Guidance on Using Replicate Weights

To create estimates for the U.S. population from a sample, the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC) applies weights to the sample based on independent estimates of the civilian noninstitutionalized population by sex, age, race, and Hispanic/non-Hispanic categories.[1] These independent estimates are based off the date of the most recent decennial census and measure population change from one year to the next using administrative data and other sources on births, deaths, and net migration. Population change is added to a base to produce estimates for the following year. The estimates are updated annually to include an additional year of data and to revise earlier years of the timeseries. Each decade, the base of the estimates is updated to reflect new census results.[2] Weighting adjustments mitigate nonresponse bias based on age, sex, race, and Hispanic origin and ensure that the weighted sample is representative of the U.S. population.

The 2022 Annual Social and Economic Supplement (ASEC) uses Vintage 2021 population controls, based on the 2020 Census, to create the supplemental weights. The 2021 and 2020 ASEC weights used Vintage 2020 controls, which are based on the 2010 Census. Updated replicate weights, based on the 2020 Census, are available for the 2020 and 2021 CPS ASEC files to facilitate year-to-year analysis across consistently weighted data.

- Use the 2020 Census-based weights when comparing the 2020 or 2021 ASEC to the 2022 ASEC or beyond.
- Use the 2010 Census-based weights when comparing the 2020 or 2021 ASEC to prior years.

More information on the effects of using the 2020 Census-based population controls on 2020 estimates for income, poverty, and health insurance coverage is available here: https://www.census.gov/library/working-papers/2022/demo/SEHSD-wp2022-14.html.

---

[1] More information on CPS Survey design is available in Current Population Survey Design and Methodology Technical Paper 77 (https://www2.census.gov/programs-surveys/cps/methodology/CPS-Tech-Paper-77.pdf).

[2] In recent decades, the decennial census has usually provided all the data necessary to produce the population base used in the population controls. However, changes in disclosure avoidance practices and delays in the 2020 Census necessitated changes to the data sources that produce the base population for the Vintage 2021 population estimates. The updated population controls use a Blended Base that draws on the 2020 Census, 2020 Demographic Analysis Estimates, and Vintage 2020 Postcensal Population Estimates. More information on this methodology can be found at https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2021/methods-statement-v2021.pdf.