

Nonresponse In Household Surveys Conducted by the U.S. Census Bureau

Federal Economic Statistics Advisory Committee (FESAC)

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Background

Who we are –

- The U.S Census Bureau's Demographic Programs Directorate manages the full survey life cycle of household surveys producing data to meet diverse policy needs
 - The Survey of Income and Program Participation -- appropriated to the Census Bureau
 - The Current Population Survey/Annual Social and Economic Supplement (CPS/ASEC) – jointly funded by the Bureau of Labor Statistics and Census
 - Multiple surveys designed and conducted on behalf of other Federal agencies on a cost-reimbursable basis
 - The American Community Survey – conducted under the auspices of the Census Bureau's Decennial Programs

Background

What we do –

- The majority of our work is associated with conducting large- and smaller-scale household surveys on behalf of other federal agencies

Bureau of Labor Statistics	Bureau of Justice Statistics
National Center for Health Statistics	Housing & Urban Development
Department of Defense	National Center for Education Statistics
Health Resources & Services Administration	National Center for Science & Engineering Statistics

- Also conduct select institutional surveys – particularly of schools and ambulatory medical care entities

Managing Survey Response Challenges

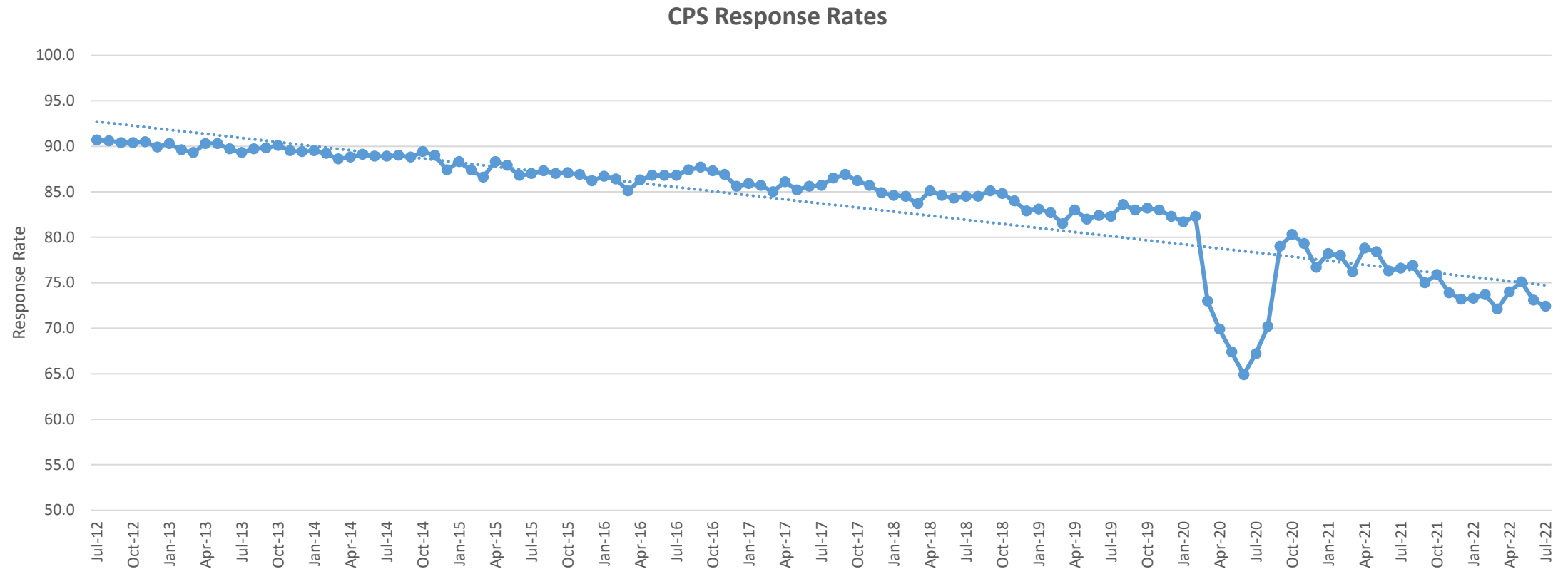
- Interviewer administered household survey response rates have decreased steadily over the last 10 years
- Response rates for these surveys fell precipitously in 2020
 - Steepest response rate declines were due to operational challenges
 - Response rates have recovered to previous response rate trends
- Overall household survey data quality remains fit for use
- Modernization of data collection methodologies are focused on declining response rates and mitigating potential effects of nonresponse on data quality

Household Survey Response Rate Trends

- Census administered household survey response rates have decreased steadily over the last 10 years
 - Primary drivers include anti-government sentiment, privacy concerns, challenges making contact with respondents, and respondent availability when contact is made
 - Response rates for self-administered surveys have declined at a much lower rate than interviewer administered surveys
- Interviewer administered household survey response rates fell precipitously in 2020
 - Steepest response rate declines were due to pandemic-specific operational challenges
 - Household response rates have recovered to previous response rate trends

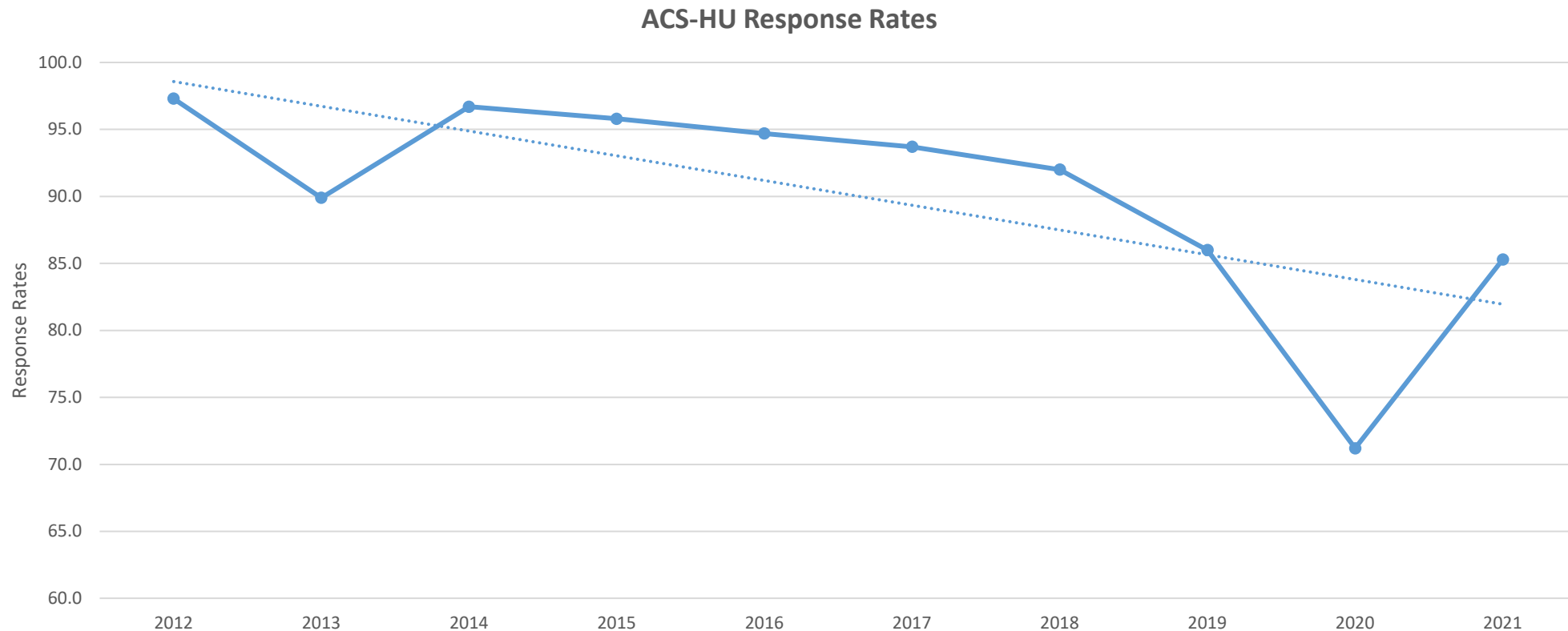
Household Survey Response Rate Trends

- CPS response rates declined approximately 18 percentage points between July 2017 and July 2022



Household Survey Response Rate Trends

- ACS-HU response rates declined approximately 12 percentage points between 2012 and 2021



Household Survey Data Quality

- Overall household survey data quality has remained fit for use despite of declining response rates
- Item nonresponse rates generally remain low across surveys
- Census Bureau statistical and quality standards ensure data released to the public are of sound quality
- Release of data for certain geographies or smaller populations is increasingly at risk
- Continued declines in response rates could begin to impact releasability of some national estimates

Household Survey Data Quality

Assessing Data Quality

- The U.S. Census Bureau Statistical Quality Standards provide several requirements for surveys to assess the quality of data before release. There is the potential for concern if:
 - Unit response rates, or cumulative unit response rates, fall below 60%
 - Item response rates on key items fall below 70%
 - Coverage ratios for population groups associated with key items fall below 70%
 - Sample attrition from one wave to the next is greater than 5% in longitudinal surveys
 - Coefficients of variation for a majority of the key estimates are greater than 30%
- A survey program must do a nonresponse bias analysis if there is the potential for data quality issues. OMB requires this if unit response rates fall below 80%.

Household Survey Data Quality

Weighting Adjustments

- Post-data collection, adjustments are applied to the survey weights to account for unit nonresponse:
 - Nonresponse adjustment – Using characteristics available for both respondents and nonrespondents, compensate for differing unit nonresponse rates among subgroups of the population. Typically, the characteristics used are also highly correlated with survey key estimates
 - Raking or calibration adjustment – Brings the survey estimates into agreement with independent estimates of population totals. Final weighted coverage ratios should be close to 100% for population groups used in this adjustment. Typical population characteristics used include age, race, sex, and state

Household Survey Data Quality

Nonresponse Bias Analysis

- Surveys conduct nonresponse bias analyses in order to:
 - Determine where there is potential bias in the survey estimates due to low unit nonresponse
 - Assess how well the weighting adjustments reduce any bias
 - Be transparent with users as to what issues may exist in the data or survey estimates
- Some typical methods used include:
 - Comparison of unit response rates across subgroups of the population
 - Evaluating the effectiveness of the nonresponse weighting adjustment in reducing bias, by comparing base weighted estimates to nonresponse adjusted weighted estimates
 - Comparing survey estimates to external benchmarks

Addressing Unit Nonresponse

Modes of Collection

- Modernizing data collection methodologies is vital to combating continuously declining response rates
- Many household surveys are exploring multi-mode data collection methodologies with the goals of maximizing response and controlling costs
 - ACS's data collection methodology consists of a combination of mail self-administered, and CAPI modes
 - ACS continuously researches and tests new ways to promote self-response
 - CPS is developing an internet self-response instrument as an alternate method for responding to the CPS
- Continuously increasing CAPI costs require adding or promoting self-administered modes over CAPI and CATI

Addressing Unit Nonresponse

Contacting Respondents

- Email and text messaging are being used by some surveys, tested by others, as ways of making initial contact with respondents
- Initial field interviewer training was updated to include new techniques for converting reluctant respondents
- Interviewers are provided with phone numbers sources from administrative records
- Surveys are providing easier to read contact materials
- Initial field interviewer training was updated to include new techniques for converting reluctant respondents

Addressing Unit Nonresponse

Collecting Quality Data

- Surveys are turning to 'real time' data quality monitoring, such as the Census Bureau's Field Quality Monitoring (FQM) program



Addressing Unit Nonresponse

Collecting Quality Data

- Surveys are linking to administrative records to learn more about nonrespondents and impute missing data
- Adaptive design and case prioritization is actively used or researched by many surveys to ensure the most needed cases are pursued in a data collection when resources become scarce

Conclusion

- Household survey response rates have been steadily declining for many years
- Analysis to ensure data collection are fit for use is continuously ongoing
- Exploring new data collection methodologies have potential for making the best use of scarce resources

Thank you!

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