FEDERAL RESERVE BANK *of* NEW YORK | ECONOMIC RESEARCH

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EQUITABLE GROWTH INDICATORS

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Summary

- **INFLATION**

  Inflation is declining overall, as well as in the high-inflation categories of food and housing. Households headed by young people and college-educated people continue to experience higher inflation rates at 0.4 and 0.2 percentage point higher than the national average, respectively.

- **EARNINGS**

  The gender earnings gap has appeared to stabilize around 20%, while the urban-rural gap continues to fall, with rural workers now earning roughly 22% less than their urban counterparts.

- **EMPLOYMENT**

  The labor force participation and employment gaps between men and women are at their lowest levels in more than four years. Men are now 11 percentage points more likely to participate in the labor force, while the unemployment gap remains very small.

- **CONSUMER SPENDING**

  Real spending of the young (aged 25-34) continues to fall with a decline of nearly 60% between March and June 2023, while other groups have begun to recover since bottoming out in May 2023.
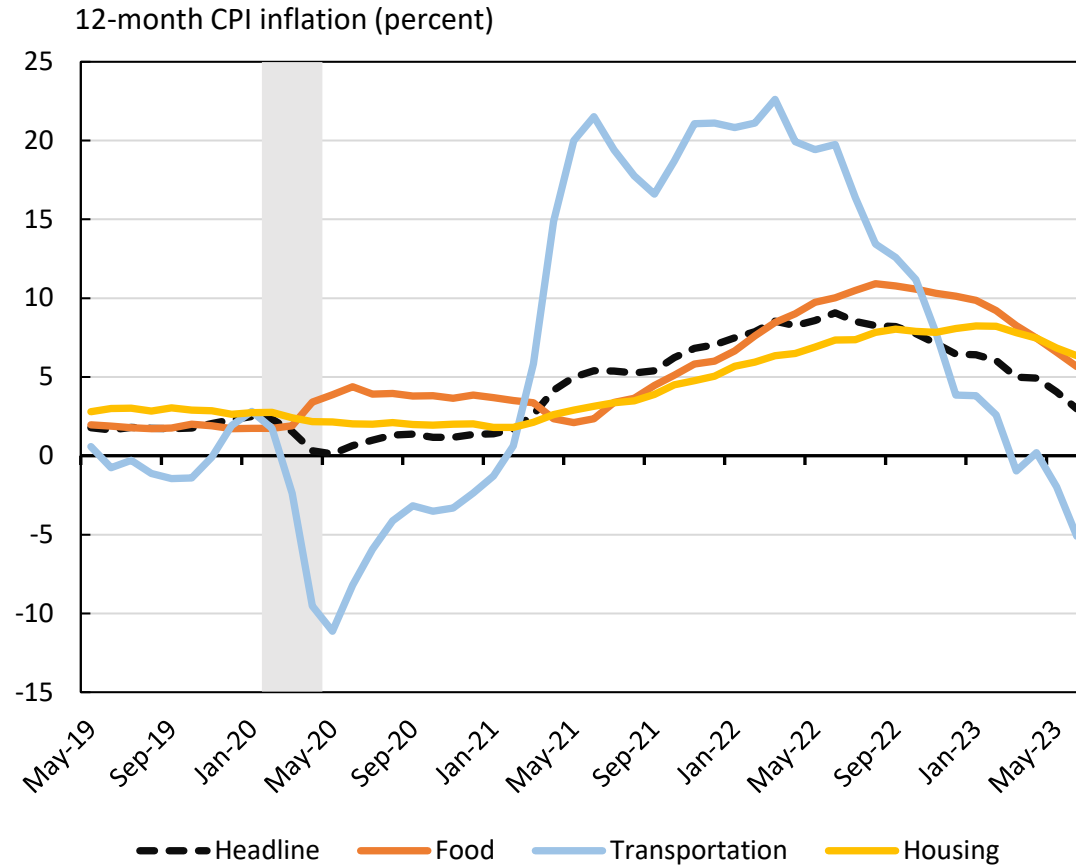
INFLATION

Takeaways | Inflation

- Gaps in demographic inflation rates increased significantly in 2021 and early 2022, a development that was largely attributable to heterogeneity in transportation spending.

- Middle-income households, the young, people without a college degree, residents of the South and Midwest, rural households, and Black and Hispanic households faced higher inflation than the overall average in 2021. Many of these gaps have now reversed.

- Currently, the young, urban, college-educated, low-income households, and residents of the South and West face higher inflation than average.

- Households headed by people under 25 years old faced year-over-year inflation that is 0.39 percentage point higher than the national average in June 2023.

Data & Methods

- Data on inflation by demographic groups are not produced by the Bureau of Labor Statistics.

- To calculate demographic inflation, we exploit the fact that the Consumer Expenditure Survey (CEX) can be used to compute spending shares of various consumption categories (for example, cereal, rent, and used cars) by demographic group (for example, Black, Hispanic, some college, and aged 45-54).

- To compute the contribution of a consumption category in a particular city to demographic inflation for a specific group, we take that group's spending share on that category in that city (from the CEX) in the previous year and multiply it by the twelve-month inflation for that consumption category in that city (from the Consumer Price Index).

- We then add up all the contributions to get an inflation index for the demographic group.

- Our method is similar to the previous literature, for example, Hobijn and Lagakos (2005), McGranahan and Paulson (2006), and Jaravel (2019). We are the first to exploit price variation across cities whereas the above-mentioned studies assume people in different demographic groups and cities face the same prices.

Inflation by Category

12-month CPI inflation (percent)

Sources: CPI via Haver Analytics; authors' calculations.
Note: Shaded region indicates the COVID-19 recession.

Demographic Inflation by Race/Ethnicity
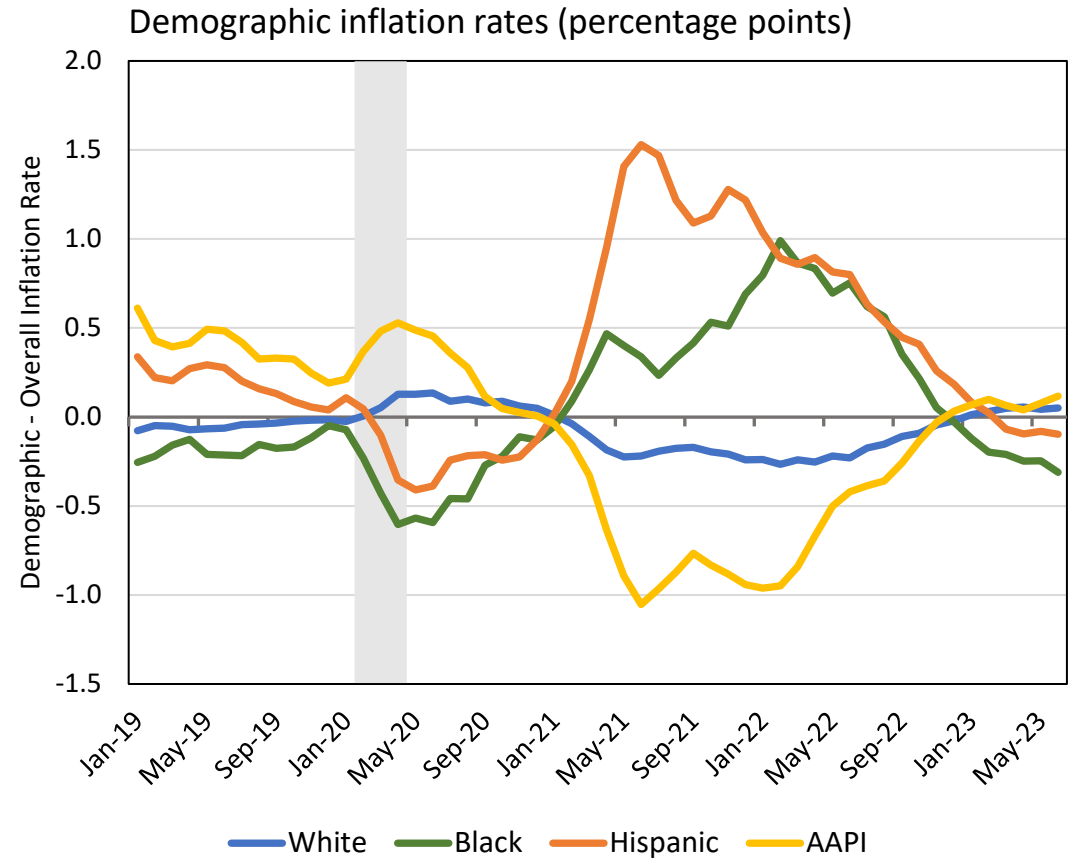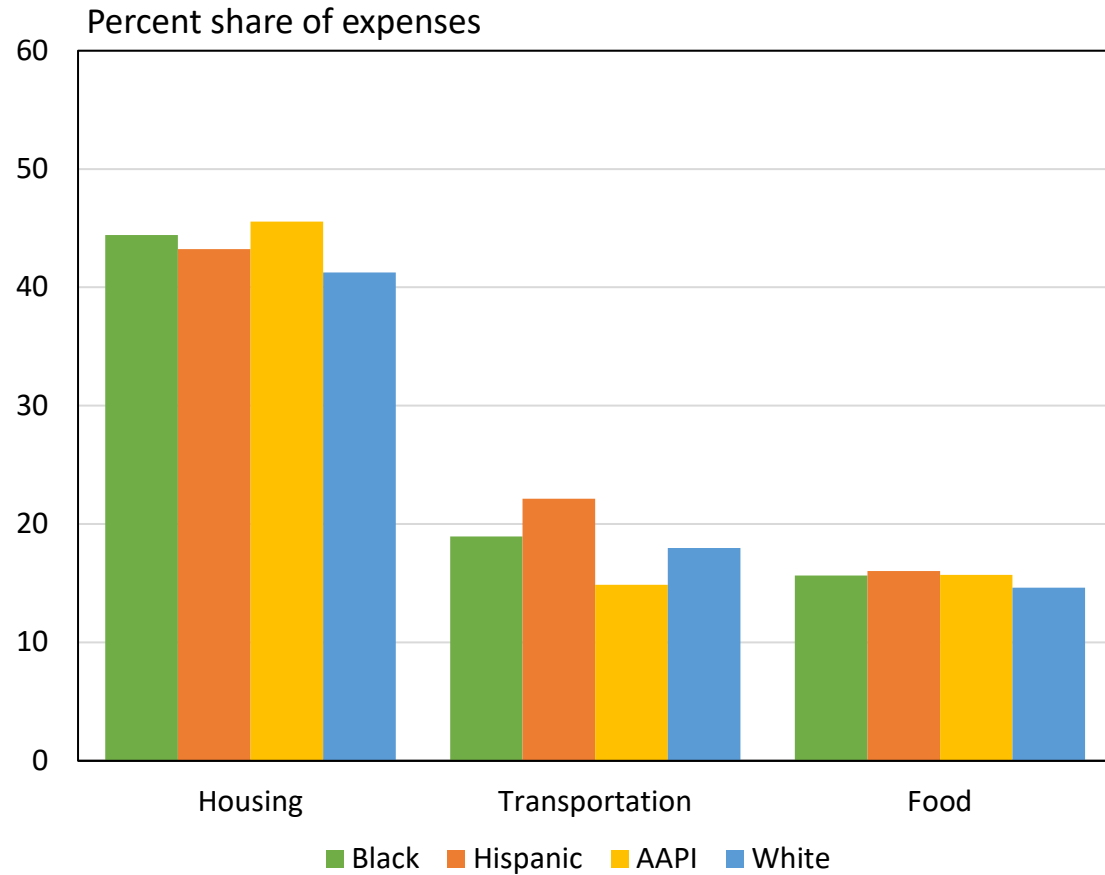
Percent share of expenses

Demographic inflation rates (percentage points)

Sources: BLS Consumer Expenditure Survey microdata; BLS Consumer Price Indexes.

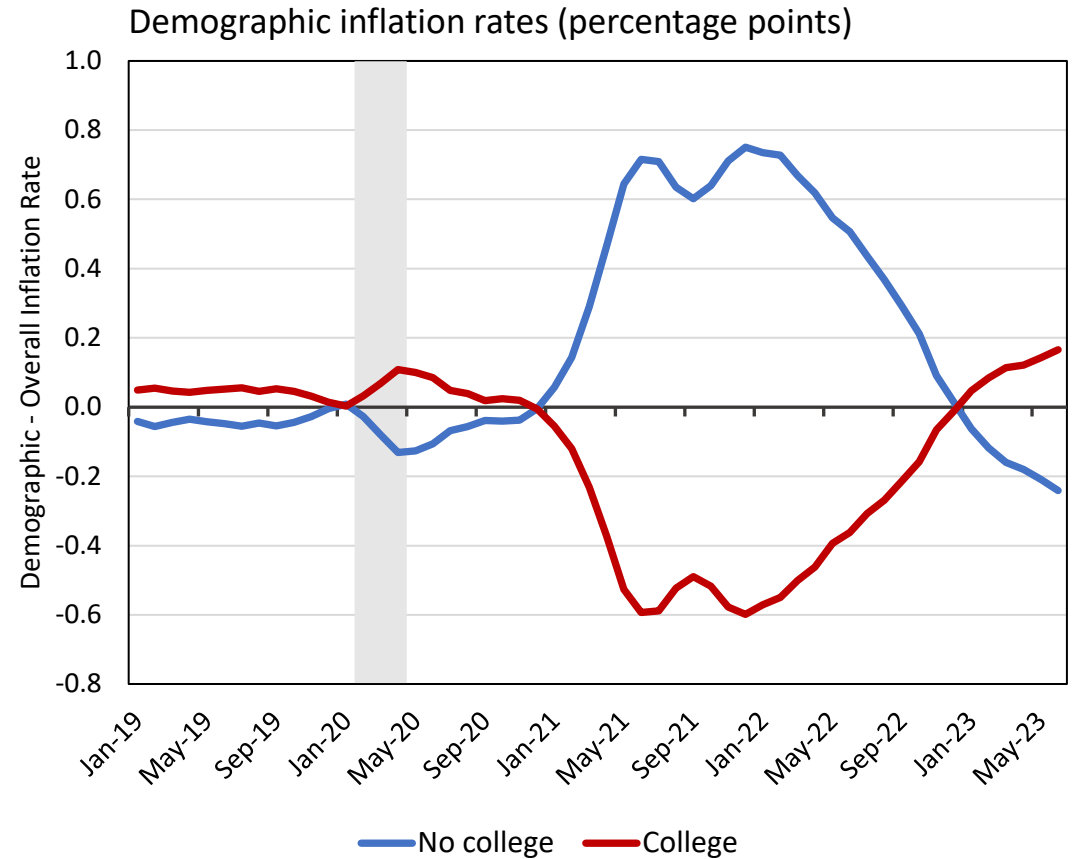Notes: Expenditure shares use 2020 CEX microdata. Shaded region indicates the COVID-19 recession.
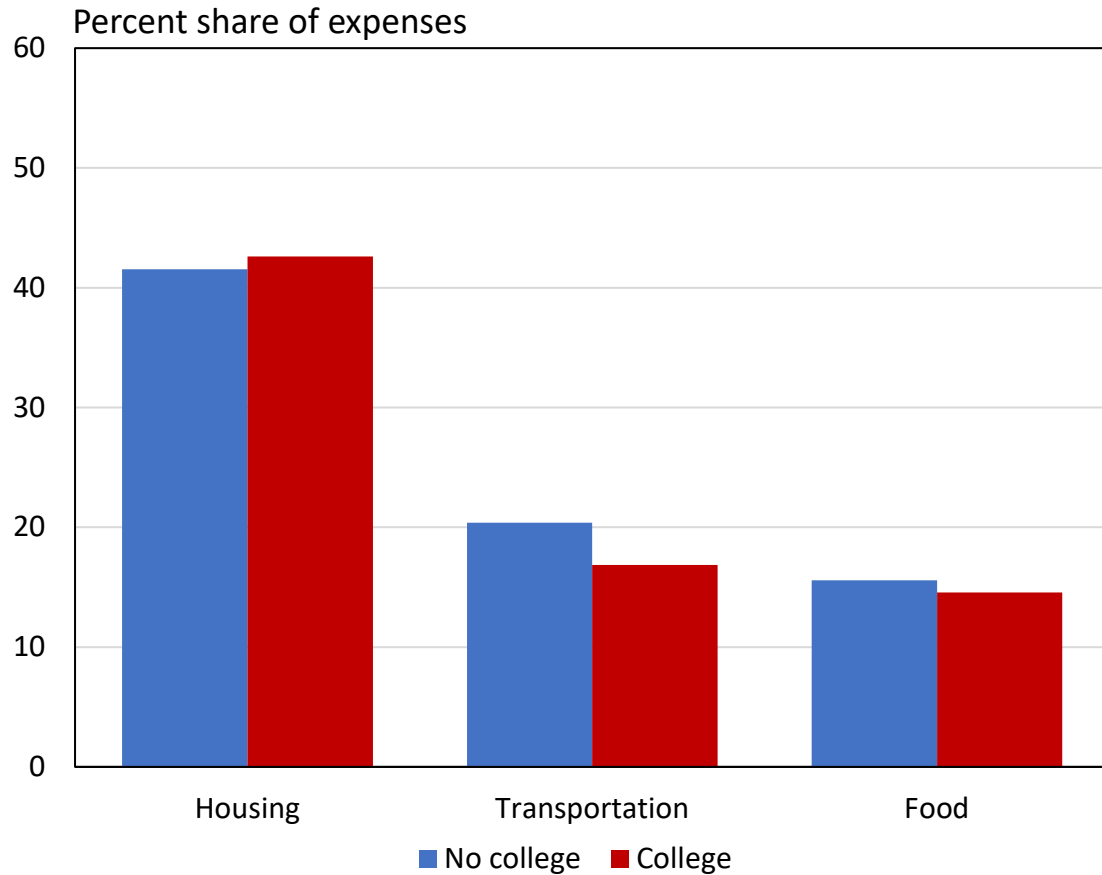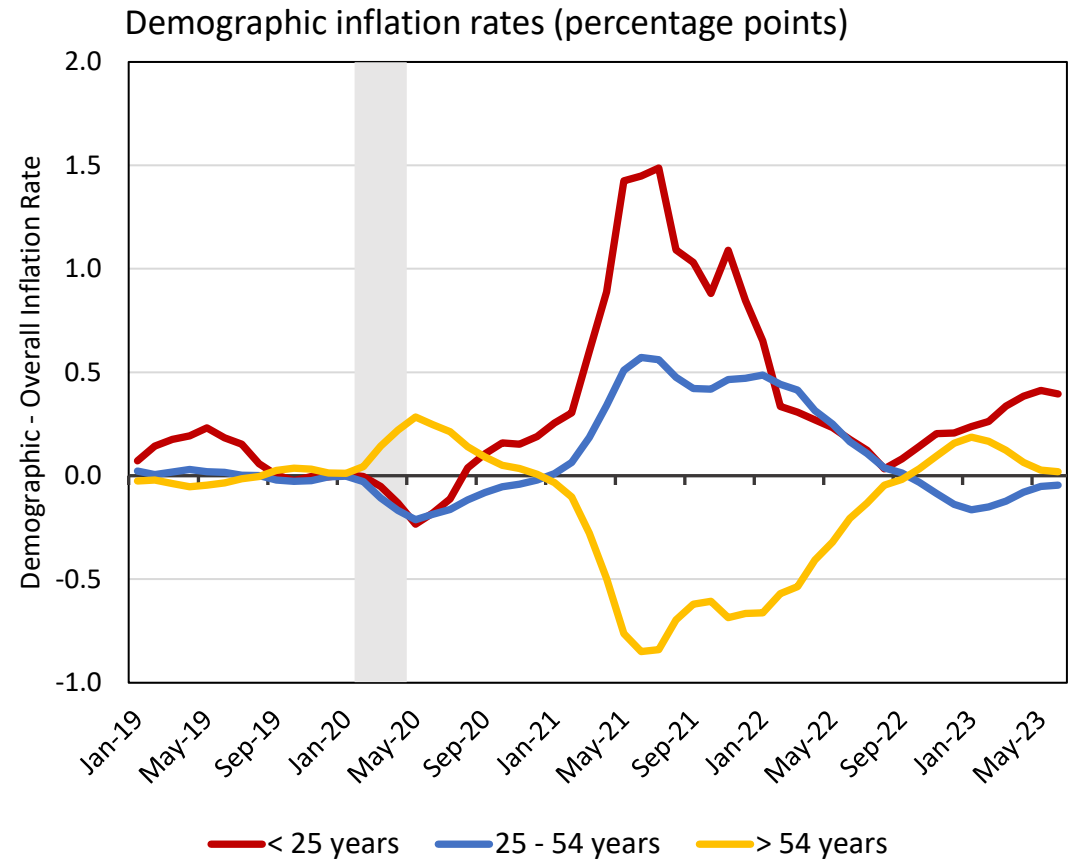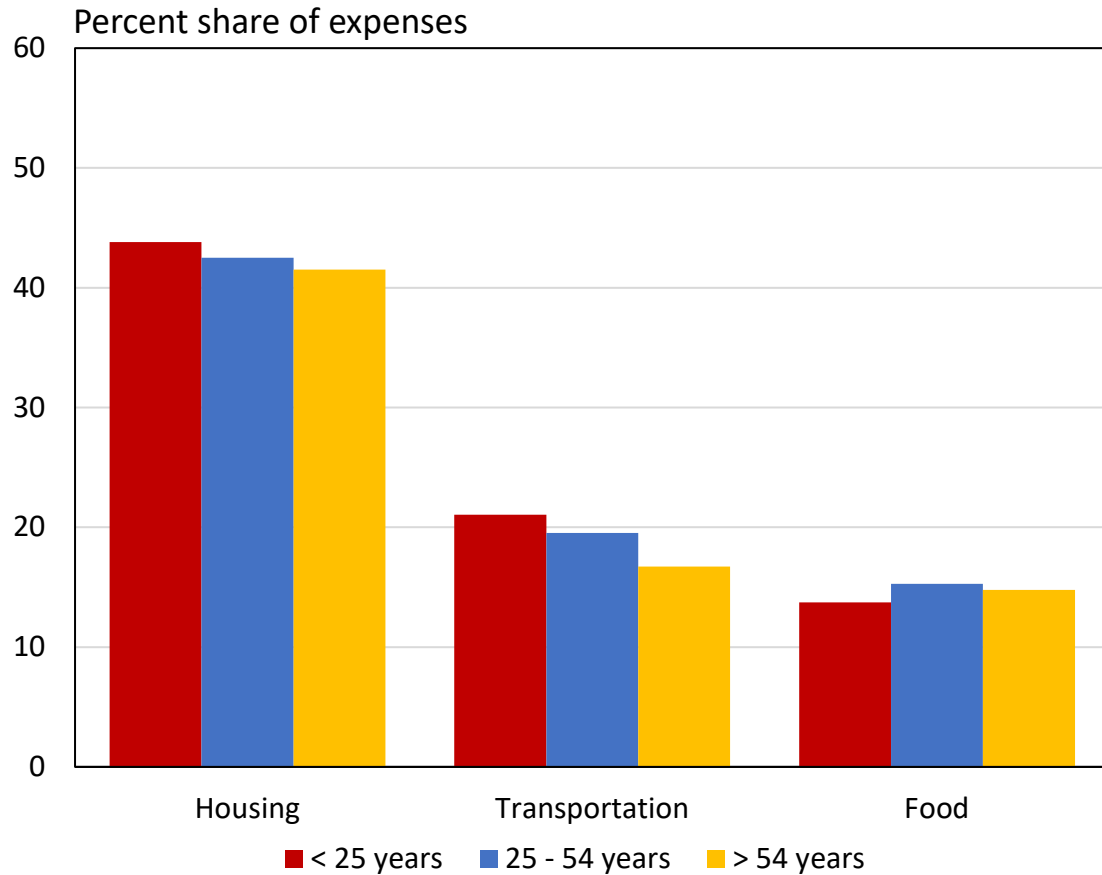
Demographic Inflation by Income
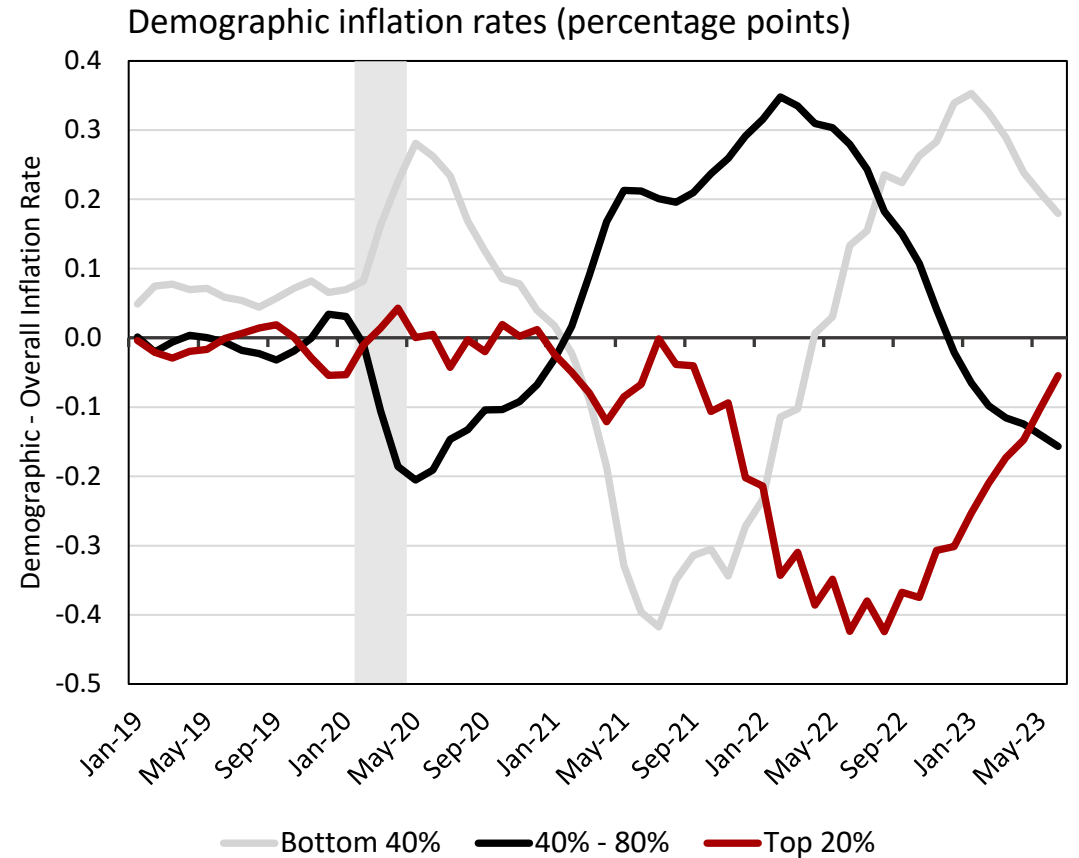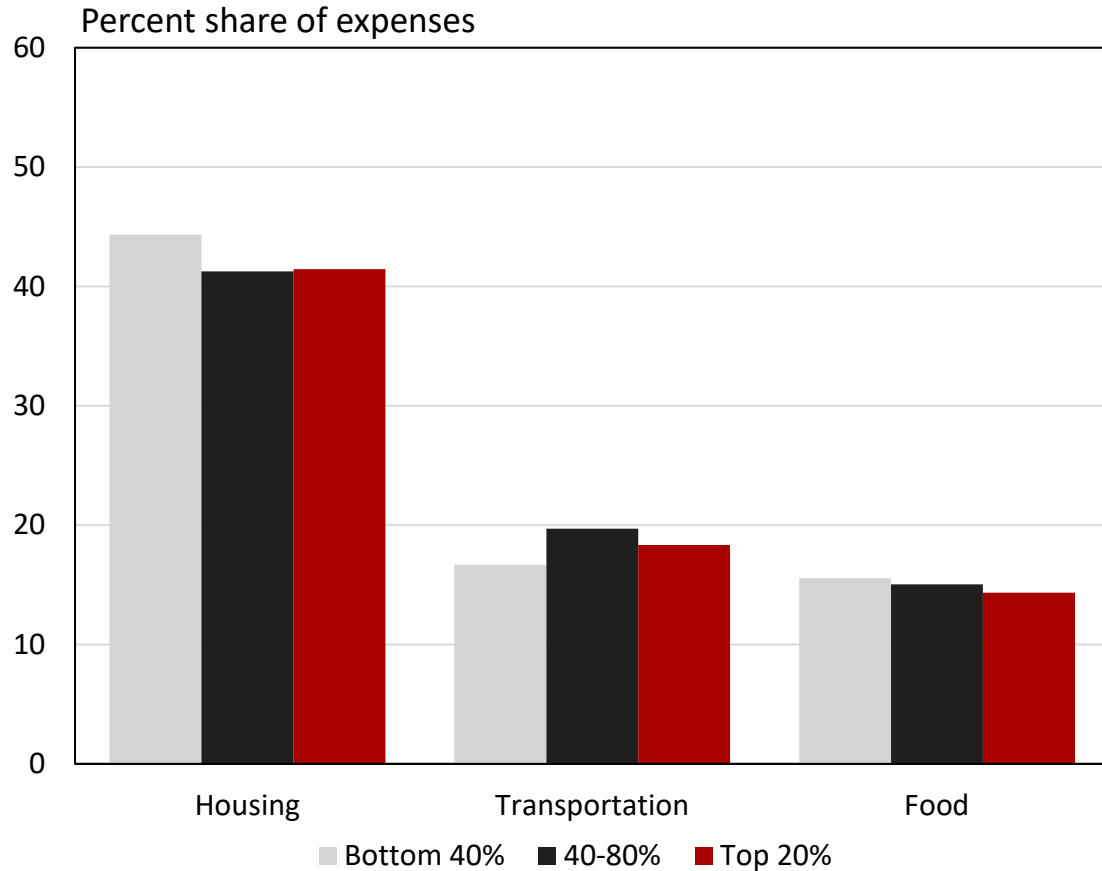
Percent share of expenses

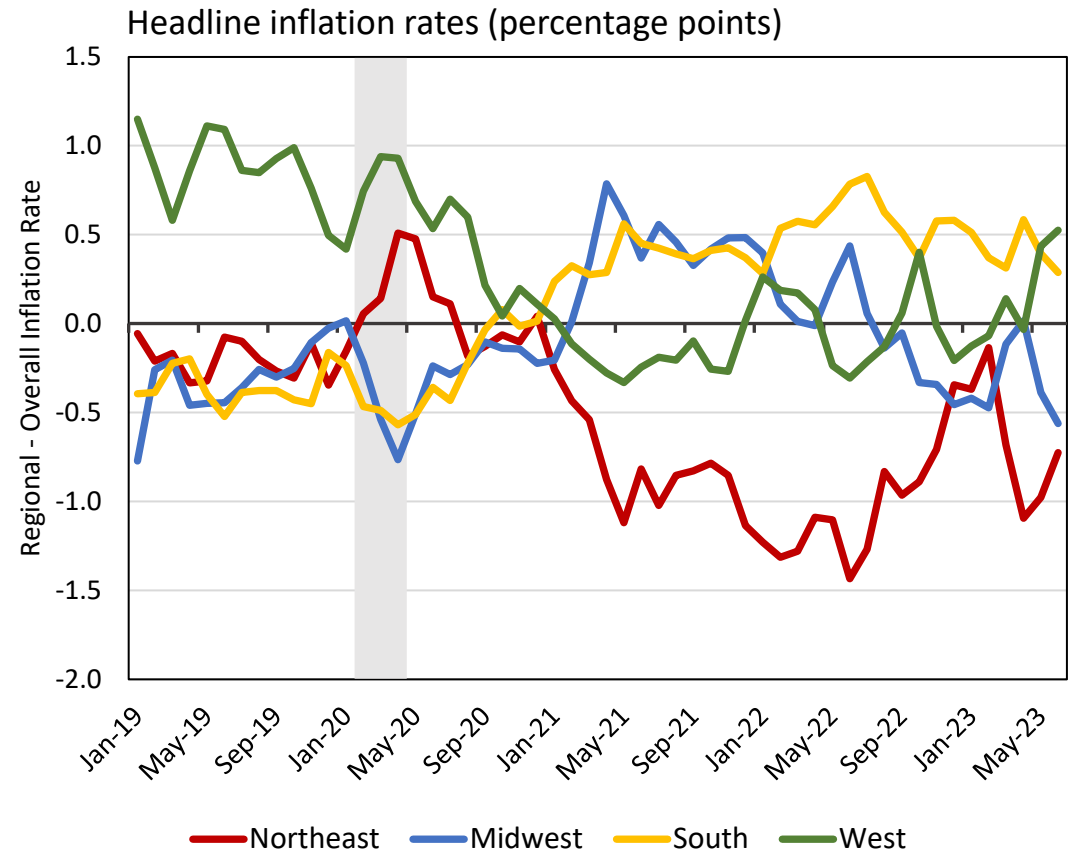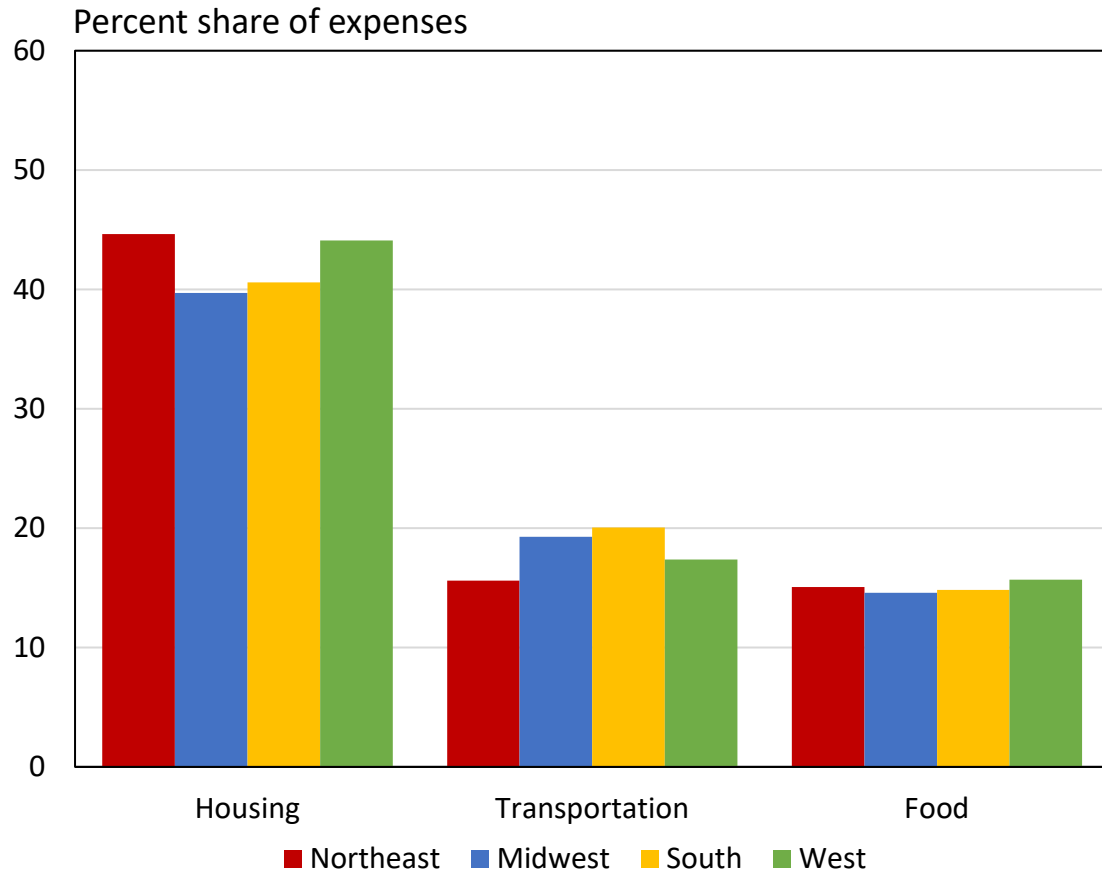**Demographic inflation rates (percentage points)**

Sources: BLS Consumer Expenditure Survey microdata; BLS Consumer Price Indexes.

Notes: Expenditure shares use 2020 CEX microdata. Shaded region indicates the COVID-19 recession.

Demographic Inflation by Education

Percent share of expenses

Demographic inflation rates (percentage points)

Sources: BLS Consumer Expenditure Survey microdata; BLS Consumer Price Indexes.

Notes: Expenditure shares use 2020 CEX microdata. Shaded region indicates the COVID-19 recession.
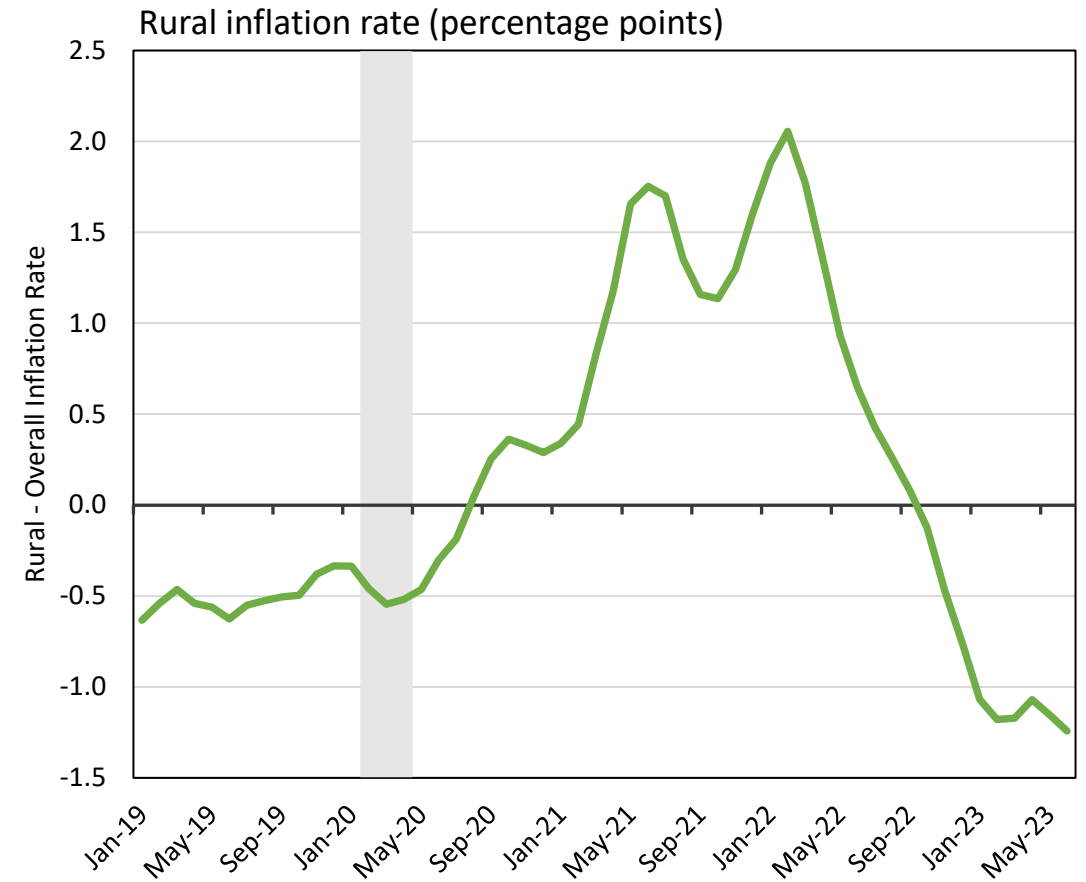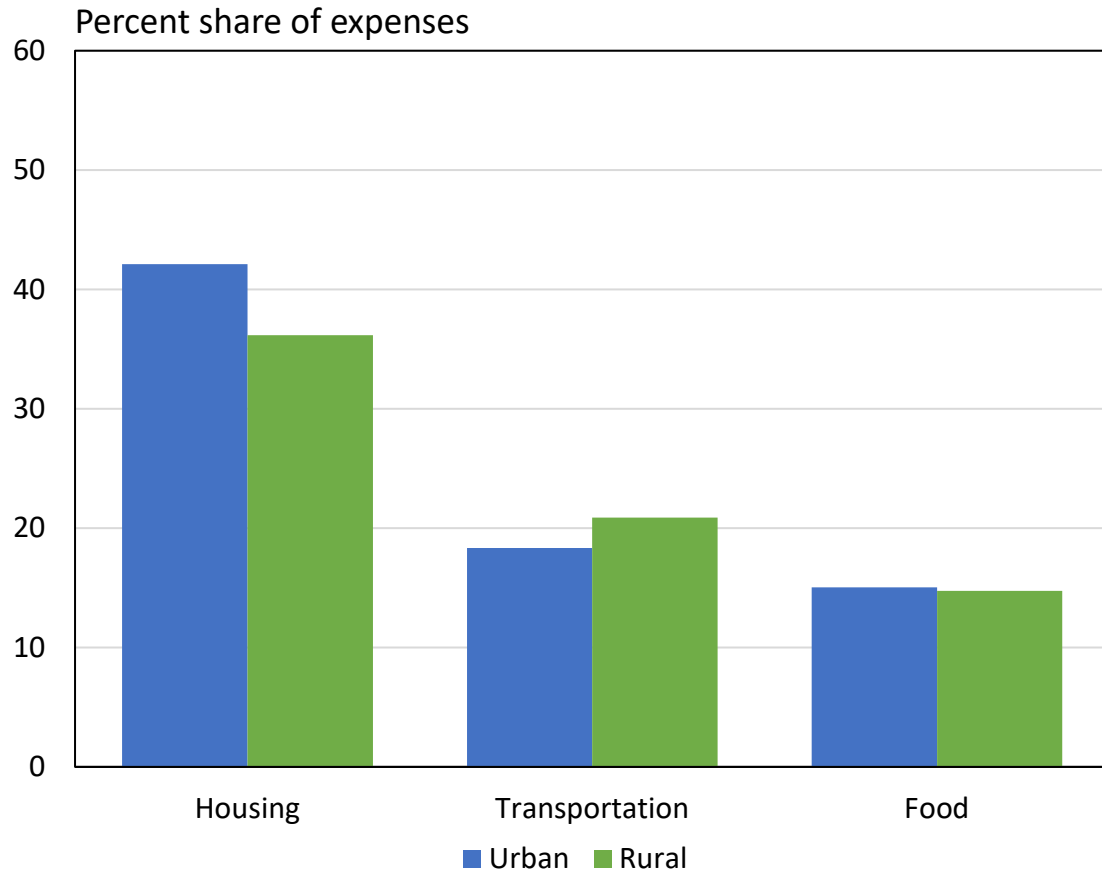
Demographic Inflation by Age

Sources: BLS Consumer Expenditure Survey microdata; BLS Consumer Price Indexes.

Notes: Expenditure shares use 2020 CEX microdata. Shaded region indicates the COVID-19 recession.

Demographic Inflation by U.S. Region

Percent share of expenses

Headline inflation rates (percentage points)

Sources: BLS Consumer Expenditure Survey microdata; BLS Consumer Price Indexes.

Notes: Expenditure shares use 2020 CEX microdata. Shaded region indicates the COVID-19 recession.

Demographic Inflation by Urban Status

Percent share of expenses

Rural inflation rate (percentage points)

EARNINGS

Takeaways | Earnings

- Real earnings peaked during the pandemic recession and have fallen since.

- Earnings disparities (both nominal and real) are largest across education categories, with smaller but still substantial gaps across racial and ethnic categories, gender, age, and geography.

- Real earnings of Black workers have been increasing since March 2023, while race/ethnic earnings gaps for Hispanic and AAPI workers have remained stable.

- The gender earnings gap continues to remain around 20% into June 2023.

- Earnings of rural workers have been catching up to that of urban workers, with the urban-rural earnings gap falling to 22% from 27% in March 2023.

- Veteran-nonveteran earnings gaps are now smaller than those during the pre-pandemic period.

- The college premium has displayed a gradual decline, falling to 80.5% from the post-pandemic peak of 85.5% in July 2022.

Data & Methods

- We compute real earnings by deflating nominal earnings for each demographic using our estimates of demographic-specific inflation.

- Comparable nonveterans are male high school graduates reweighted by age, race and birthplace to match veterans.

- Gaps are defined as the percentage difference in earnings between a majority group and a minority group in the labor market.

- The gender gap is defined as the percentage difference between male and female earnings.

- The racial gaps are defined as the percentage differences between earnings of white non-Hispanic workers and earnings of workers of the race or ethnicity in question.

- The college premium is defined as the percentage difference between earnings of college graduates and earnings of workers who did not graduate from college.

Real/Nominal Earnings by Race/Ethnicity
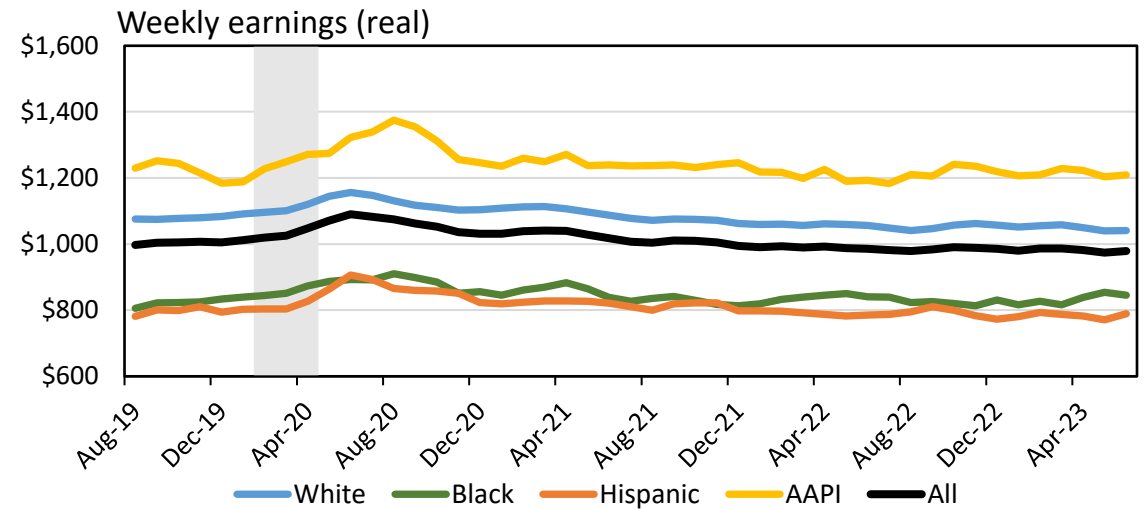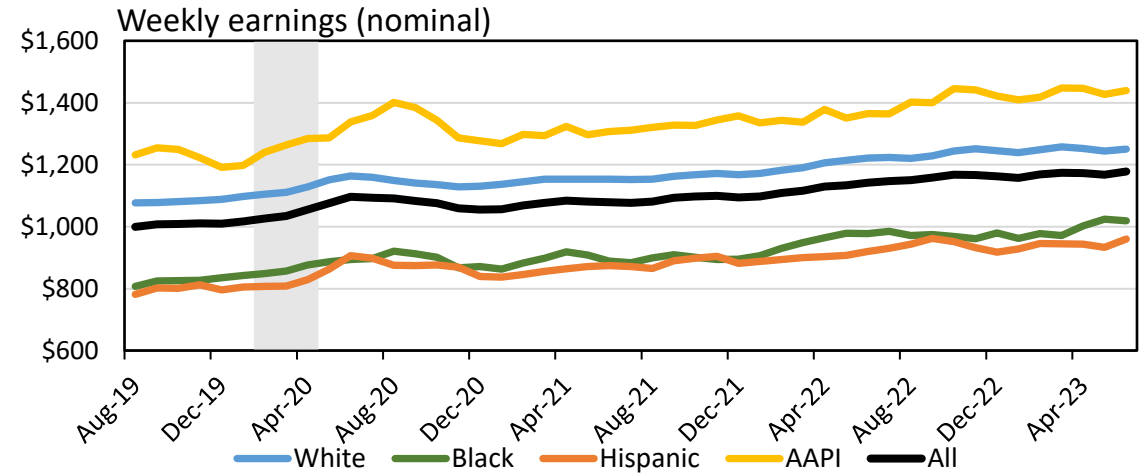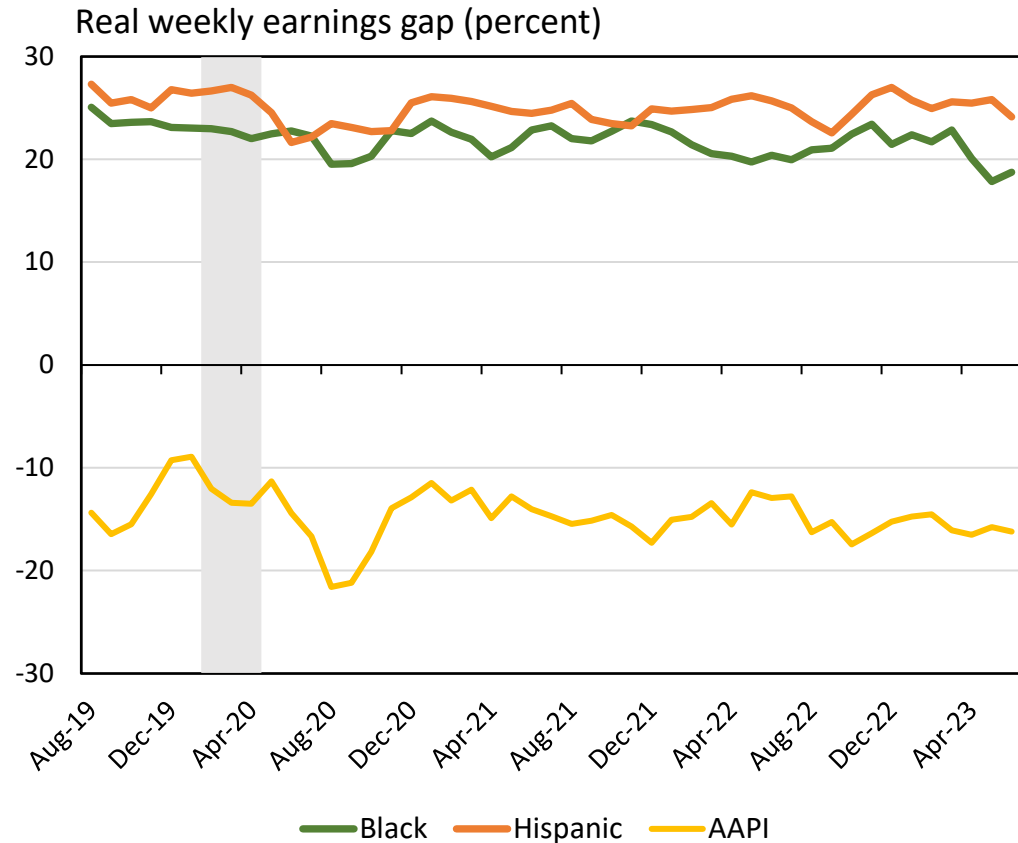
Real weekly earnings gap (percent)

Weekly earnings (nominal)
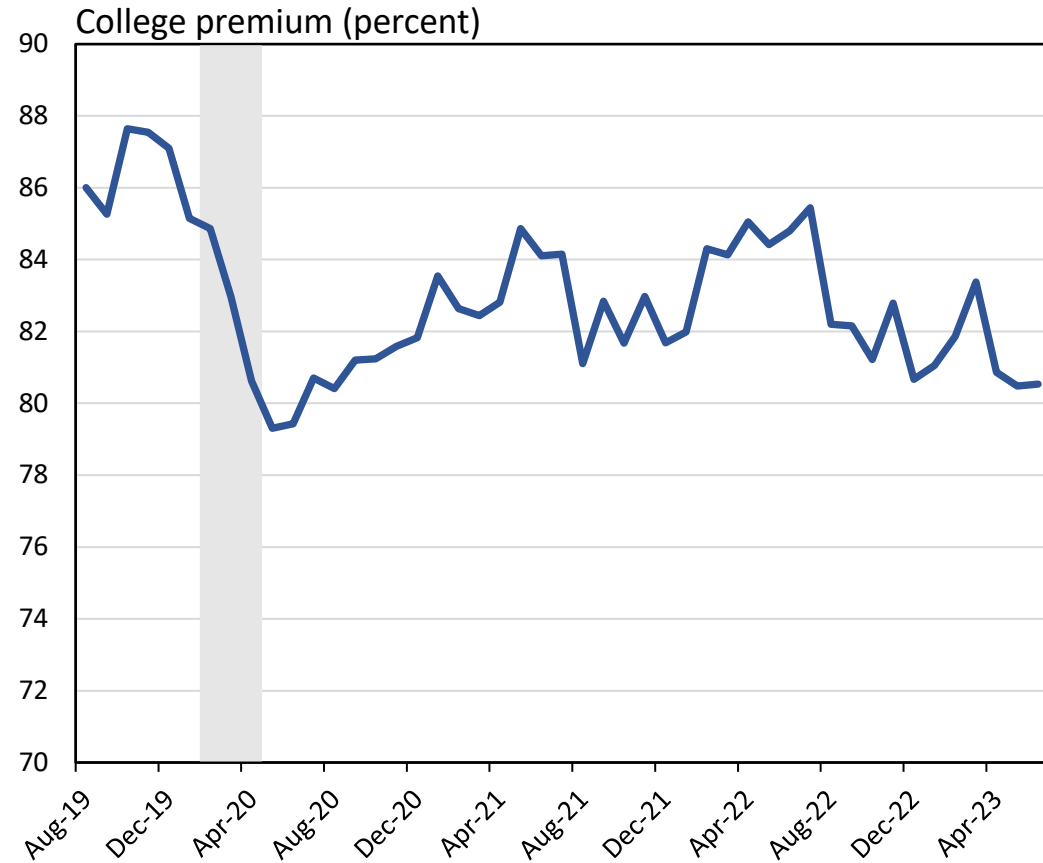

Weekly earnings (real)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.

Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. Shaded region indicates the COVID-19 recession. The race gap is defined here as the percent less in real earnings that the average Black/Hispanic/AAPI American earns on average compared to white Americans. For instance, a gap of 20% implies that the average Black/Hispanic/AAPI American earns 80% of the average white American.
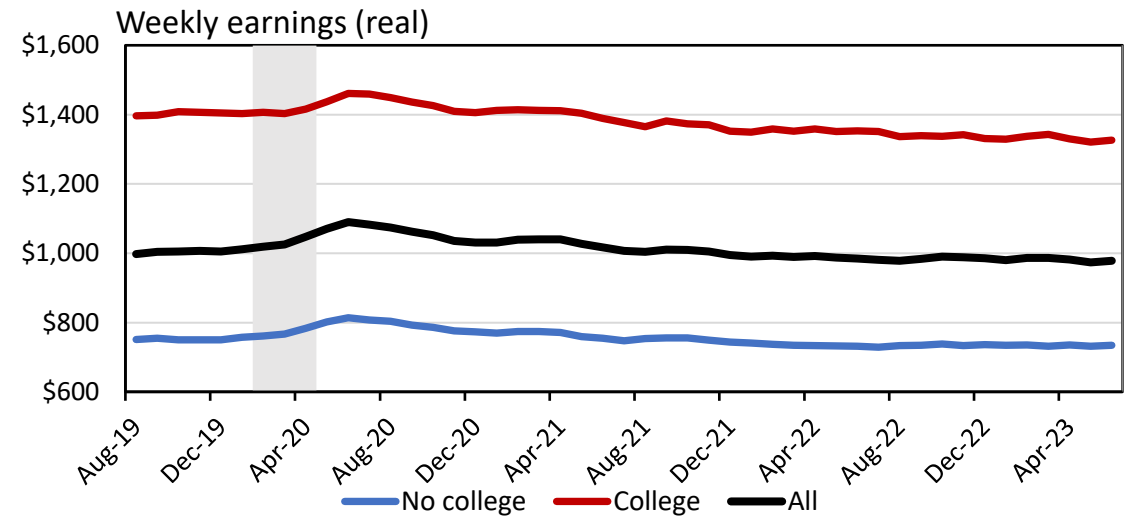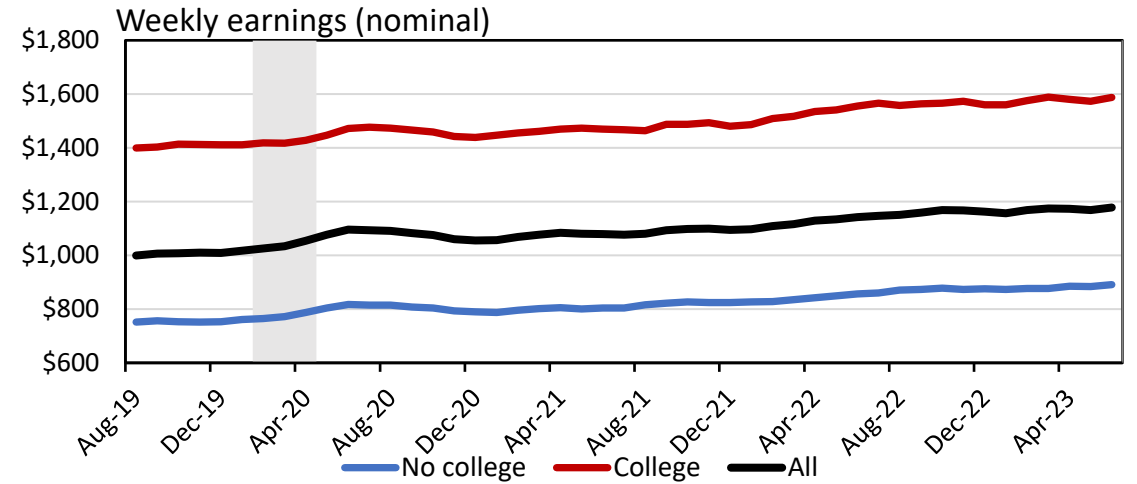
Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.

Real/Nominal Earnings by Education

College premium (percent)

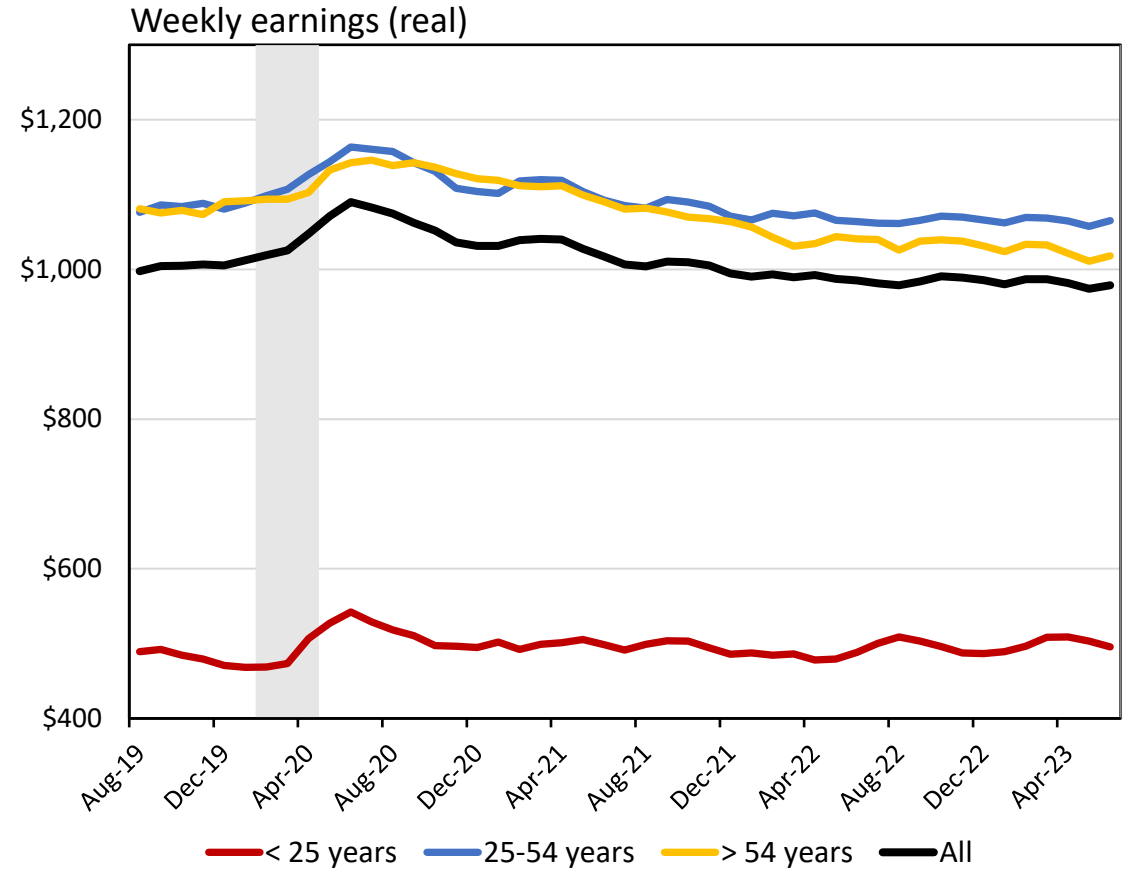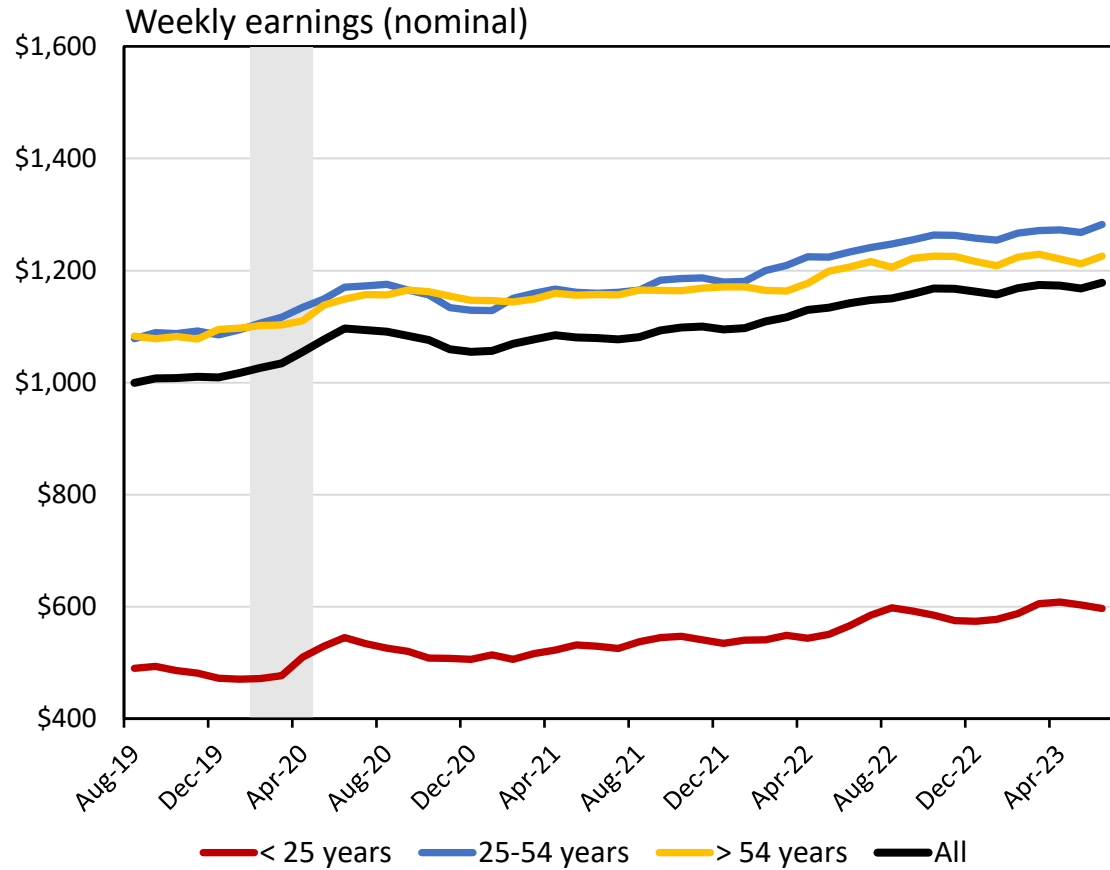## Weekly earnings (nominal)

Weekly earnings (real)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.

Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. Shaded region indicates the COVID-19 recession. College premium is defined here as the percent more that college graduates earn (weekly) on average compared to non-graduates. For instance, a gap of 80% implies that the average graduate earns 80% more than the average non-graduate.

Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.

Real/Nominal Earnings by Age

Weekly earnings (nominal)

Weekly earnings (real)

Legend: < 25 years 25-54 years > 54 years All

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.
Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. Shaded region indicates the COVID-19 recession.

Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.
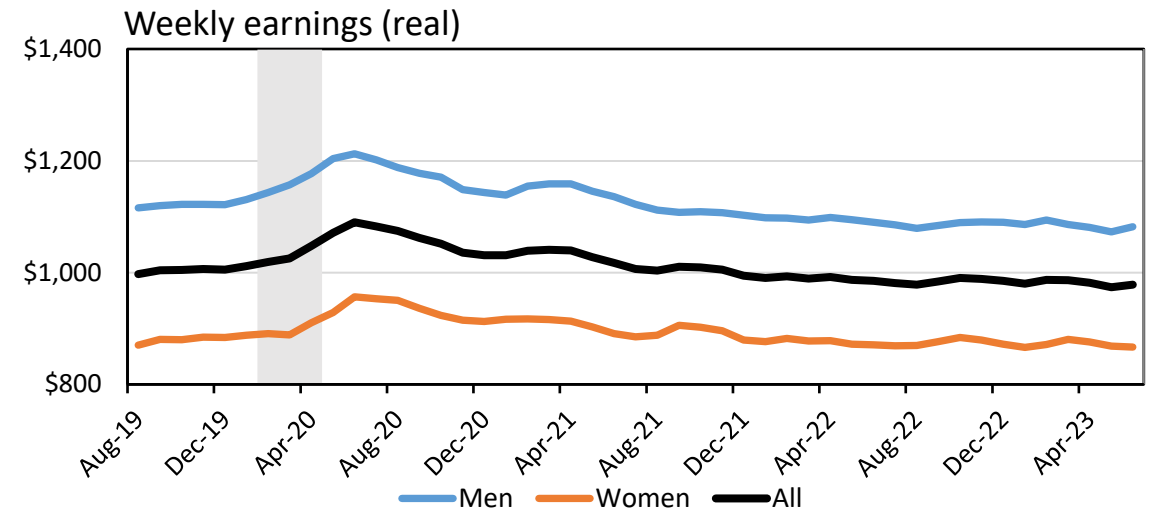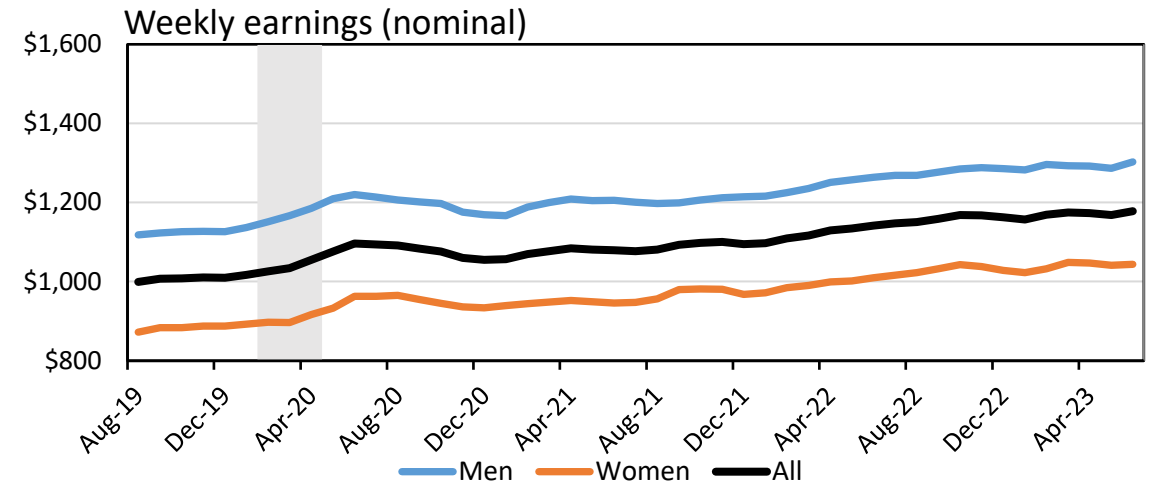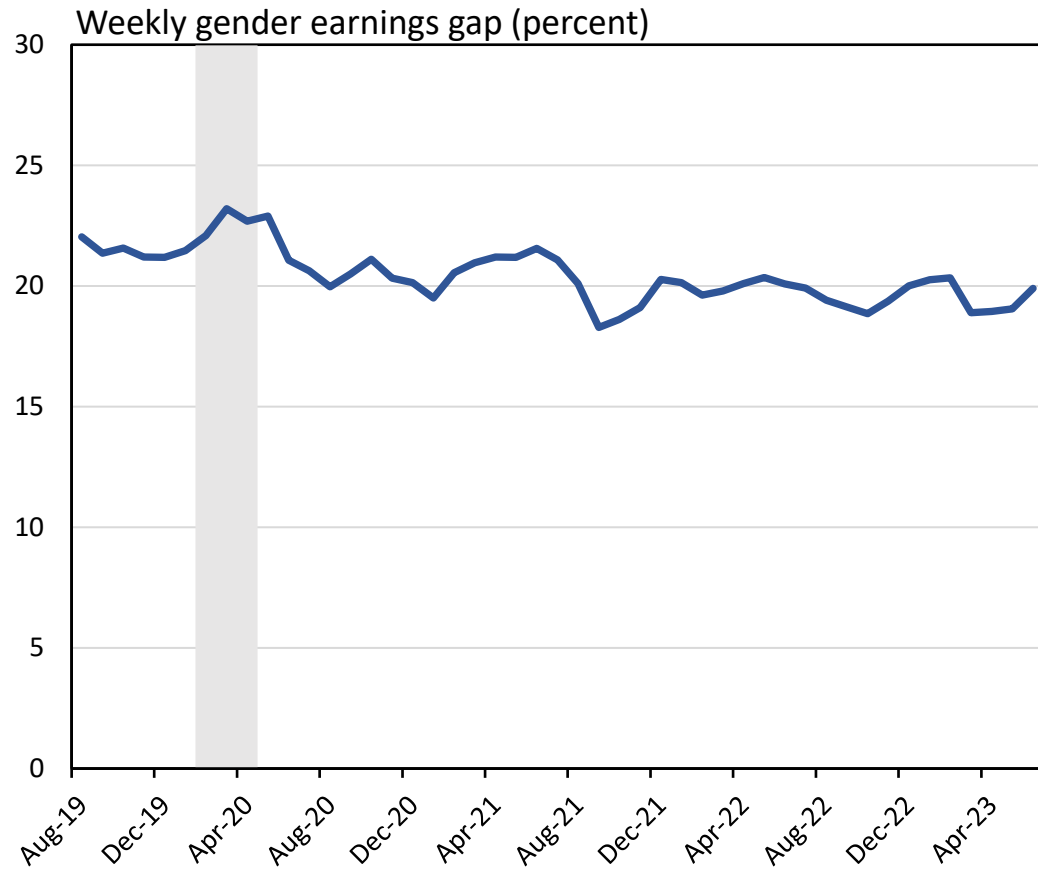
Real/Nominal Earnings by Gender

Weekly gender earnings gap (percent)

Weekly earnings (nominal)

Men — Women — All

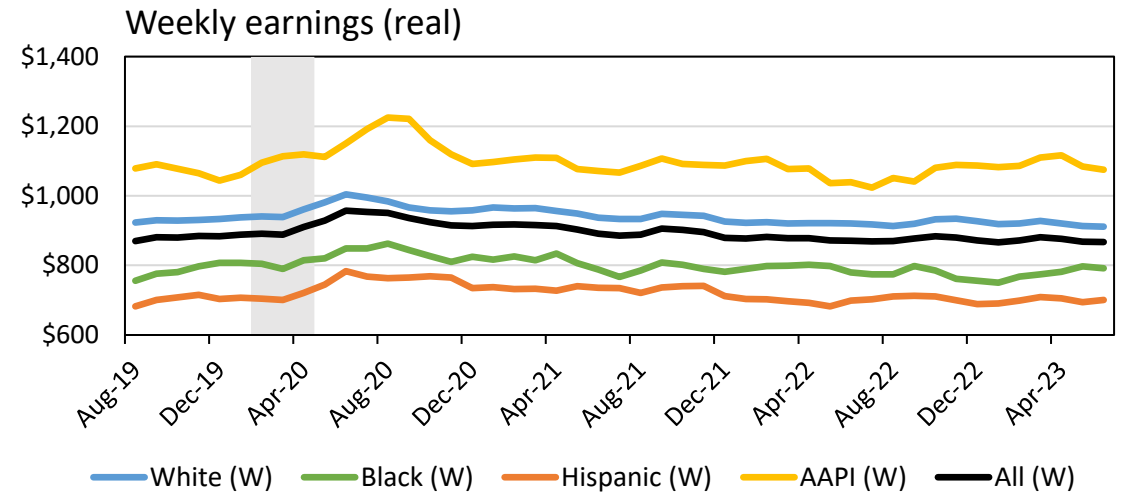## Weekly earnings (real)

Men — Women — All

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. Shaded region indicates the COVID-19 recession. The gender gap is defined here as the percent less that women earn on average compared to men. For instance, a gap of 20% implies that the average woman earns 80% of the average man.

Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.

Real/Nominal Earnings by Race x Gender (Women)

Real weekly earnings gap relative to white men (percent)

Weekly earnings (nominal)
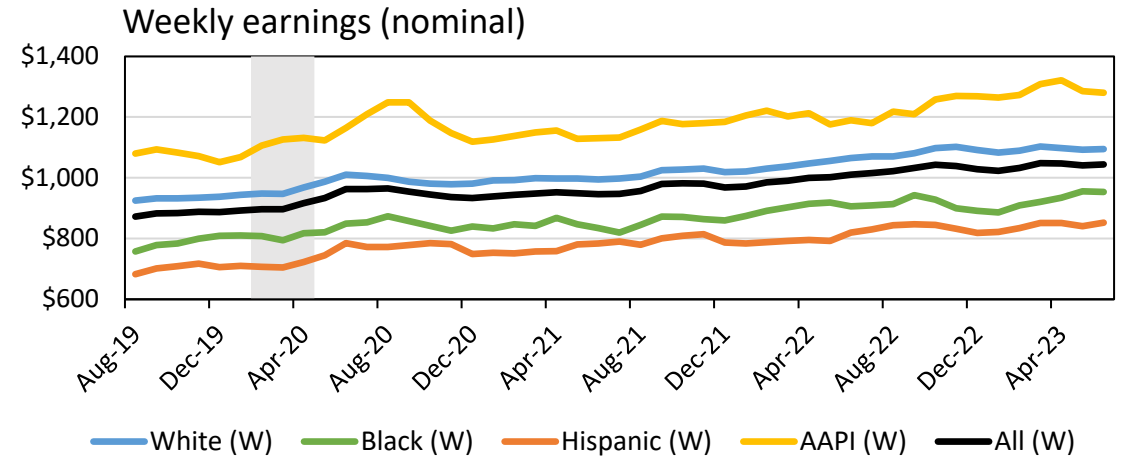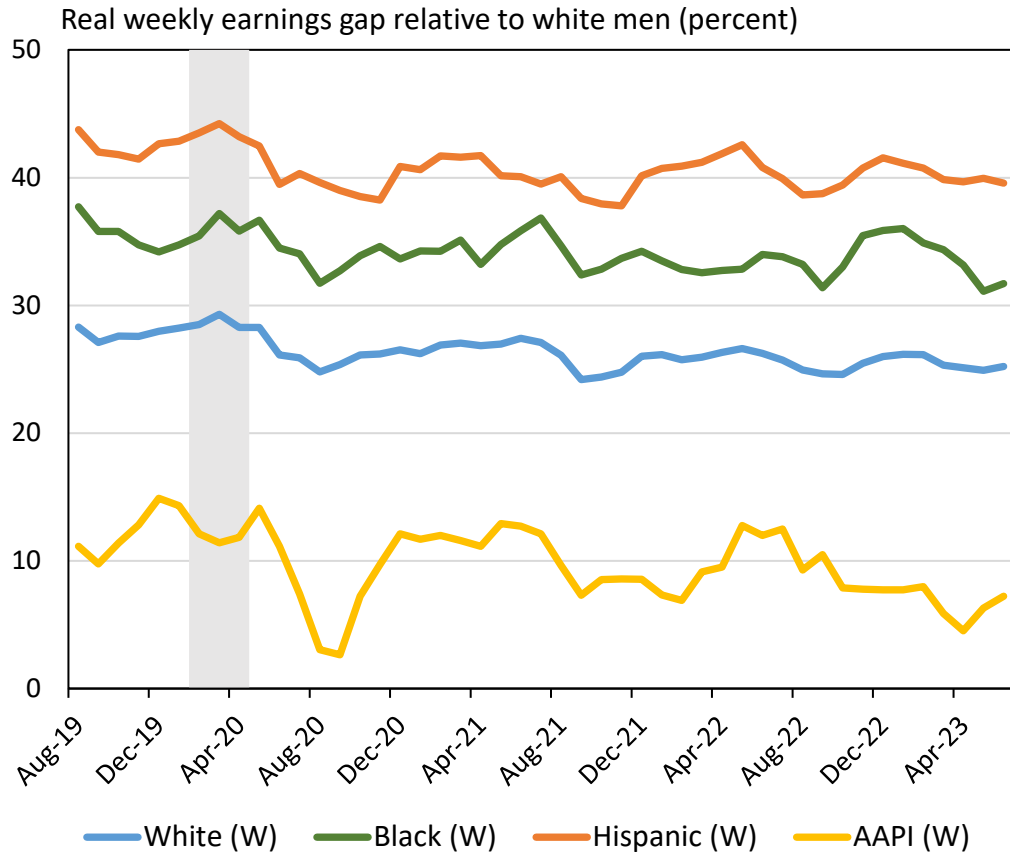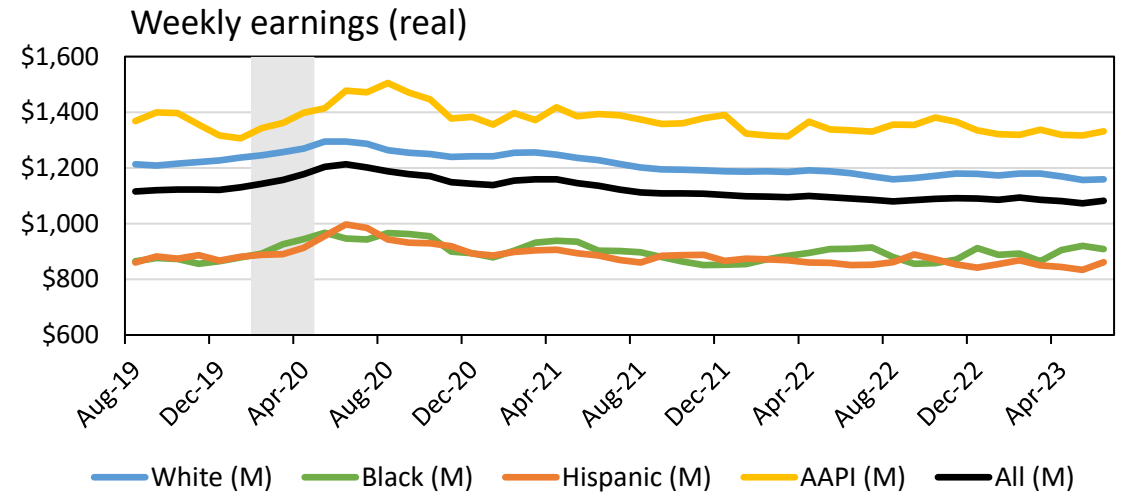

Weekly earnings (real)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. Shaded region indicates the COVID-19 recession. The earnings gap is defined here as the percent less that a woman of each racial/ethnic group earns on average compared to white men. For instance, a gap of 40% implies that the average Black/Hispanic/AAPI/white woman earns 60% of the average white man.

Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.

Real/Nominal Earnings by Race x Gender (Men)

Real weekly earnings gap relative to white men (percent)

Weekly earnings (nominal)
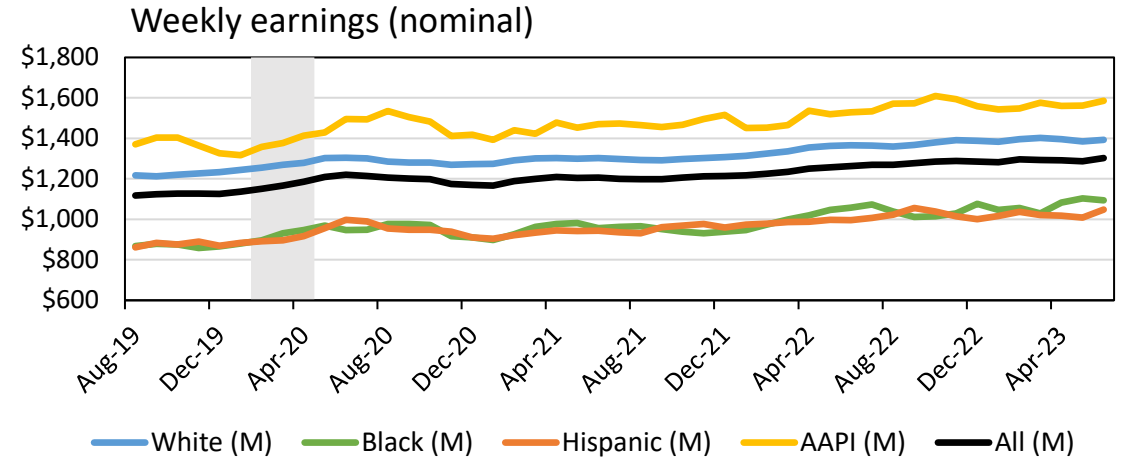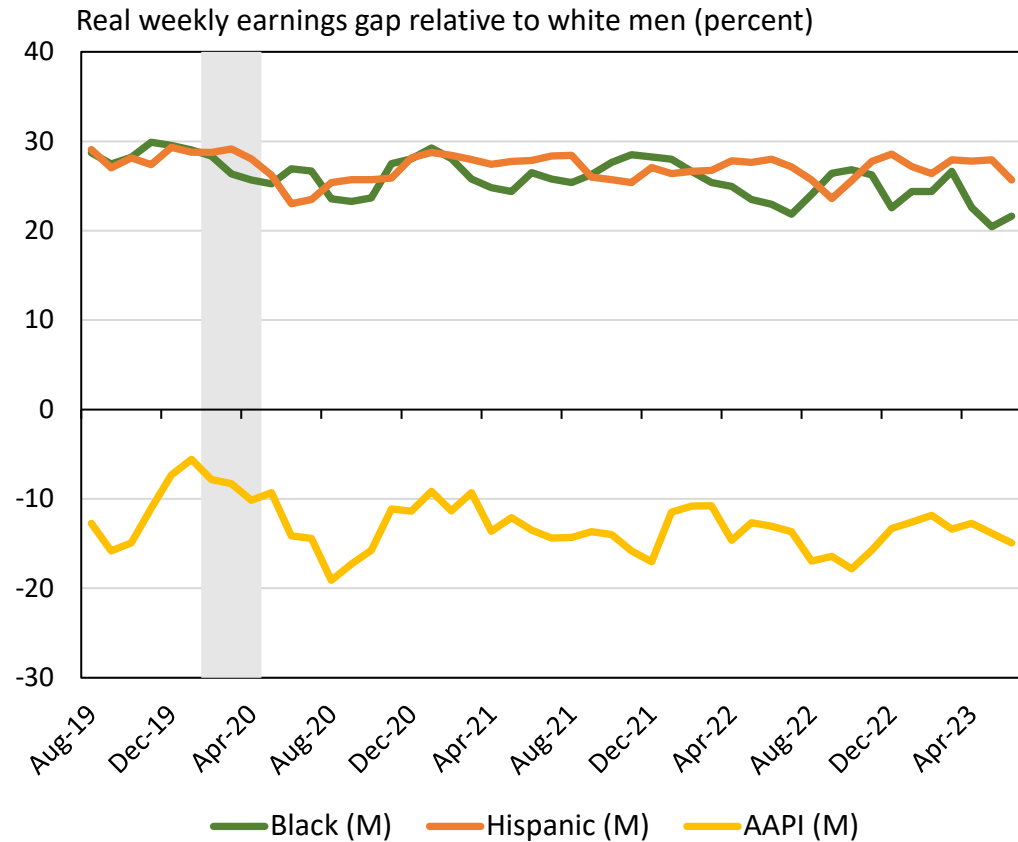

Weekly earnings (real)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata, authors' calculations, three-month moving averages.

Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. Shaded region indicates the COVID-19 recession. The earnings gap is defined here as the percent less that a man of each racial/ethnic group earns on average compared to white men. For instance, a gap of 20% implies that the average Black/Hispanic/AAPI man earns 80% of the average white man.

Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.

Real/Nominal Earnings by Urban Status

Weekly rural earnings gap (percent)

Weekly earnings (nominal)

Rural — Urban — All

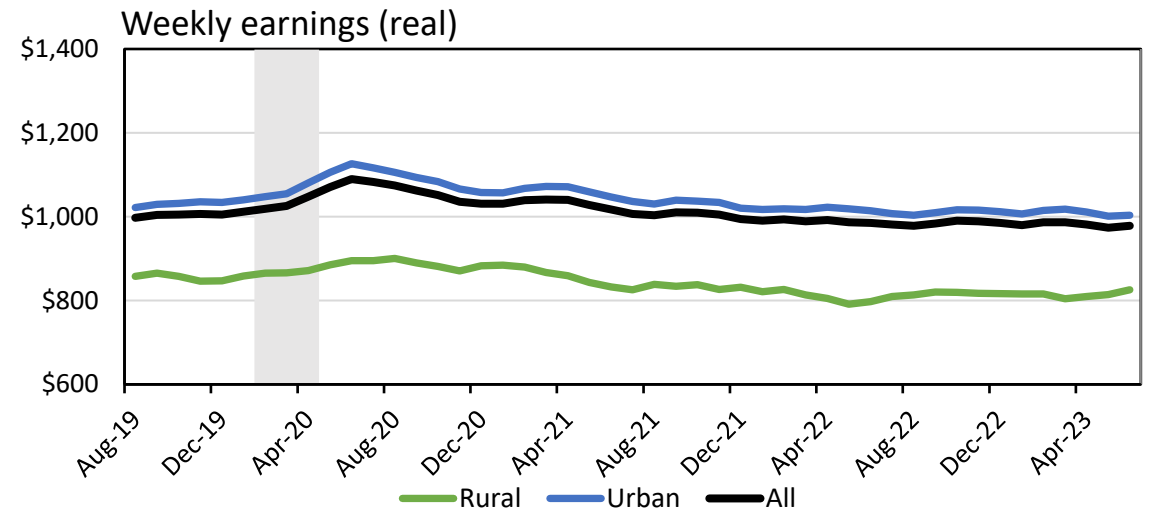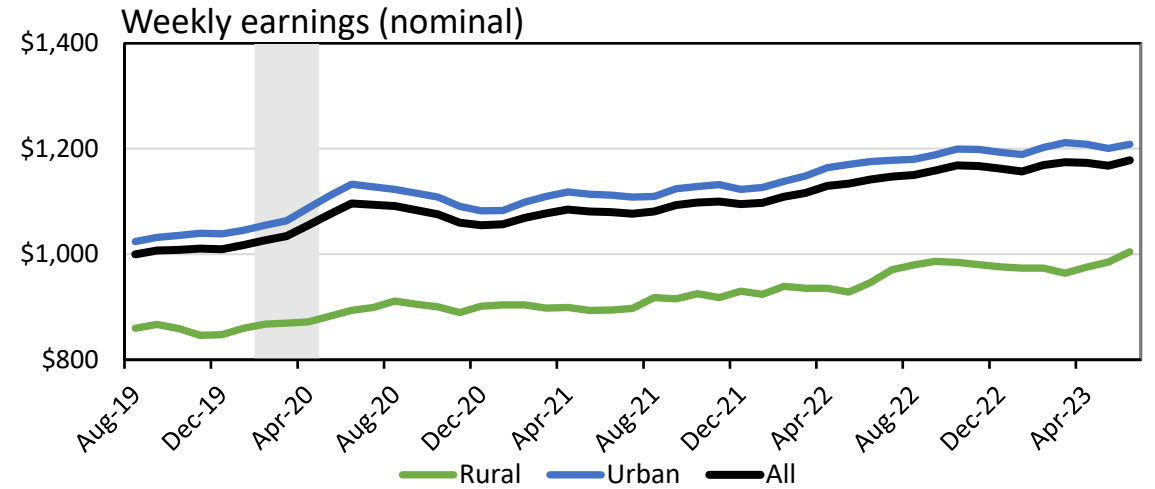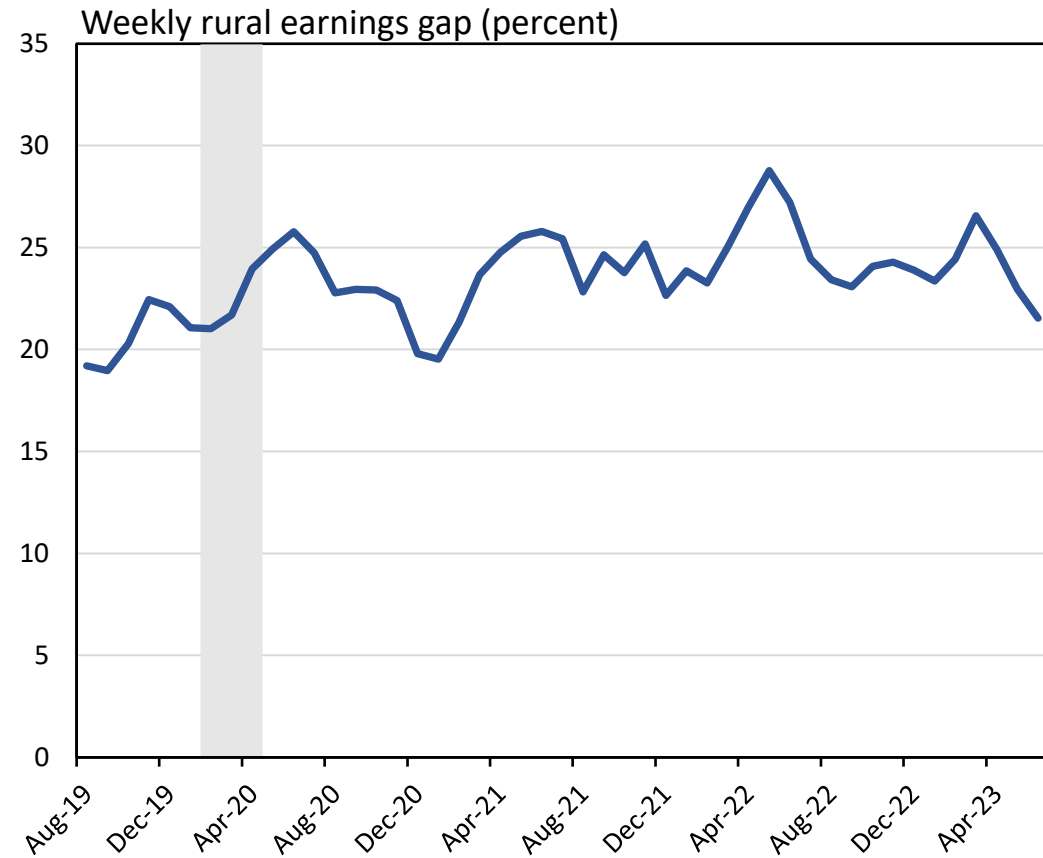## Weekly earnings (real)

Rural — Urban — All

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.

Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. Shaded region indicates the COVID-19 recession. The rural earnings gap is defined here as the percent less that an average rural resident earns on average relative to an urban resident. For instance, a gap of 20% implies that the average rural resident earns 80% of the average urban resident.

Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.

Real/Nominal Earnings by Veteran Status*

Weekly veteran earnings gap (percent)

Weekly earnings (nominal)
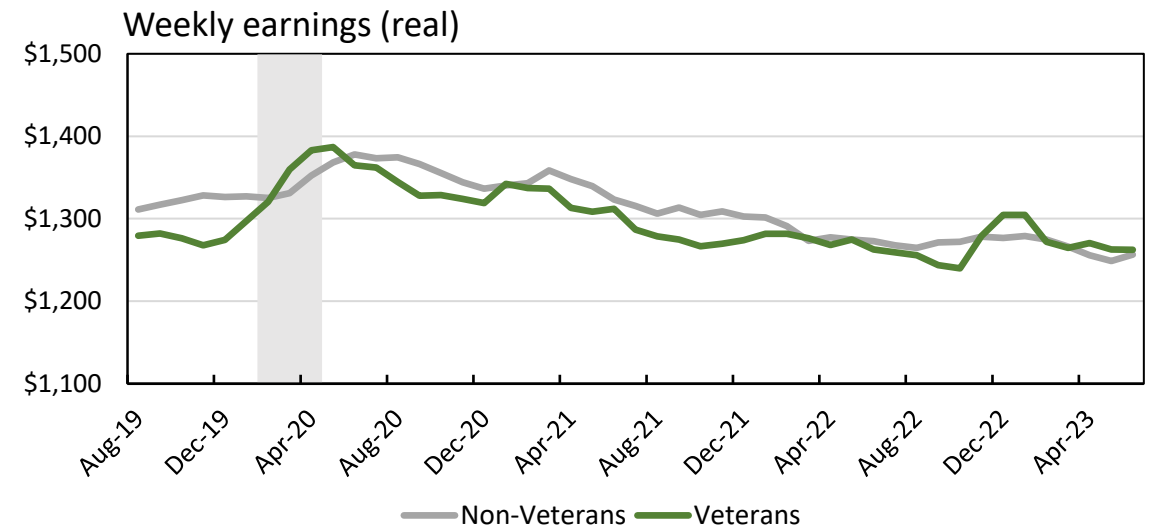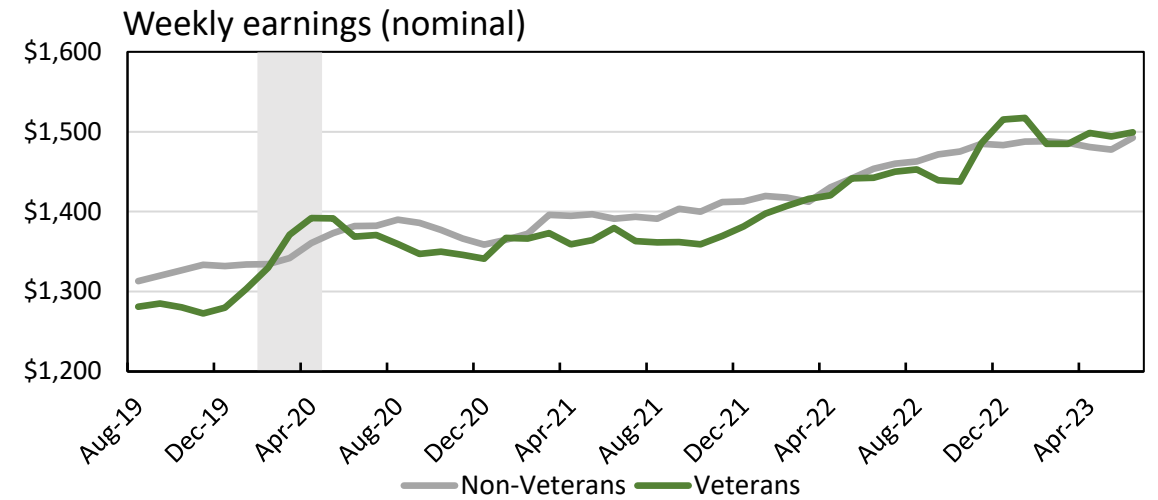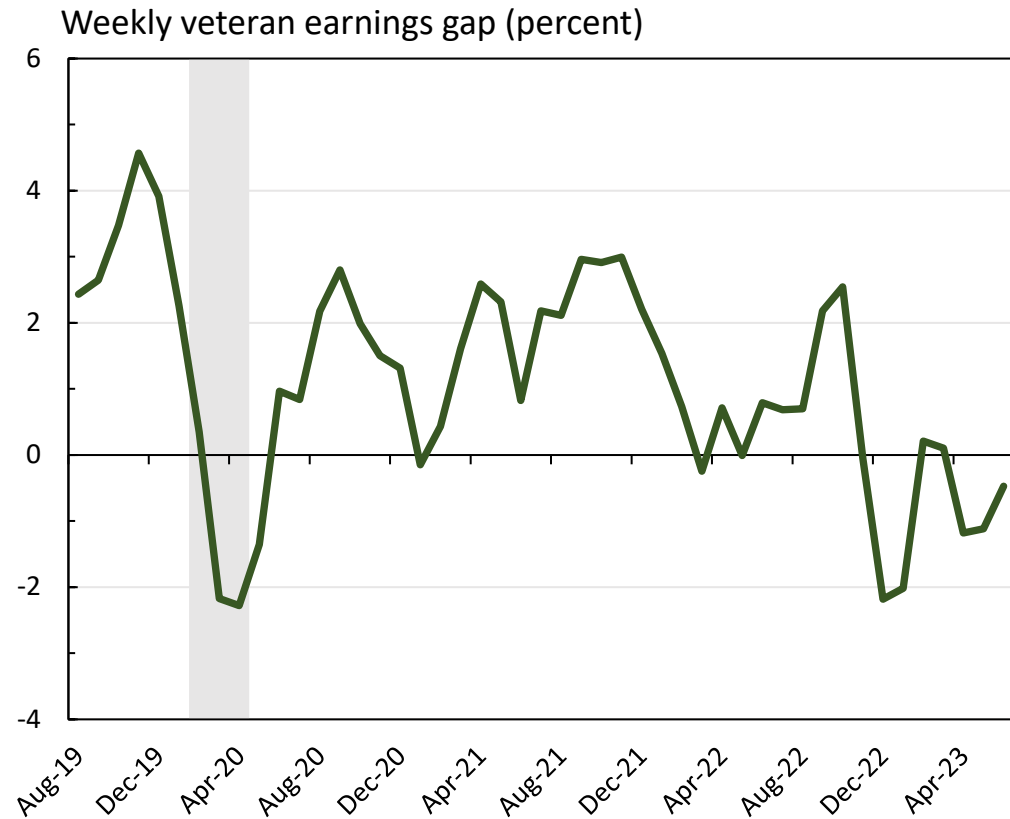

Weekly earnings (real)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.

Notes: Real earnings uses corresponding demographic prices, indexed to June 2019. *The non-veteran sample is propensity reweighted toward non-veterans with similar demographic characteristics. Shaded region indicates the COVID-19 recession. The veteran gap is defined here as the percent less that veterans earn on average compared to non-veterans. For instance, a gap of 20% implies that the average veteran earns 80% of the average non-veteran.

Individual weekly earnings from April 2023 onward are top coded to $2,884.61, in accordance with pre-April 2023 CPS data conventions for continuity.
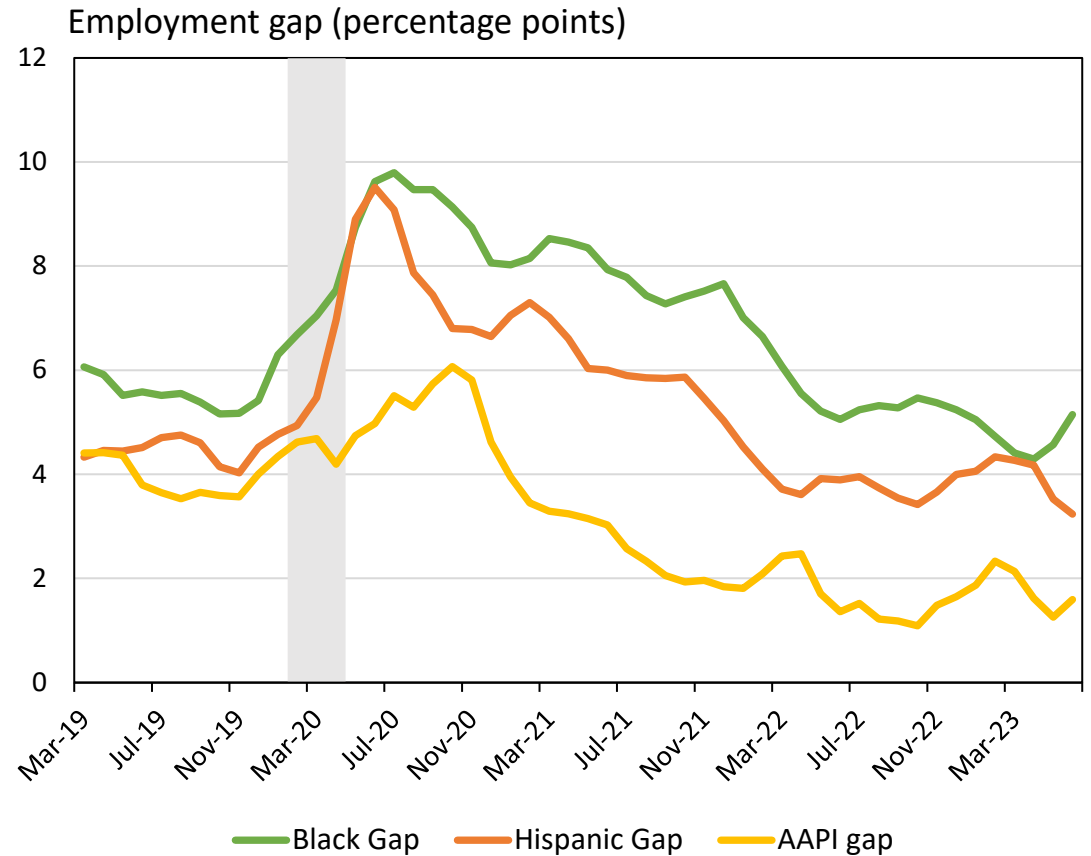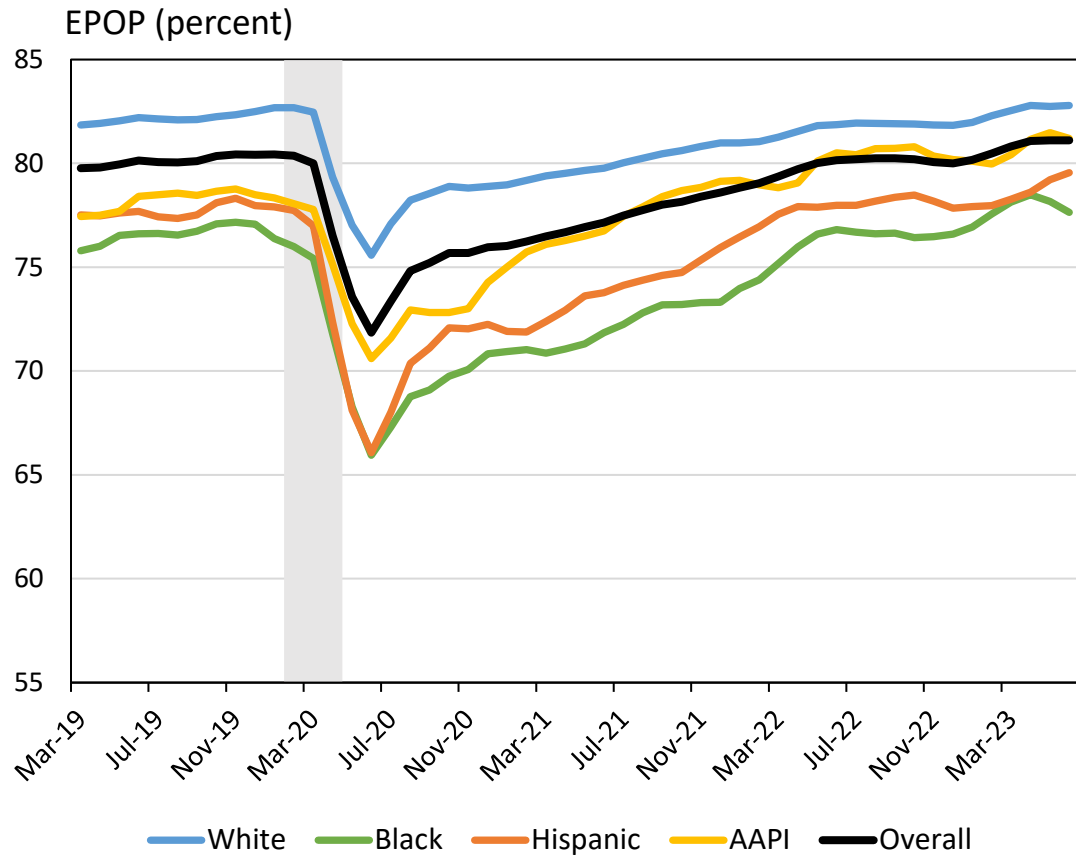
EMPLOYMENT

Employment-Population Ratio

Takeaways | EPOP

- Employment as a ratio to population (EPOP) for people aged 25 to 54 declined precipitously during the pandemic recession and rebounded quickly thereafter, returning to pre-pandemic levels in early 2022.

- EPOP decreased more than the U.S. average for Black people, Hispanics, women, the young, people in rural areas, and people without a college education during the pandemic.

- EPOP for Black people, Hispanics and Asians have been rising steadily post-pandemic, but have been roughly stable across age, education, and gender.

- The Black EPOP equaled the Hispanic EPOP from February 2023 to May 2023, although the former fell one percentage point in June 2023. Women's EPOP grew faster than that for men since January 2023.

- Black men and Hispanic and Asian women have EPOP ratios considerably below the national averages for their genders, a pattern driven almost entirely by their labor force participation.

- Veterans have systematically lower EPOP than comparable* nonveterans, mainly because they have lower labor force participation.

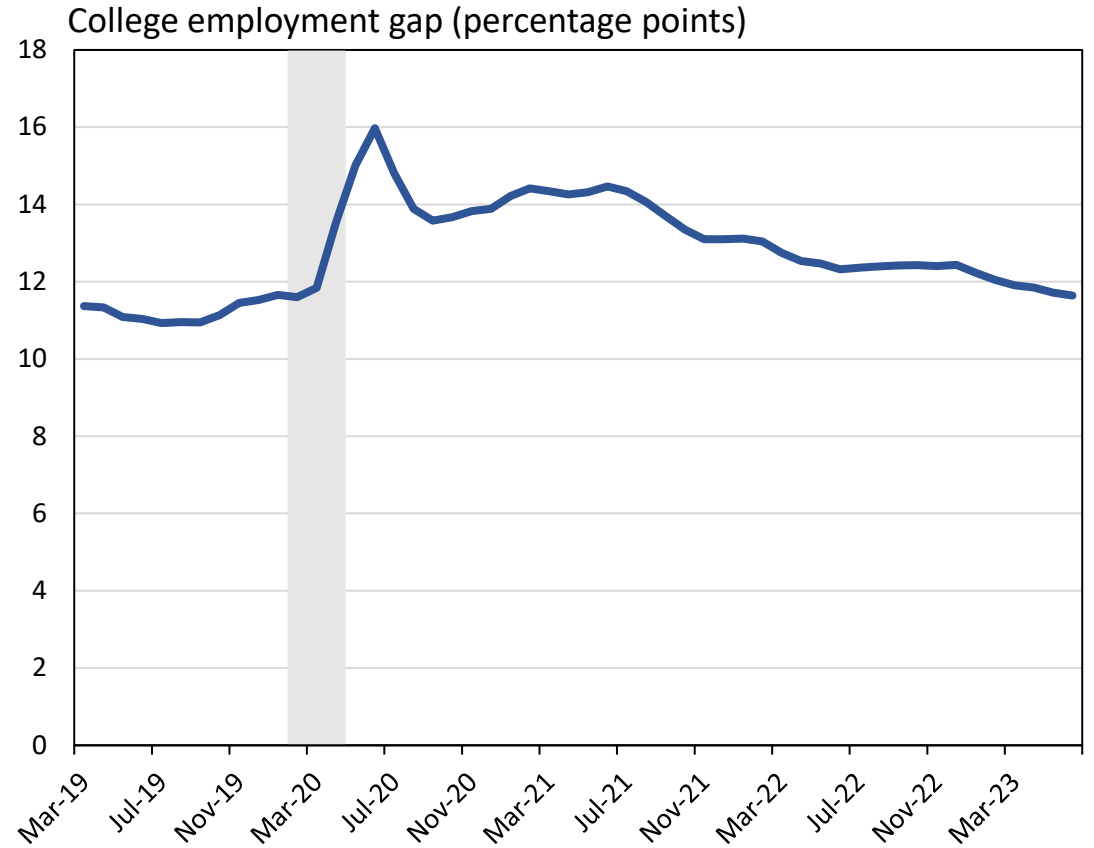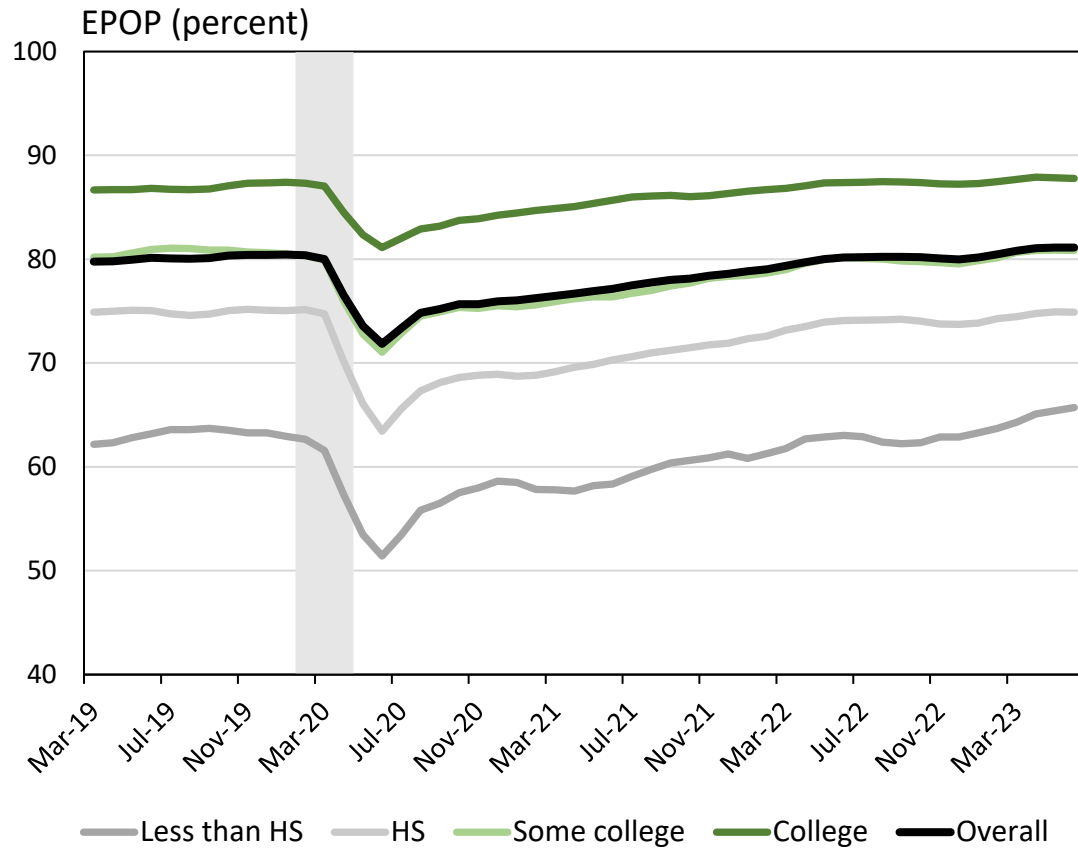*Comparable nonveterans are male high school graduates reweighted by age, race and birthplace to match veterans.*

EPOP by Race/Ethnicity

EPOP (percent)

Employment gap (percentage points)

White · Black · Hispanic · AAPI · Overall

Black Gap · Hispanic Gap · AAPI gap

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.

EPOP by Education

EPOP (percent)

Less than HS   HS   Some college   College   Overall

College employment gap (percentage points)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
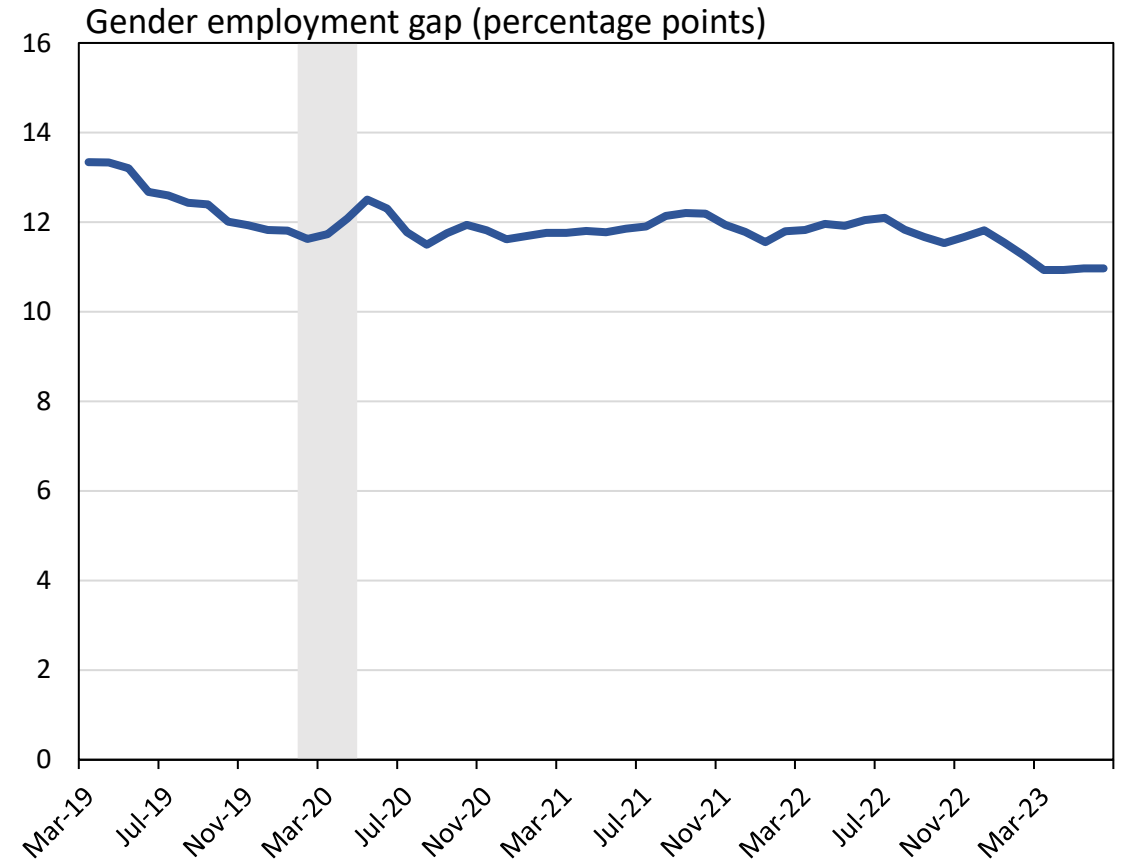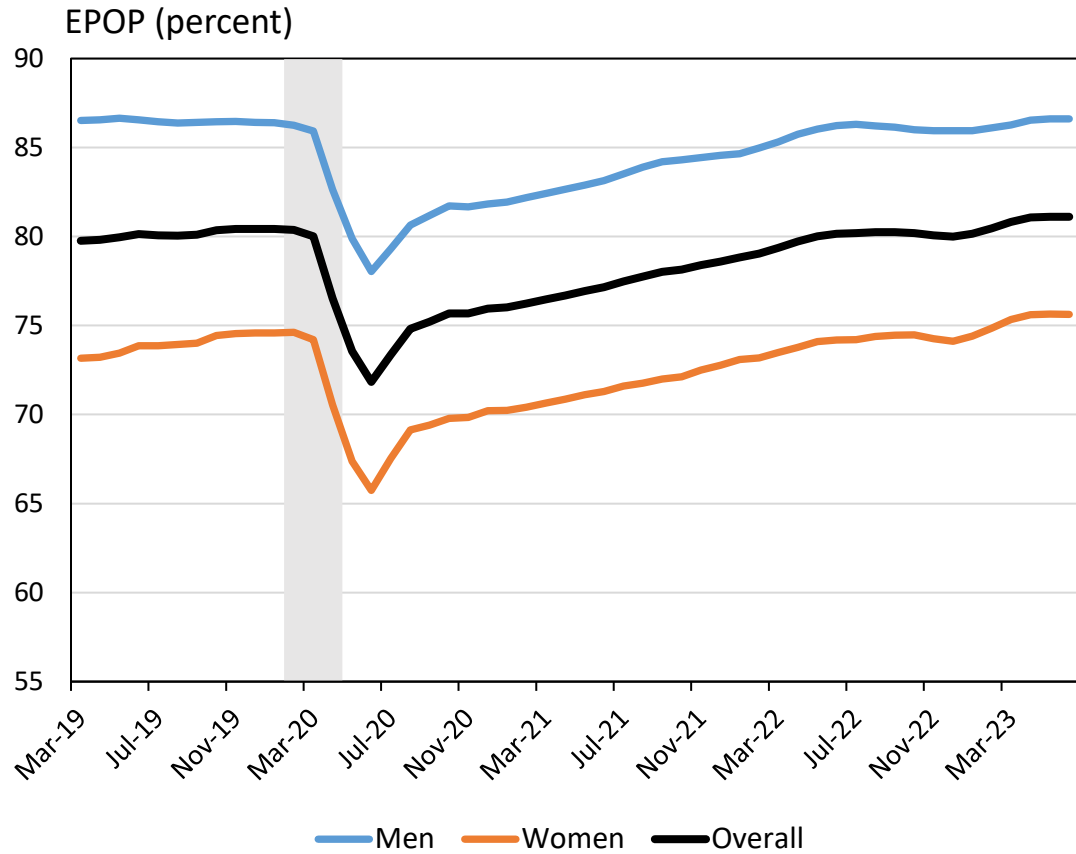
EPOP by Gender

EPOP (percent)

Gender employment gap (percentage points)

Men — Women — Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
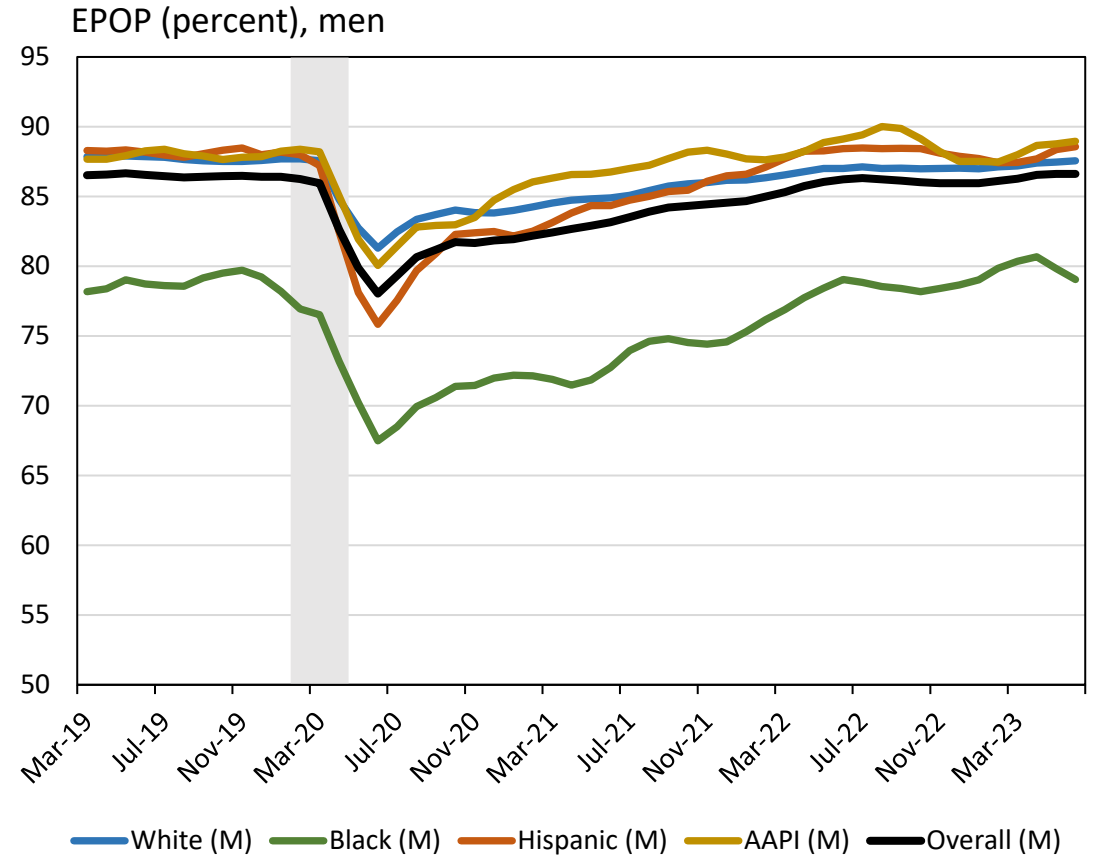
EPOP by Race x Gender

EPOP (percent), women

EPOP (percent), men

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
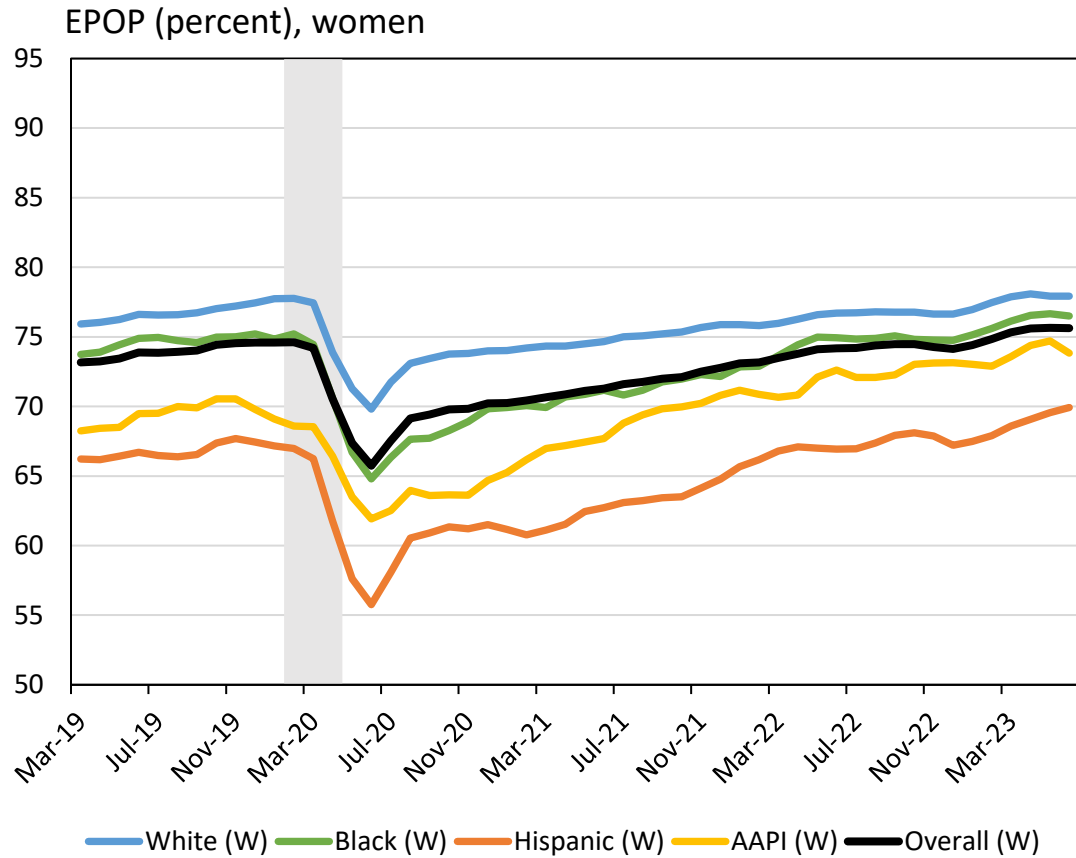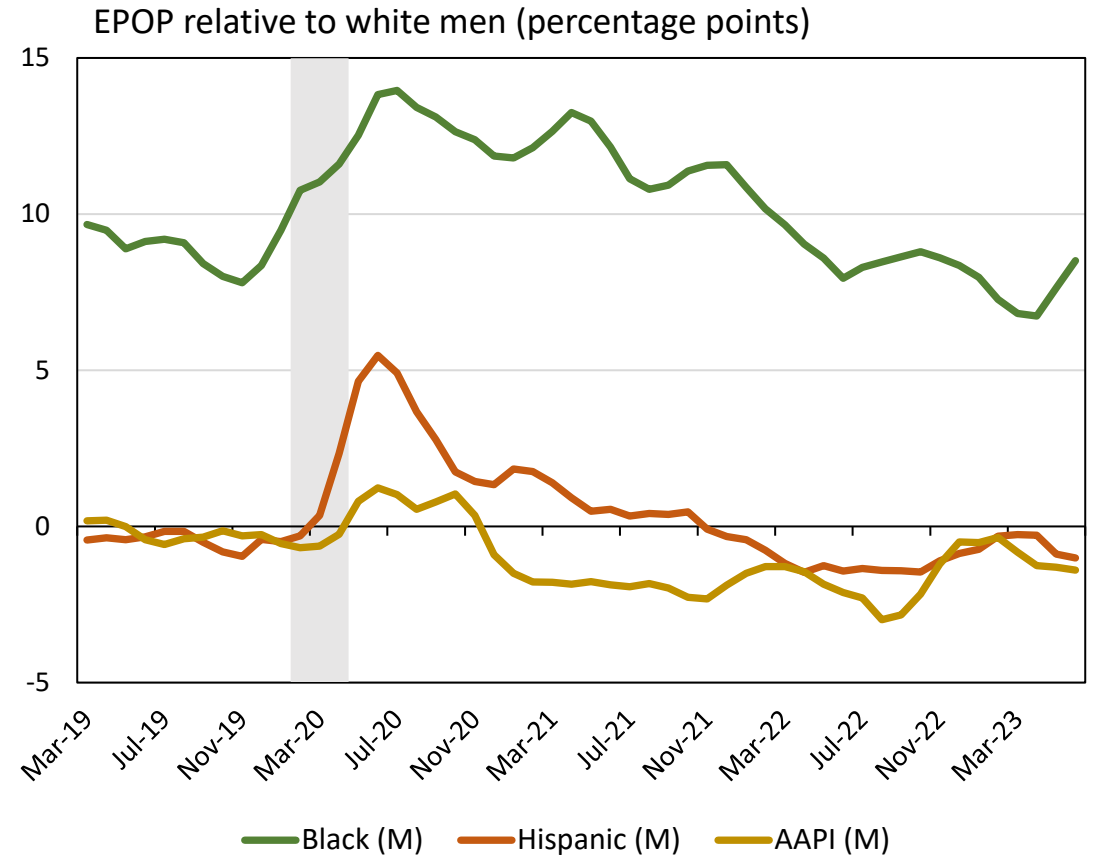
EPOP Gaps by Race x Gender

EPOP relative to white men (percentage points)

EPOP relative to white men (percentage points)

Legend (left chart): White (W), Black (W), Hispanic (W), AAPI (W)

Legend (right chart): Black (M), Hispanic (M), AAPI (M)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
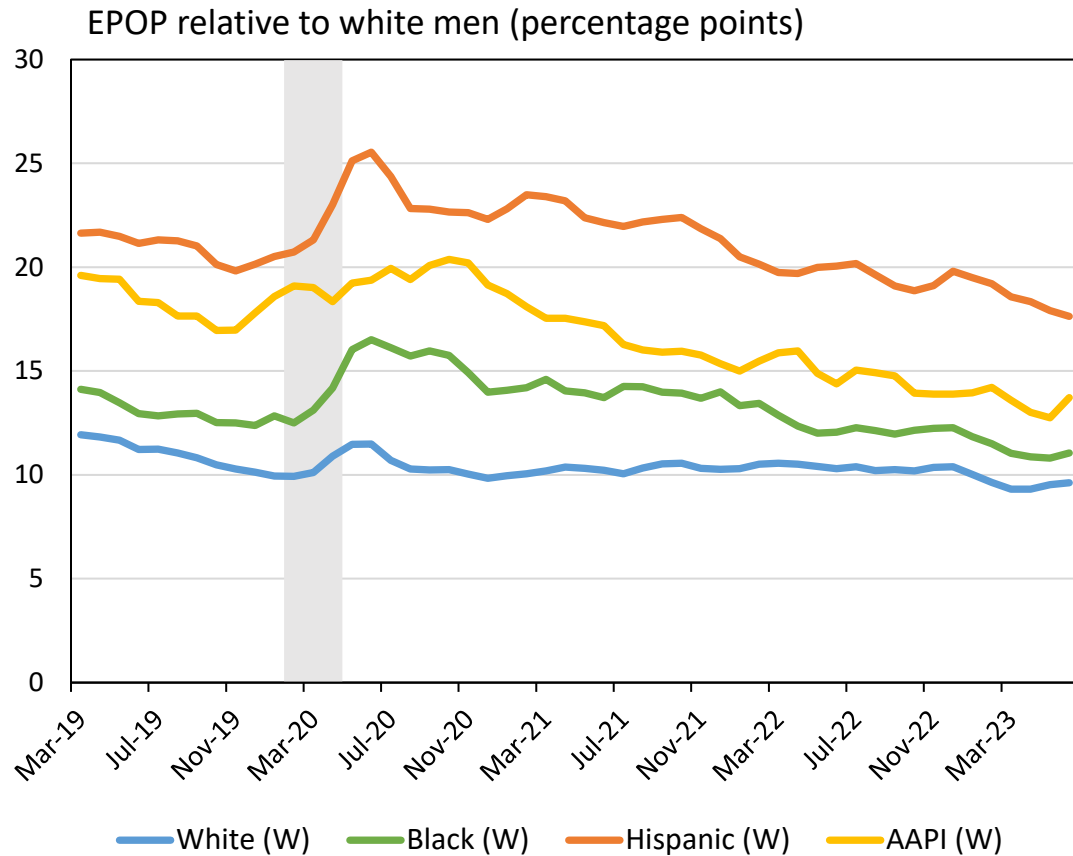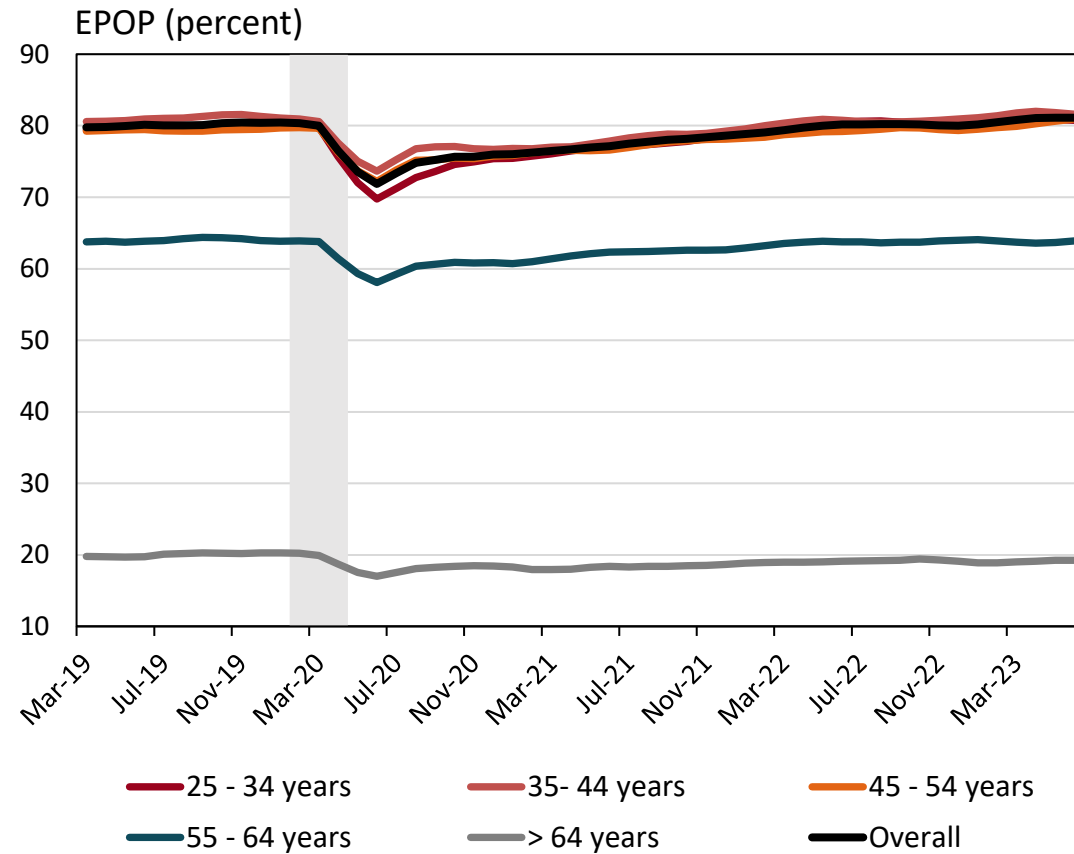
EPOP by Age

EPOP (percent)

Legend:
- 25 - 34 years
- 35 - 44 years
- 45 - 54 years
- 55 - 64 years
- > 64 years
- Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Overall line uses prime-age (25-54) sample. Shaded region indicates the COVID-19 recession.

EPOP by Urban Status

EPOP (percent)

Rural employment gap (percentage points)

Legend: Rural — Urban — Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
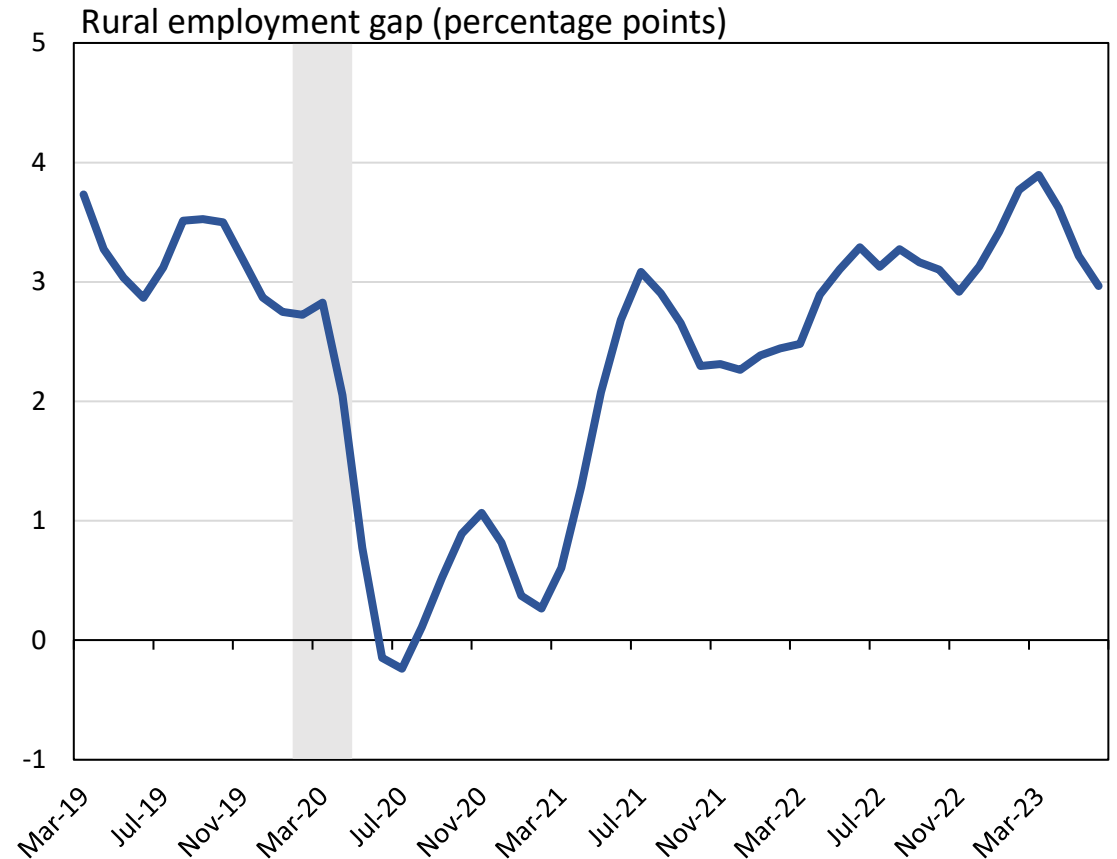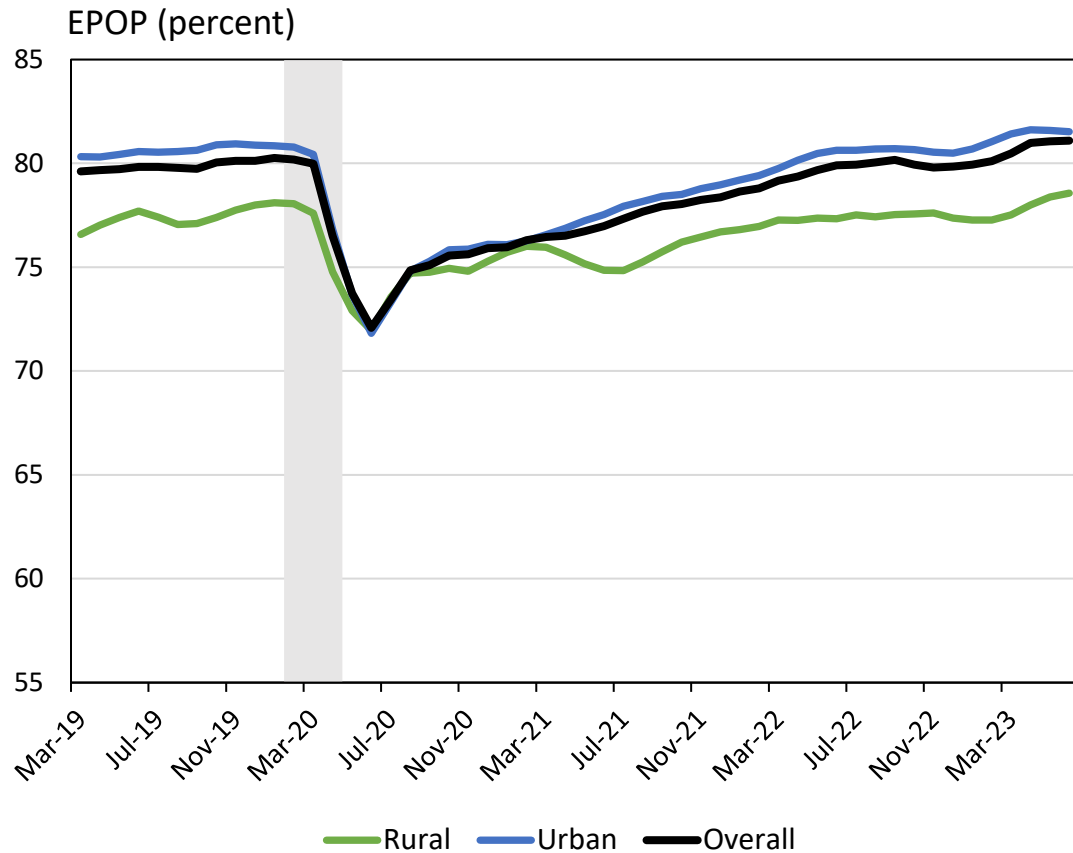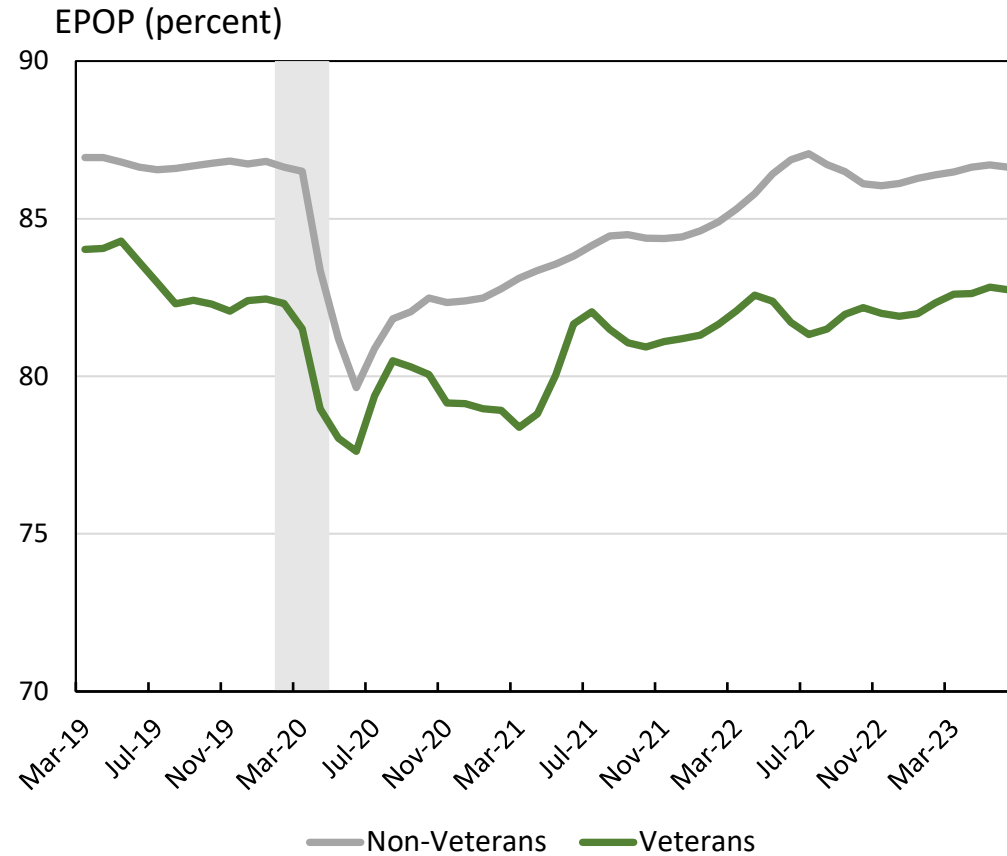
EPOP by Veteran Status

EPOP (percent)

Sources: U.S. Census Bureau/BLS - Current Population Survey Microdata; authors' calculations; three-month moving averages.

Notes: Restricted to men, 25-55, with at least a high school diploma. Shaded region indicates the COVID-19 recession.
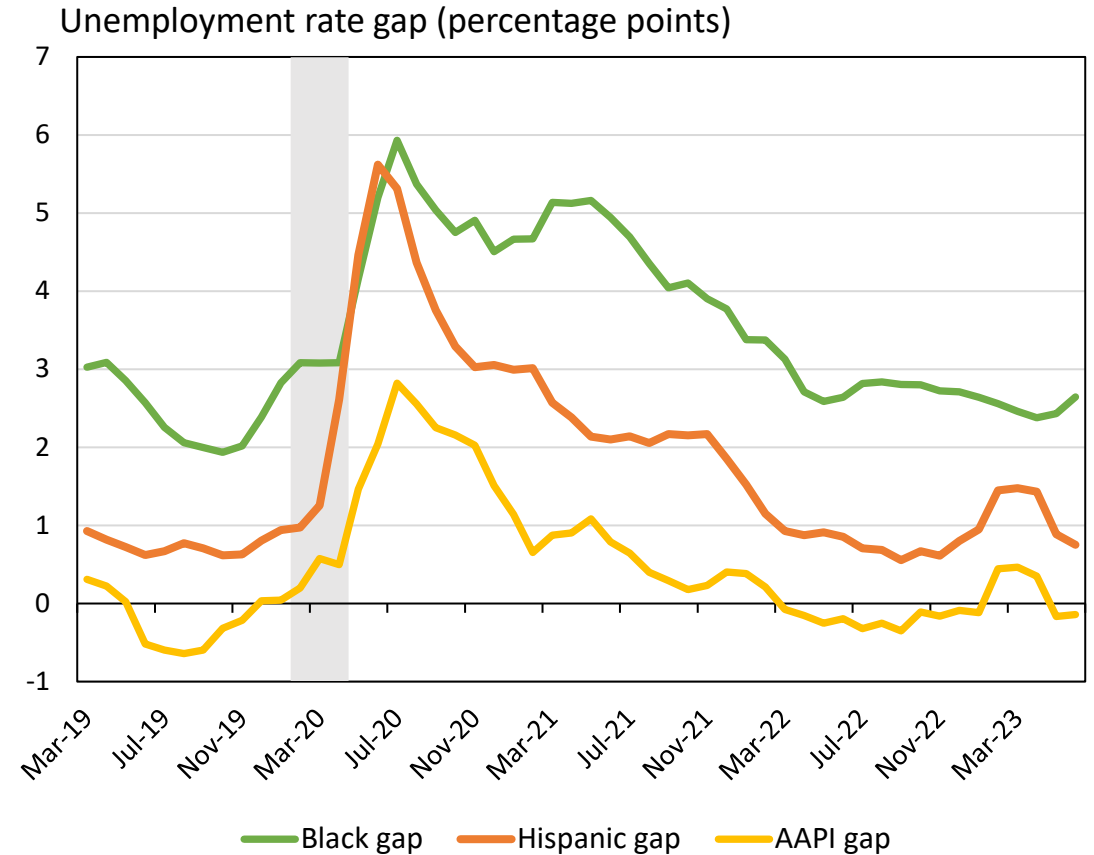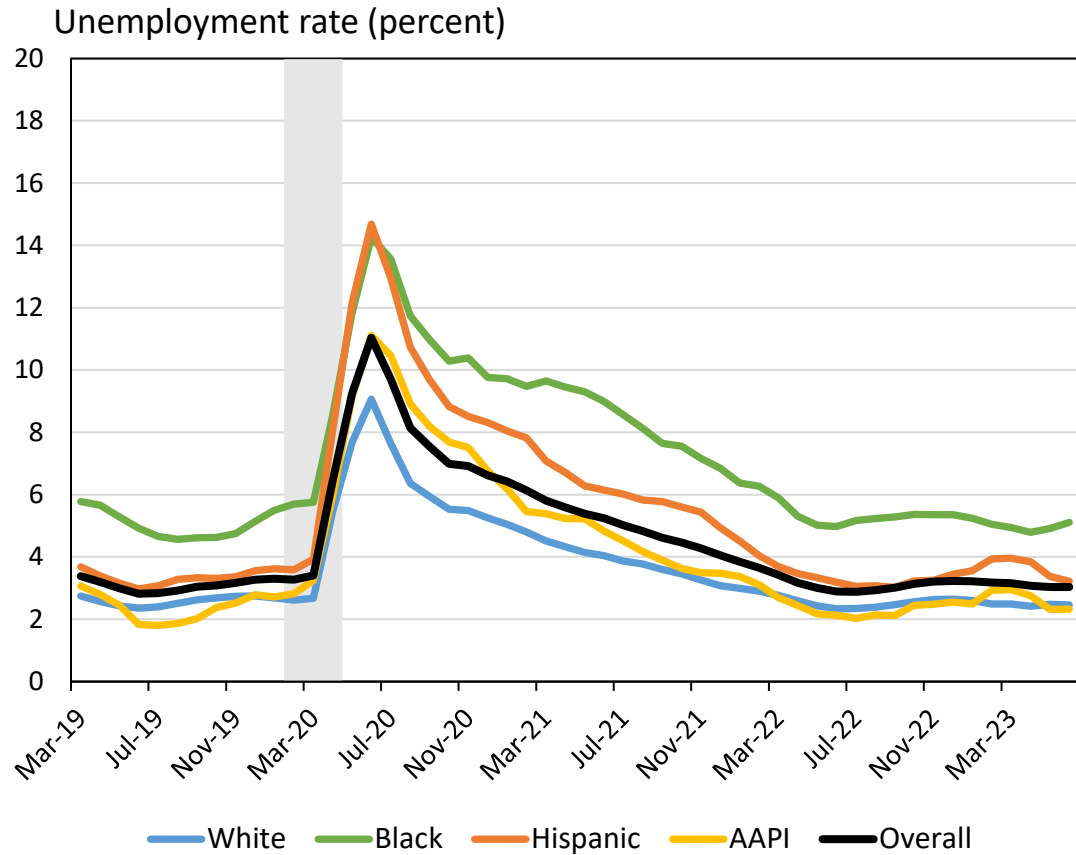
EMPLOYMENT

Unemployment Rate

Takeaways | Unemployment Rate

- We define unemployment rate as the fraction of unemployed in the labor force. The overall unemployment rate peaked at more than 11 percent during the pandemic but has since declined to pre-pandemic levels.

- Unemployment rate gaps increased during the pandemic but are now close to pre-pandemic levels.

- The unemployment rate gap for Hispanic workers rose sharply since January 2023 owing mostly to the increase in the gap for Hispanic women workers but has since begun to re-converge. Black workers, on the other hand, experienced an increase in unemployment in June 2023.

- Unemployment rate gaps are highest for the young, followed by Black workers, and by people without a college degree.

- Veterans and comparable* nonveterans have had essentially the same unemployment rate since the pandemic.

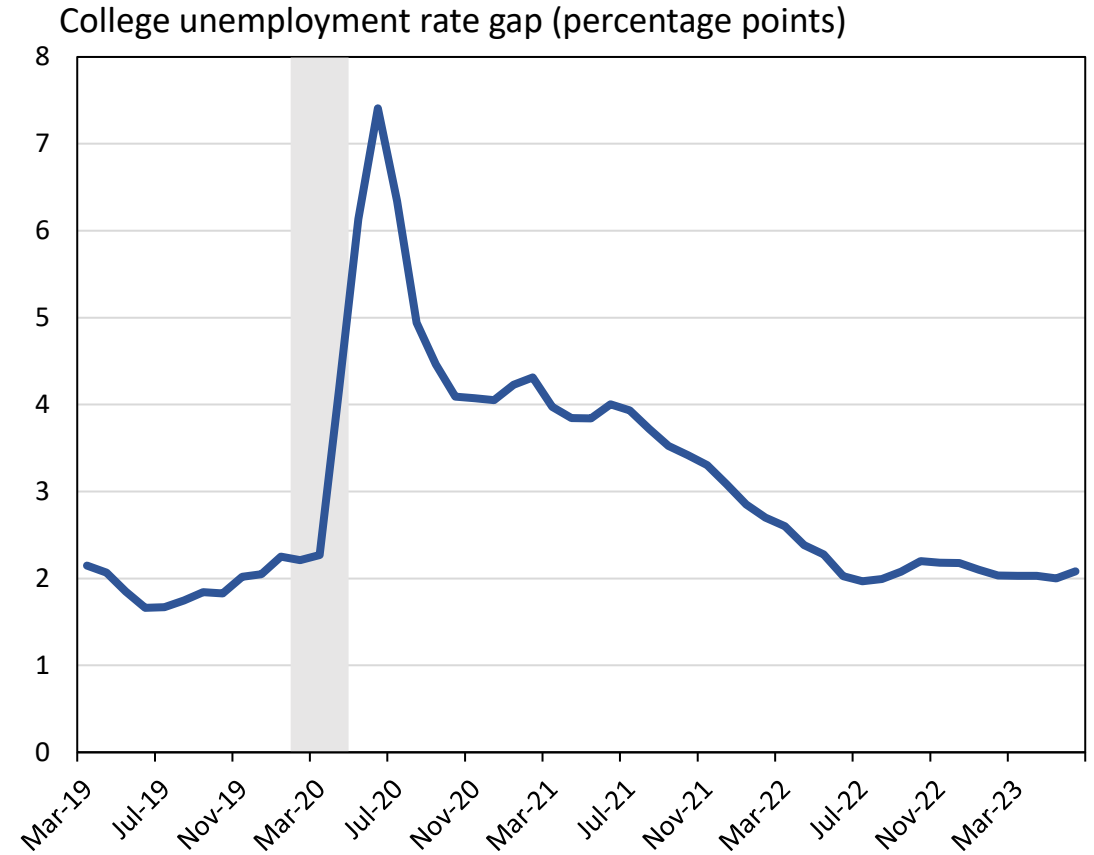*Comparable nonveterans are male high school graduates reweighted by age, race and birthplace to match veterans.

Unemployment Rate by Race/Ethnicity

Unemployment rate (percent)

Unemployment rate gap (percentage points)

White — Black — Hispanic — AAPI — Overall

Black gap — Hispanic gap — AAPI gap

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.

Unemployment Rate by Education

Unemployment rate (percent)

Less than HS   HS   Some college   College   Overall
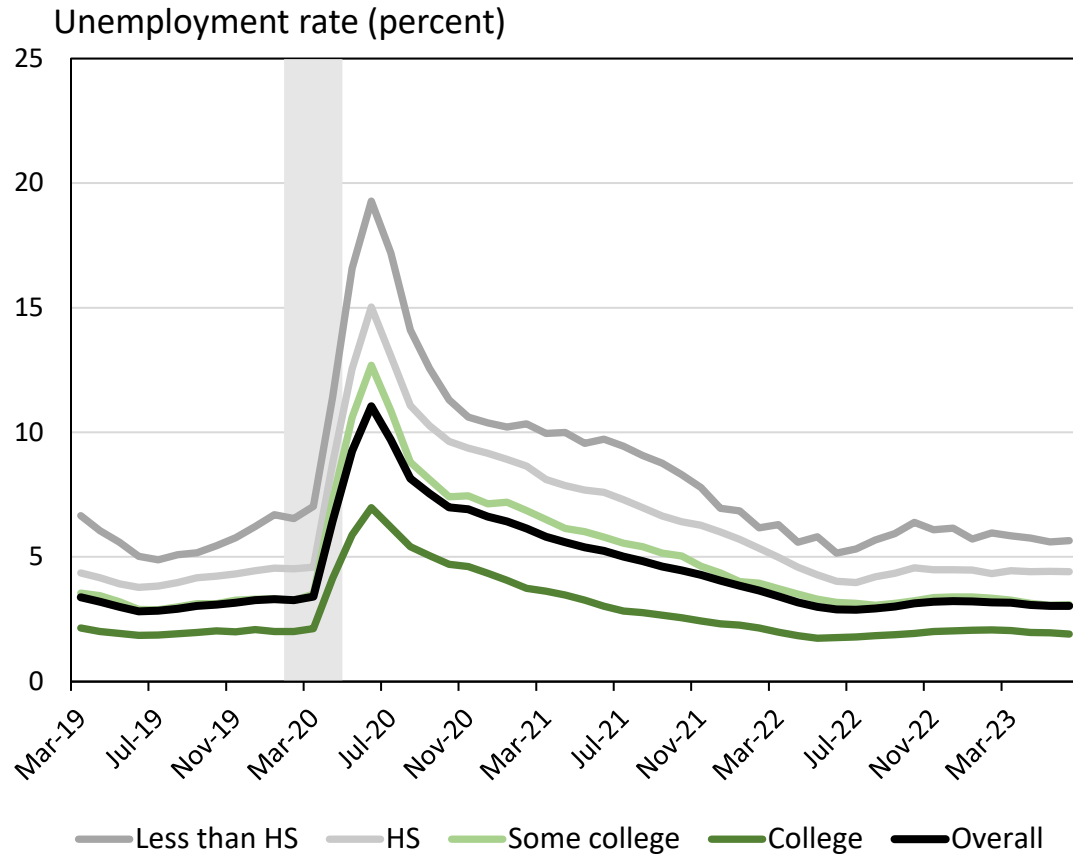
College unemployment rate gap (percentage points)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
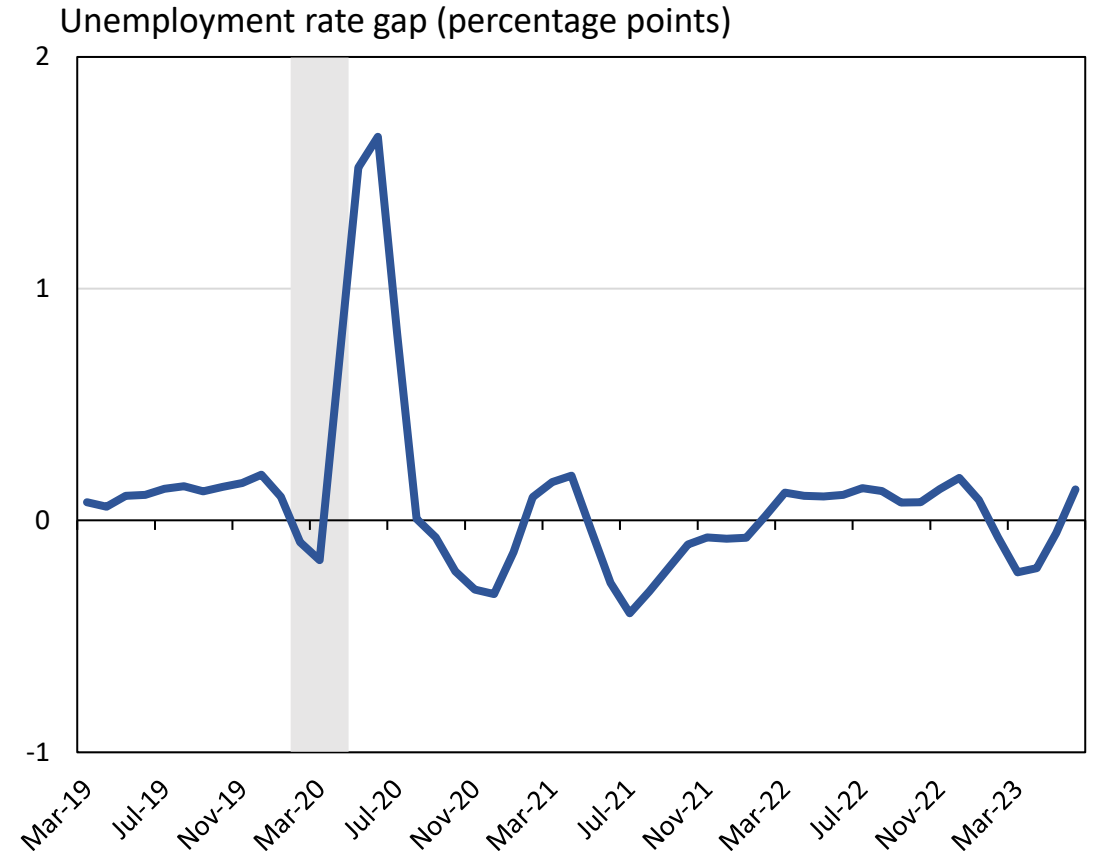Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.

Unemployment Rate by Gender

Unemployment rate (percent)

Legend: Men, Women, Overall

Unemployment rate gap (percentage points)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
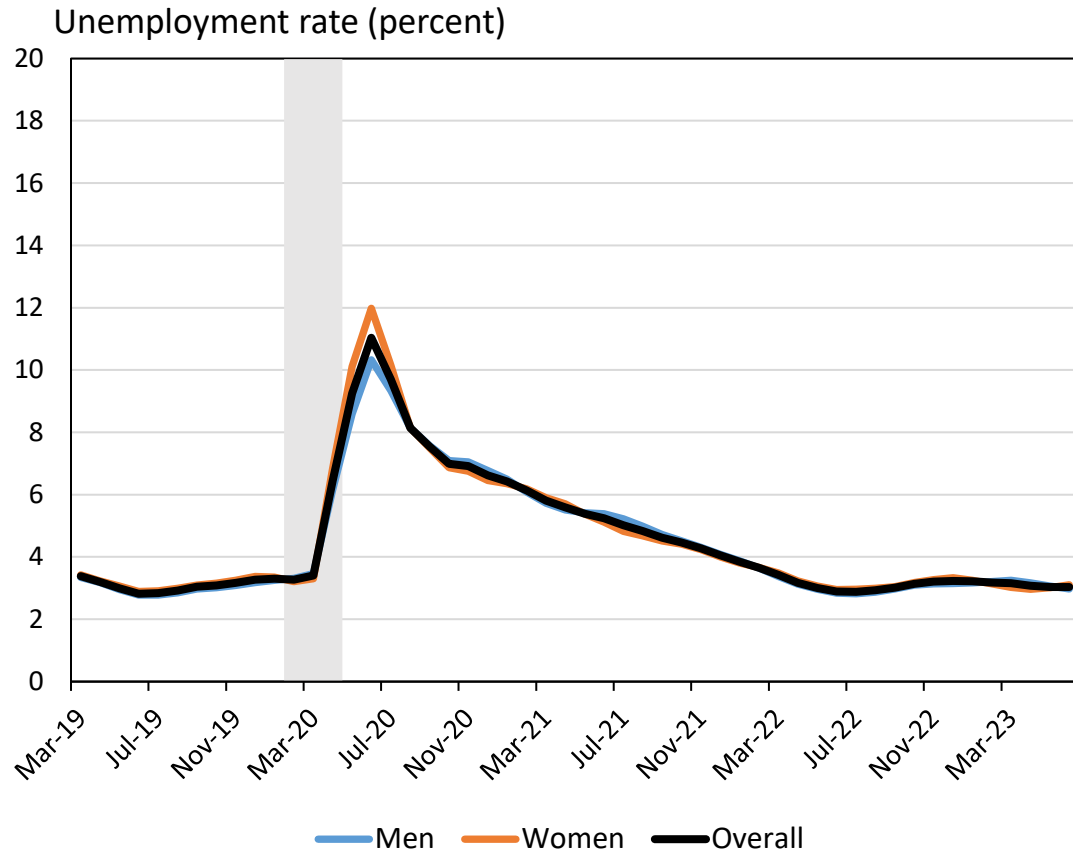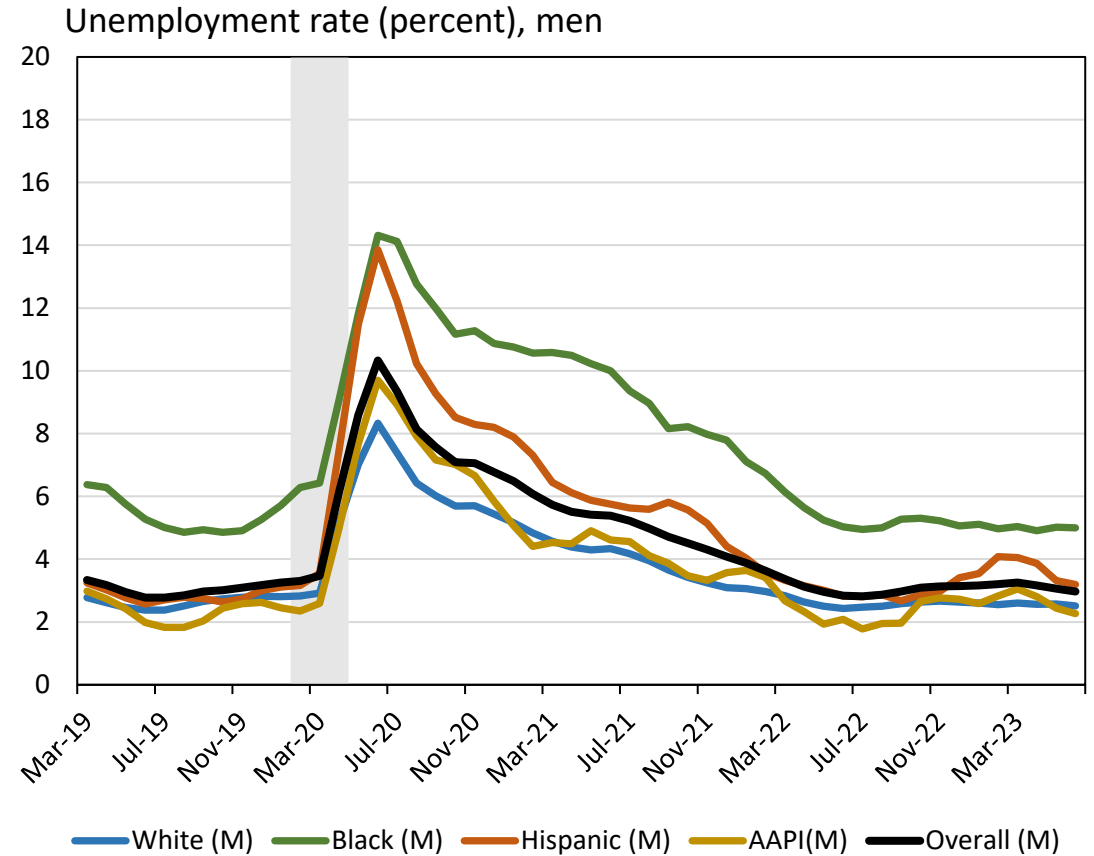
Unemployment Rate by Race x Gender

Unemployment rate (percent), women

Unemployment rate (percent), men

Legend (women): White (W), Black (W), Hispanic (W), AAPI (W), Overall (W)

Legend (men): White (M), Black (M), Hispanic (M), AAPI(M), Overall (M)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
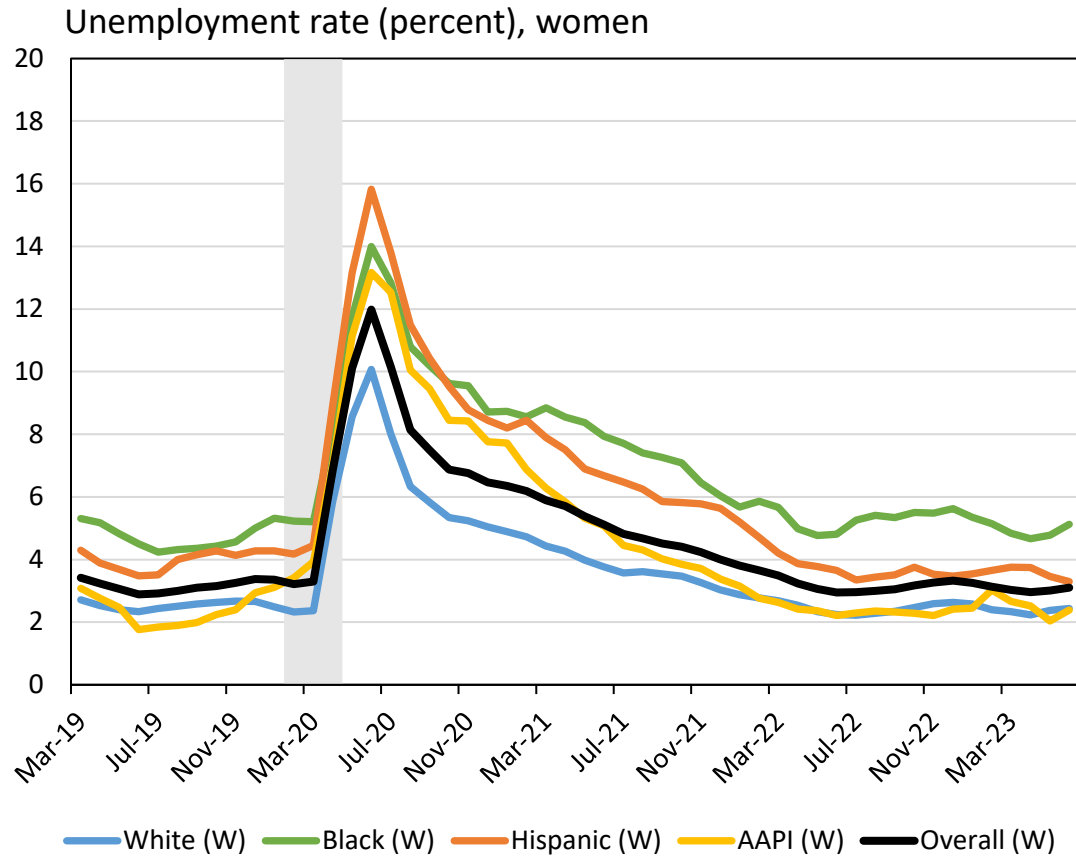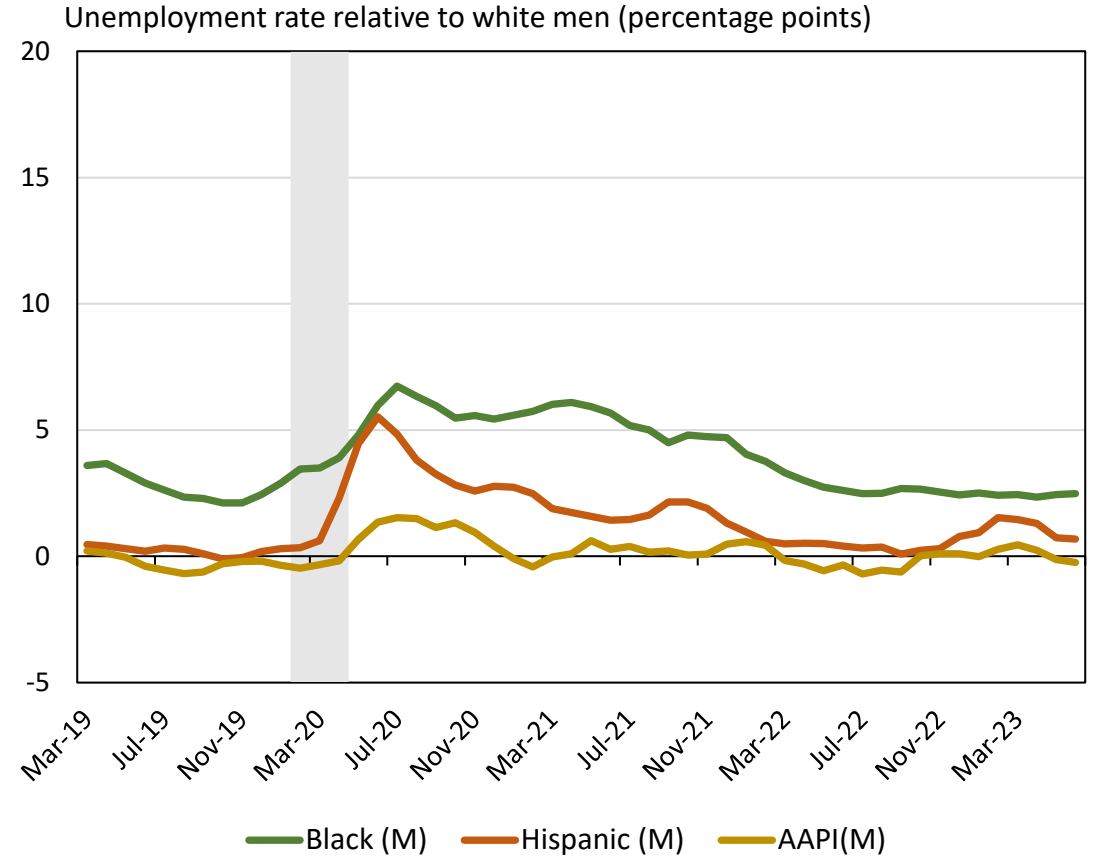
Unemployment Rate Gaps by Race x Gender

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
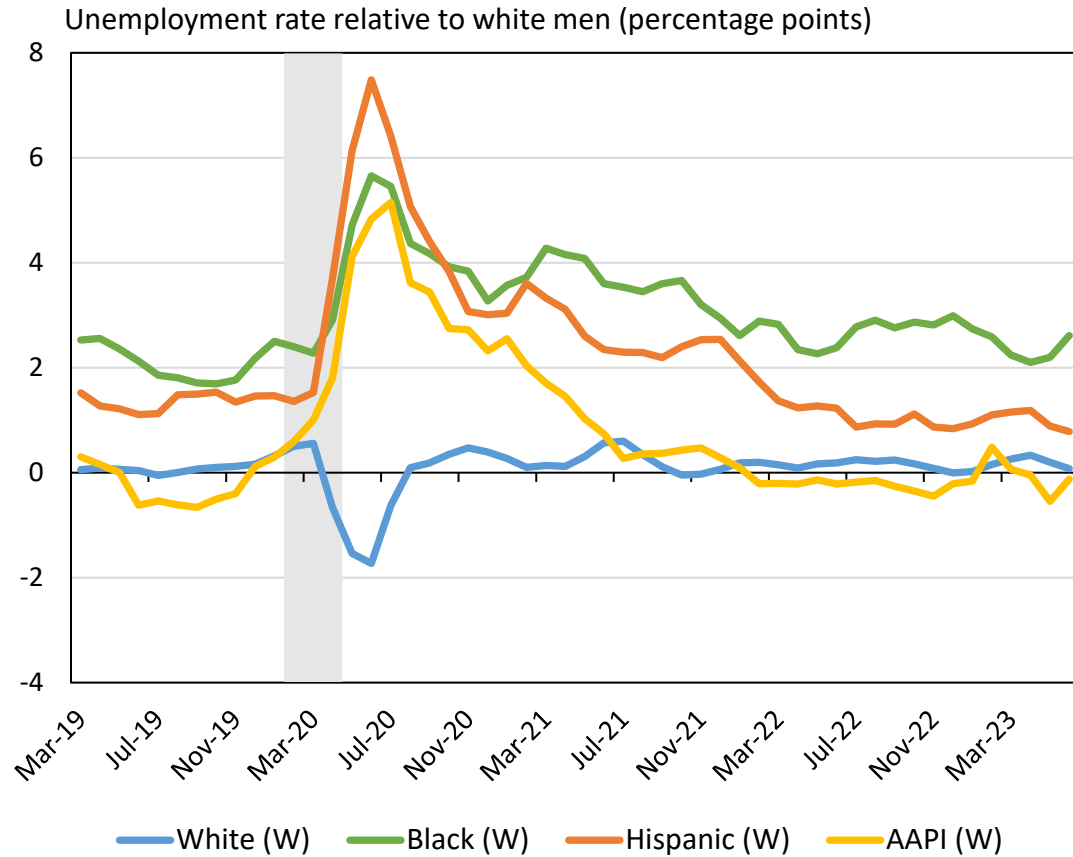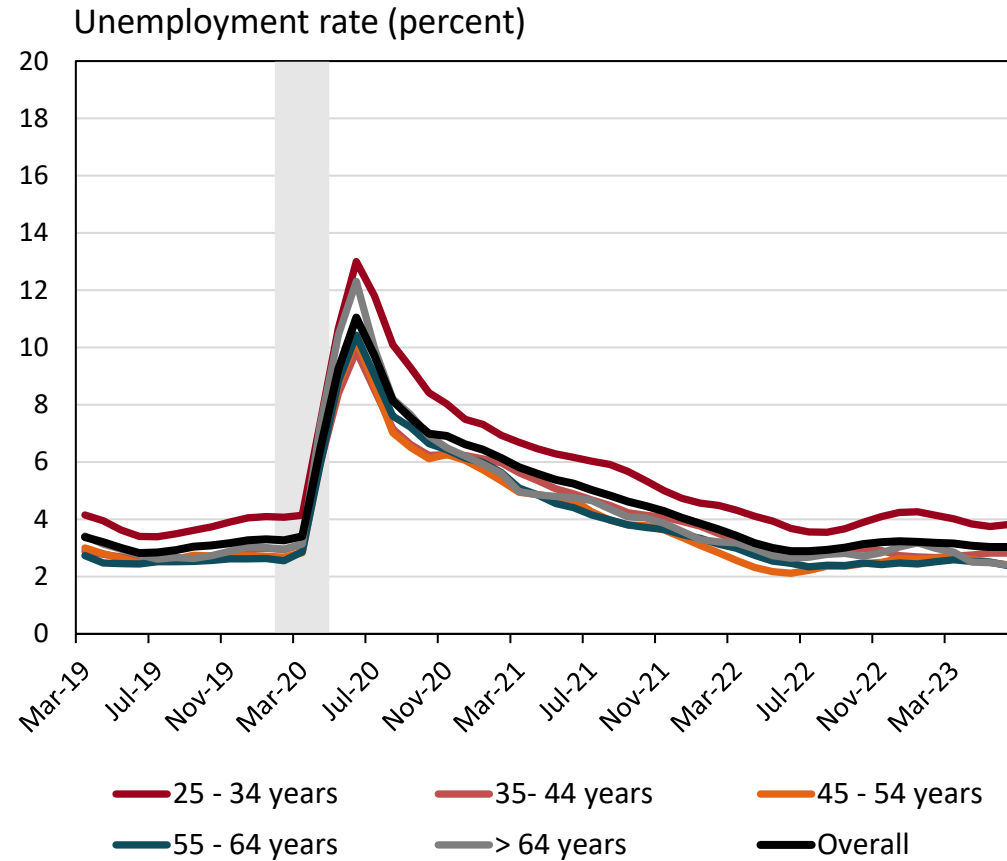
Unemployment Rate by Age

Unemployment rate (percent)

25 - 34 years
35- 44 years
45 - 54 years
55 - 64 years
> 64 years
Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
Notes: Overall line uses prime-age (25-54) sample. Shaded region indicates the COVID-19 recession.

Unemployment Rate by Urban Status

Unemployment rate (percent)

Urban unemployment gap (percentage points)

Rural   Urban   Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
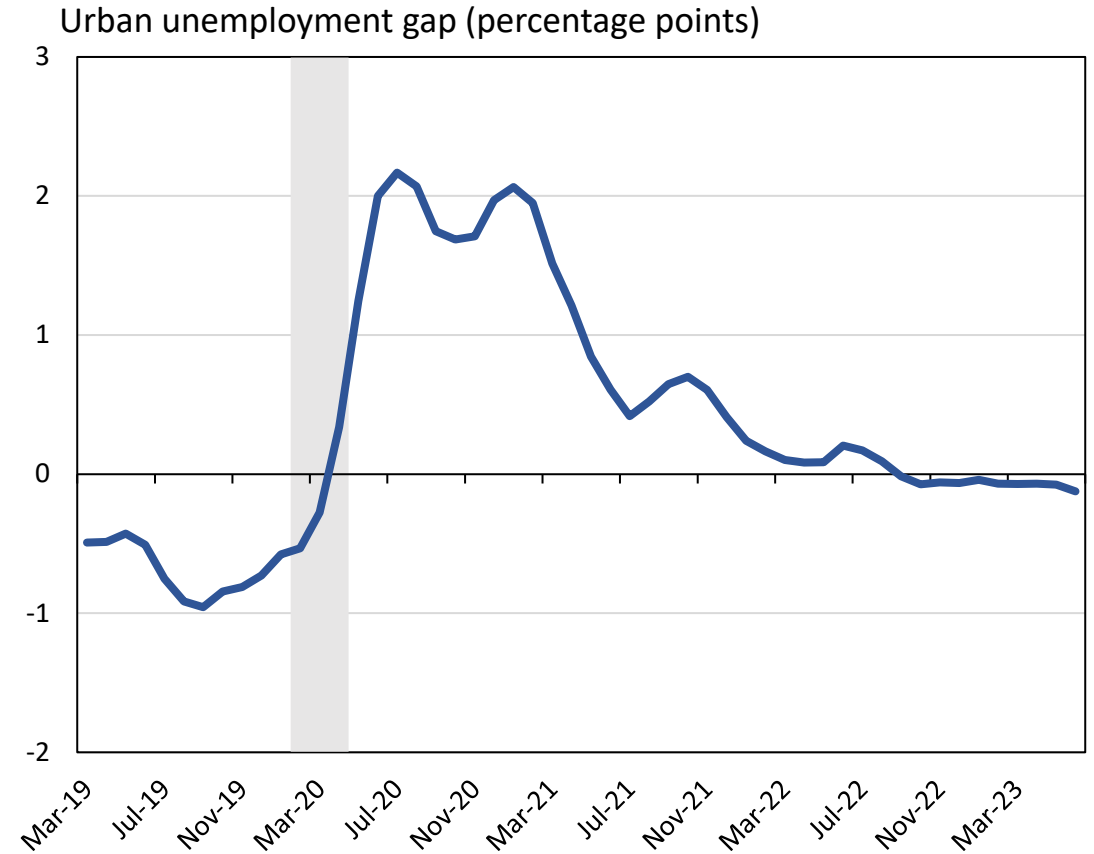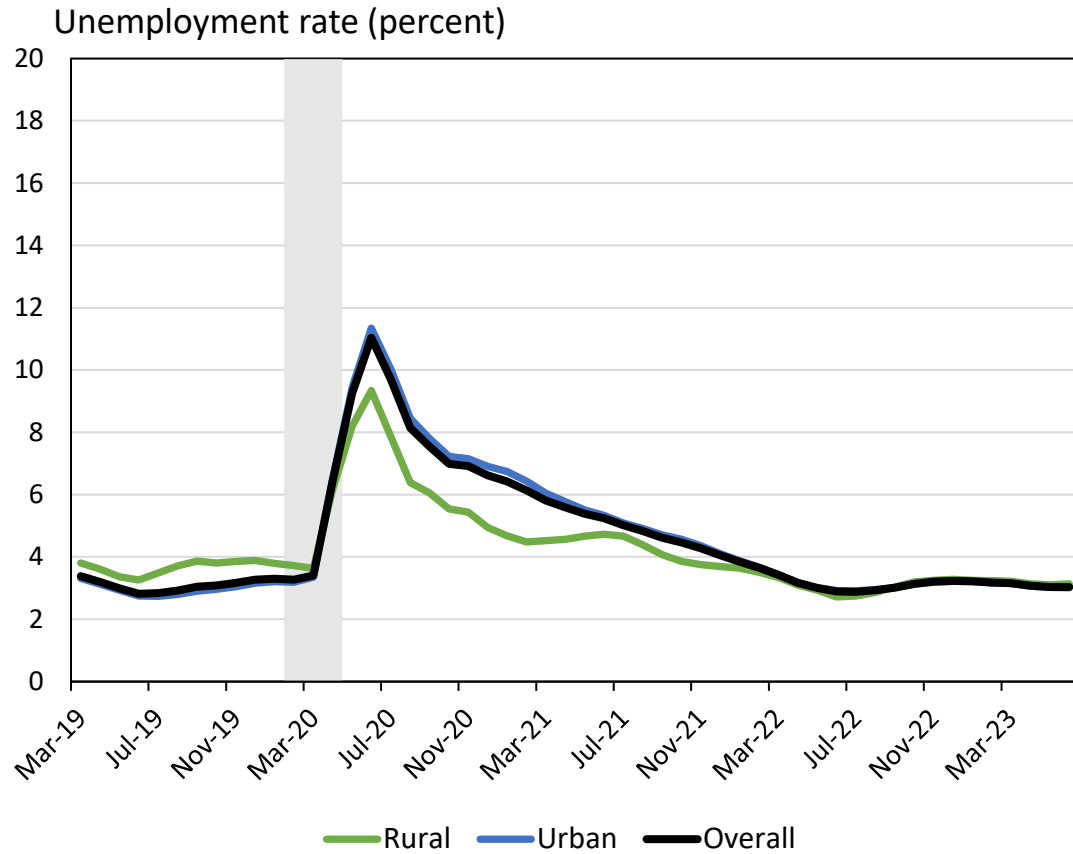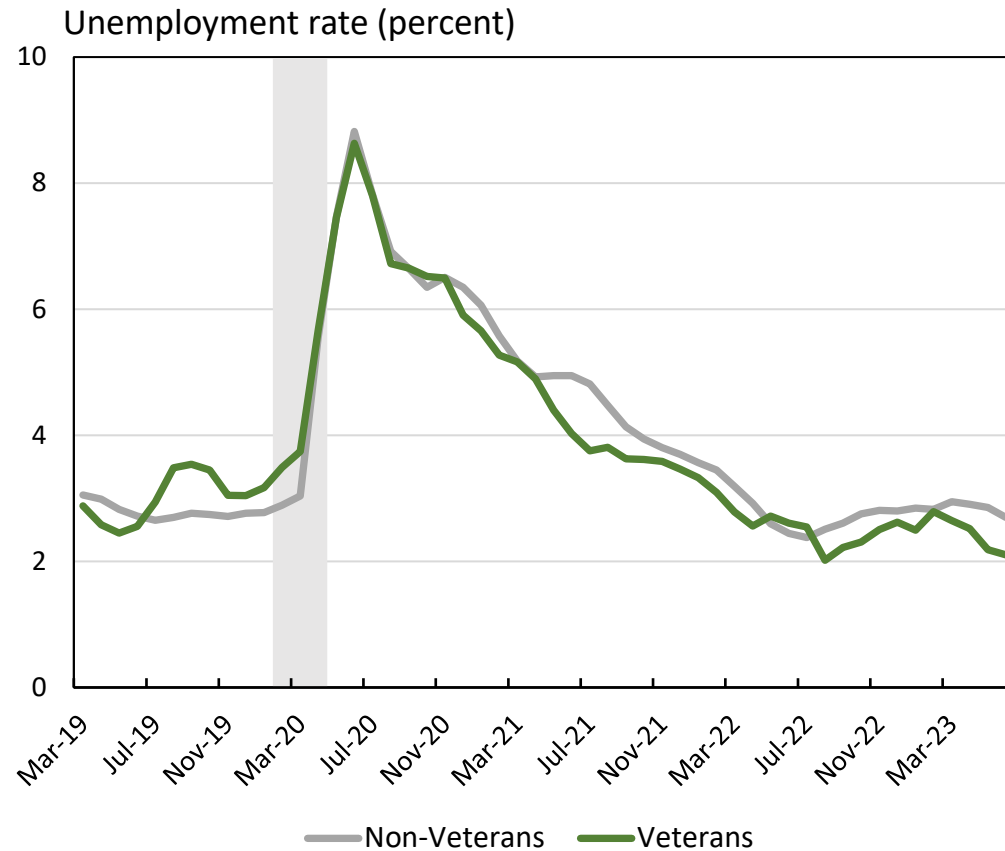
Unemployment Rate by Veteran Status

Unemployment rate (percent)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.
Notes: Restricted to men, 25-55, with at least a high school diploma. Shaded region indicates the COVID-19 recession.
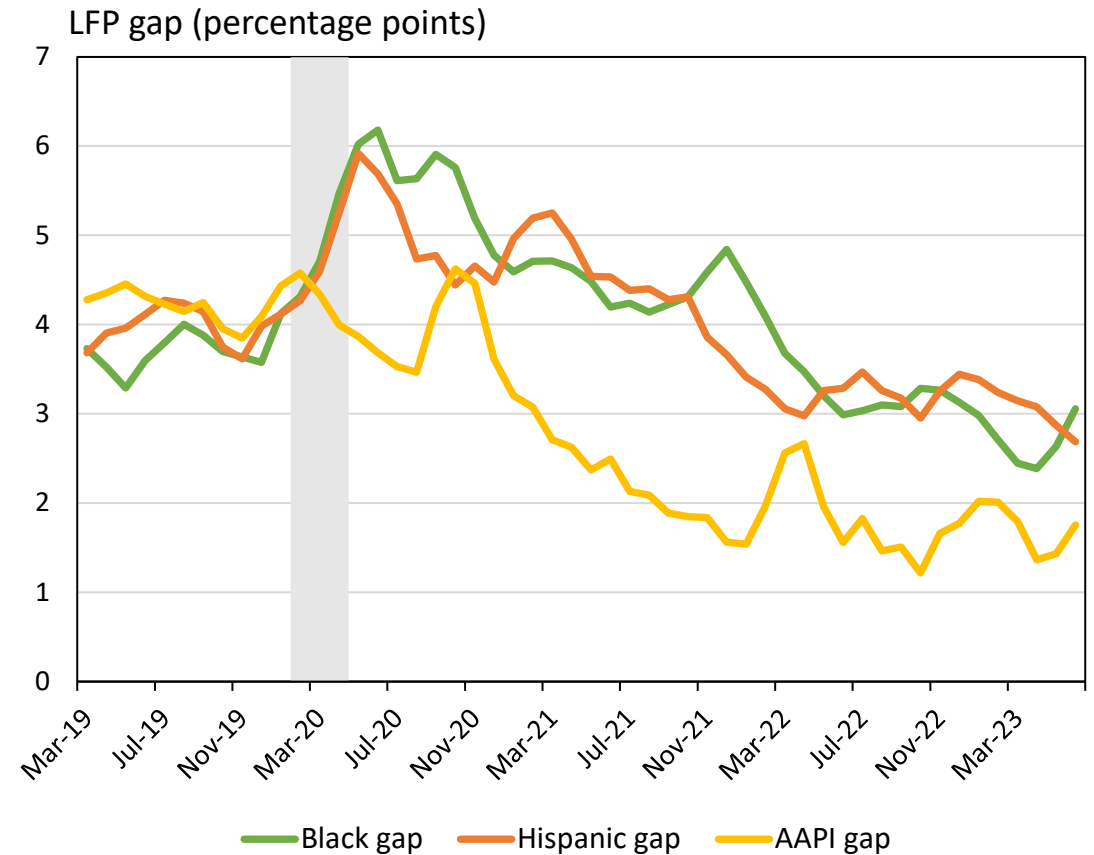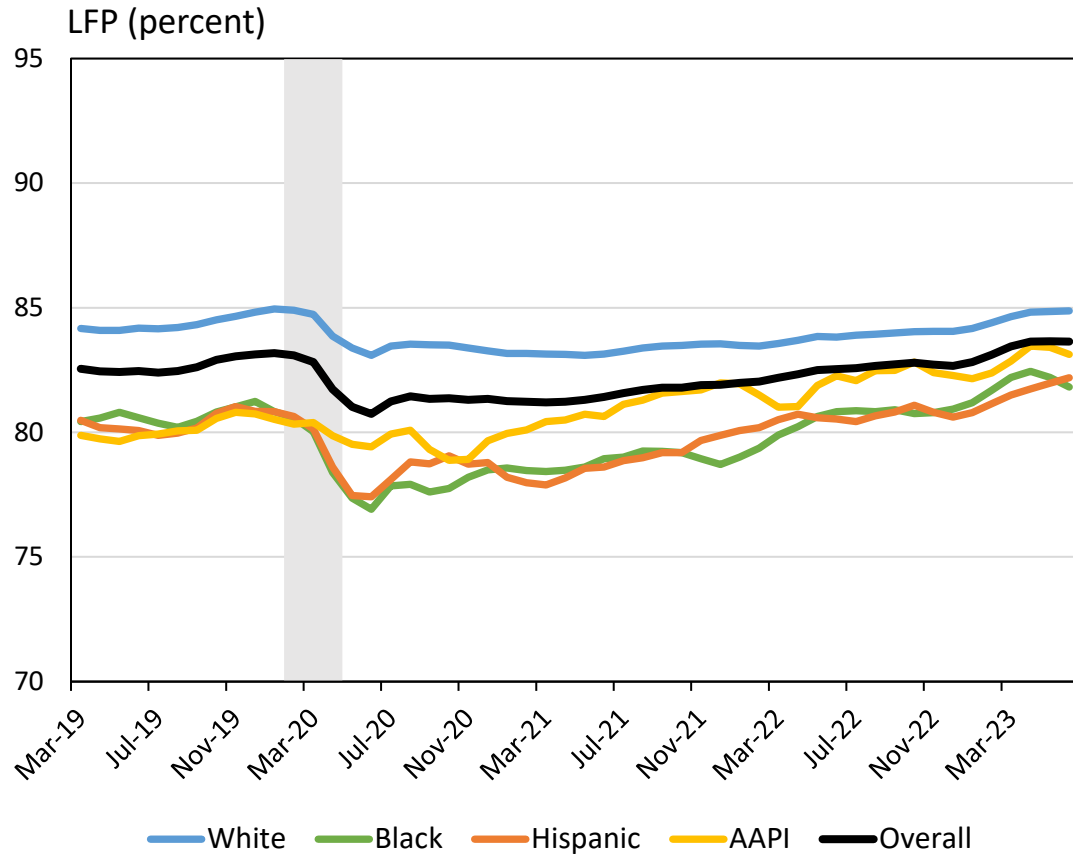
EMPLOYMENT

Labor Force Participation

Takeaways | Labor Force Participation

- Labor force participation rates (LFP) declined during the pandemic and are currently about half a percentage point above pre-pandemic levels.

- Black, Hispanic, and Asian workers have LFPs below the U.S. average. The LFP of Asians was close to the LFP of Black workers and Hispanics in 2019, but it has risen to nearly the national average LFP.

- The LFP gender gap is large with women's LFP about 11 percentage points lower than that of men, although this gap is decreasing. The LFP gaps by age and education are larger.

- Veterans have lower LFP than comparable* nonveterans, and the gap has grown since 2019.

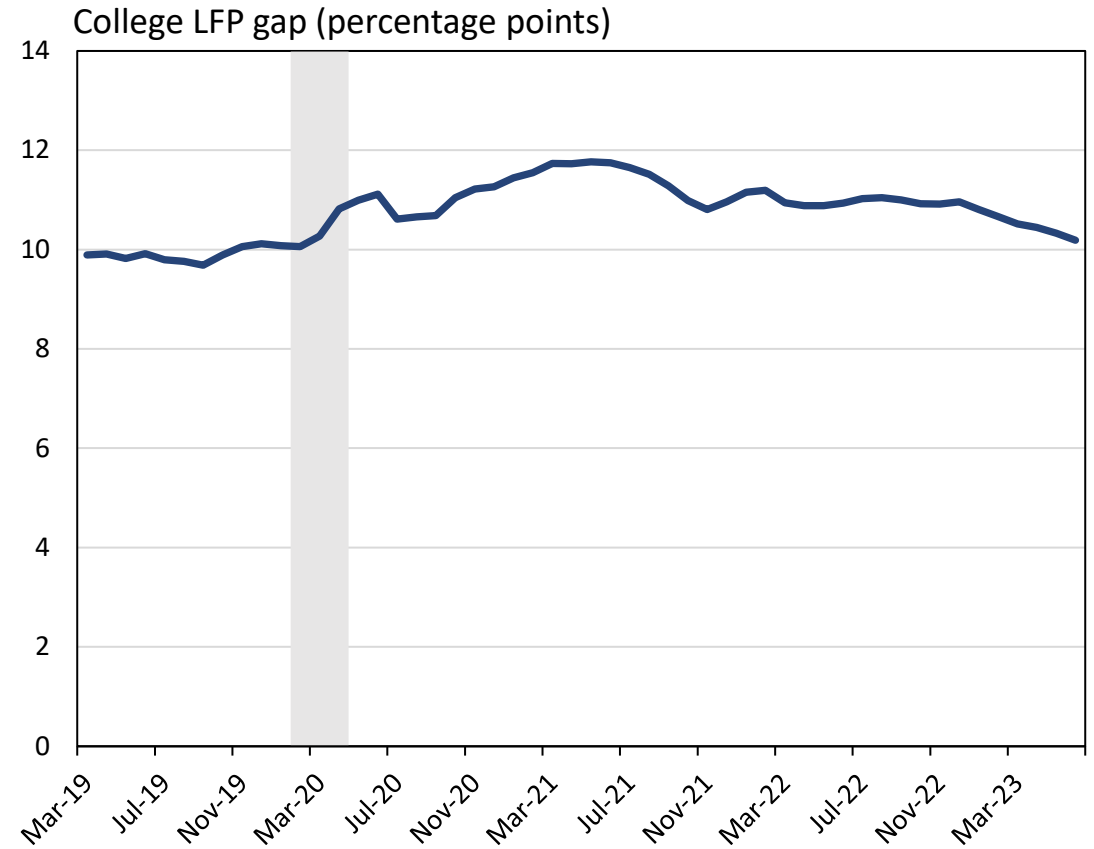*Comparable nonveterans are male high school graduates reweighted by age, race and birthplace to match veterans.

Labor Force Participation by Race/Ethnicity

LFP (percent)

LFP gap (percentage points)

White — Black — Hispanic — AAPI — Overall

Black gap — Hispanic gap — AAPI gap

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.

Labor Force Participation by Education
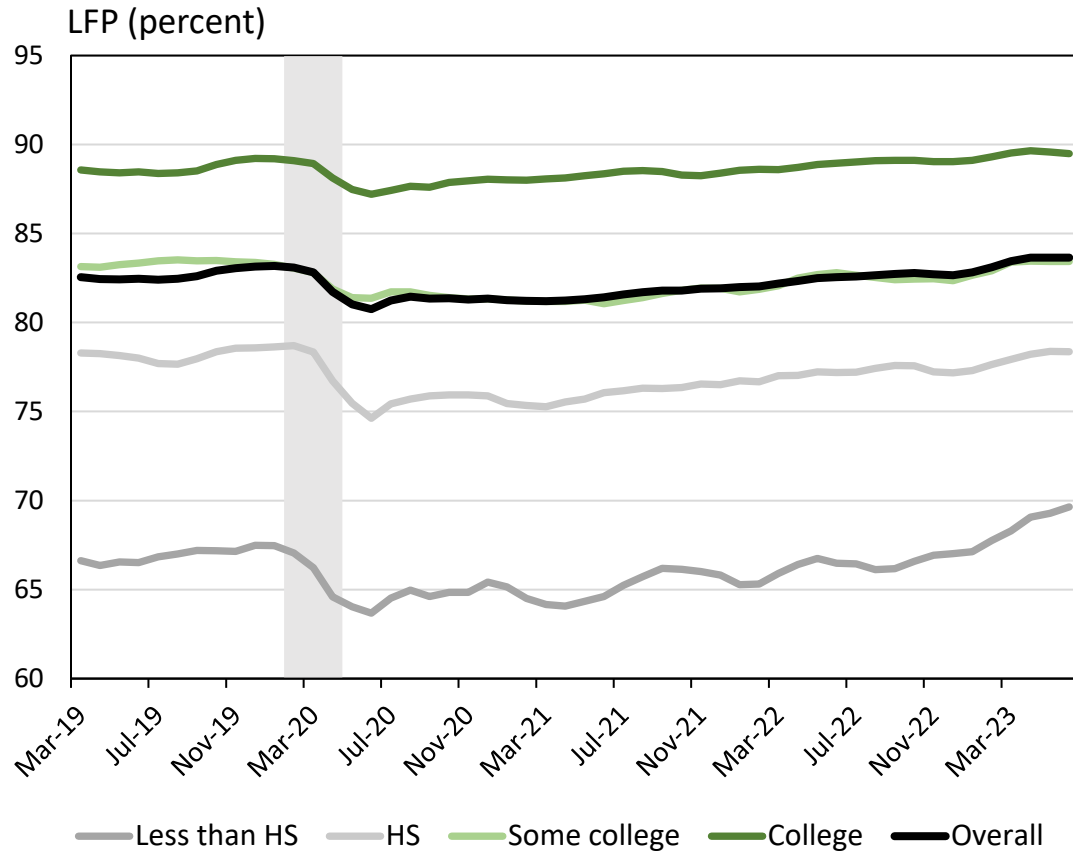
LFP (percent)

College LFP gap (percentage points)

Less than HS — HS — Some college — College — Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.

Labor Force Participation by Gender

LFP (percent)

LFP gap (percentage points)

Men Women Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
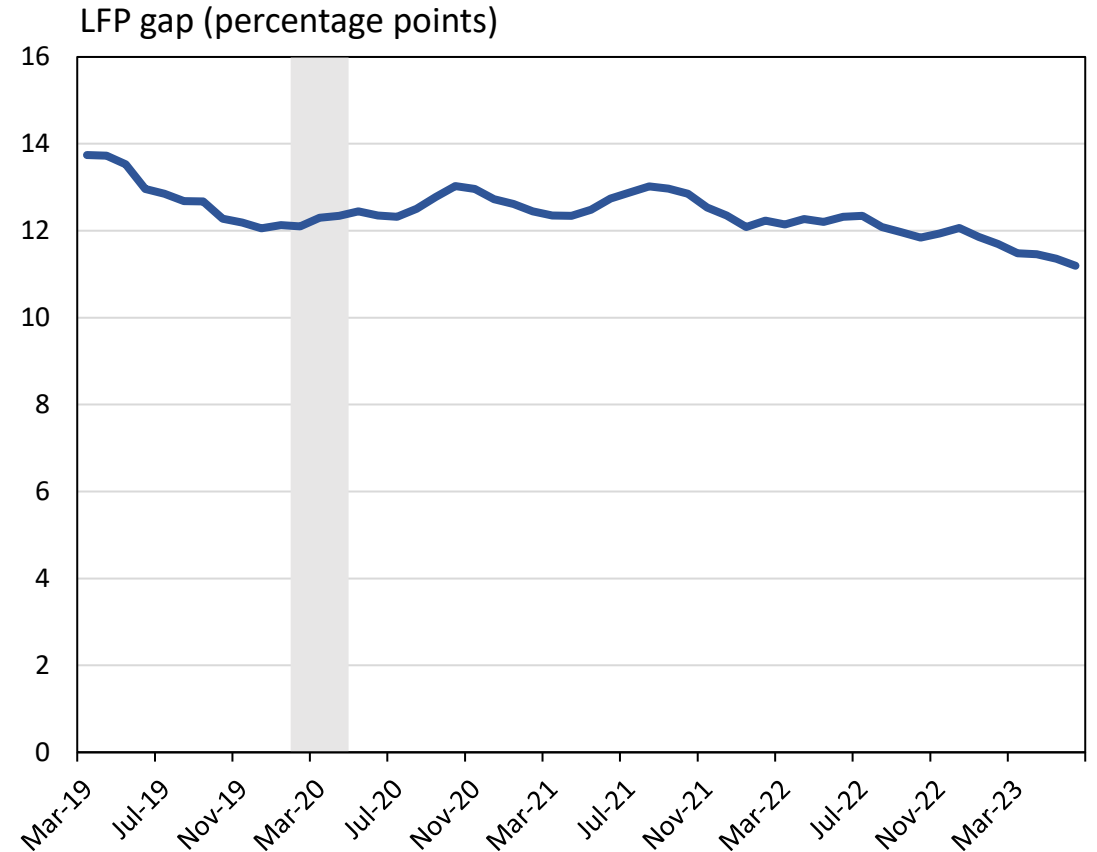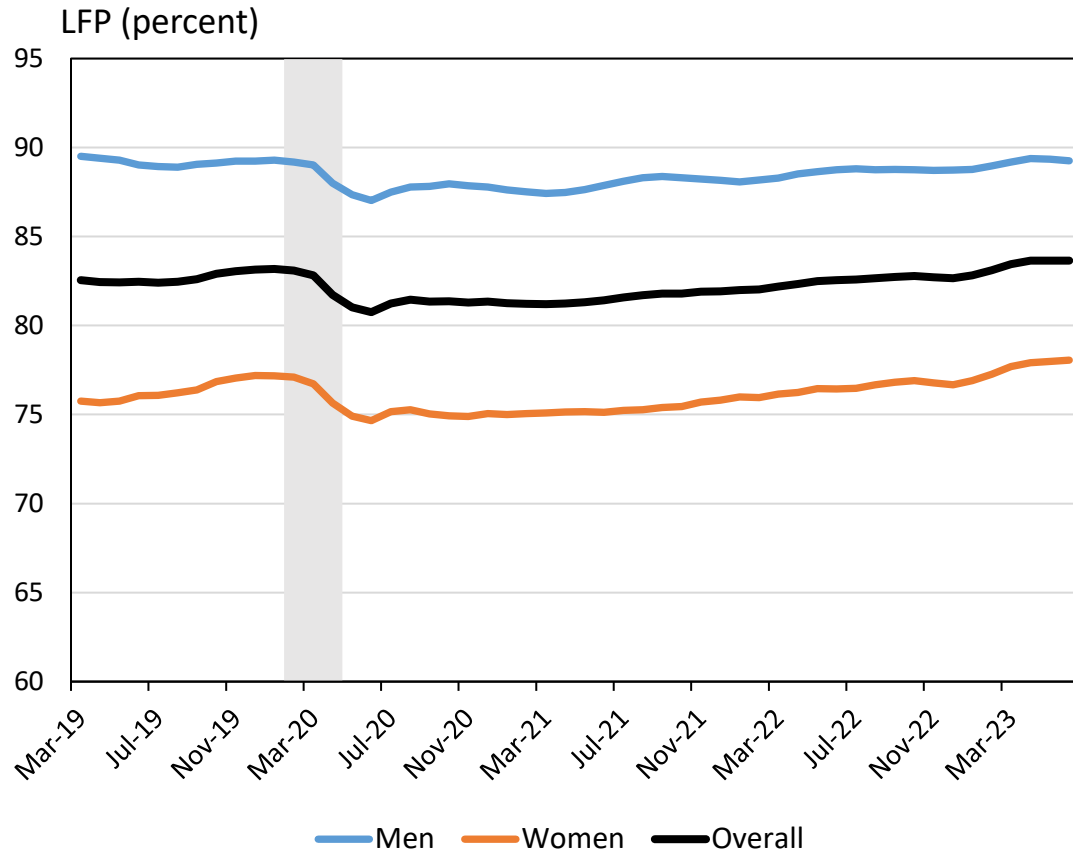
Labor Force Participation by Race x Gender

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
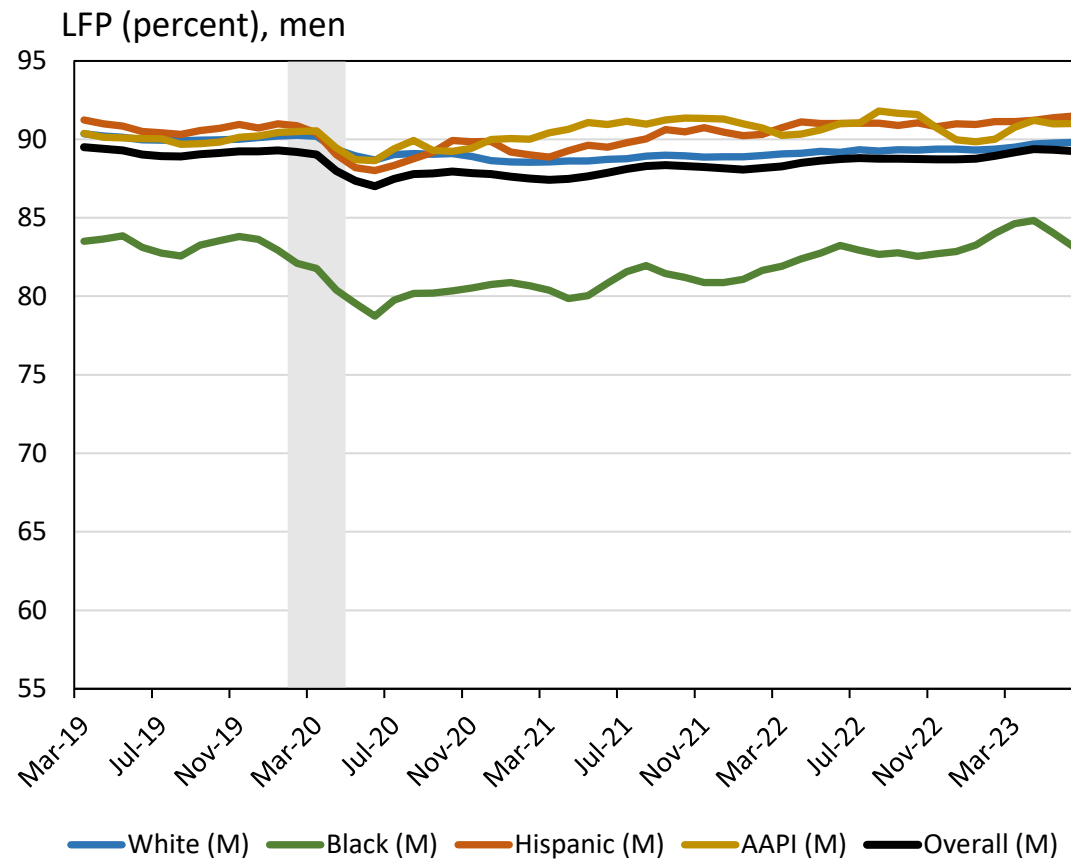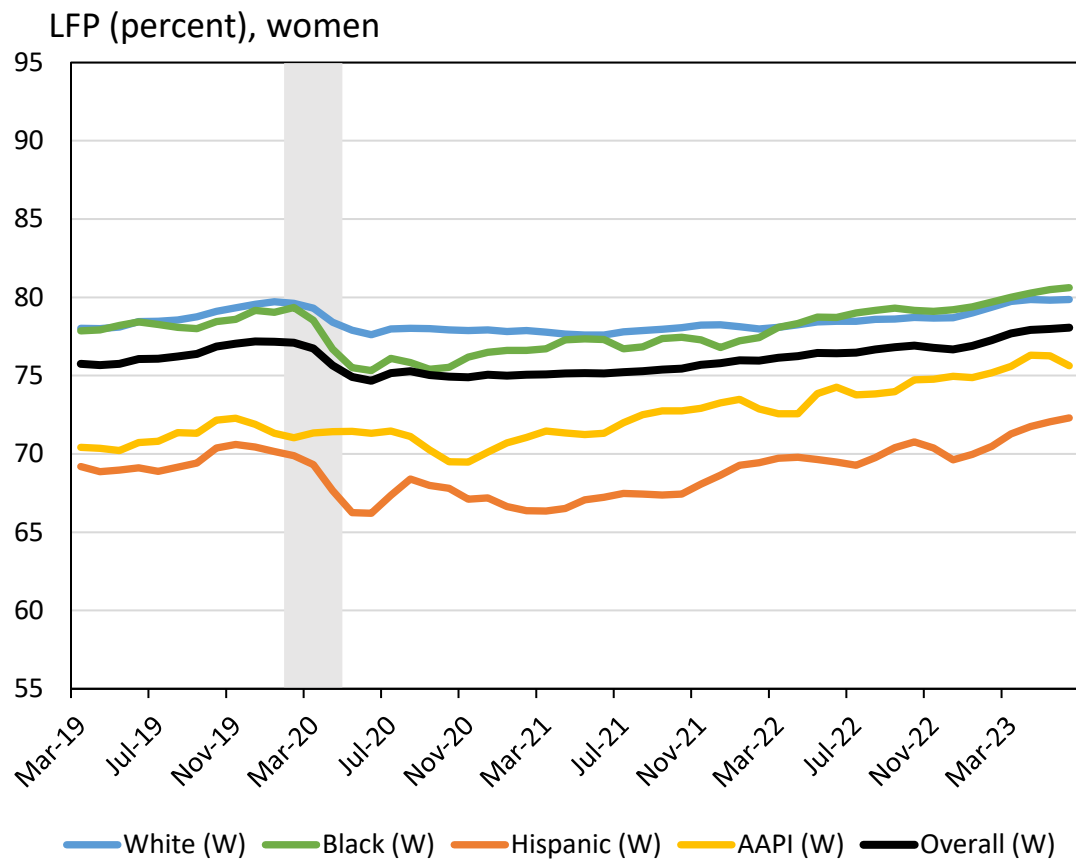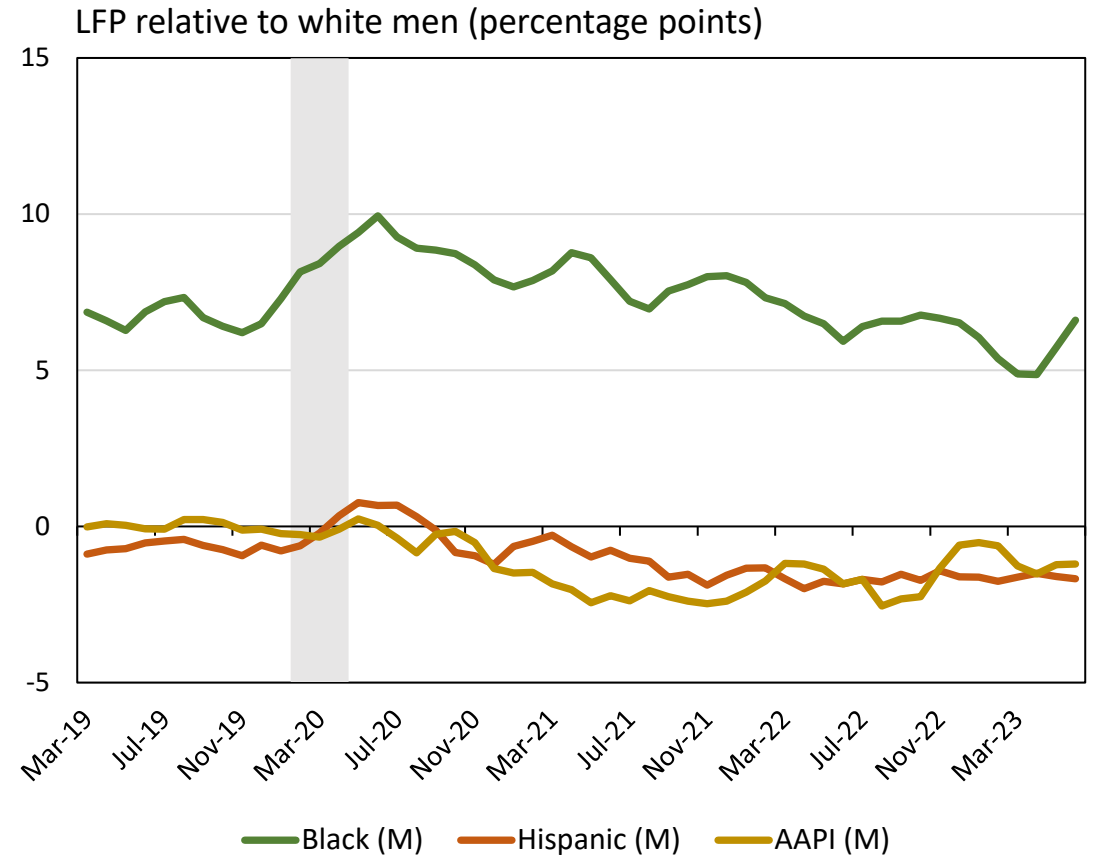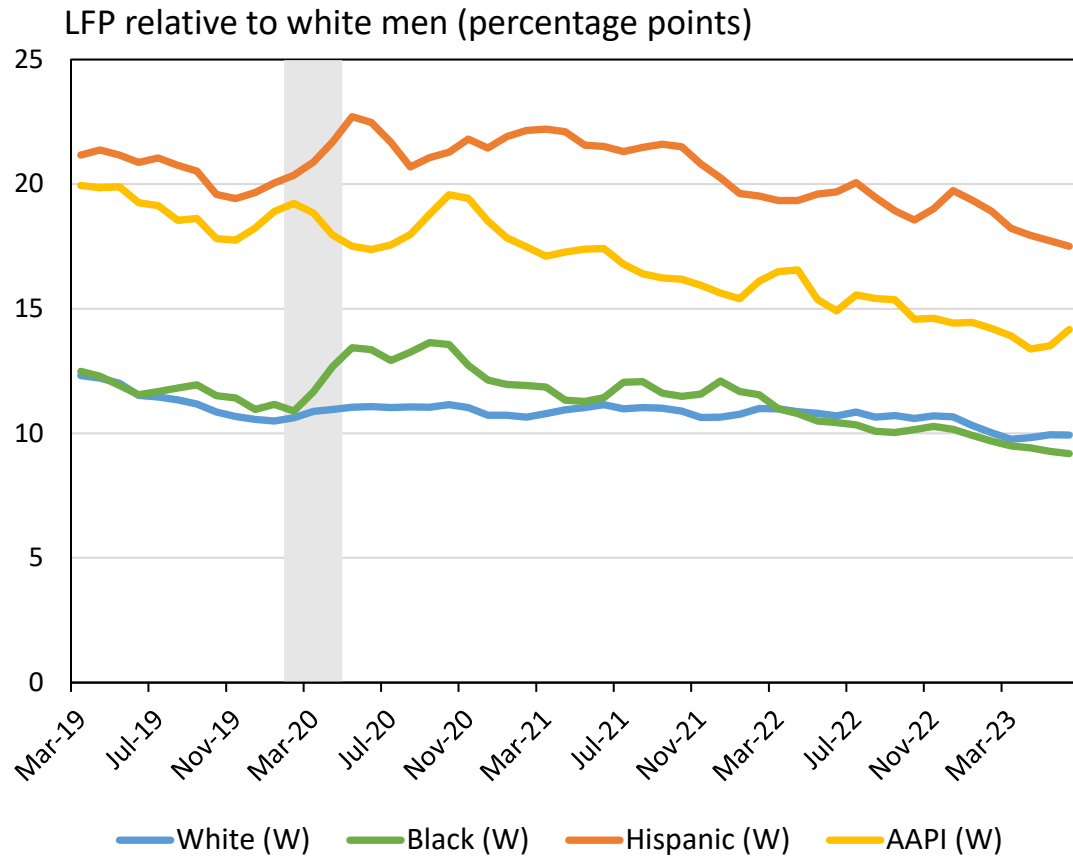
Labor Force Participation Gaps by Race x Gender

LFP relative to white men (percentage points)

LFP relative to white men (percentage points)

White (W)   Black (W)   Hispanic (W)   AAPI (W)

Black (M)   Hispanic (M)   AAPI (M)

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.

Labor Force Participation by Age

LFP (percent)

Legend:
- 25 - 34 years
- 35- 44 years
- 45 - 54 years
- 55 - 64 years
- > 64 years
- Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.

Notes: Overall line uses prime-age (25-54) sample. Shaded region indicates the COVID-19 recession.

Labor Force Participation by Urban Status

LFP (percent)

Rural LFP gap (percentage points)

Rural ── Urban ── Overall

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations, three-month moving averages.

Notes: Restricted to prime-age individuals (25-54). Shaded region indicates the COVID-19 recession.
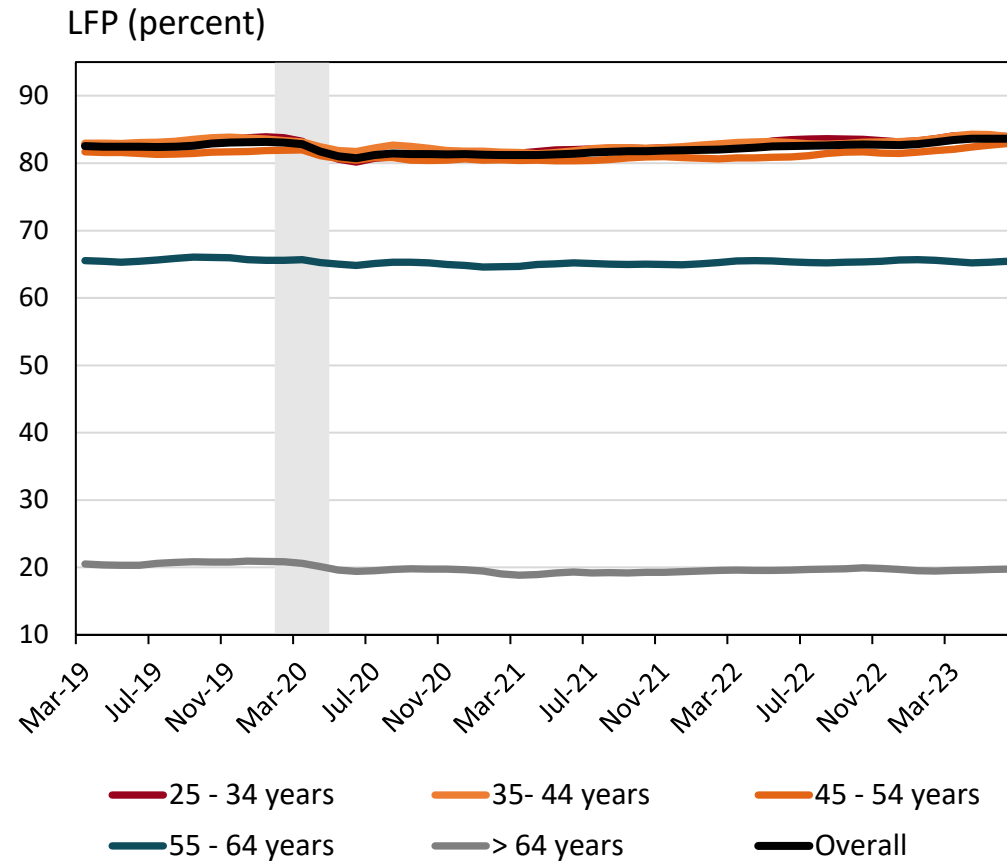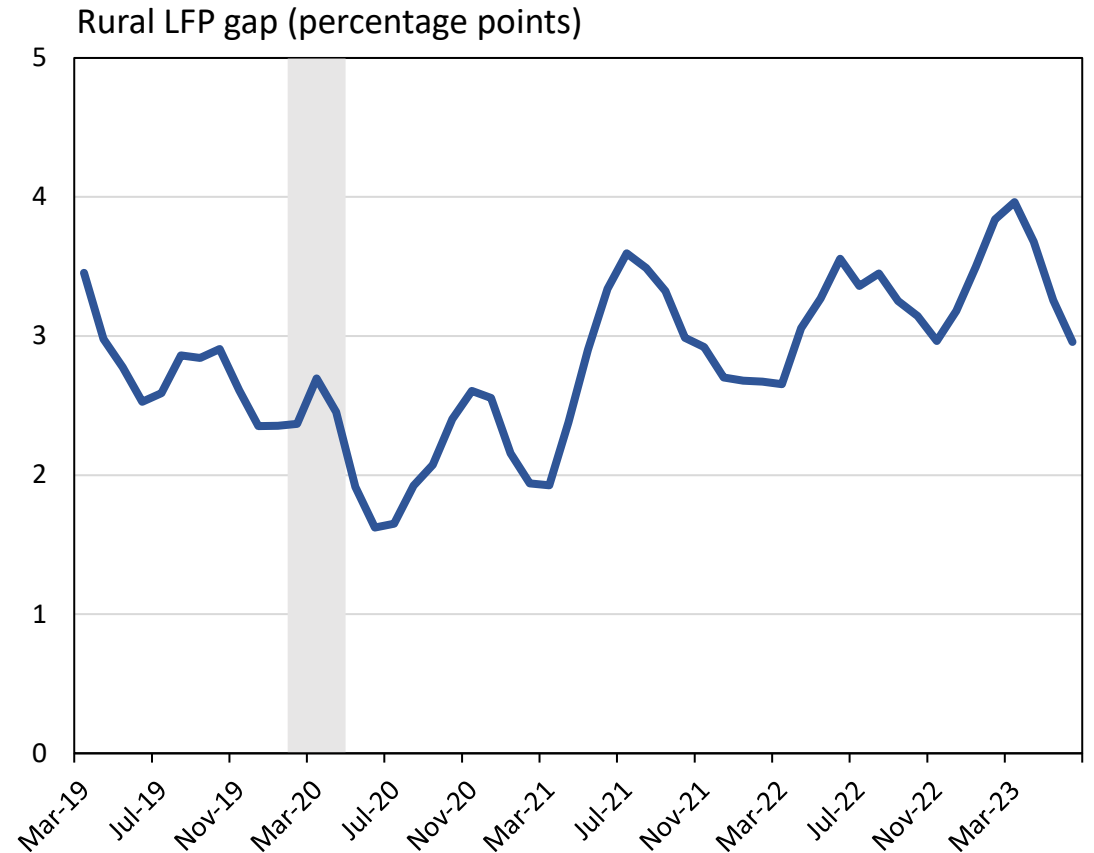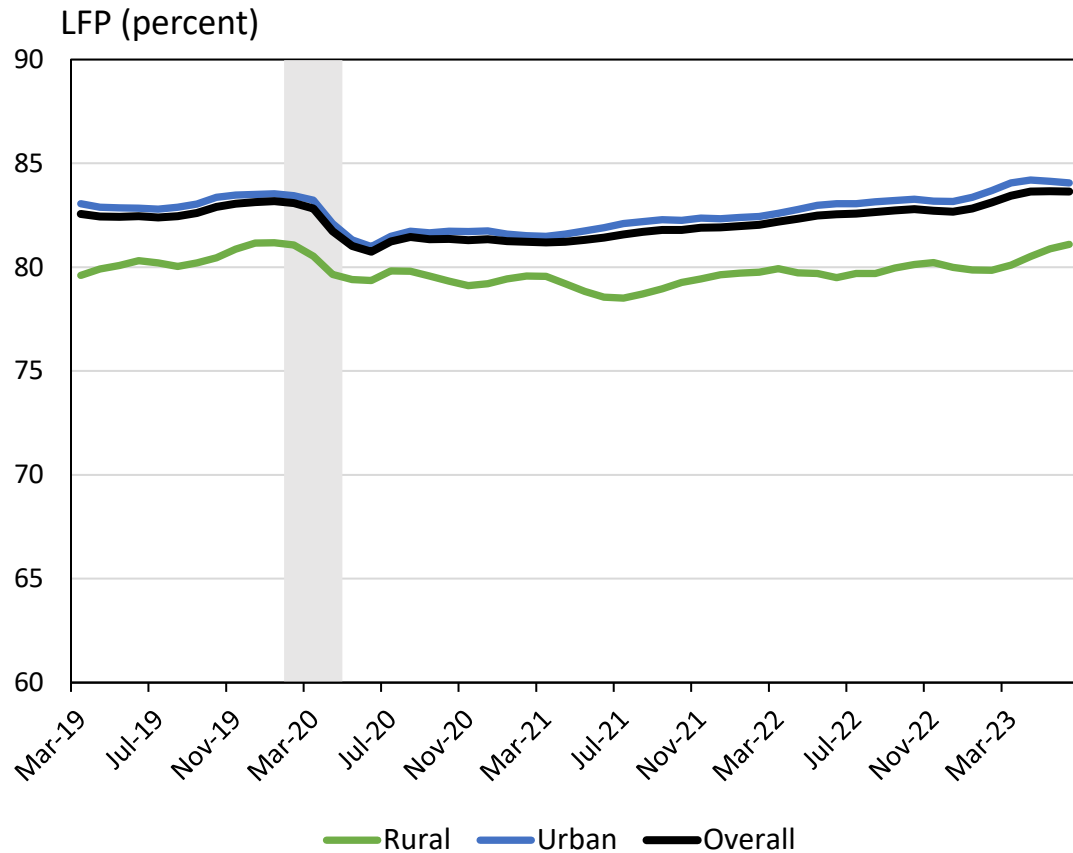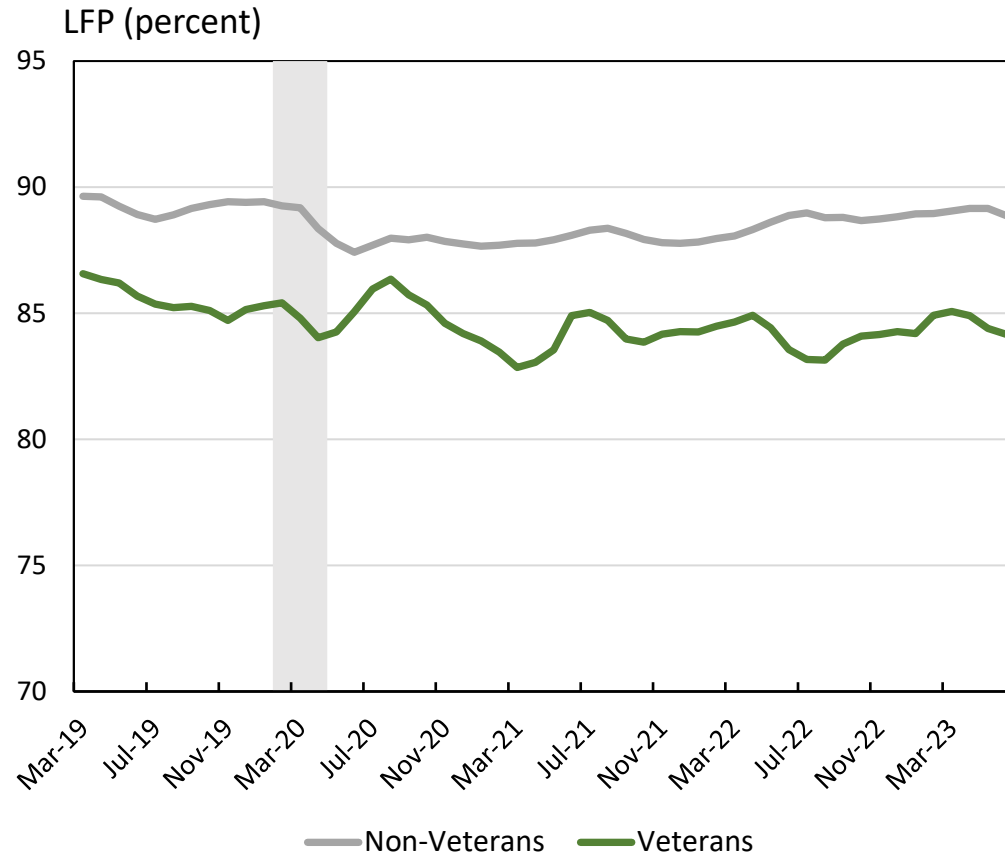
Labor Force Participation by Veteran Status

LFP (percent)

Non-Veterans · Veterans

Sources: U.S. Census Bureau/BLS - Current Population Survey microdata; authors' calculations; three-month moving averages.

Notes: Restricted to men, 25-55, with at least a high school diploma. Shaded region indicates the COVID-19 recession
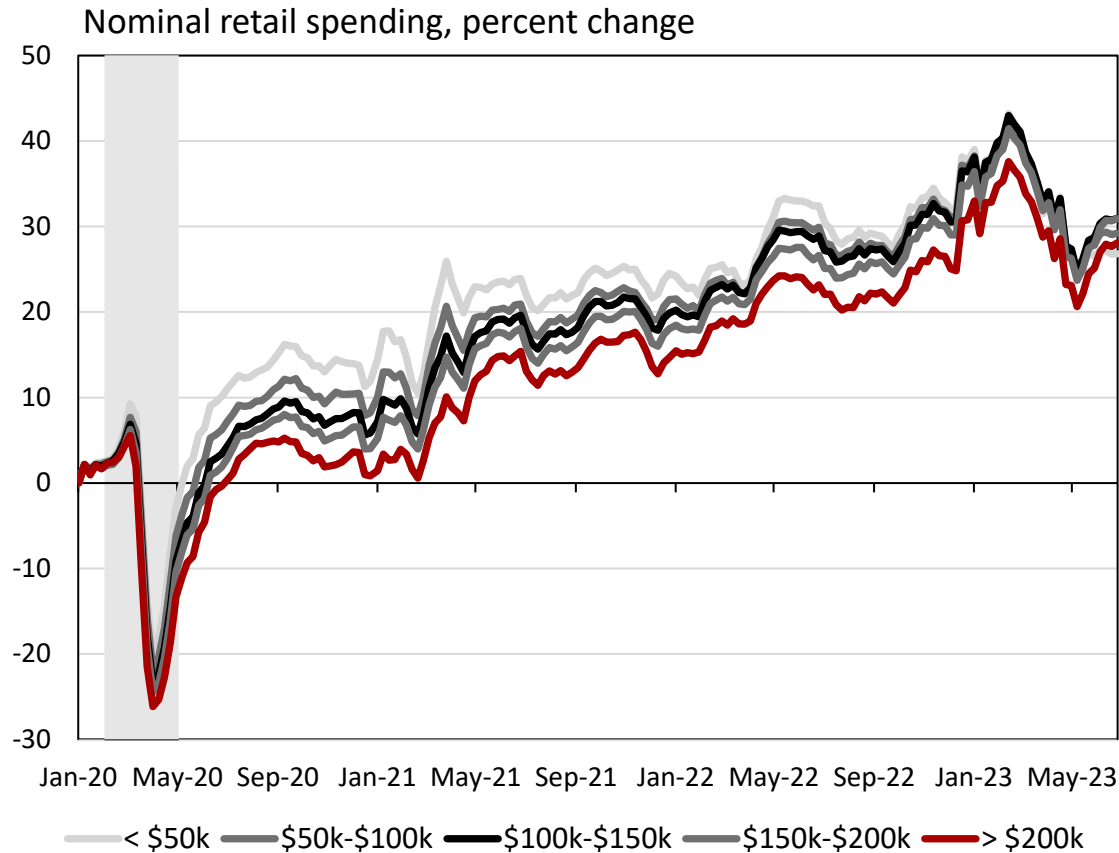
CONSUMER SPENDING

Takeaways | Consumer Spending

- The lower income, the less educated, and the young experienced a significantly faster recovery in spending since the pandemic. There are some signs, however, that the spending recovery among the young and less educated is weakening.

- Consumer spending recovery gaps are largest for age and smallest for income, with education gaps in the middle.

- Recovery gaps are slightly smaller for gas spending than for retail and restaurant spending but follow a similar pattern.

- Real retail spending of the young (25-34 years) continues to fall with a decline of nearly 60% between March and June 2023, while that for other age groups have bottomed out in May 2023, showing increases since then.
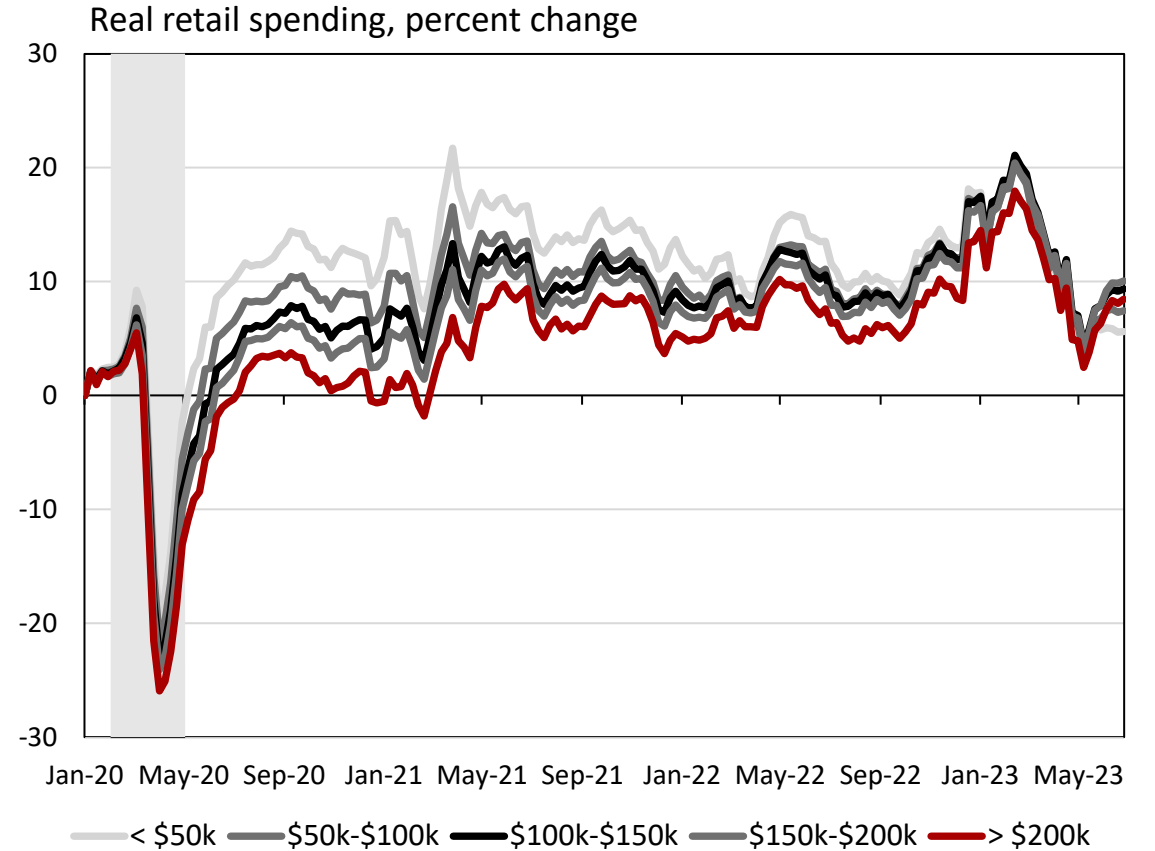
Data & Methods

- We leverage a permissioned panel of around 40 million U.S. households' debit and credit card spending from Commerce Signals, a TransUnion company.

- Commerce Signals data correlate well with U.S. Census Bureau data in measuring aggregate trends in retail, restaurants, and gas station spending, but is released at high frequency (weekly).

- Data are seasonally adjusted by first considering a week in the year and dividing over the 52-week moving average centered at that week. The mean of these ratios across years is used as that week's denominator for seasonal adjustment.

- Real consumer spending trends use the demographic inflation price indexes from the Inflation section when possible. For county demographic spending (besides urban vs. rural), regional price indexes are used.

Retail Spending by Income

Nominal retail spending, percent change

Legend: < $50k | $50k-$100k | $100k-$150k | $150k-$200k | > $200k

Real retail spending, percent change

Legend: < $50k | $50k-$100k | $100k-$150k | $150k-$200k | > $200k

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.

Retail Spending by Education

Nominal retail spending, percent change

Real retail spending, percent change

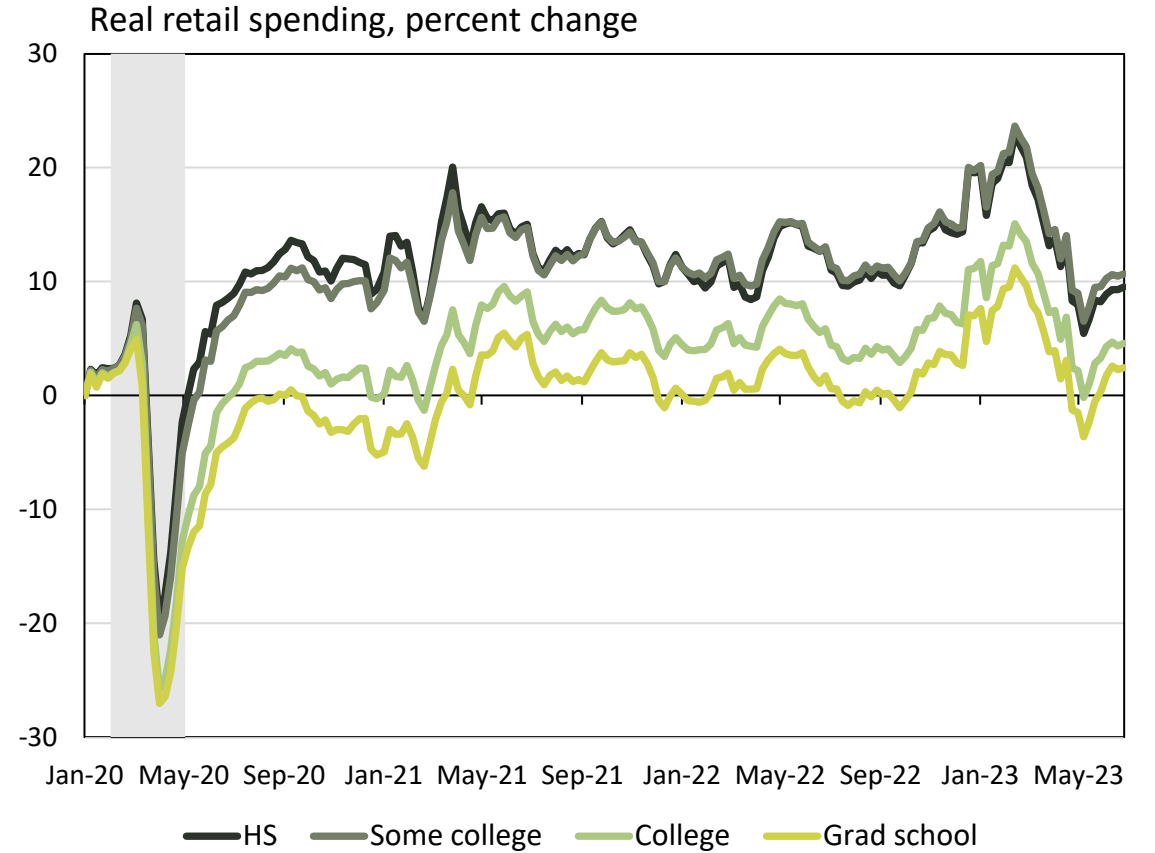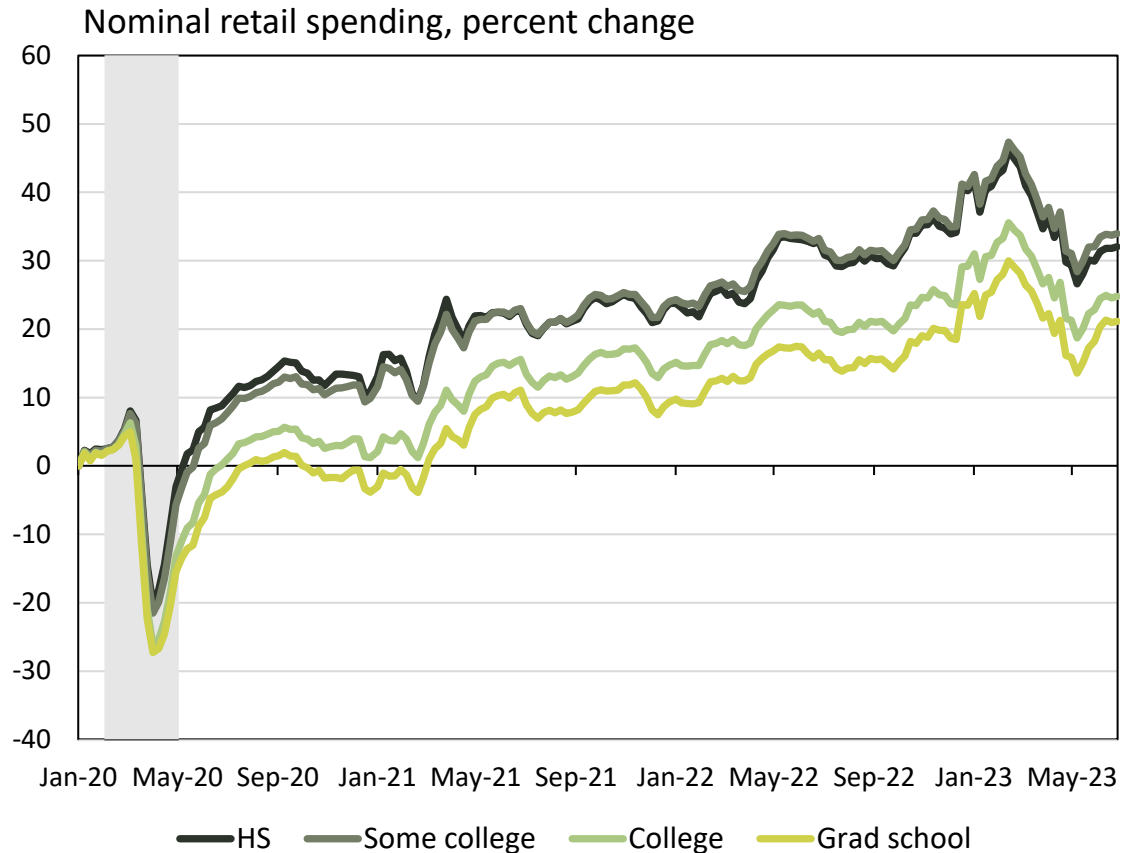Legend: HS — Some college — College — Grad school

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
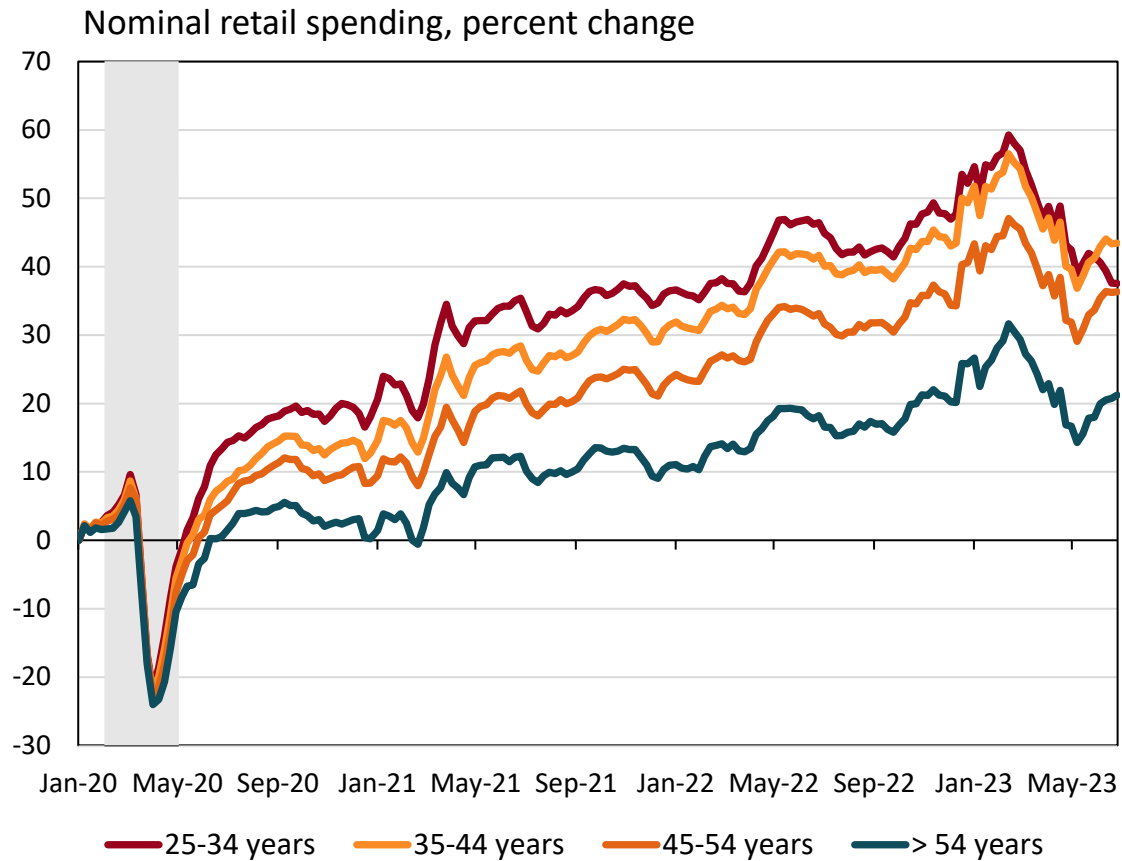
Retail Spending by Age

Nominal retail spending, percent change

25-34 years — 35-44 years — 45-54 years — > 54 years

Real retail spending, percent change

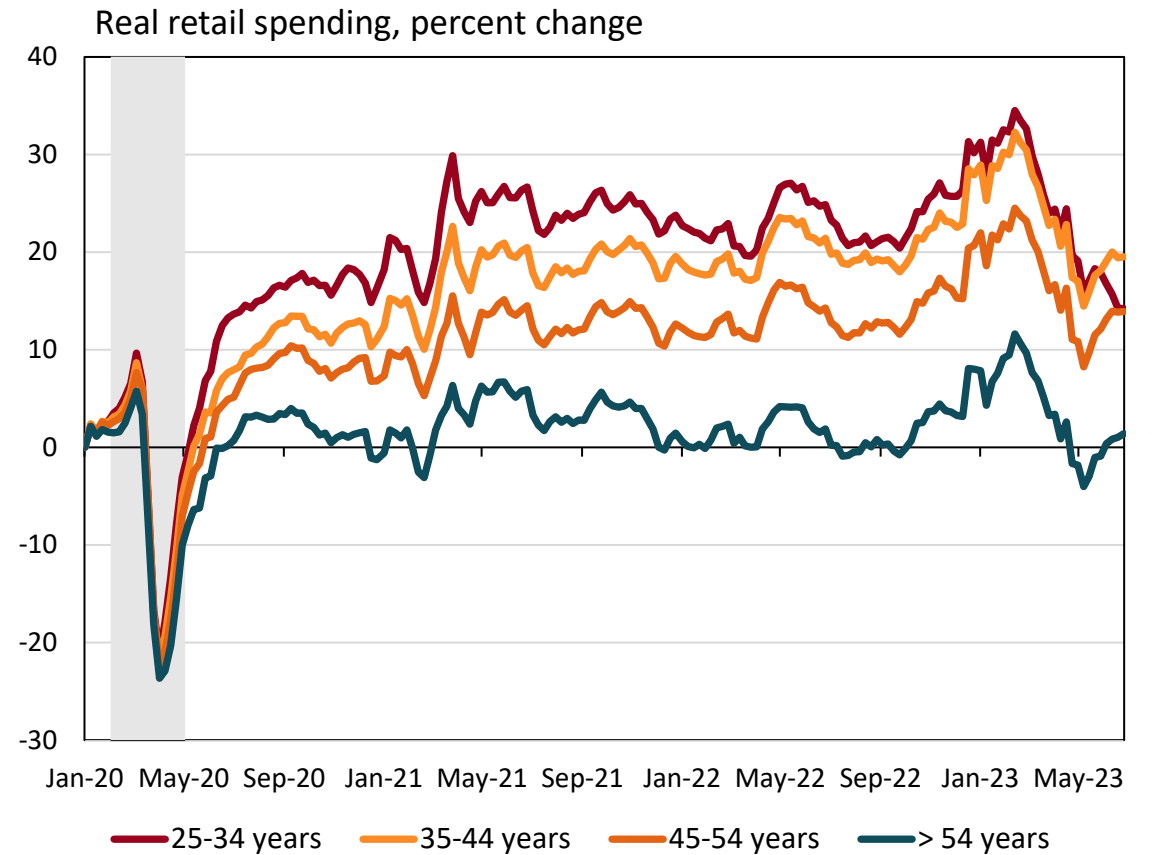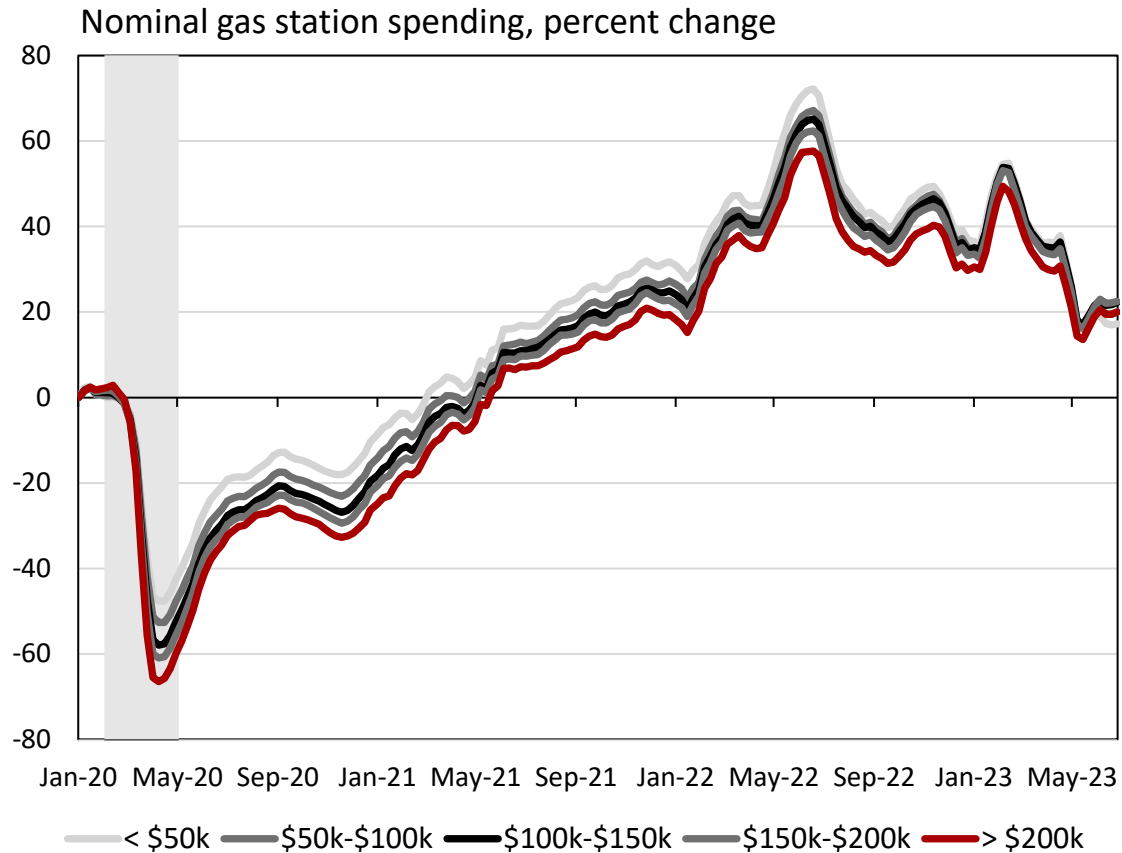25-34 years — 35-44 years — 45-54 years — > 54 years

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.

Gas Station Spending by Income

Nominal gas station spending, percent change

Real gas station spending, percent change

Legend: < $50k — $50k-$100k — $100k-$150k — $150k-$200k — > $200k

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.
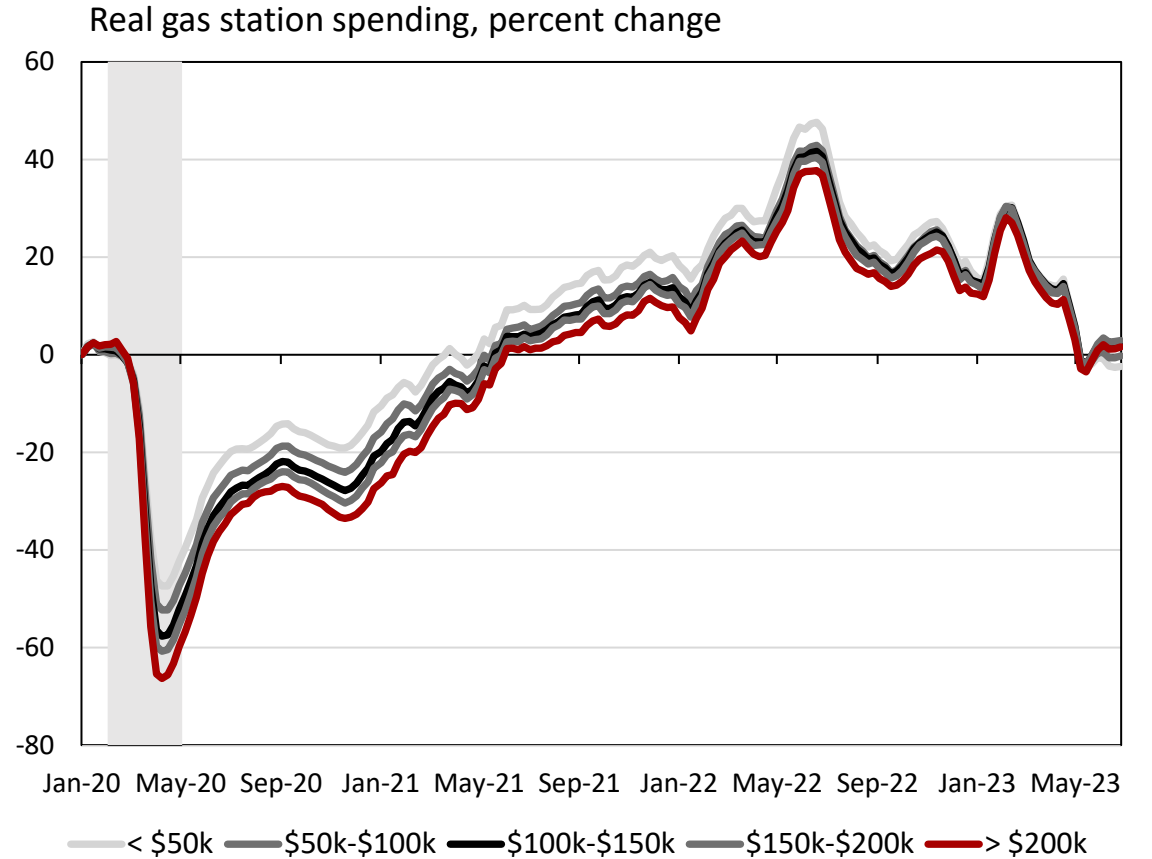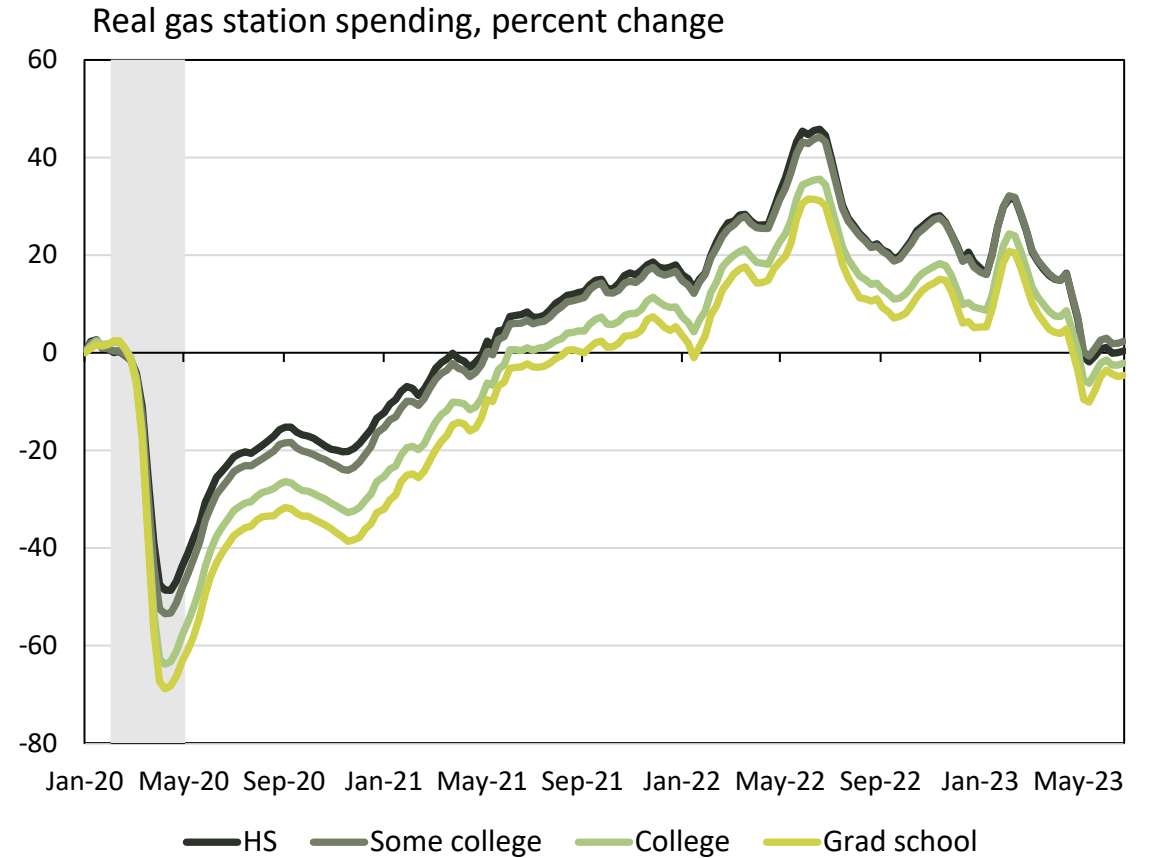
Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.

Gas Station Spending by Education

Nominal gas station spending, percent change

Real gas station spending, percent change

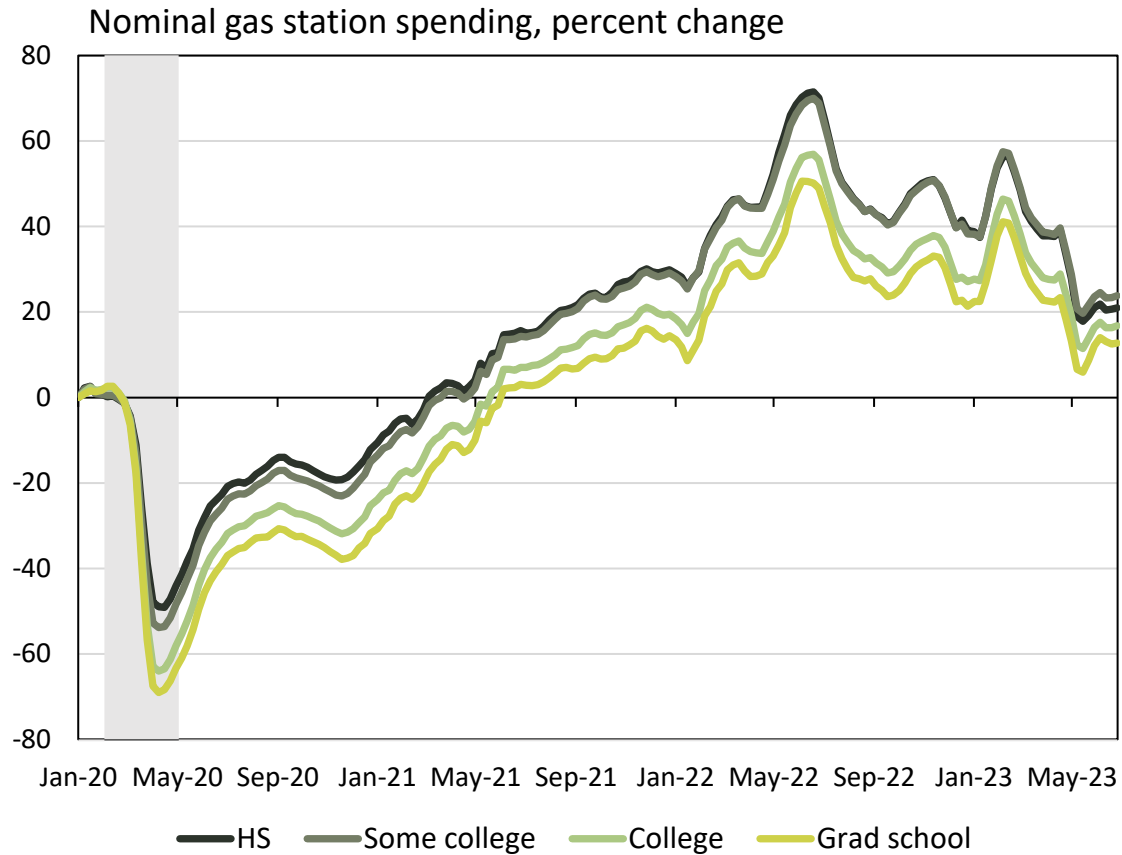Legend: HS — Some college — College — Grad school

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
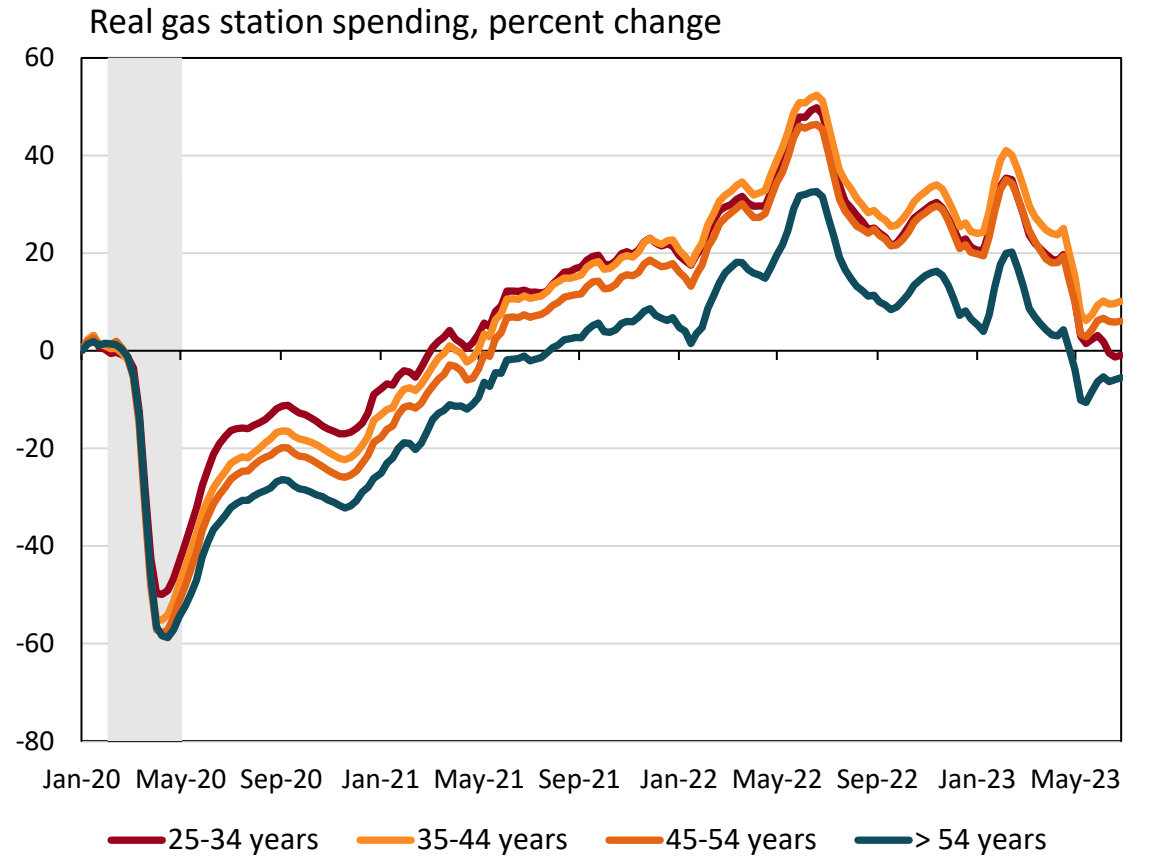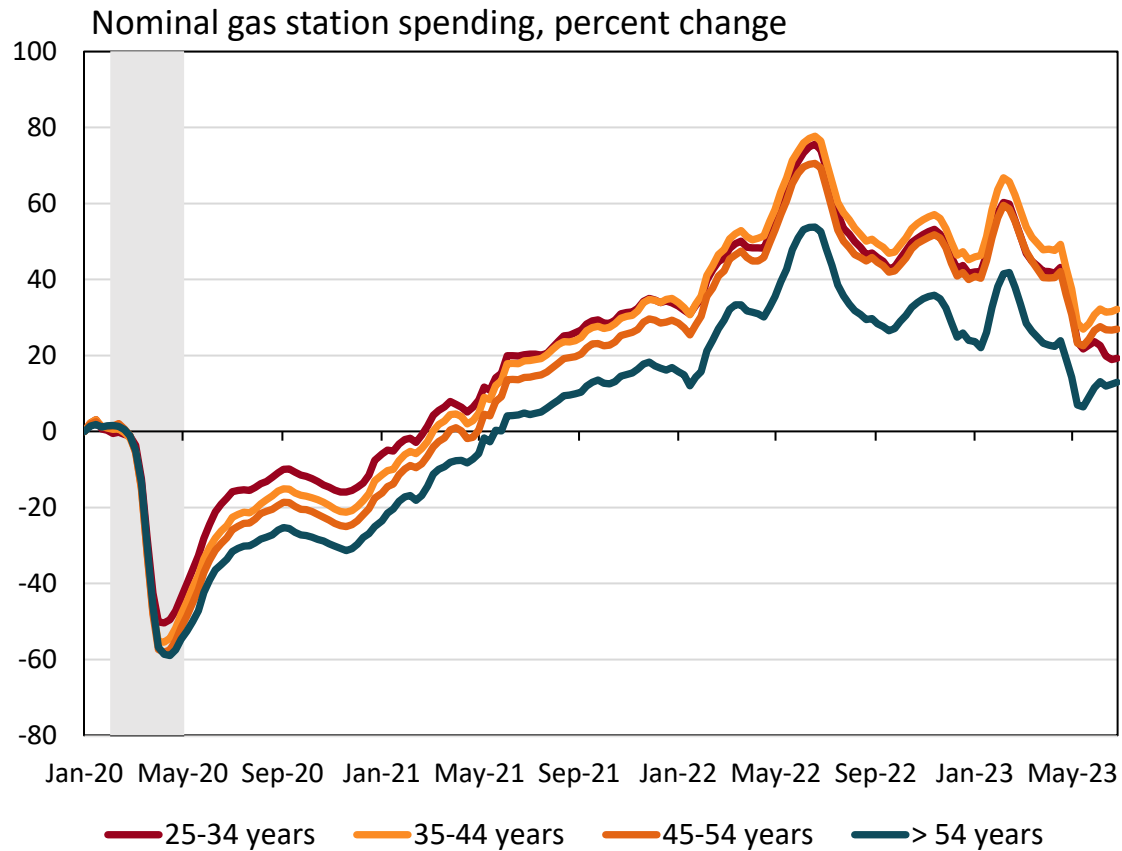
Gas Station Spending by Age

Nominal gas station spending, percent change

Real gas station spending, percent change

Legend: 25-34 years — 35-44 years — 45-54 years — > 54 years

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
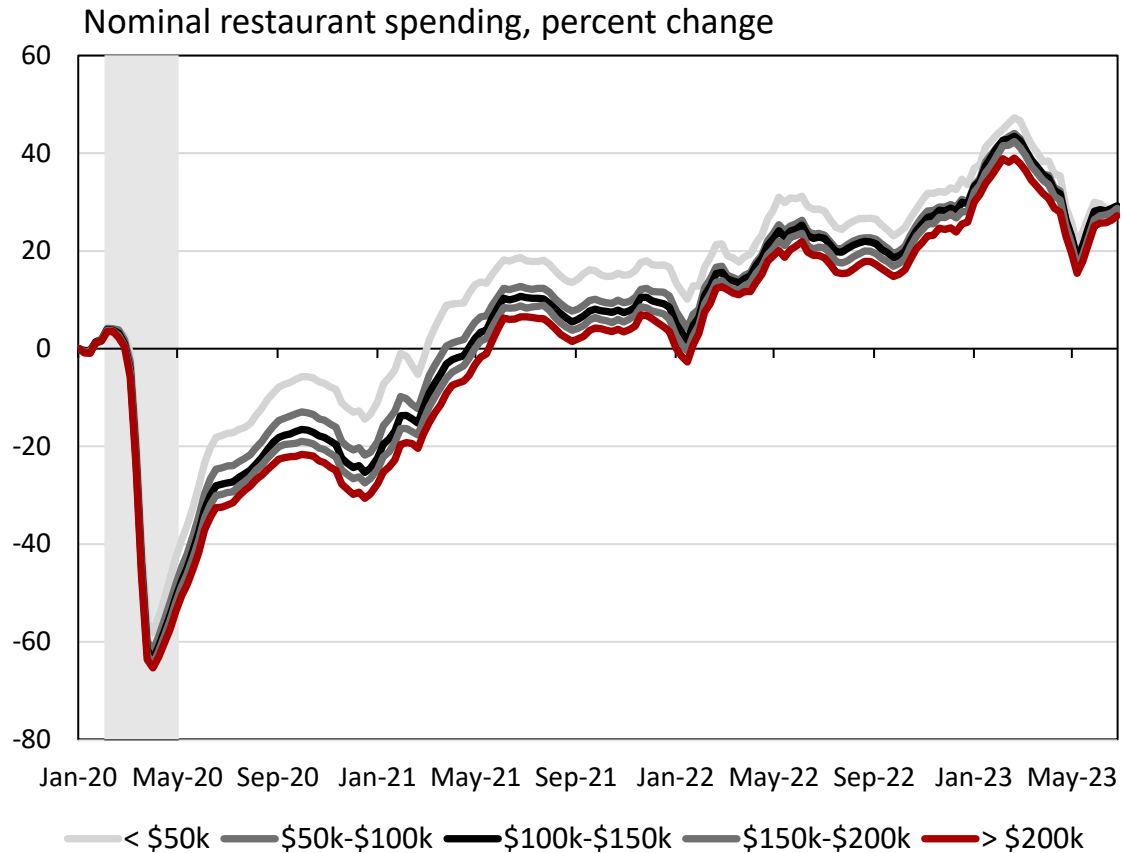
Restaurant Spending by Income

Nominal restaurant spending, percent change

Real restaurant spending, percent change

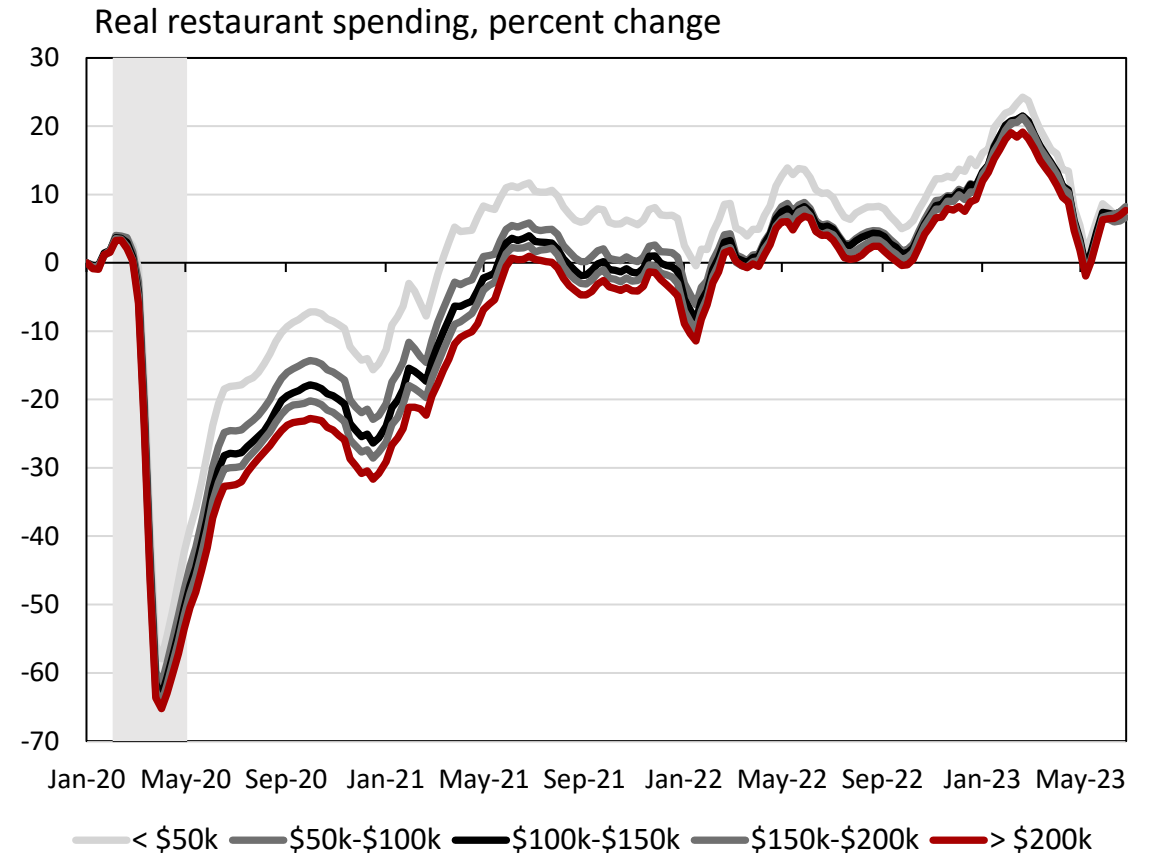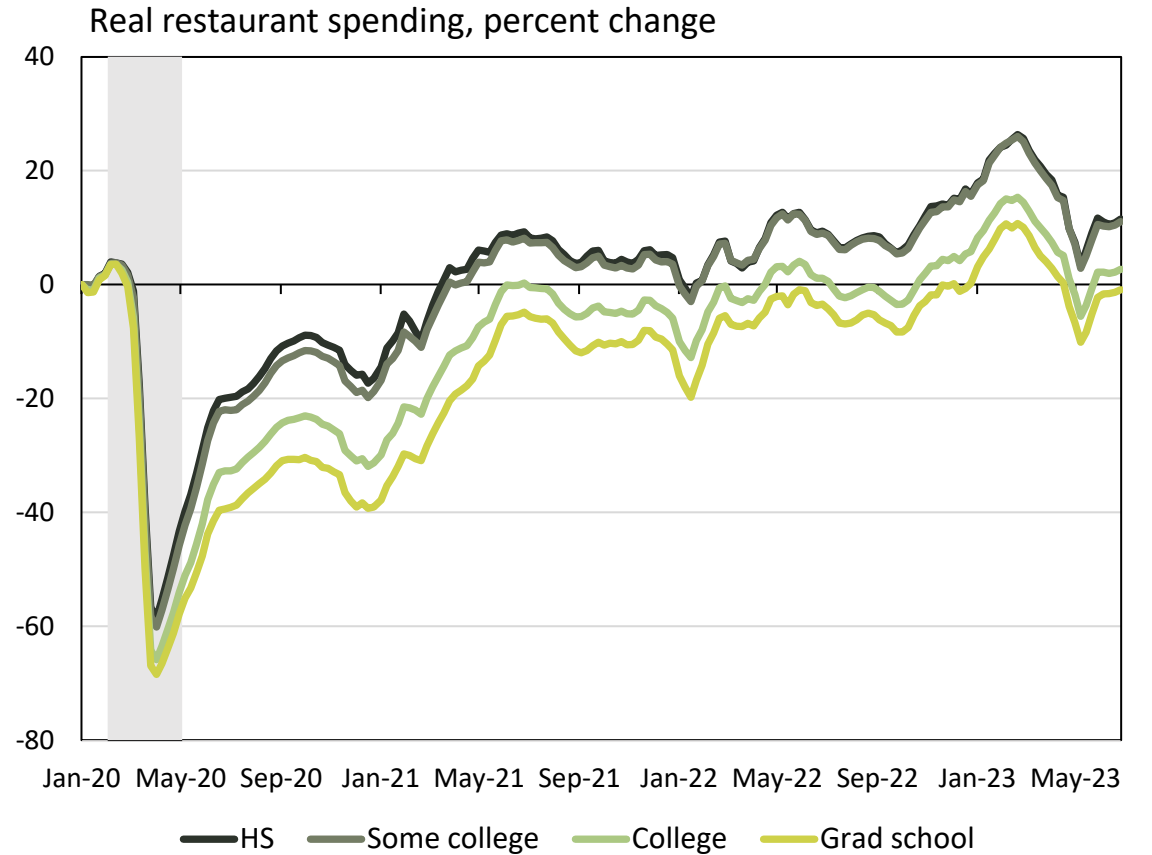Legend: < $50k, $50k-$100k, $100k-$150k, $150k-$200k, > $200k

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.

Restaurant Spending by Education

Nominal restaurant spending, percent change

Real restaurant spending, percent change
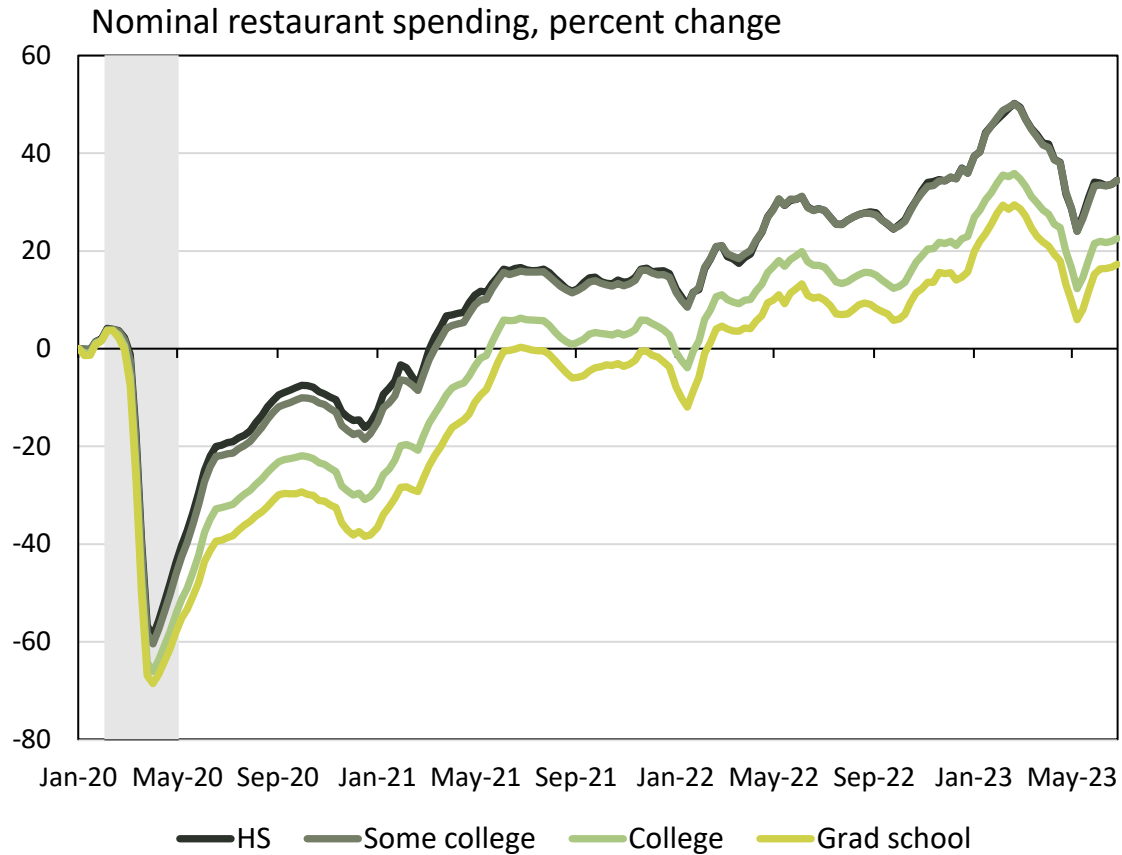
Legend: HS — Some college — College — Grad school

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
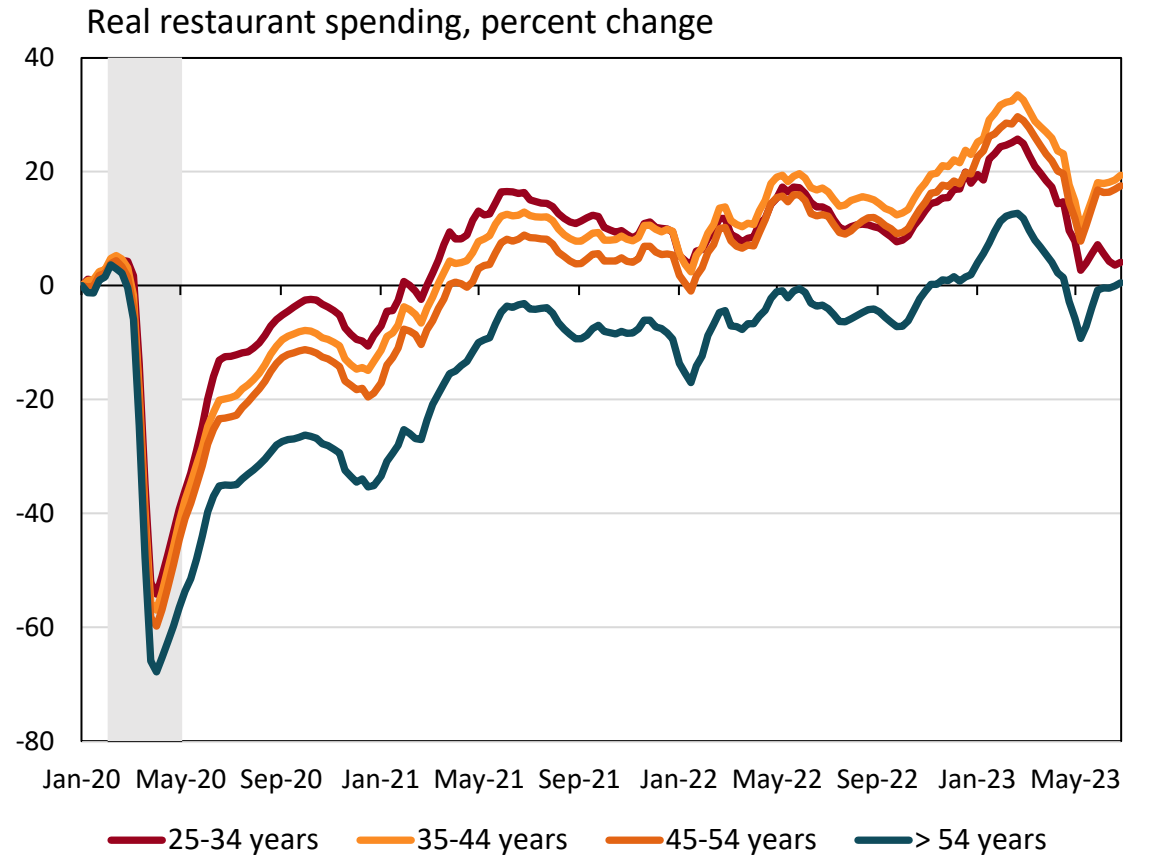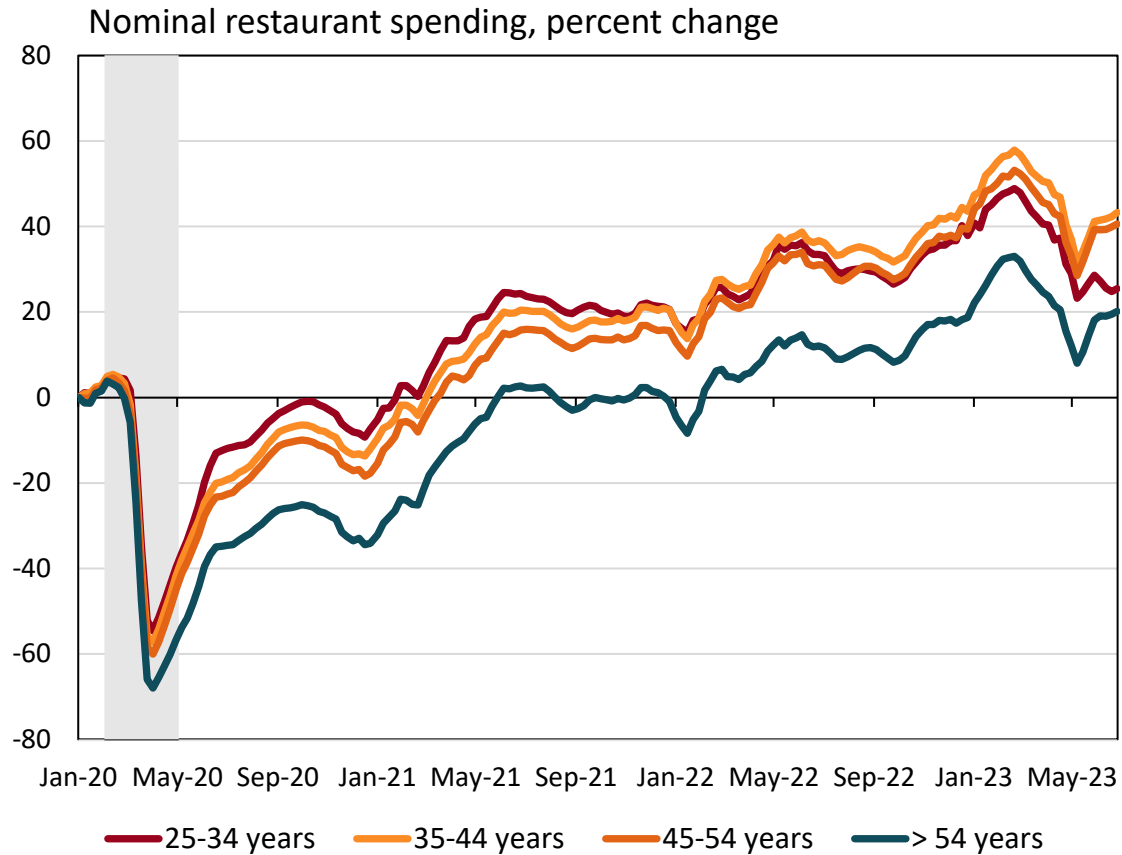
Restaurant Spending by Age

Nominal restaurant spending, percent change

Real restaurant spending, percent change

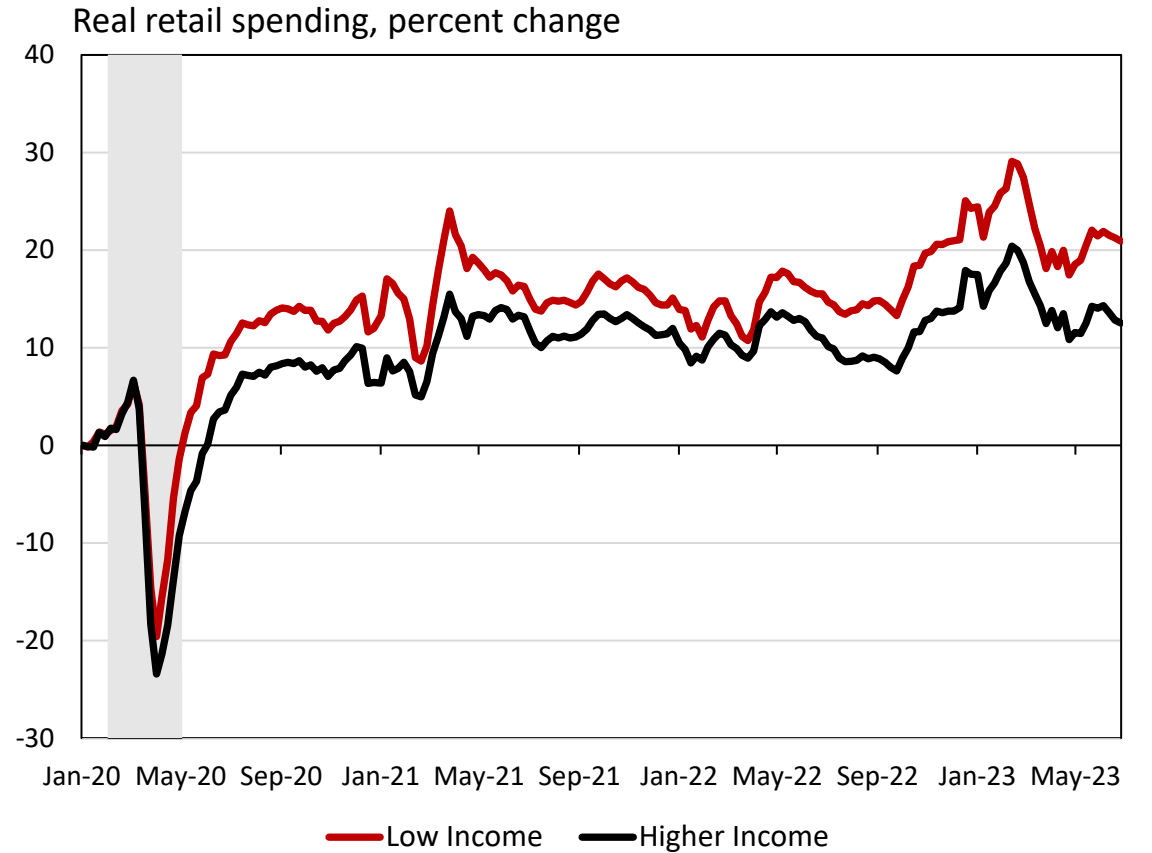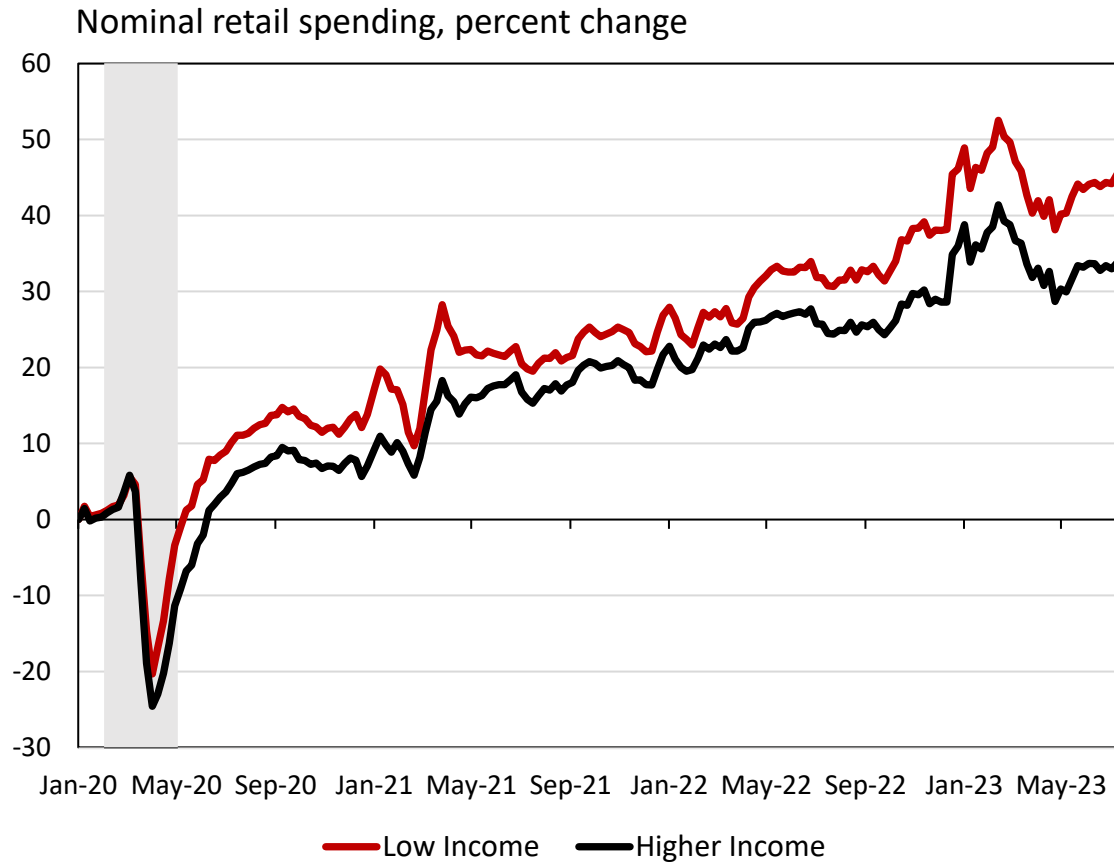Legend: 25-34 years · 35-44 years · 45-54 years · > 54 years

Source: Commerce Signals – Three-week moving averages.
Notes: Real spending uses corresponding demographic prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 1, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
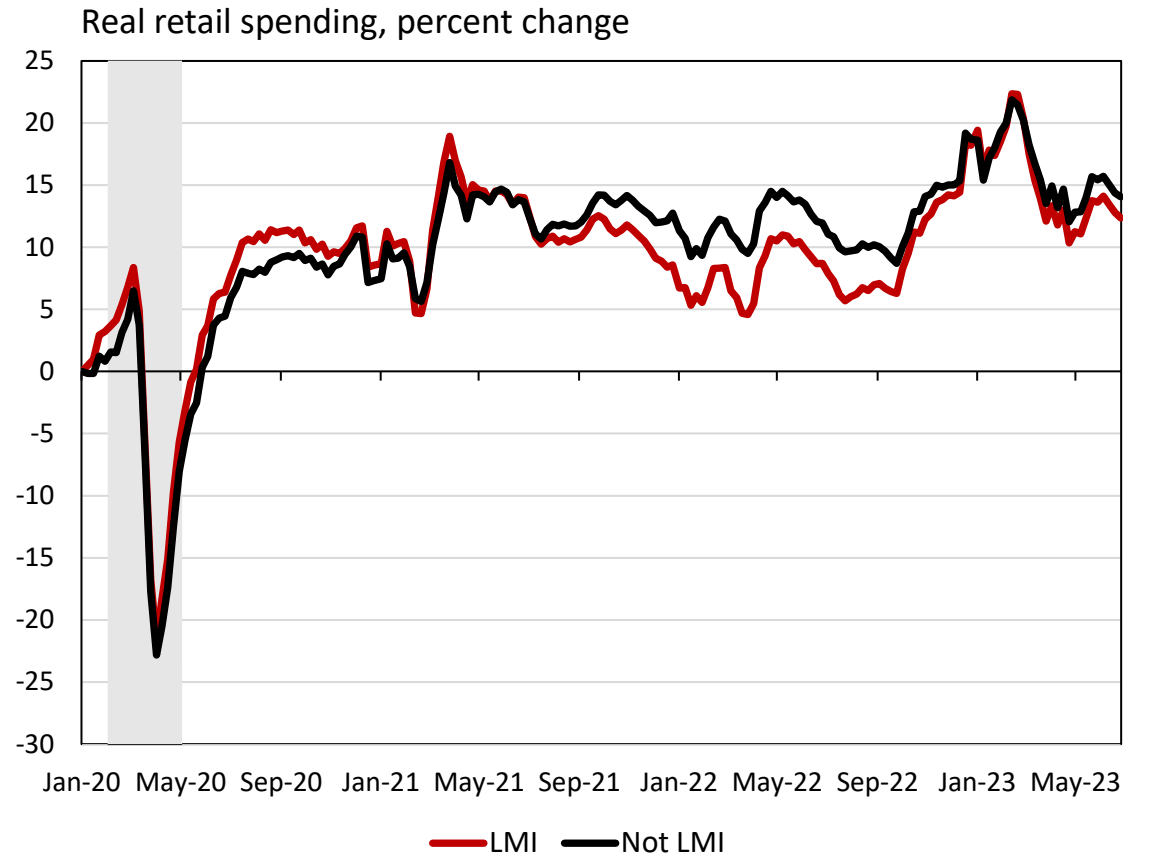
Retail Spending by County Household Income

Nominal retail spending, percent change

Real retail spending, percent change

Low Income — Higher Income

Low Income — Higher Income

Nominal spending ranges from January 1, 2020, to July 15, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.

Retail Spending by Low to Moderate Income (LMI) Status

Nominal retail spending, percent change

Real retail spending, percent change

Source: Commerce Signals – Three-week moving averages.
Notes: Low-to-moderate income (LMI) counties are defined as those where the majority of households earn below 80% of the metro area median. Real spending uses corresponding urban/rural prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 15, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
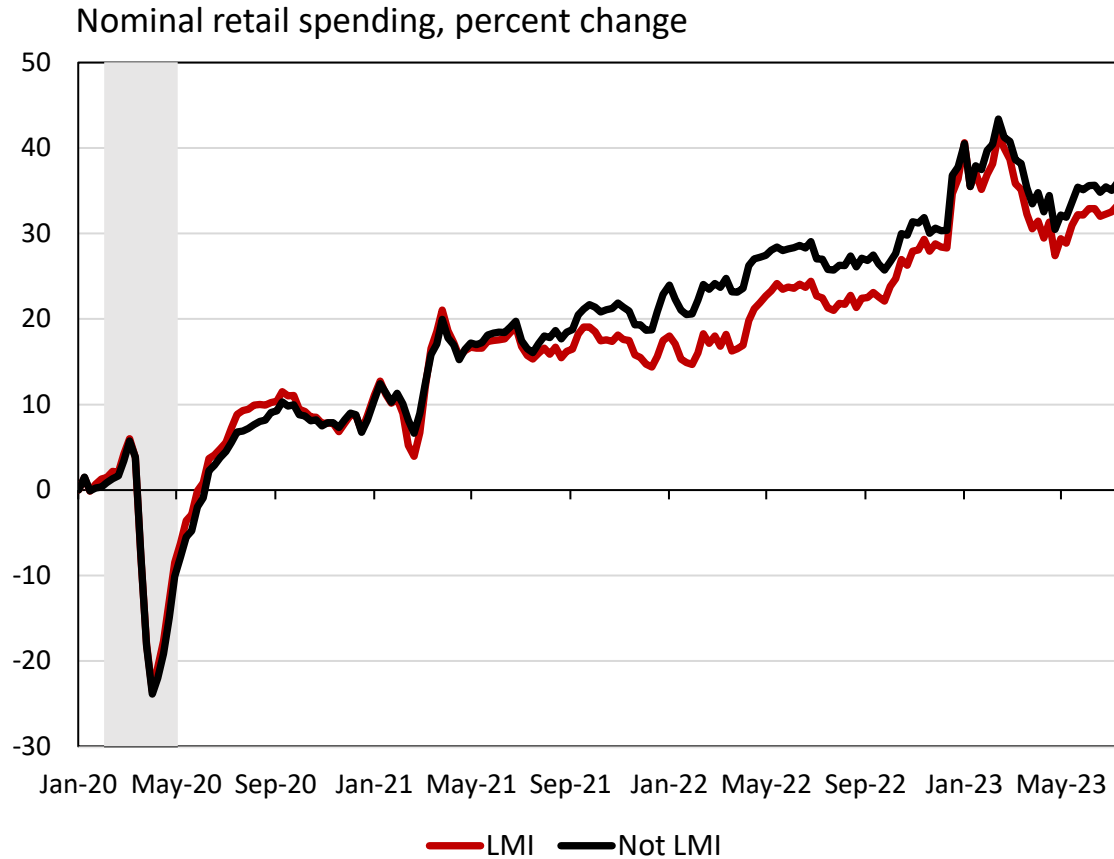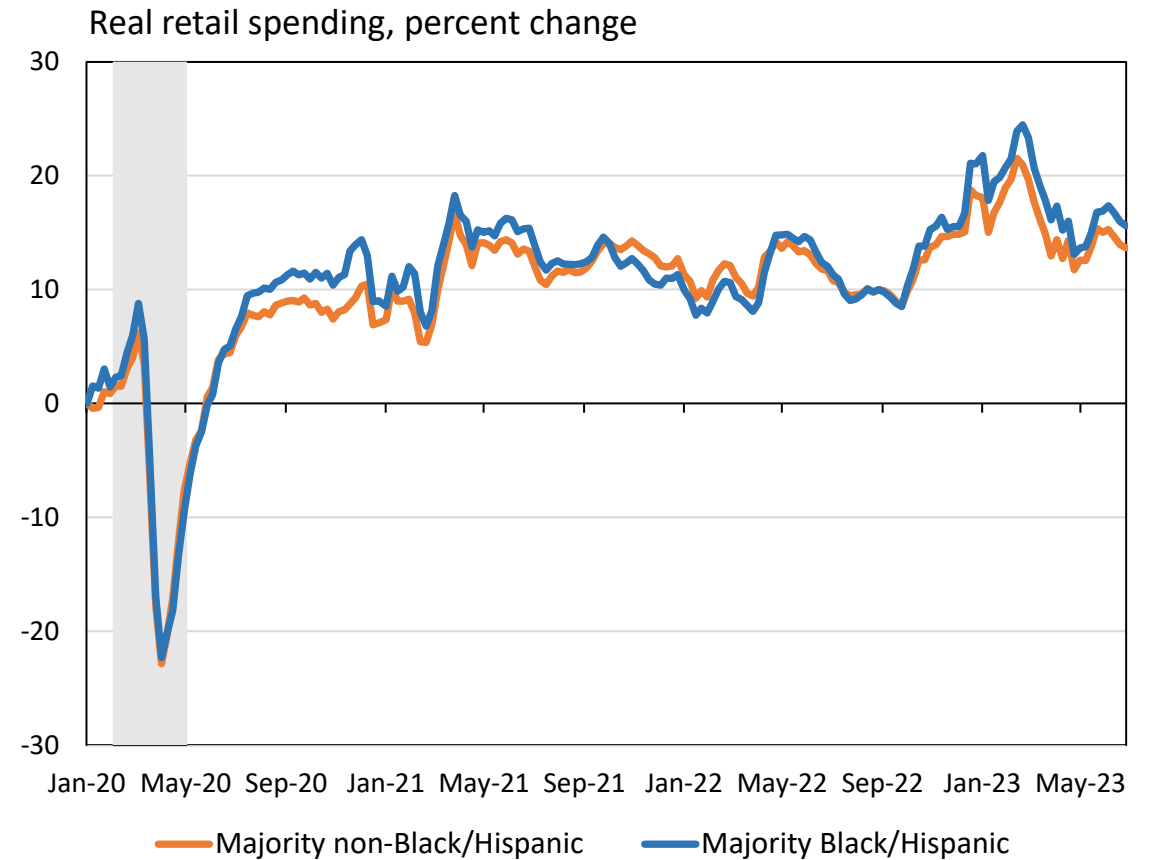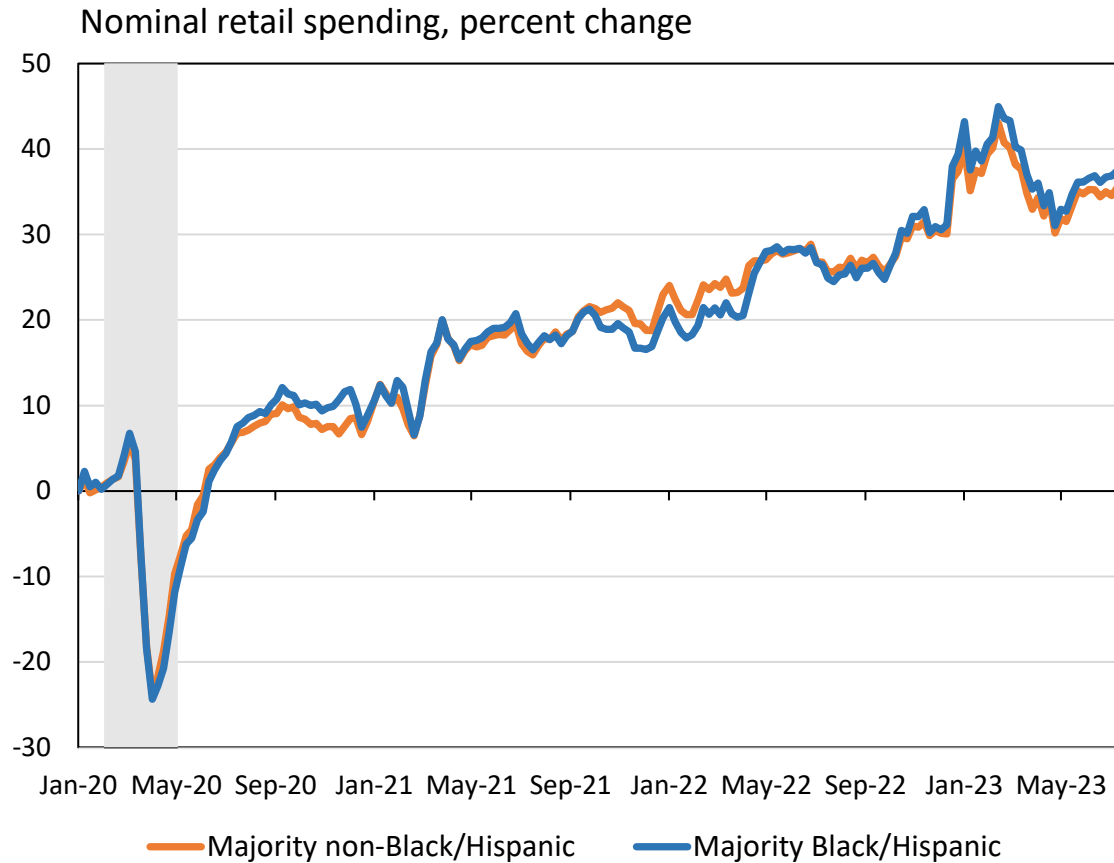
Retail Spending by County Demographics

Nominal retail spending, percent change

— Majority non-Black/Hispanic   — Majority Black/Hispanic

Real retail spending, percent change

— Majority non-Black/Hispanic   — Majority Black/Hispanic

Source: Commerce Signals – Three-week moving averages.
Notes: Majority Black/Hispanic counties are defined as those where greater than 50% of the county's population is Black or Hispanic. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 15, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
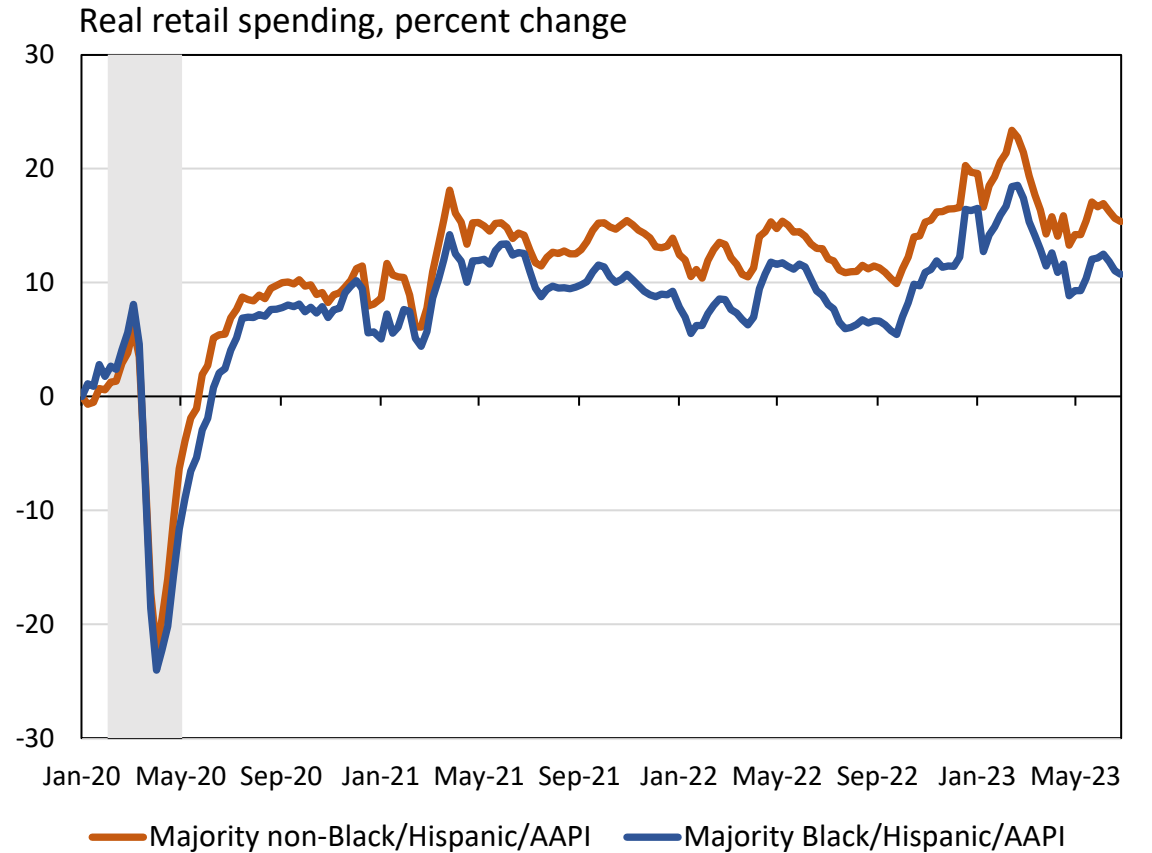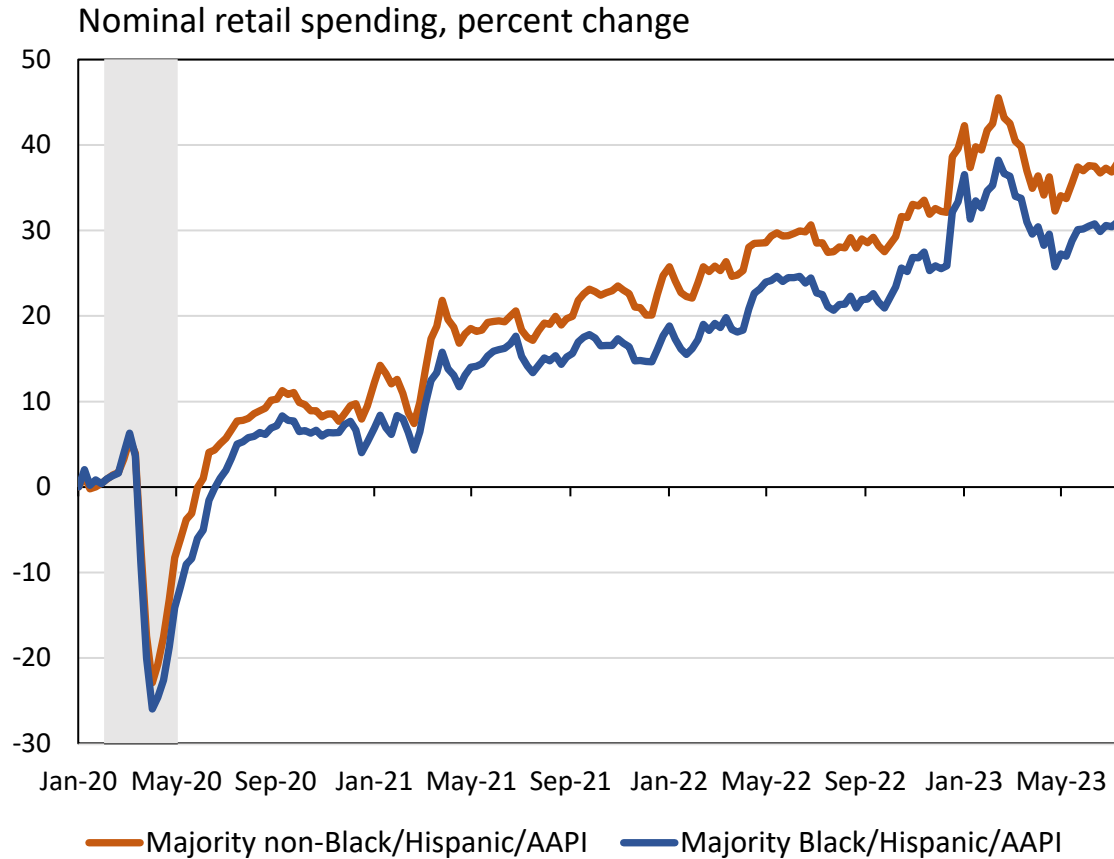
Retail Spending by County Demographics

Nominal retail spending, percent change

Real retail spending, percent change

— Majority non-Black/Hispanic/AAPI — Majority Black/Hispanic/AAPI

Source: Commerce Signals – Three-week moving averages.
Notes: Majority Black/Hispanic/AAPI counties are defined as those where greater than 50% of the county's population is Black, Hispanic, or AAPI. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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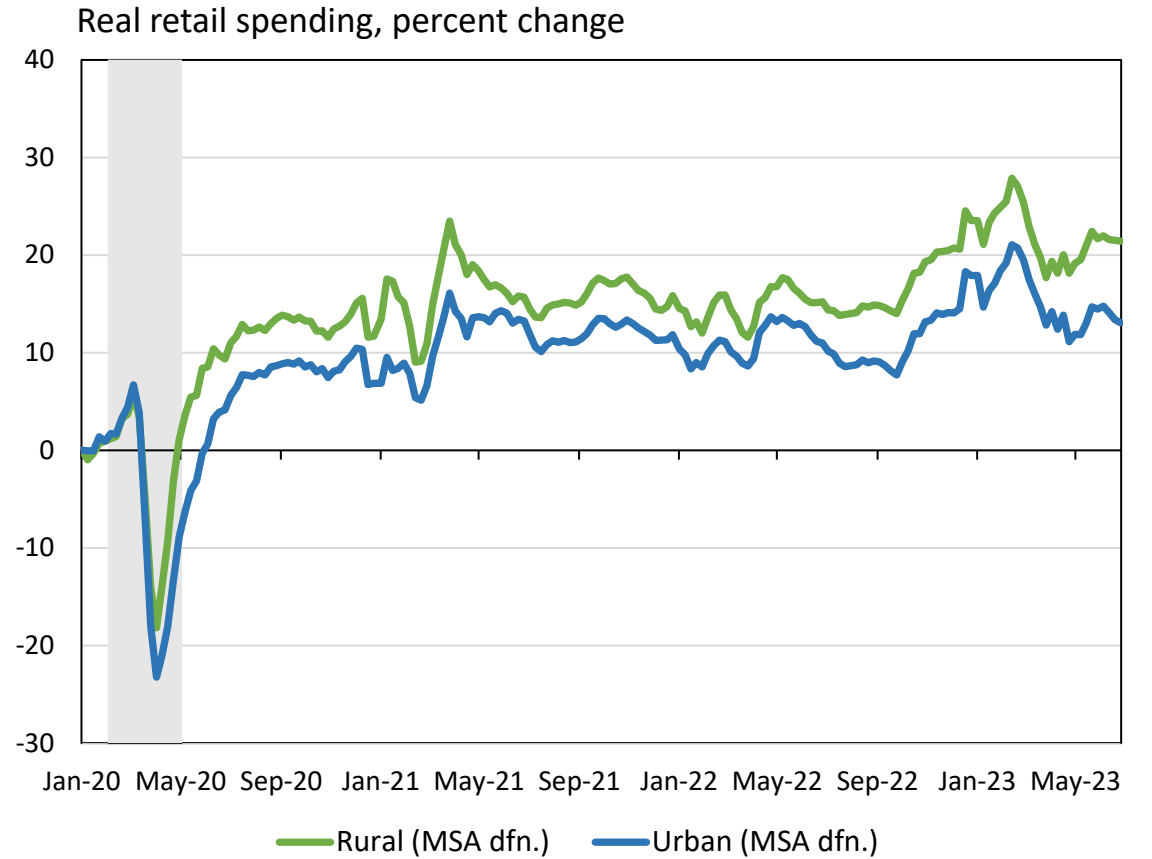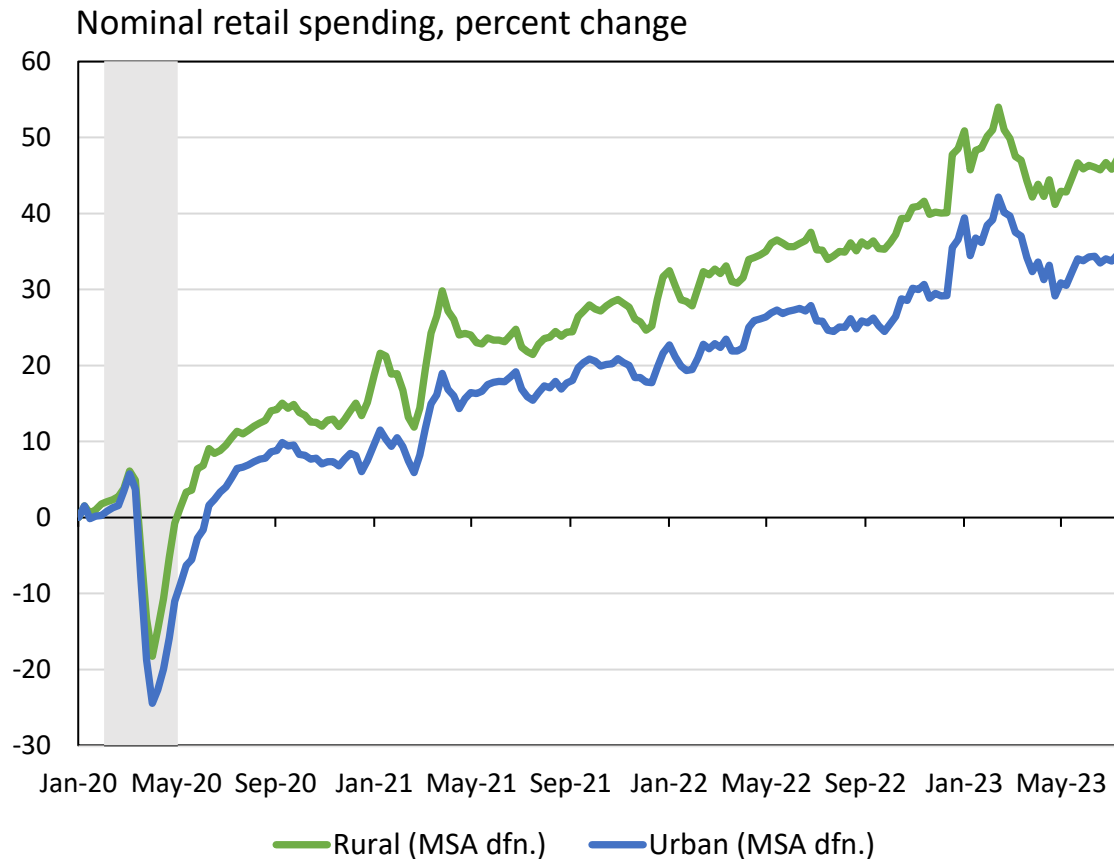
Retail Spending by County Urban/Rural Status

Nominal retail spending, percent change

Real retail spending, percent change

— Rural (MSA dfn.) — Urban (MSA dfn.)

Source: Commerce Signals – Three-week moving averages.
Notes: Urban counties are defined as those located in a Metropolitan Statistical Area (MSA).
Real spending uses corresponding urban prices, indexed to January 2020. Shaded region
indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 15, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
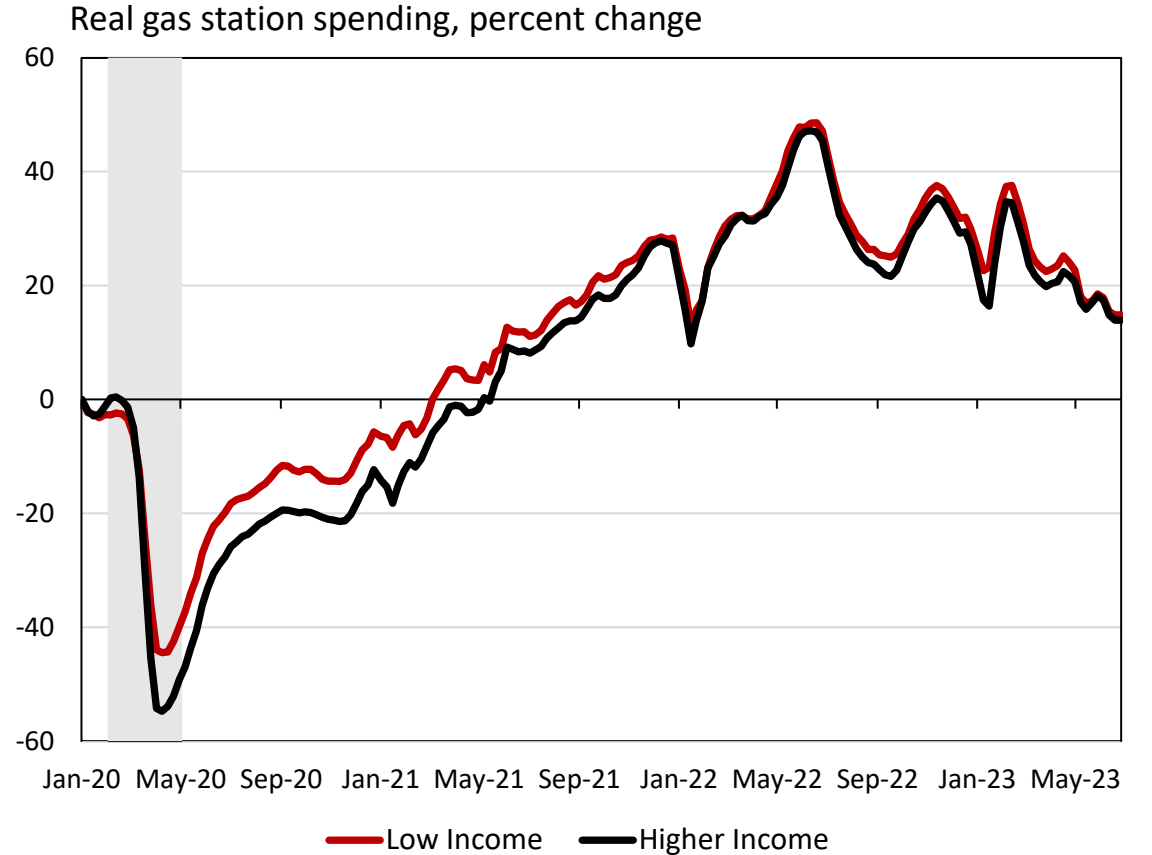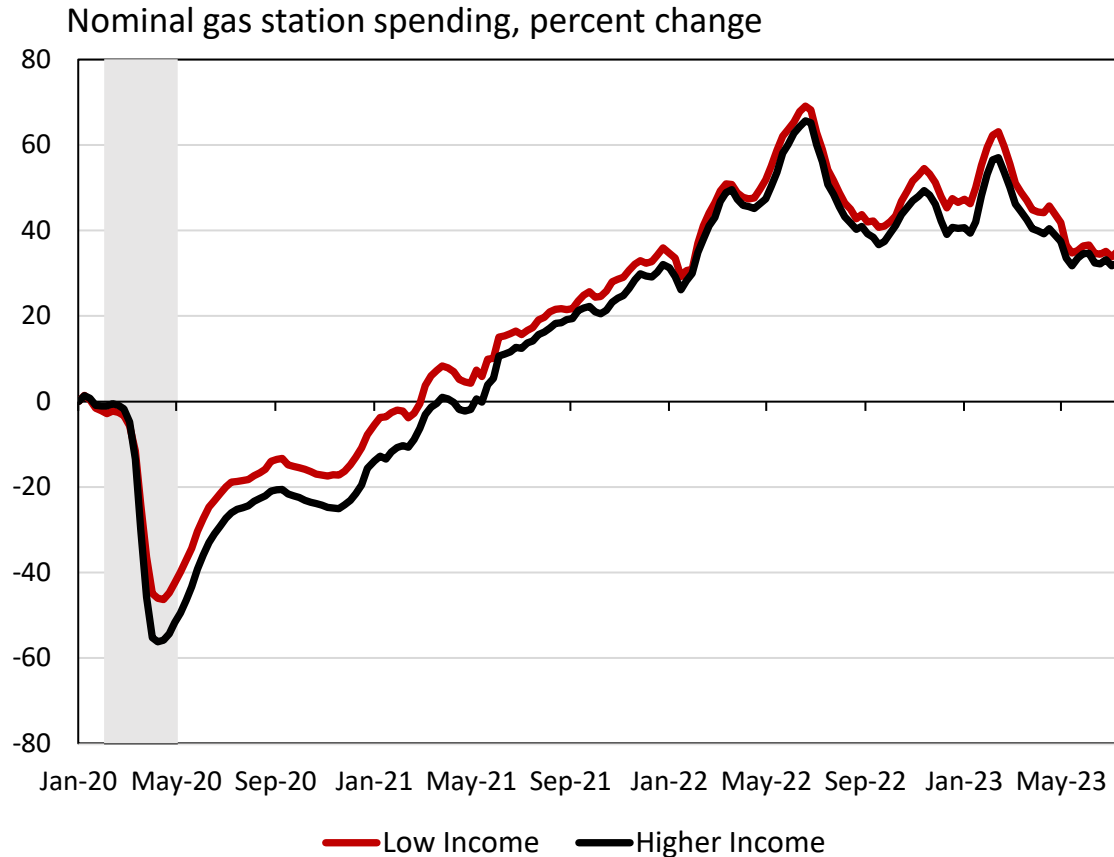
Gas Station Spending by County Household Income

Nominal gas station spending, percent change

Real gas station spending, percent change

— Low Income — Higher Income

Source: Commerce Signals – Three-week moving averages.
Notes: Low-income counties are defined as those with household incomes below the 25th percentile of national household income. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

Nominal spending ranges from January 1, 2020, to July 15, 2023. Real spending ranges from January 1, 2020, to July 1, 2023.
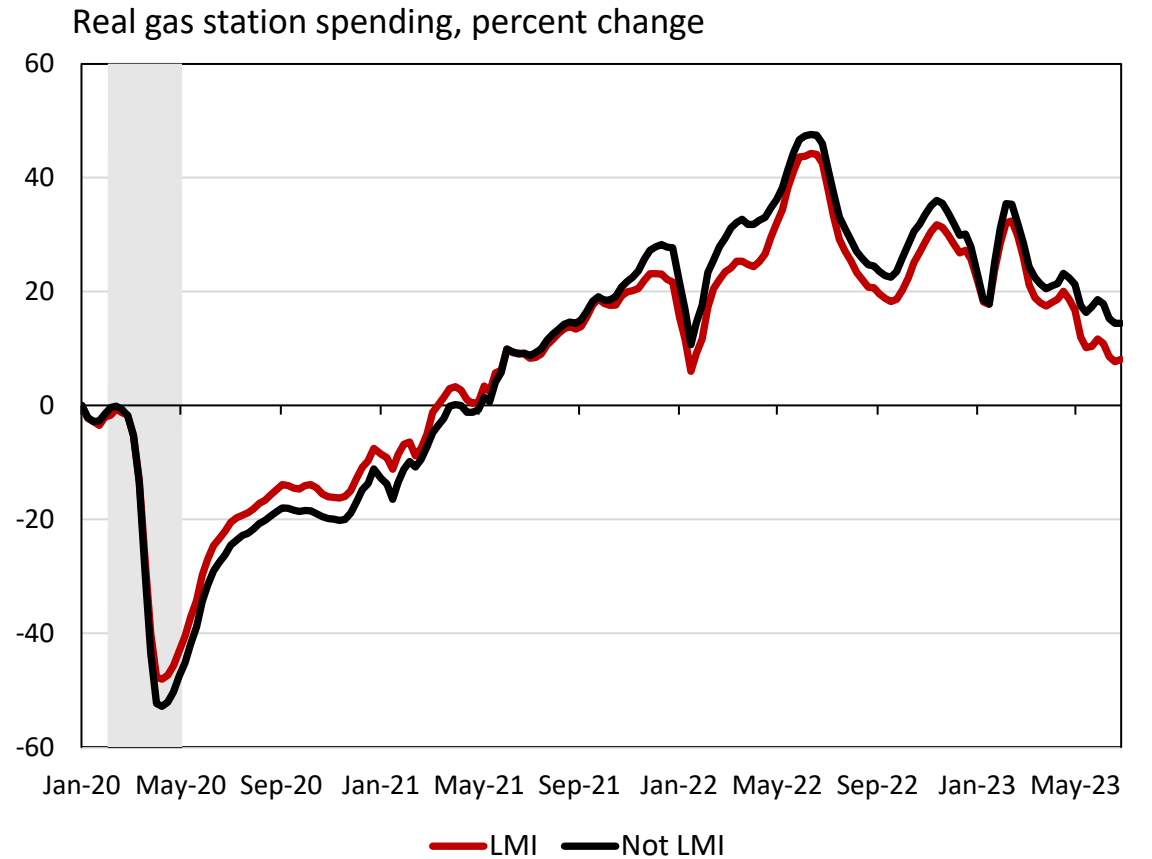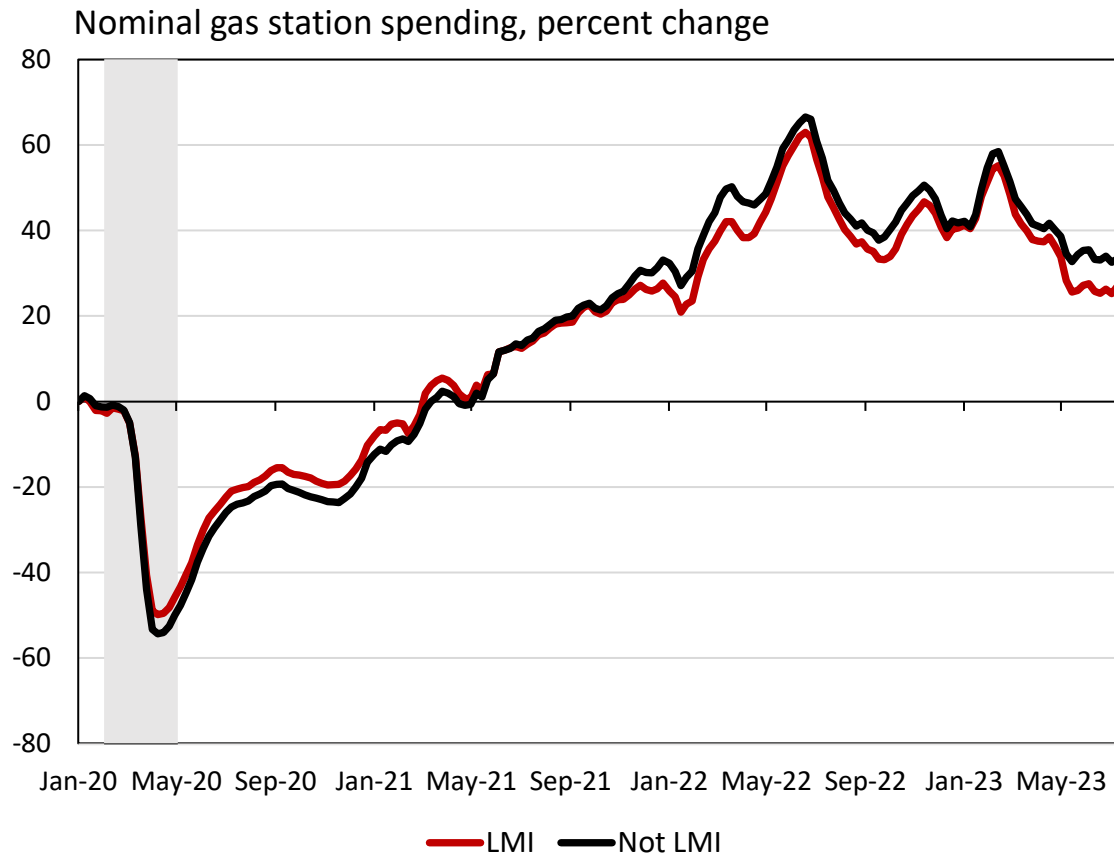
Gas Station Spending by Low to Moderate Income (LMI) Status

Nominal gas station spending, percent change

Real gas station spending, percent change

Source: Commerce Signals – Three-week moving averages.
Notes: Low-to-moderate income (LMI) counties are defined as those where the majority of households earn below 80% of the metro area median. Real spending uses corresponding urban/rural prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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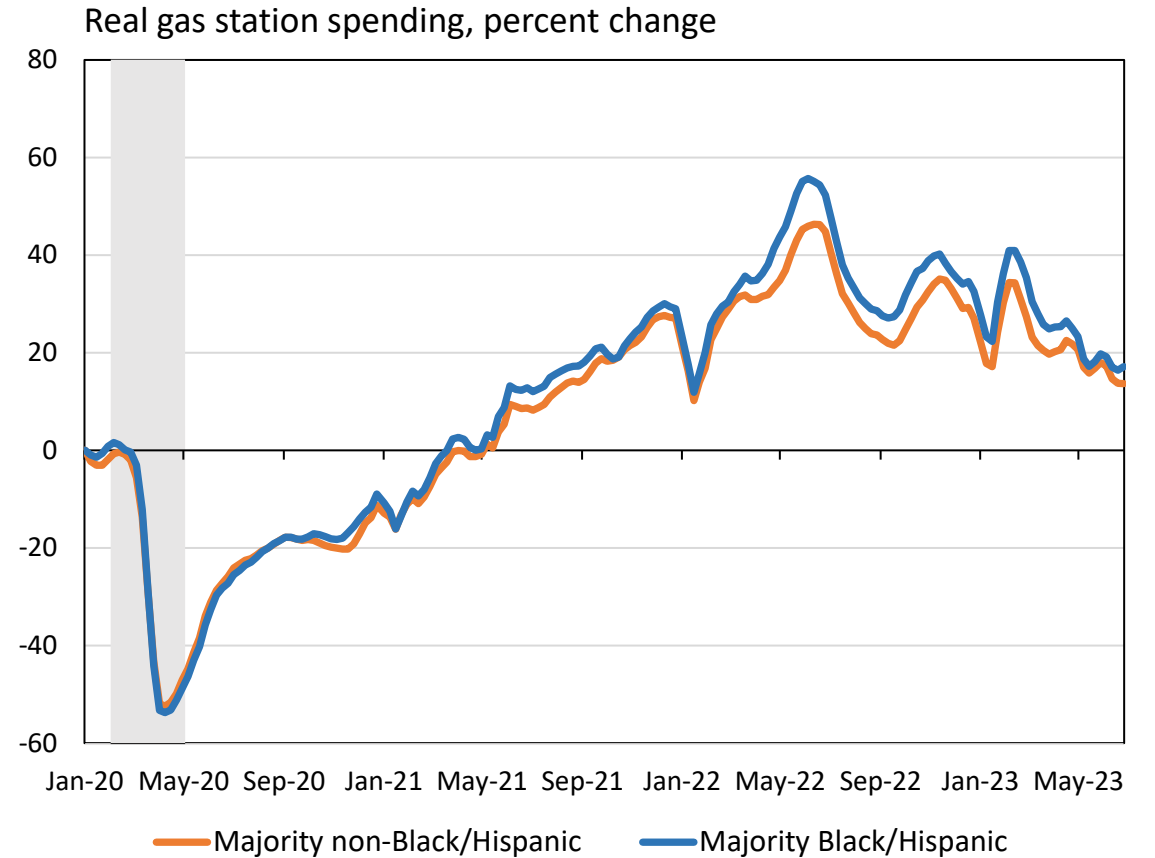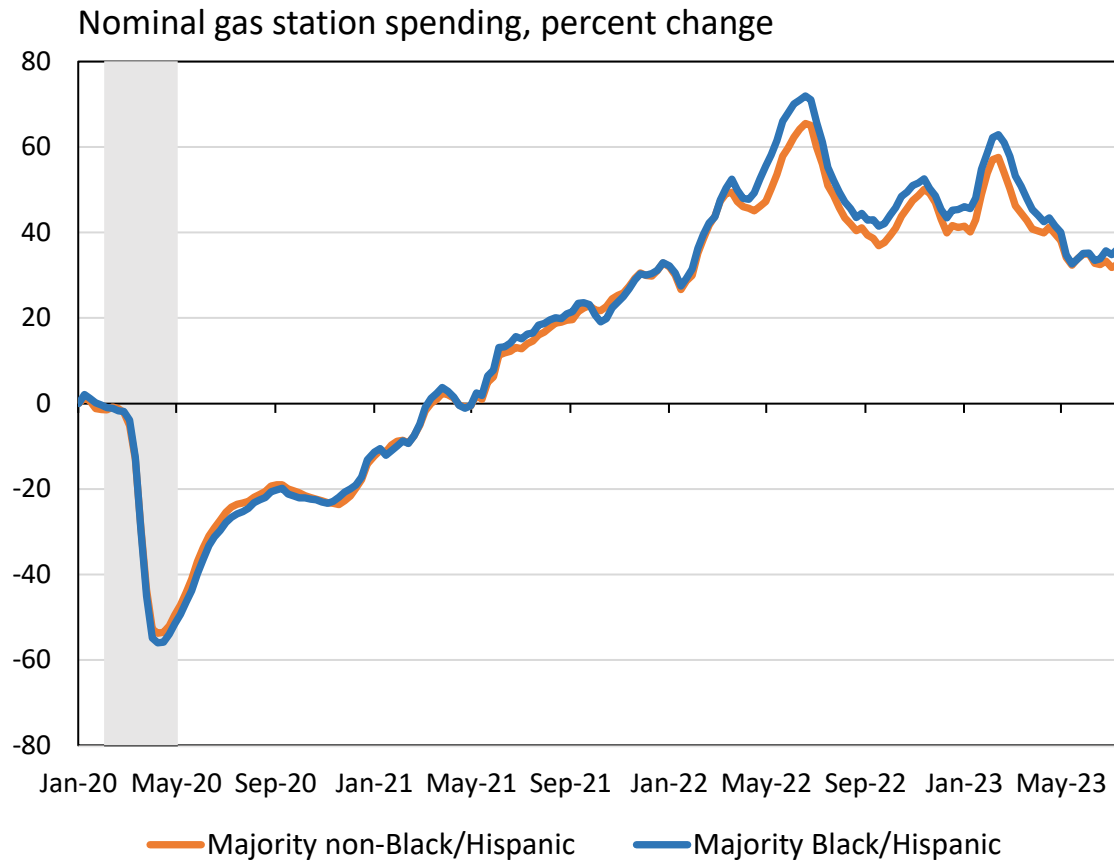
Gas Station Spending by County Demographics

Nominal gas station spending, percent change

Real gas station spending, percent change

— Majority non-Black/Hispanic   — Majority Black/Hispanic

Source: Commerce Signals – Three-week moving averages,
Notes: Majority Black/Hispanic counties are defined as those where greater than 50% of the county's population is Black or Hispanic. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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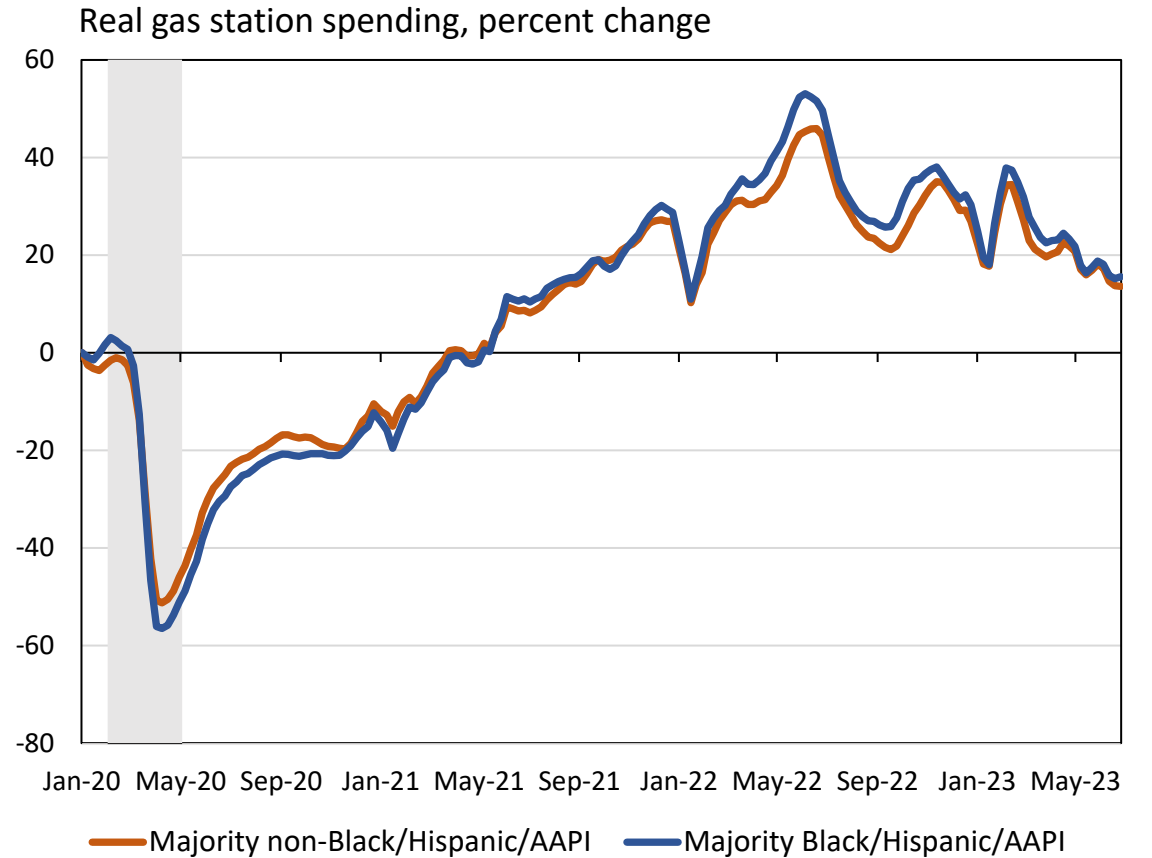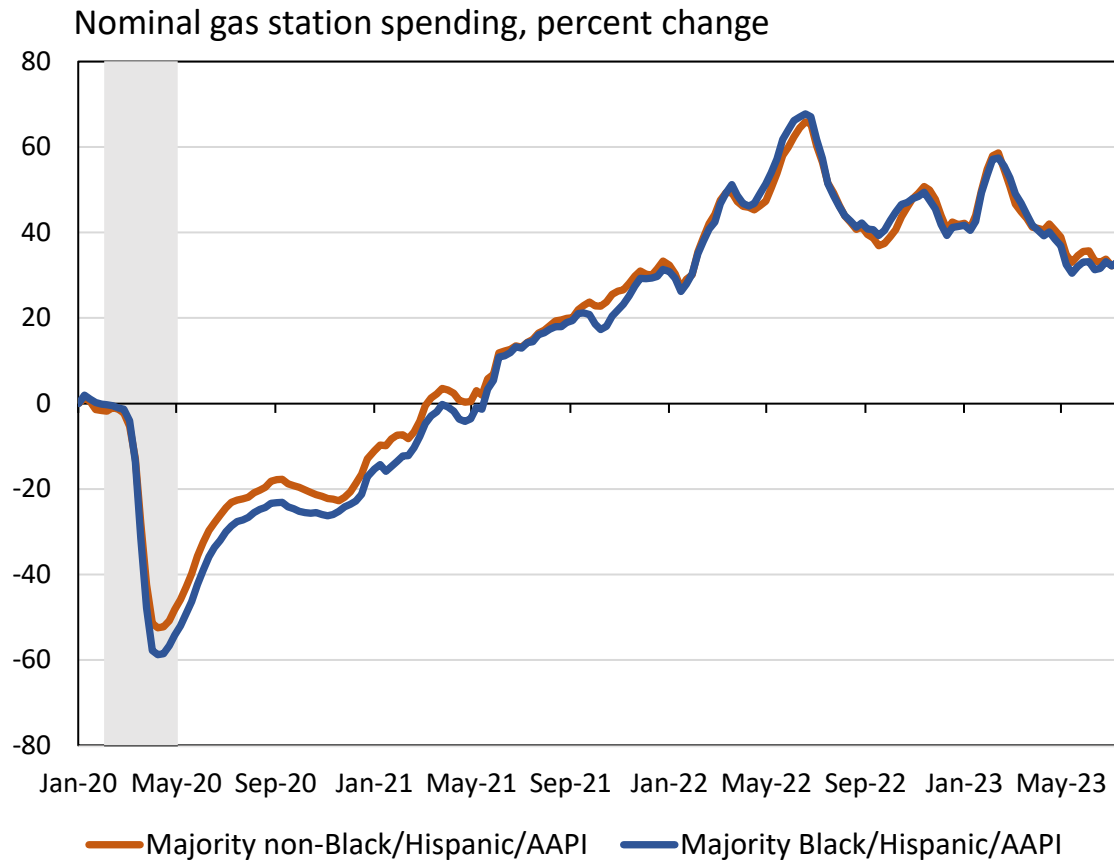
Gas Station Spending by County Demographics

Nominal gas station spending, percent change

Real gas station spending, percent change

Legend: Majority non-Black/Hispanic/AAPI — Majority Black/Hispanic/AAPI

Source: Commerce Signals – Three-week moving averages.
Notes: Majority Black/Hispanic/AAPI counties are defined as those where greater than 50% of the county's population is Black, Hispanic, or AAPI. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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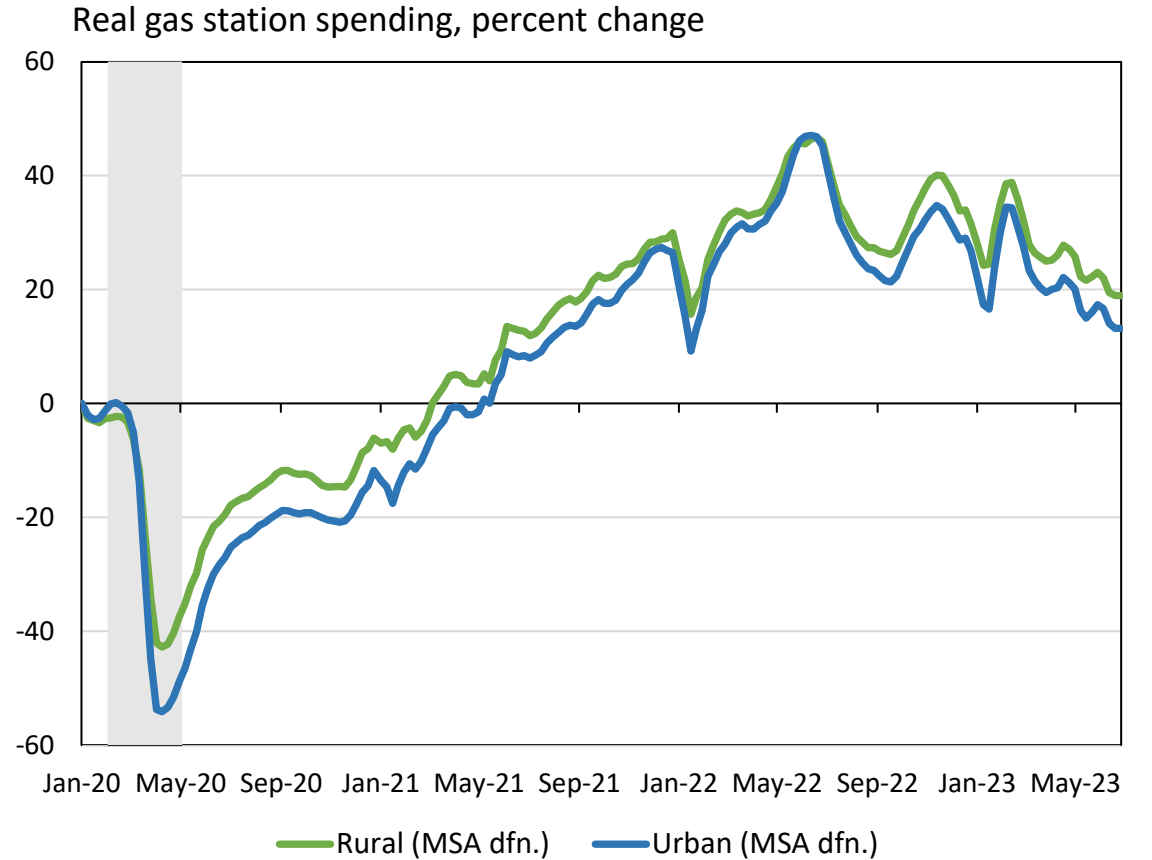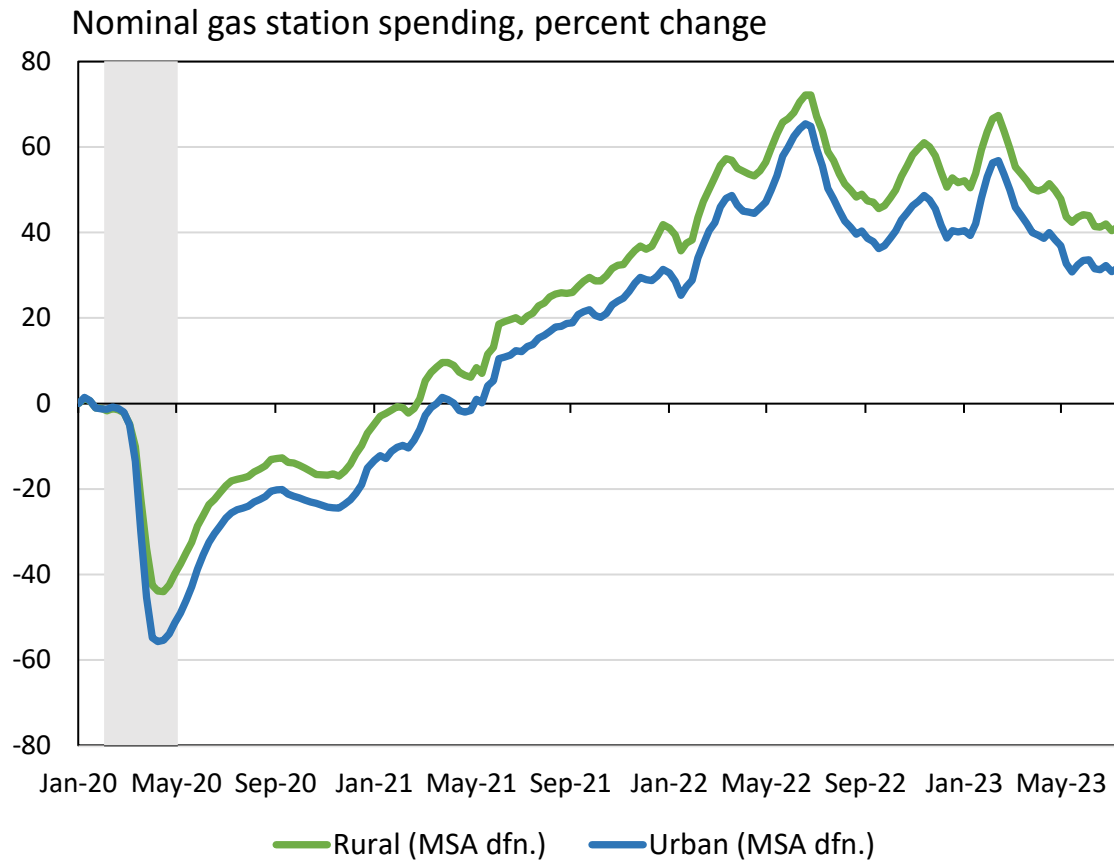
Gas Station Spending by County Urban/Rural Status

Nominal gas station spending, percent change

Real gas station spending, percent change

Rural (MSA dfn.) — Urban (MSA dfn.)

Source: Commerce Signals – Three-week moving averages.
Notes: Urban counties are defined as those located in a Metropolitan Statistical Area (MSA).
Real spending uses corresponding urban prices, indexed to January 2020. Shaded region
indicates the COVID-19 recession.

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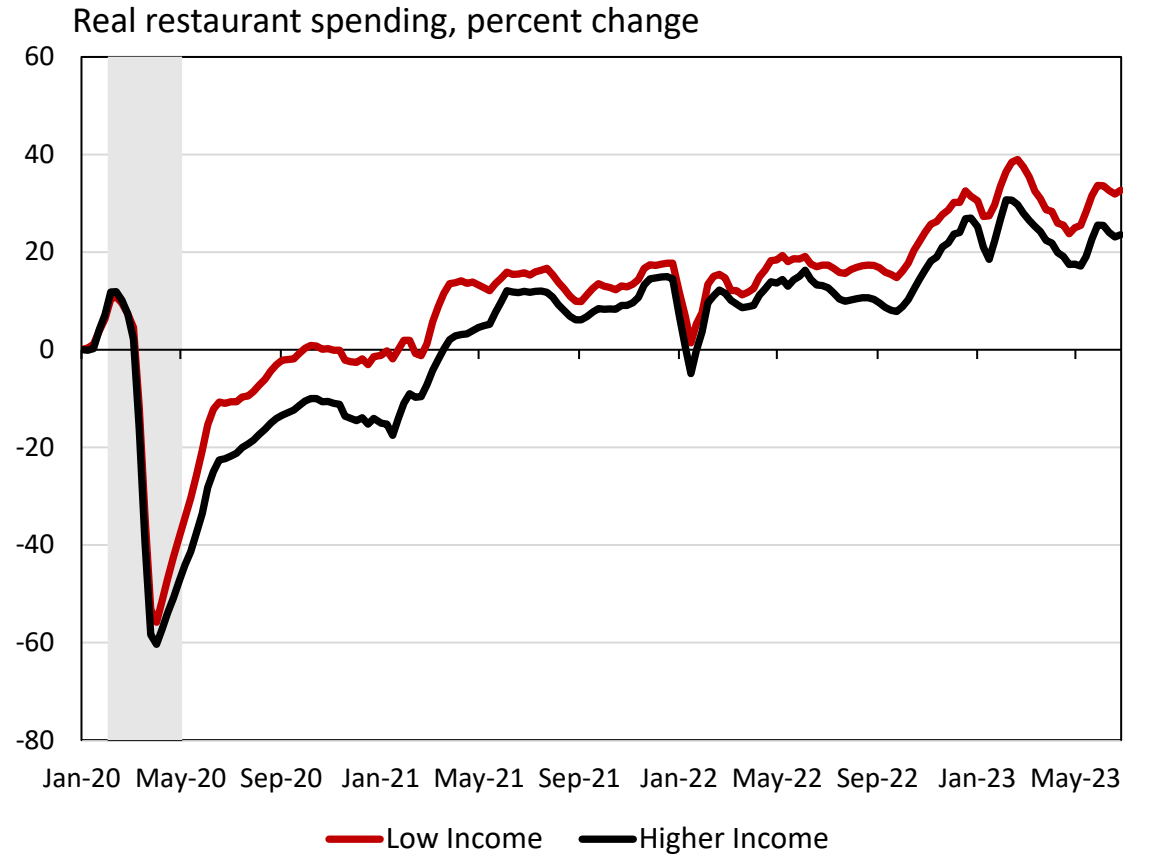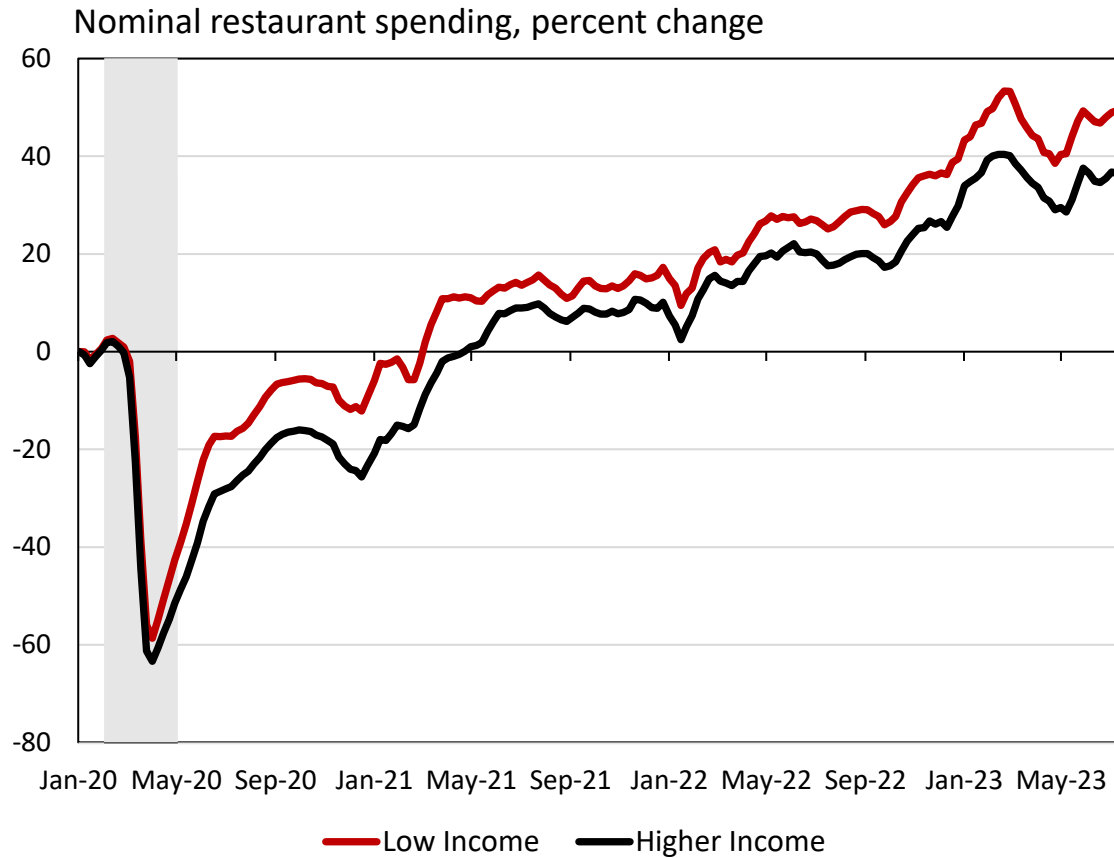
Restaurant Spending by County Household Income

Nominal restaurant spending, percent change

Real restaurant spending, percent change

Low Income — Higher Income

Source: Commerce Signals – Three-week moving averages.
Notes: Low-income counties are defined as those with household incomes below the 25th percentile of national household income. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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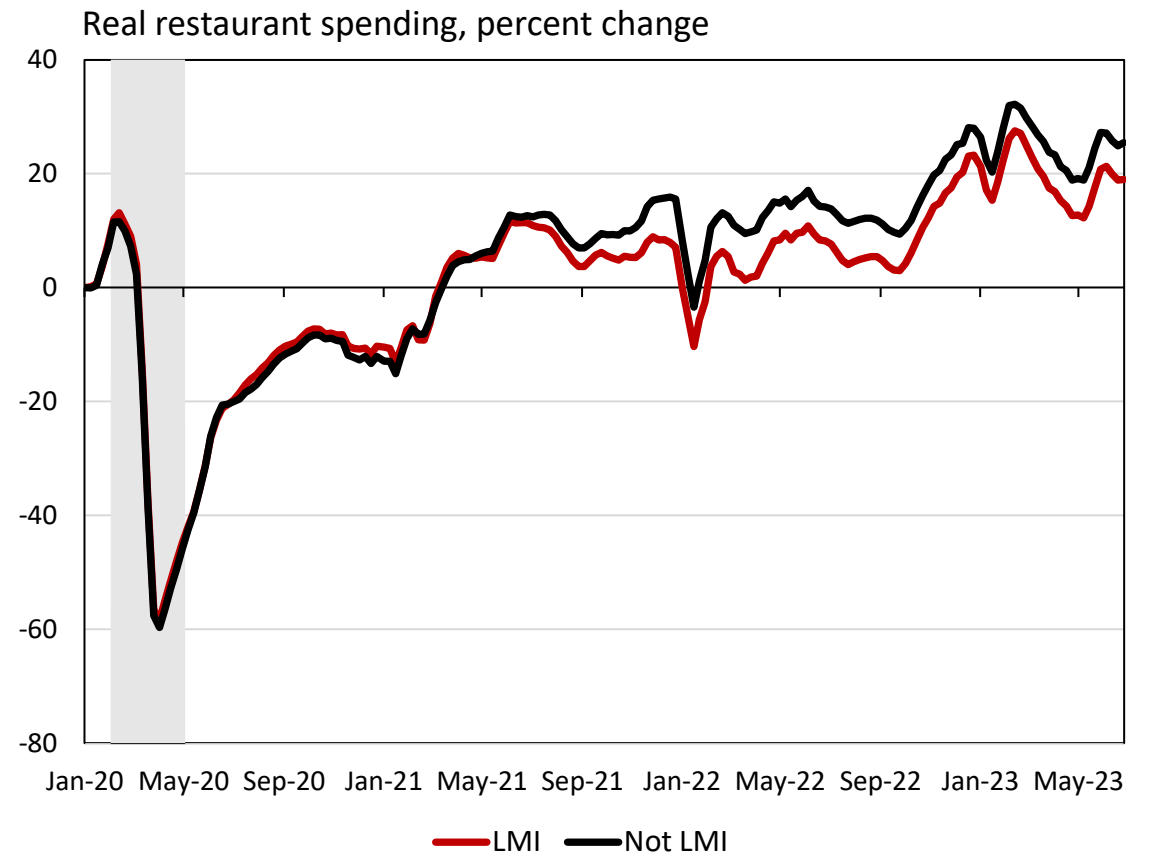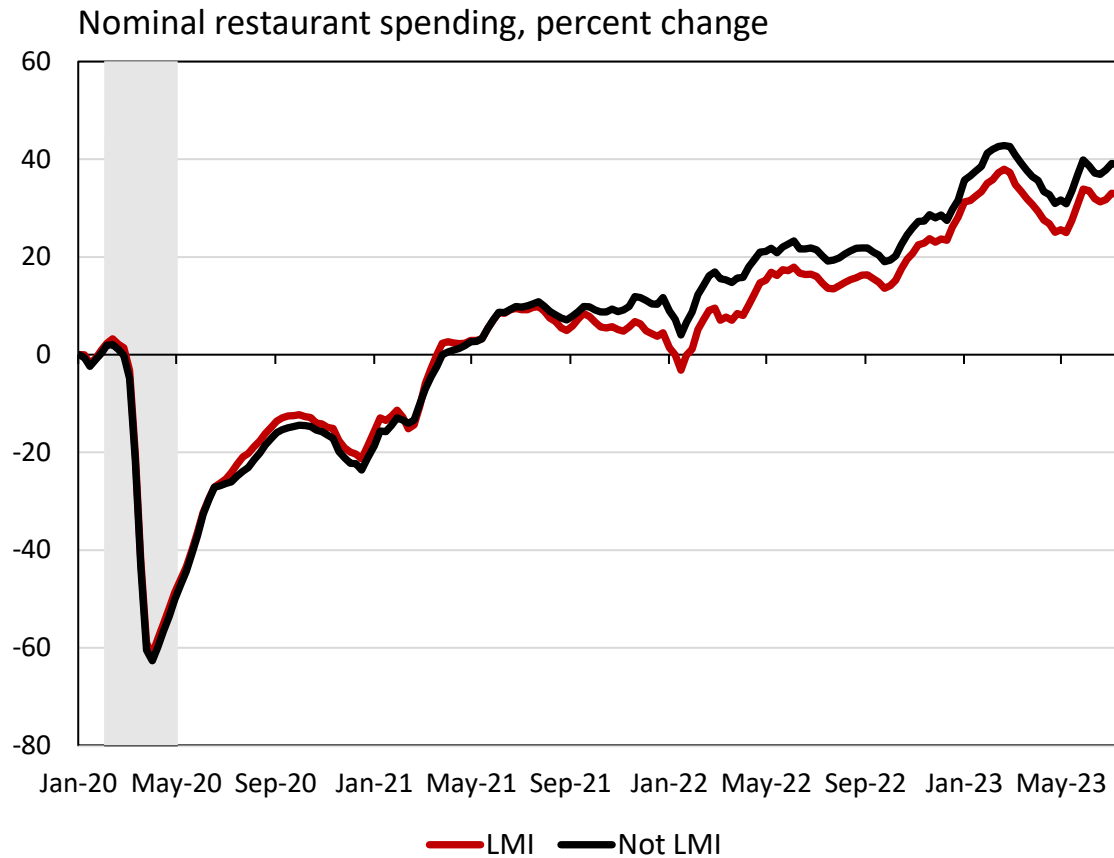
Restaurant Spending by Low to Moderate Income (LMI) Status

Nominal restaurant spending, percent change

Real restaurant spending, percent change

Source: Commerce Signals – Three-week moving averages.
Notes: Low-to-moderate income (LMI) counties are defined as those where the majority of households earn below 80% of the metro area median. Real spending uses corresponding urban/rural prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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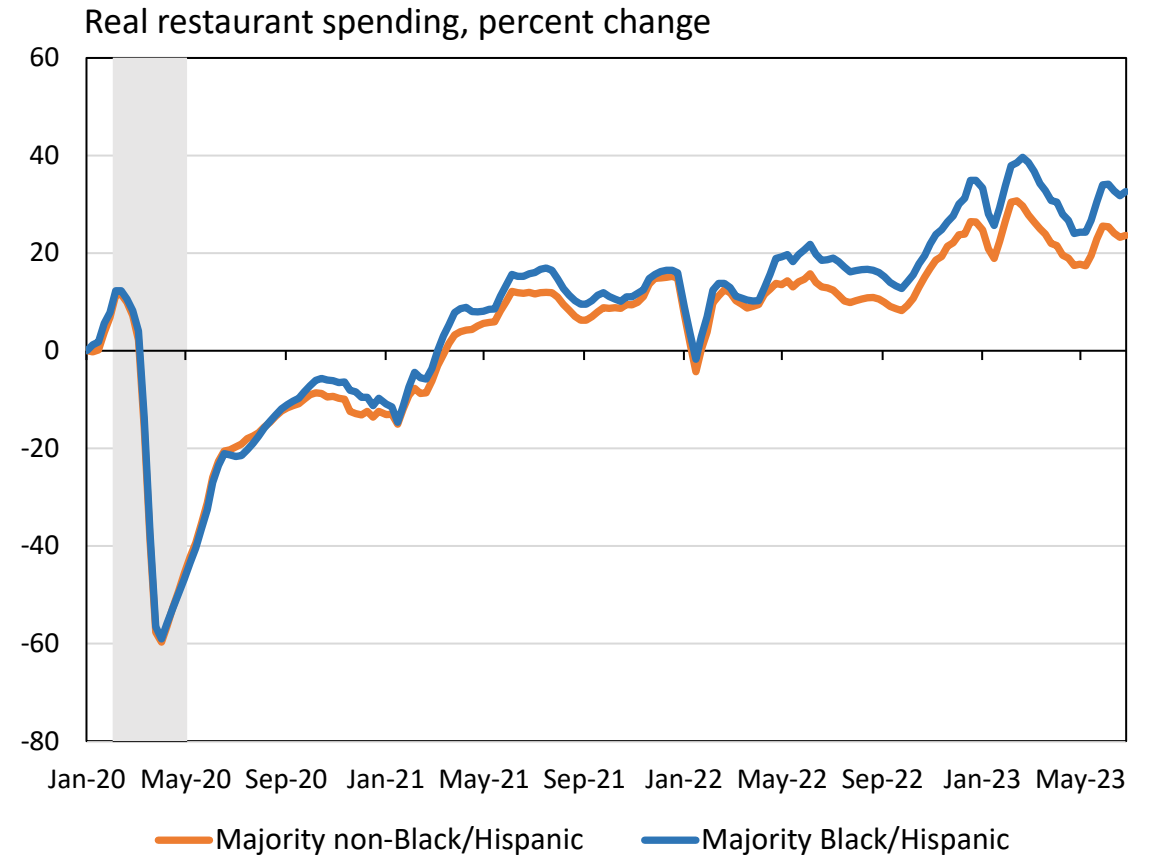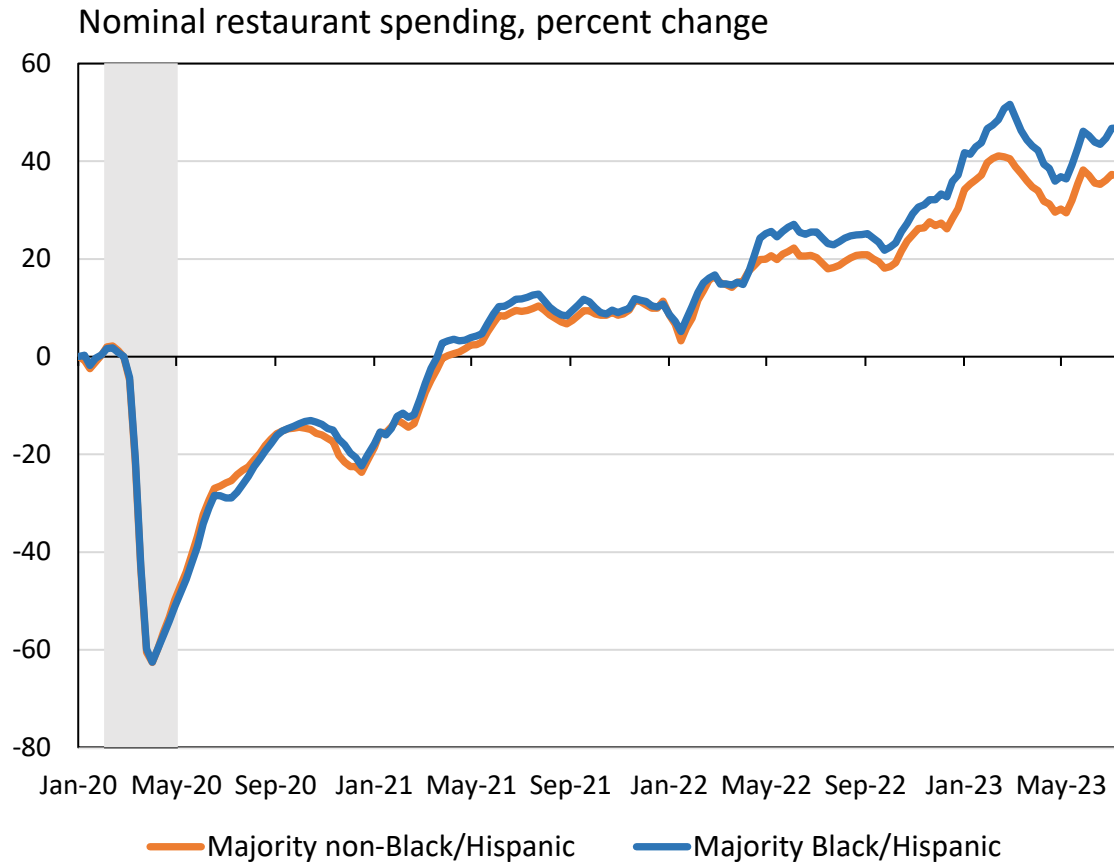
Restaurant Spending by County Demographics

Nominal restaurant spending, percent change

Real restaurant spending, percent change

Legend: Majority non-Black/Hispanic, Majority Black/Hispanic

Source: Commerce Signals – Three-week moving averages.
Notes: Majority Black/Hispanic counties are defined as those where greater than 50% of the county's population is Black or Hispanic. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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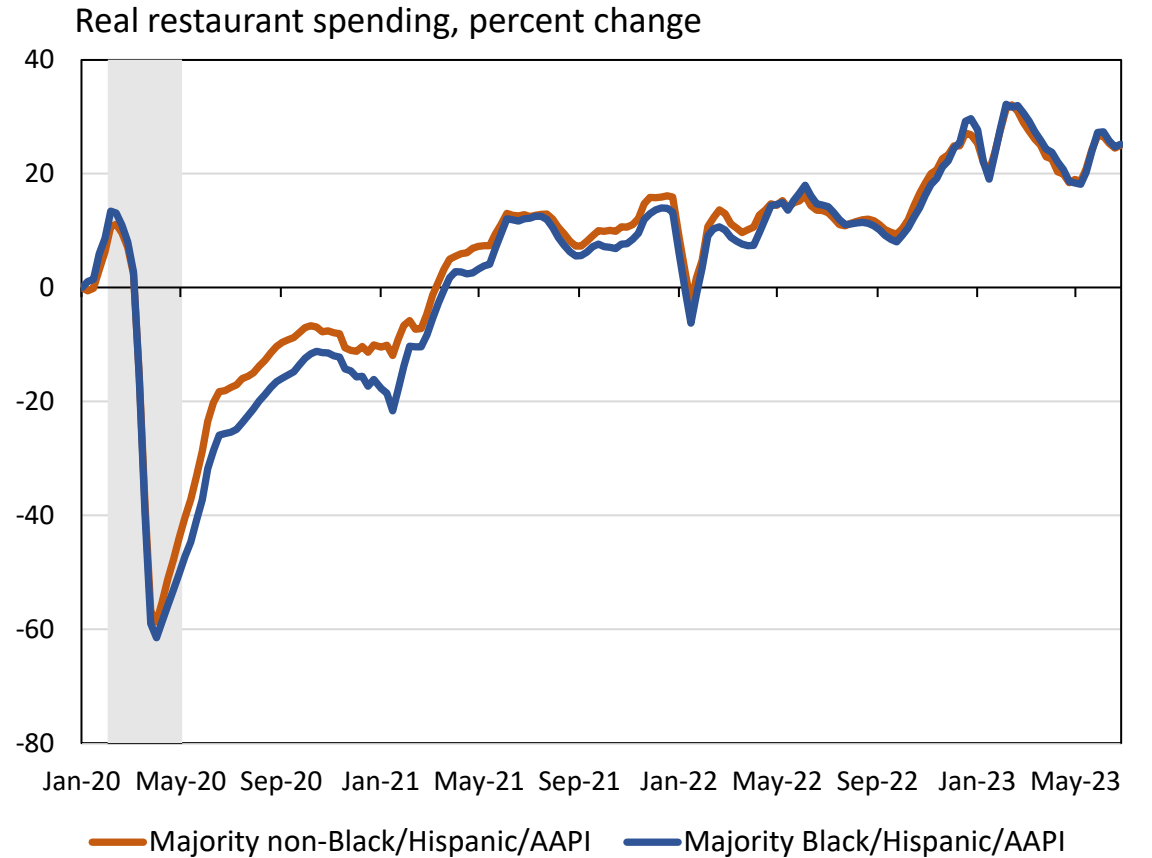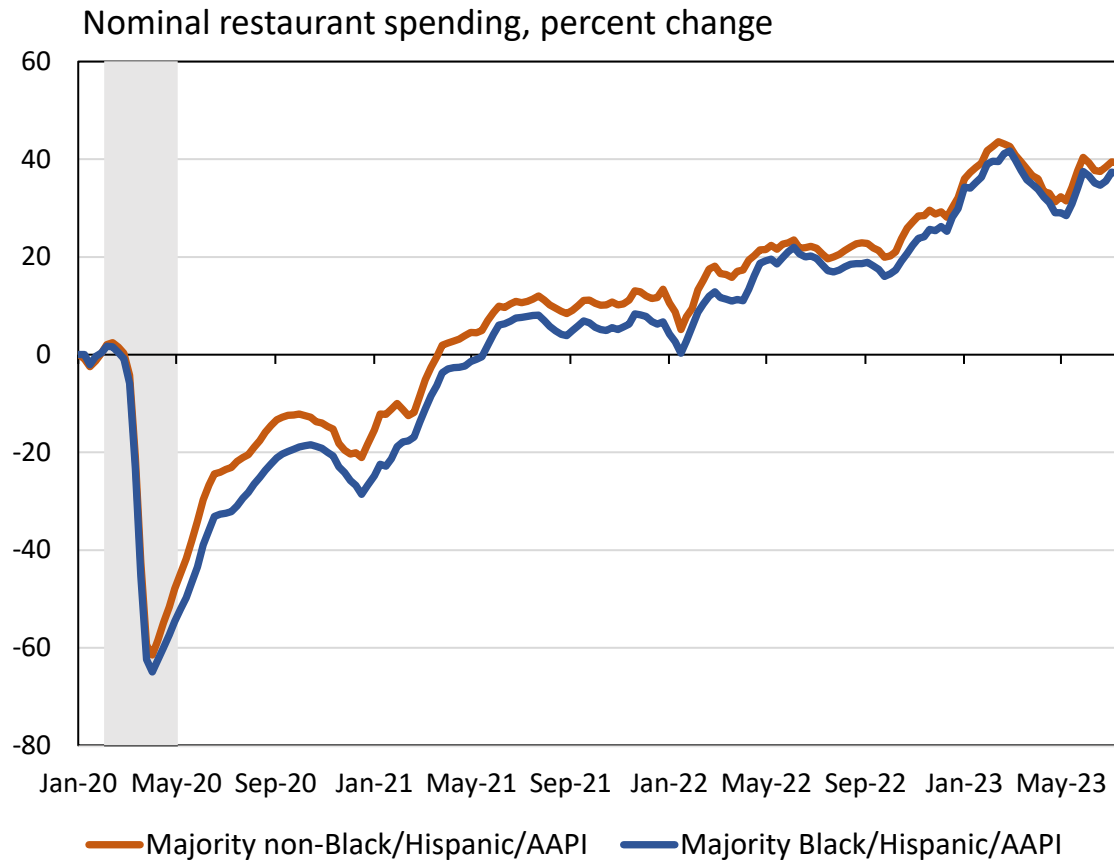
Restaurant Spending by County Demographics

Nominal restaurant spending, percent change

Real restaurant spending, percent change

Legend: Majority non-Black/Hispanic/AAPI — Majority Black/Hispanic/AAPI

Source: Commerce Signals – Three-week moving averages.
Notes: Majority Black/Hispanic/AAPI counties are defined as those where greater than 50% of the county's population is Black, Hispanic, or AAPI. Real spending uses corresponding regional prices, indexed to January 2020. Shaded region indicates the COVID-19 recession.

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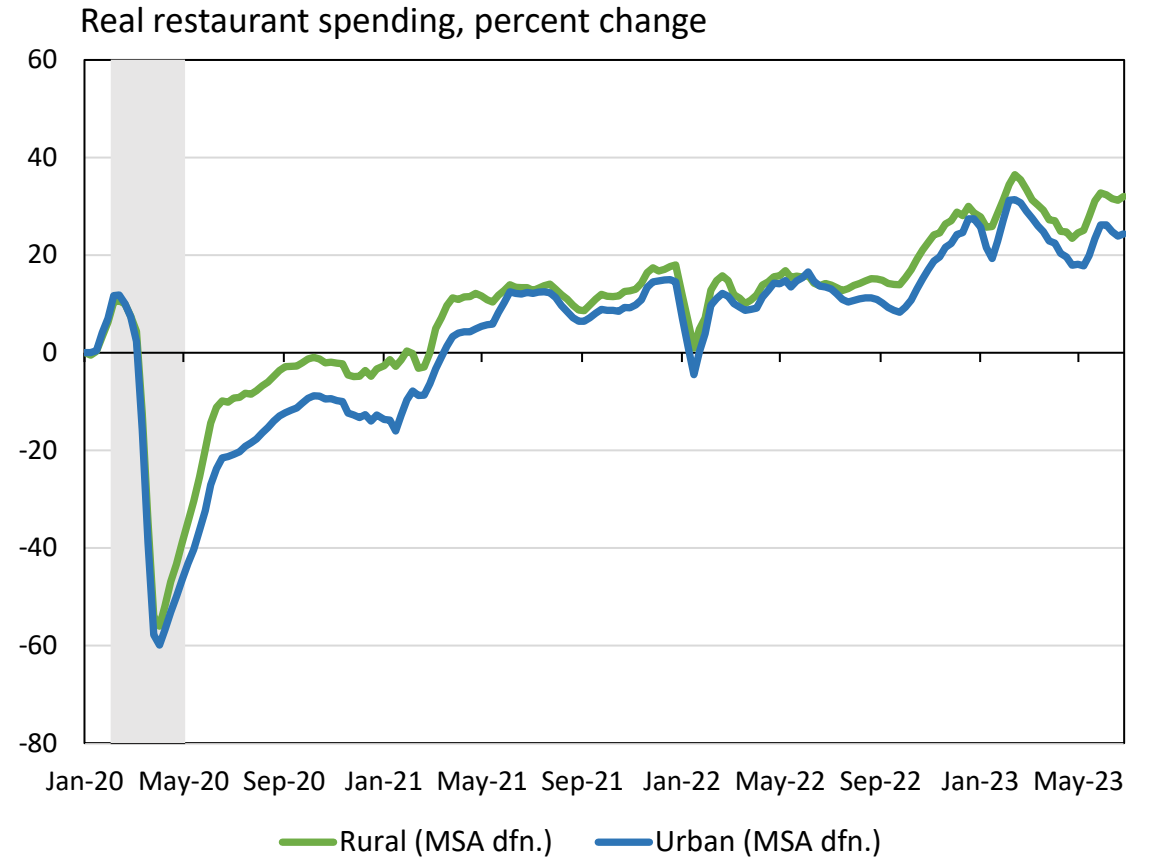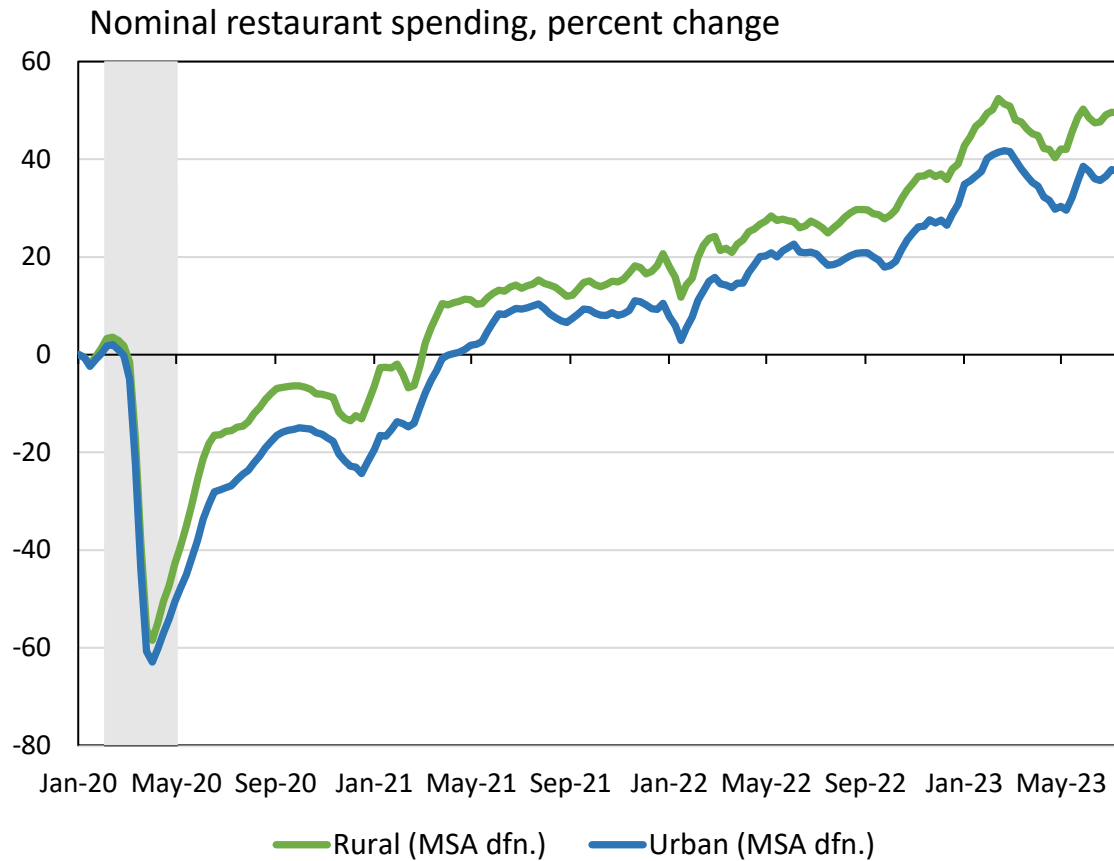
Restaurant Spending by County Urban/Rural Status

Nominal restaurant spending, percent change

Real restaurant spending, percent change

Source: Commerce Signals – Three-week moving averages.
Notes: Urban counties are defined as those located in a Metropolitan Statistical Area (MSA).
Real spending uses corresponding urban prices, indexed to January 2020. Shaded region
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