

# Impact of Inflation Index Choices on Income and Earnings Estimates and Operational Challenges

Expert Meeting on Adjusting Historical Income and Earnings Estimates for  
Inflation: Selecting the Optimal Inflation Index

March 22, 2022

Charles Hokayem, Chief, Income Statistics Branch, SEHSD

Matthew Unrath, Economist, Income Statistics Branch, SEHSD



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# Background: Income and Poverty Report



- Provides annual income and poverty estimates
- Most downloaded Census report
- Released along with CPS ASEC public use datasets
- Scheduled for release Tuesday, September 13, 2022

# Background: Inflation Adjustment



- Income and Poverty Report presents income and earnings statistics in current dollars
- Historical data provided in two ways:
  - Adjusted estimates for cost-of-living changes to current dollars (inflation adjustment)
  - Unadjusted estimates
- Currently use CPI index for inflation adjustment (R-CPI-U-RS from BLS)

# Interagency Technical Working Group Report (ITWG 2021)

Primary Focus: Adjustment of official poverty thresholds

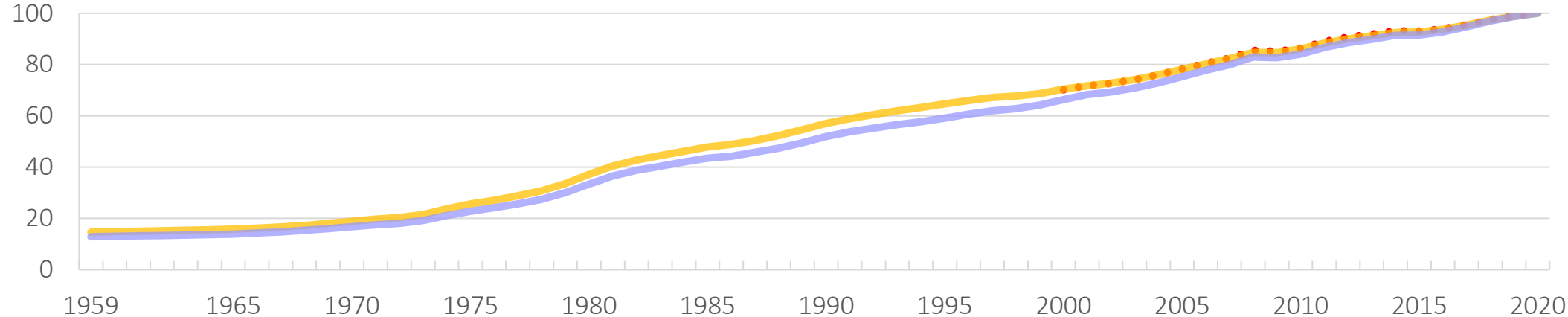
- Recommendations
  - BLS pursue development of a new price index for low-income consumers to be applied to official poverty thresholds; New index should measure price changes based on current behavior of consumers
  - OMB should not provide guidance on use of a particular index; BLS should provide resources to assist users in making an index choice
- Suggestion: Census consider adopting chained-type index for inflation adjustment of median income and earnings statistics
  - Chained-type index allows for consumer basket to change with consumer spending patterns as prices change

# Current Method vs Two Alternatives

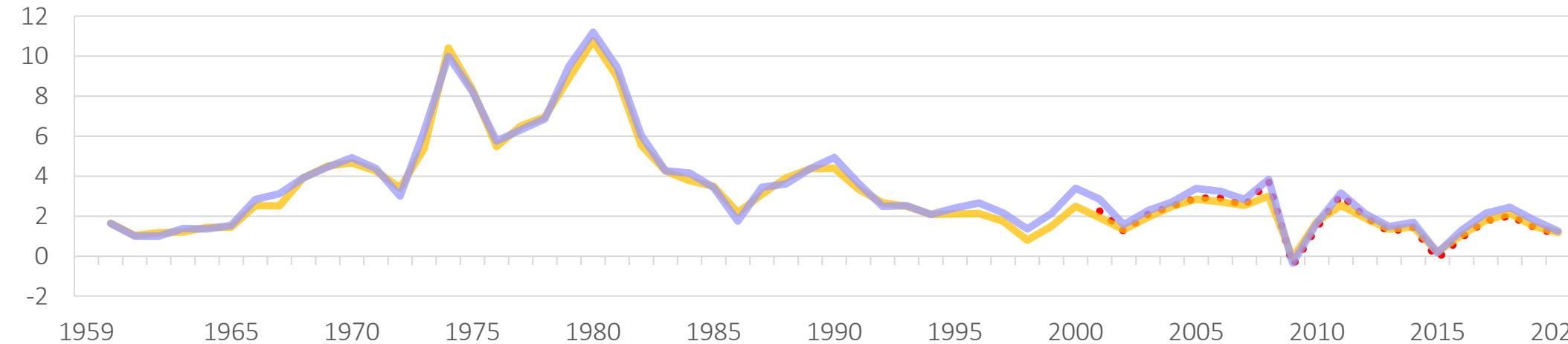
- Currently two major chained indices produced by federal agencies
  - Chained Consumer Price Index for Urban Areas – C-CPI-U (BLS)
  - Personal Consumption Expenditures Price Index – PCEPI (BEA)
- ITWG suggested use of the C-CPI-U
  - Only available after 2000
  - Prior to 2000, ITWG suggested use of PCEPI
  - Use preliminary C-CPI-U for current year estimates
- Compare Current Method (R-CPI-U-RS) to Two Alternative Series
  - C-CPI-U + Current Method (prior to 2000)
  - C-CPI-U + PCEPI (prior to 2000)

# Comparing Price Index Values: 1959 to 2020

Index values relative to 2020



Annual percent change

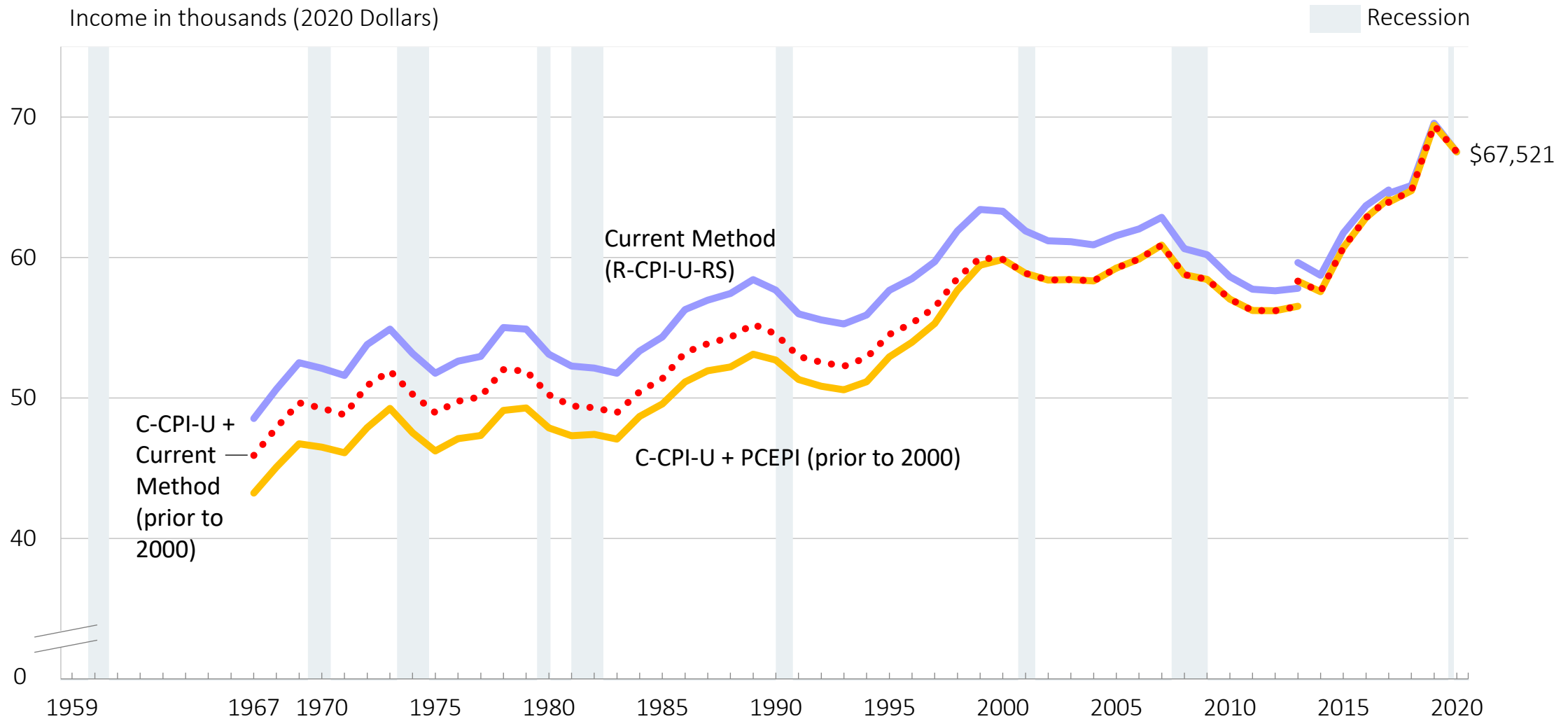


— R-CPI-U-RS    •••• C-CPI-U    — PCEPI



Note: Published values are indexed to different years. These index values are all normalized to 2020 for comparison.  
Source: U.S. Bureau of Labor Statistics publishes the R-CPI-U-RS and the C-CPI-U. The U.S. Bureau of Economic Analysis publishes the PCEPI.

# Impact on Household Median Income: 1967 to 2020

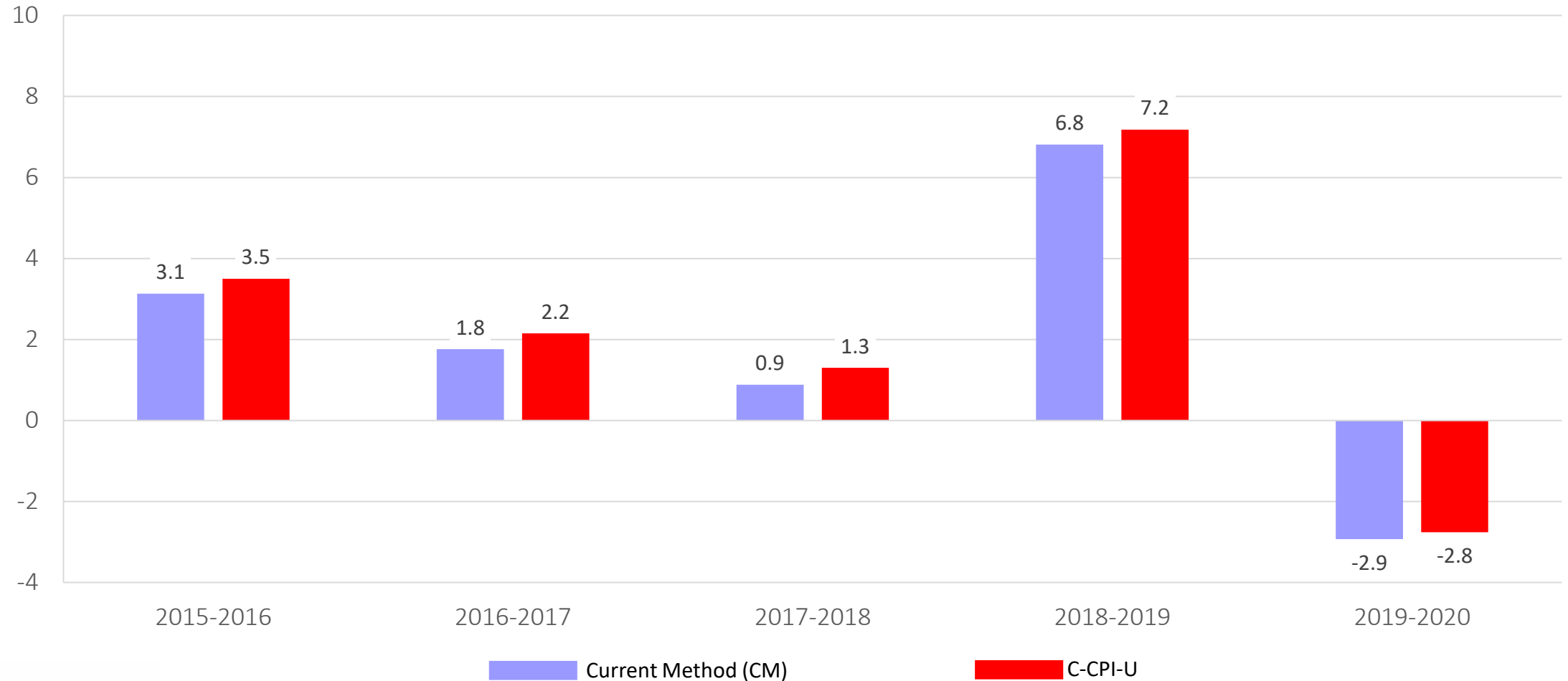


Note: Households as of March of the following year. The data for 2017 and beyond reflect the implementation of an updated processing system. The data for 2013 and beyond reflect the implementation of the redesigned income questions. Inflation-adjusted estimates may differ slightly from other published data due to rounding. Information on confidentiality protection, sampling error, nonsampling error, and definitions are available at <https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar21.pdf>.

Source: U.S. Census Bureau, Current Population Survey, 1968 to 2021 Annual Social and Economic Supplements (CPS ASEC).

# Year-Over-Year Real Median Household Income Growth Using Alternative Price Indices: 2015 to 2020

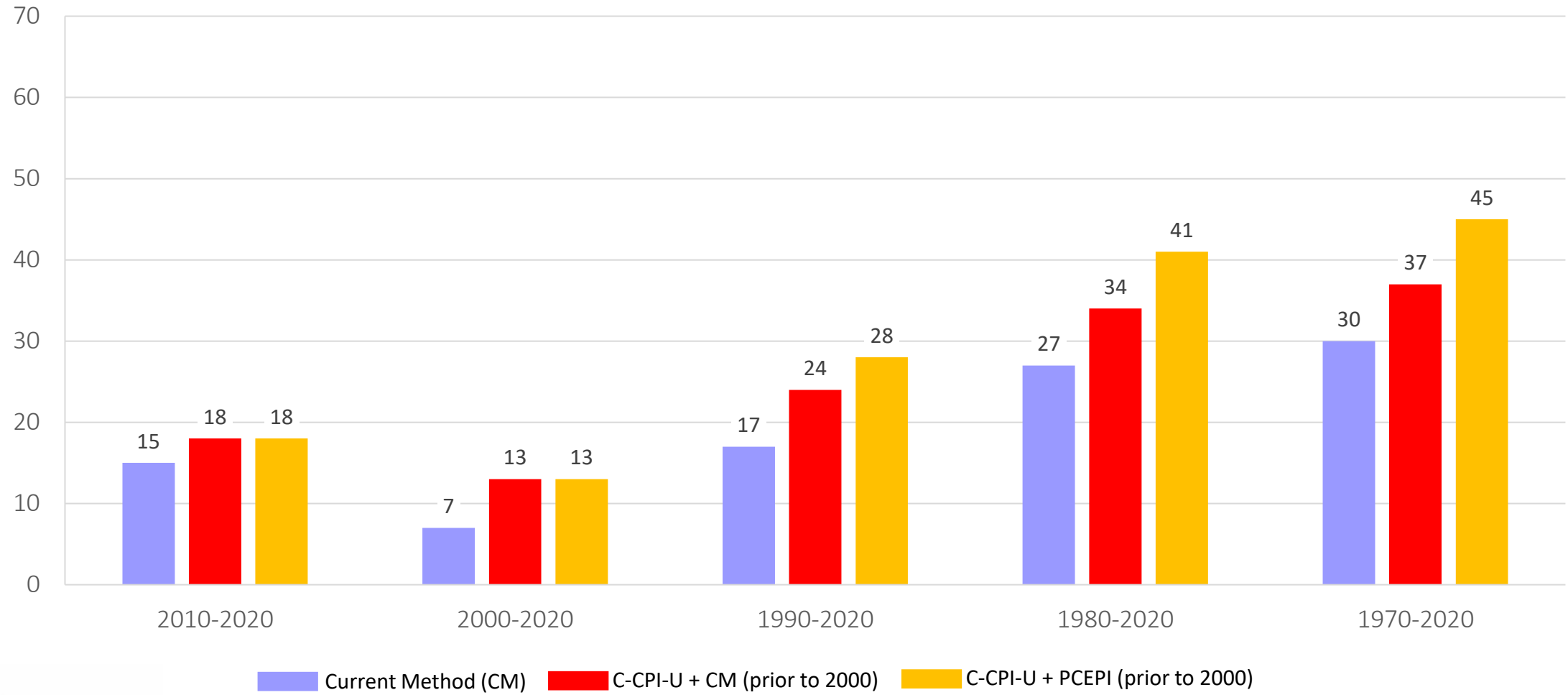
Real income growth (percentage)





# Real Median Household Income Growth Using Alternative Price Indices Over the Decades: 1970 to 2020

Real income growth (percentage)

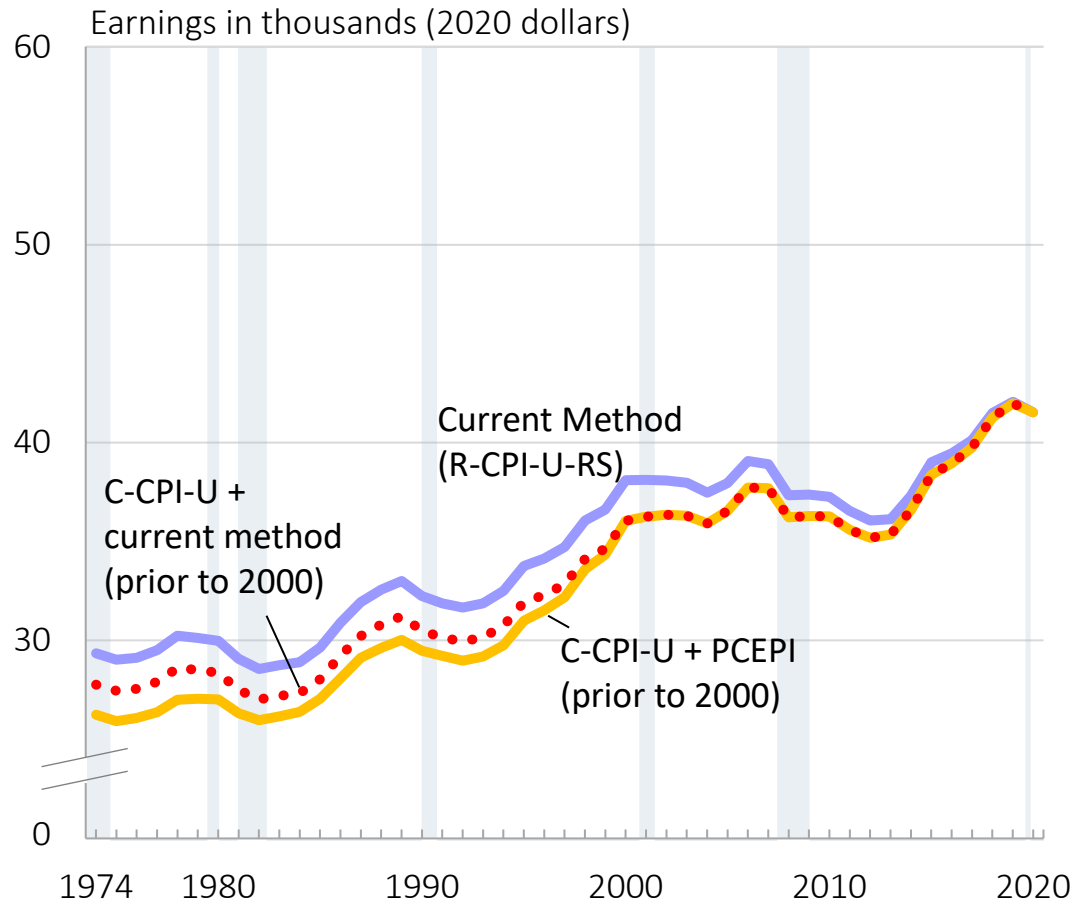


# Subgroups

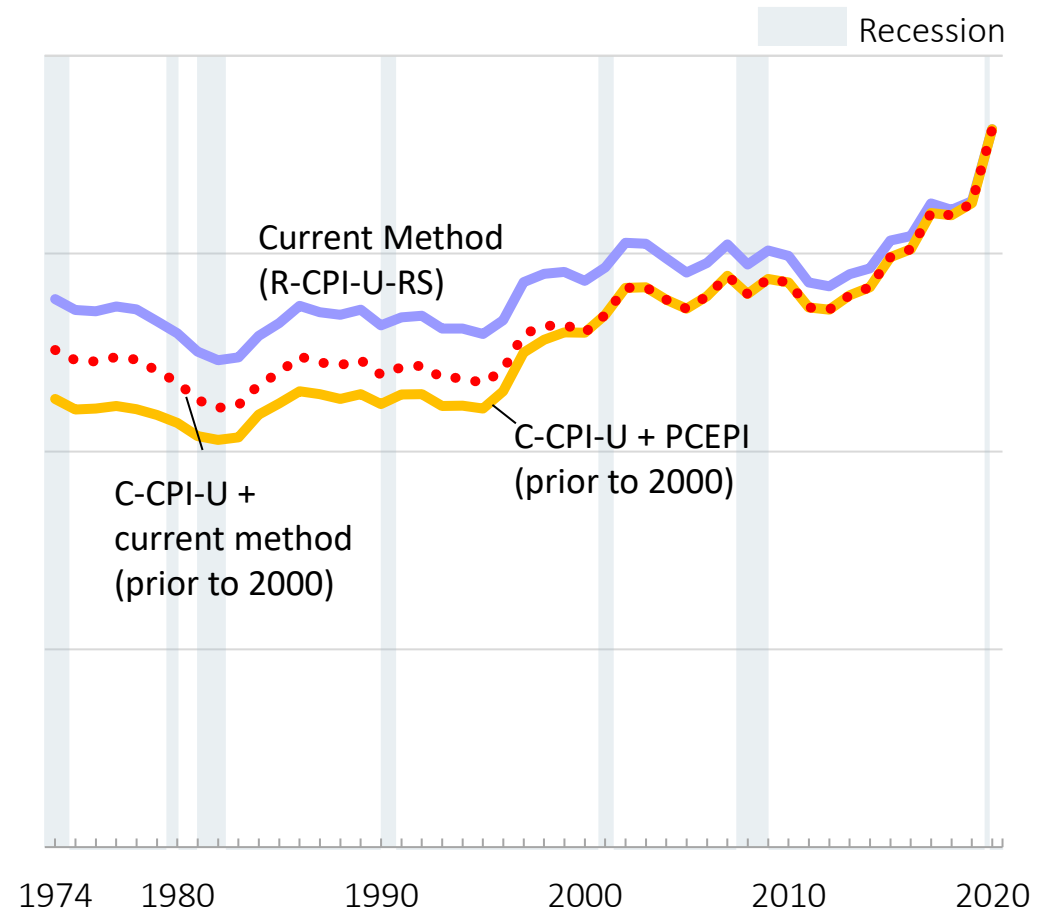
- Present historical series using alternative adjustments for multiple subgroups
  - Household income
    - All
    - Race and Hispanic origin
    - Age (65+)
  - Earnings
    - All Workers and Full-time, Year-round Workers
    - By sex
- Using an alternative index would not affect ratios between these groups or inequality measures in any given year.

# Impact on Median Earnings: 1974 to 2020

*Total workers*



*Full-time, year-round workers*

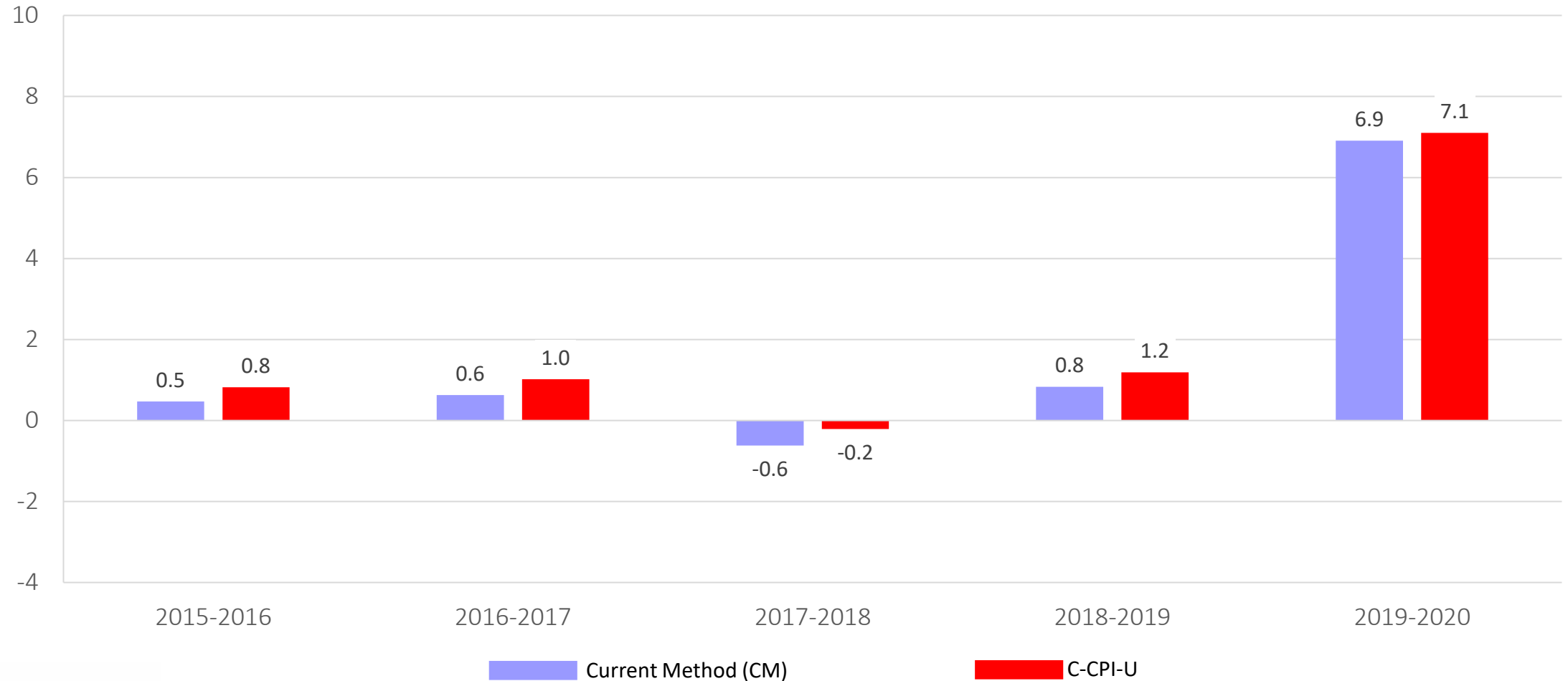


Notes: Workers aged 15 and older as of March of the following year with earnings. The data for 2017 and beyond reflect the implementation of an updated processing system. The data for 2013 and beyond reflect the implementation of the redesigned income questions.

Source: U.S. Census Bureau, Current Population Survey, 1975 to 2021 Annual Social and Economic Supplements (CPS ASEC).

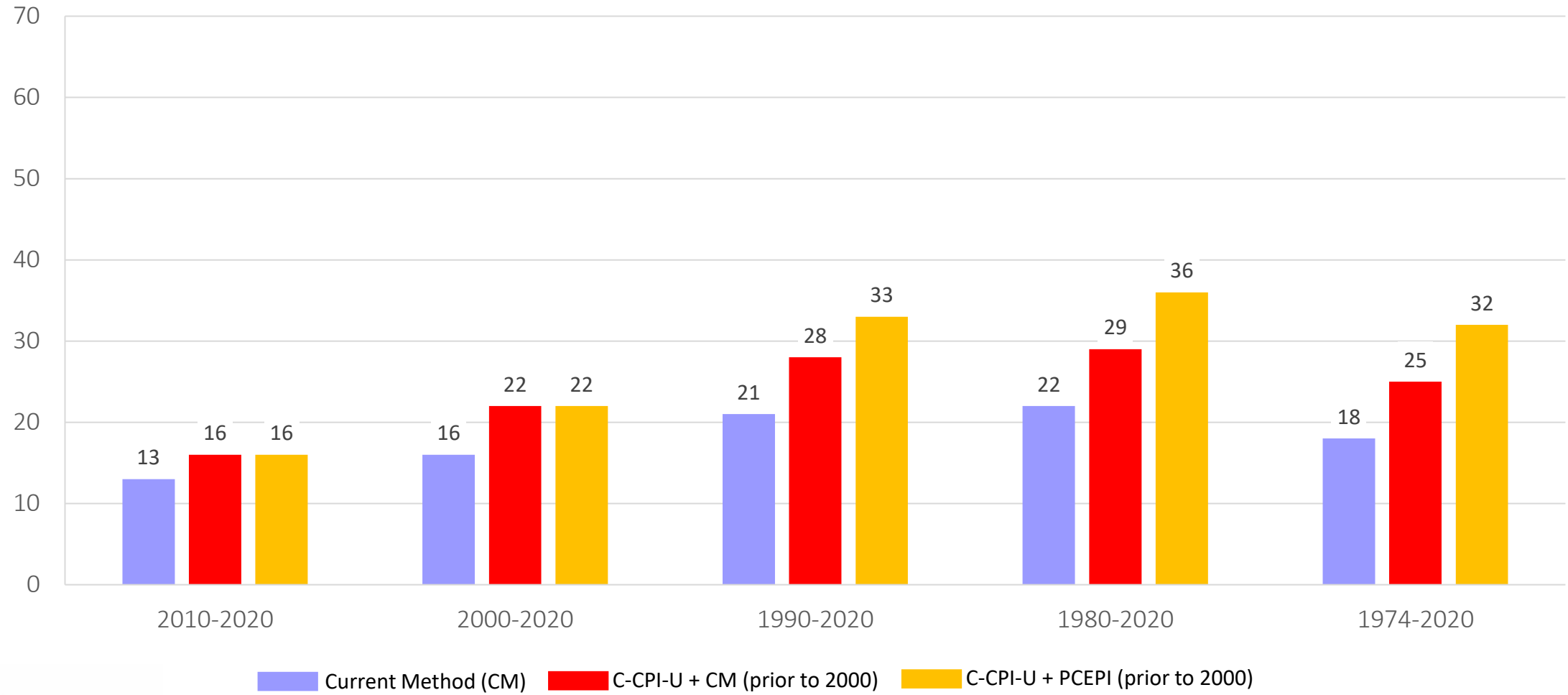
# Year-Over-Year Real Earnings Growth of Full-time, Year-round Workers Using Alternative Price Indices: 2015 to 2020

Real earnings growth (percentage)

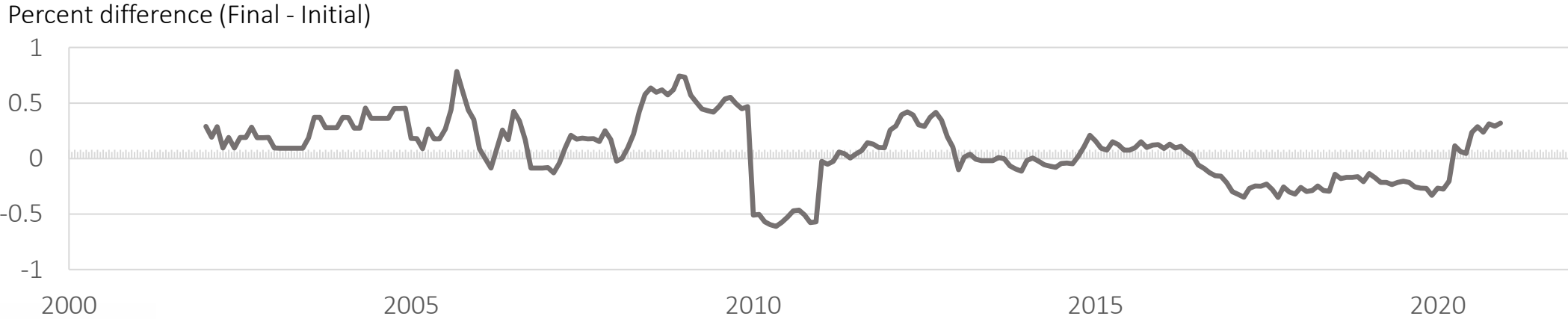
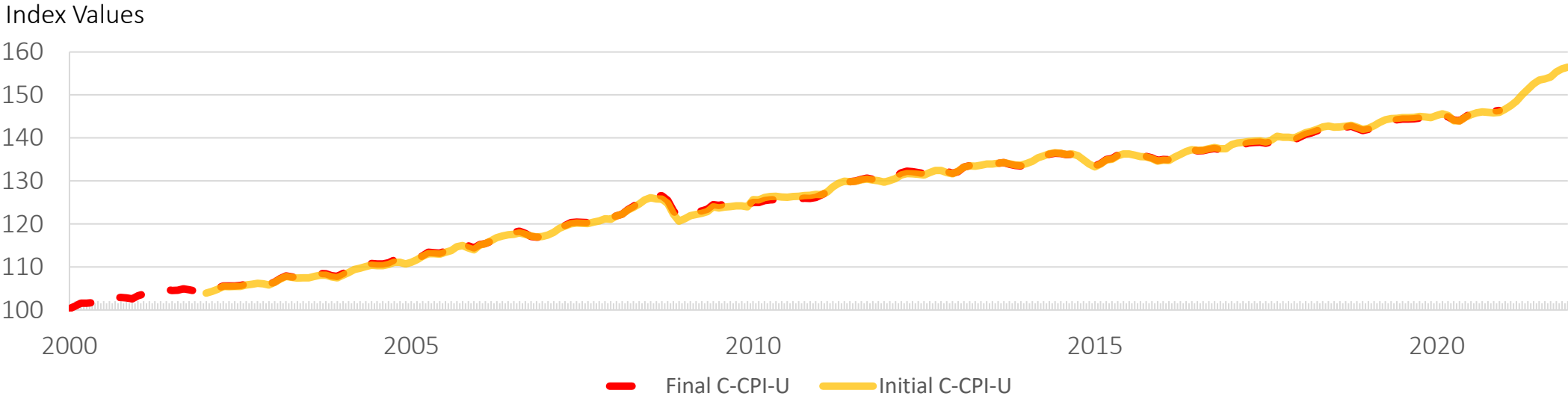


# Real Earnings Growth of Full-time, Year-round Workers Using Alternative Price Indices Over the Decades: 1974 to 2020

Real earnings growth (percentage)



# Comparing the Chained CPI-U Initial and Final Monthly Index Values: 2000 to 2020



# Public Engagement Soliciting Feedback

- Special Report Appendix (September 2020 and September 2021)
  - No comments from public
- Other Engagements
  - Census Scientific Advisory Committee (March 18, 2022)
  - Expert Meeting (March 22, 2022)
  - Society of Government Economists Annual Conference (April 1, 2022)
  - Joint Statistical Meetings (August 6-11, 2022)

# Implementing ITWG Suggestion

- Need to make a decision by early April 2022 – contingent on feedback from public engagement
- Adopt chained-type price index in this year's Income and Poverty Report using CPS ASEC (Released September 2022)
  - Report would include an appendix adjusting income with old index to allow users to understand the impact of the change
  - Internet tables will contain unadjusted estimates so that researchers can make their own choices about inflation adjustment
  - Income inequality statistics will not be impacted by this change
- Adopt chained-type price index in ACS income data and income data products (2023/2024)
  - Other ACS inflation-adjusted variables (housing costs) will likely follow suit

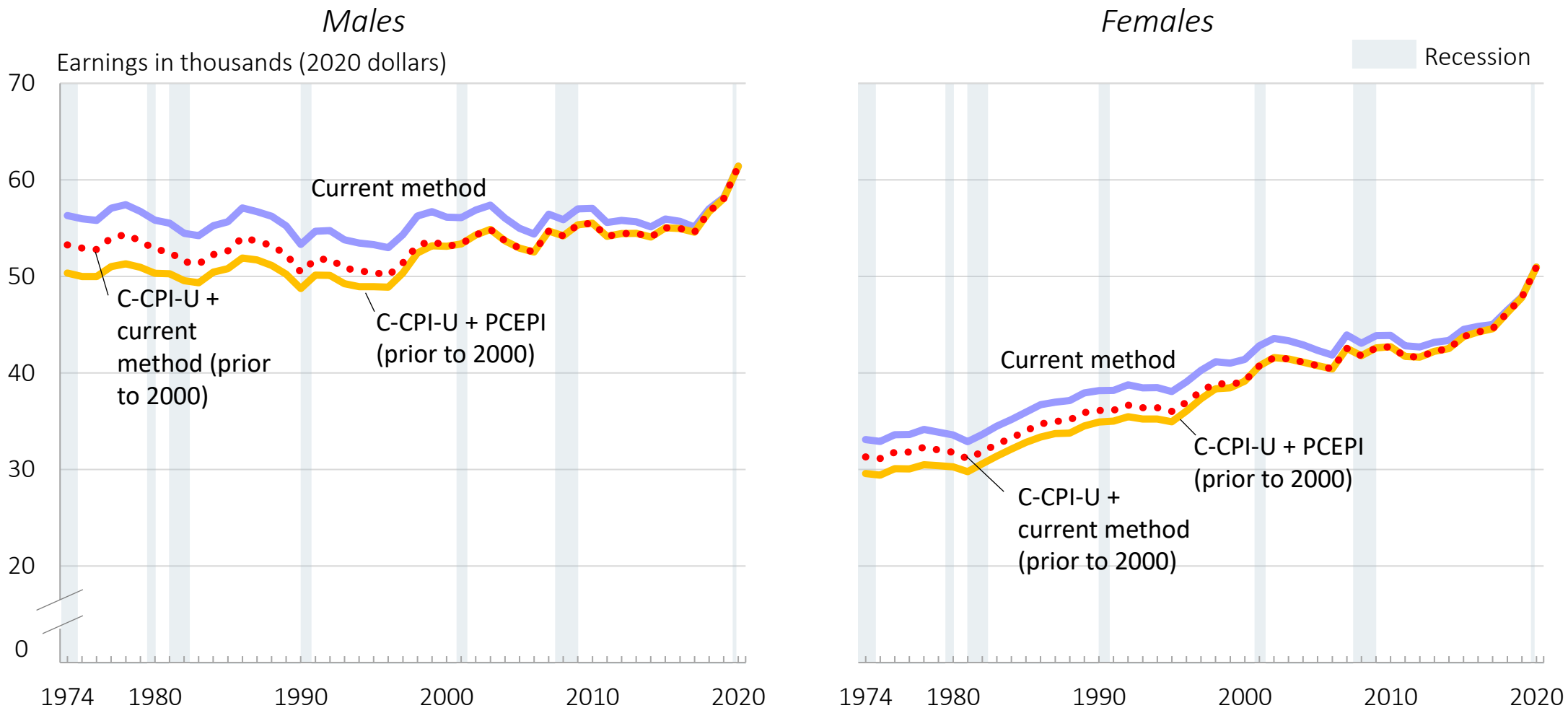


# Considerations

- Merits of chain-type price index for inflation adjustment
- Production issues
  - Combining series (PCEPI for years prior to 2000)
  - Use of preliminary values
- Current heightened attention to inflation

# Extra Slides

# Median Earnings of Full-time, Year-round Workers By Sex Using Alternative Price Indices: 1974 to 2020



Notes: Workers aged 15 and older as of March of the following year with earnings. The data for 2017 and beyond reflect the implementation of an updated processing system. The data for 2013 and beyond reflect the implementation of the redesigned income questions.

Source: U.S. Census Bureau, Current Population Survey, 1975 to 2021 Annual Social and Economic Supplements (CPS ASEC).

# Working Paper

- Apply three inflation adjustments to historical current dollar income and earnings estimates
  - R-CPI-U-RS (Current method)
  - C-CPI-U + PCEPI (prior to 2000)
  - C-PCI-U + Current method (prior to 2000)
- Present historical series using alternative adjustments for multiple subgroups
  - Household income
    - All
    - Race and Hispanic origin
    - Age (65+)
  - Earnings
    - All Workers and Full-time, Year-round Workers
    - By sex
- Compare income growth rates by decade spans