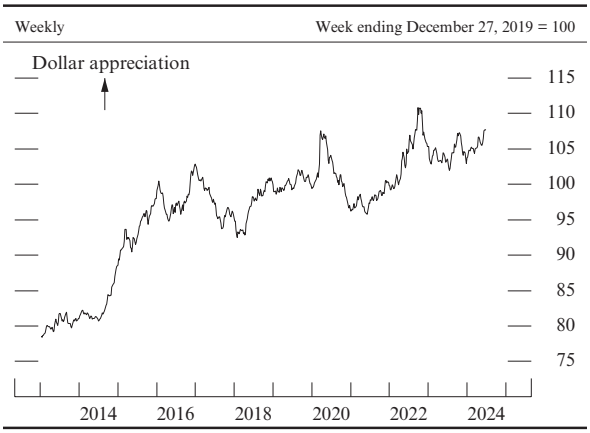
AFE sovereign bond yields increased significantly in early 2024 and are up notably since the start of the year in Germany, Japan, and the U.K. (figure 44). These increases were driven by stronger-than-expected global activity data and spillovers from higher U.S. yields. Relative to late 2023, market-implied

paths for policy rates now indicate a later start to easing and fewer rate cuts by many central banks. In Japan, yields were further supported by three BOJ tightening actions: raising policy rates from negative 0.1 percent to a band of 0 to 0.1 percent, discontinuing the yield curve control framework, and issuing guidance pointing to a potential reduction in sovereign bond purchases.

The exchange value of the dollar rose notably

Since year-end 2023, the broad dollar index—a measure of the exchange value of the dollar against a trade-weighted basket of foreign currencies—increased significantly, on net, reflecting dollar appreciation against both AFE and EME currencies (figure 45). The increase in the dollar index was consistent with a widening of interest rate differentials between the U.S. and the rest of the world.

45. U.S. dollar exchange rate index



NOTE: The data, which are in foreign currency units per dollar, are weekly averages of daily values of the broad dollar index and extend through June 28, 2024. As indicated by the arrow, increases in the data reflect U.S. dollar appreciation and decreases reflect U.S. dollar depreciation.

SOURCE: Federal Reserve Board staff calculations; Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."