How the Census Bureau Measures Poverty
With Selected Sources of Poverty Data

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Social, Economic and Housing Statistics Division
U. S. Census Bureau
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Authority Behind the Official Poverty Measure

• The official measure of poverty was established by the Office of Management and Budget (OMB) in Statistical Policy Directive 14 (May, 1978) and is designed to be used by federal agencies in their statistical work.

Determining Poverty Status - Definitions

- **A family** is a group of two or more people who are related by birth, marriage, or adoption and residing together.
- **Family household** is a household maintained by a householder who is in a family (see above), and may also include unrelated people or unrelated subfamily (see below) who may be residing there.
- **Nonfamily household** is a household which consists of a householder living alone (a one-person household) or where the householder shares the home exclusively with people to whom he/she is not related.
- **Unrelated subfamily**, (identified as poverty measurement resource unit in the Current Population Survey, but NOT in ACS) is a family composed of a married couple with or without children, or a single parent with one or more own never-married children under 18 years old living in a household. Members of the unrelated subfamily are not related to the householder.
- **Unrelated individual** is defined as a person who is a householder living alone or living with nonrelatives only; or a household member who is not related to the householder, or a person living in non institutional group quarters.
- **Unmarried partner (UMP)** is a person who is 15 years of age or over, not related (by birth, marriage, or adoption) to the householder, who shares living quarters with, and identified as UMP. In the official poverty measurement resource unit, UMP are treated as unrelated individuals.
Current Poverty Measurement Resource Unit (poverty universe)

- All people in family households who are related to the householder.

- Unrelated subfamily – (used in Current Population Survey but not in American Community Survey) a family composed of a married couple with or without children, or a single parent with one or more own never-married children under 18 years living in a household.

- Unrelated individuals 15 years and older.
How is Poverty Defined?

Resource

Money Income

Need

Thresholds (Orshansky)
Defining Resources: Income

- Money income
- Before taxes
- Noncash benefits (such as food stamps and housing subsidies) **do not** count.
- Excludes capital gains or losses.
- If a person lives with a family, add up the income of all family members. (Non-relatives, such as housemates, do not count.)
Income Sources Used to Compute Official Poverty Status Include:

- Earnings
- Unemployment compensation
- Workers' compensation
- Social Security
- Supplemental Security Income
- Public assistance
- Veterans' payments
- Survivor benefits
- Pension or retirement income
- Interest
- Dividends
- Rents
- Royalties
- Income from estates
- Trusts
- Educational assistance
- Alimony
- Child support
- Assistance from outside the household
- Other miscellaneous sources
Measure of Need (Poverty Thresholds)

- Poverty thresholds (poverty levels) are the dollar amounts used to determine poverty status.

- Poverty thresholds were originally derived in 1963-1964, based on:
  - U.S. Department of Agriculture food budgets designed for families under economic stress.
  - Data about what portion of their income families spent on food to estimate total income.
  - Equivalence scale calculate total income for different family size and compositions.
Measure of Need—Con.

- Thresholds vary according to family size, number of related children, and age of householder.

- The same thresholds are used throughout the United States (do not vary geographically).

- Updated annually for inflation using the Consumer Price Index for All Urban Consumers (CPI-U). https://data.bls.gov/cgi-bin/surveymost
## 2016 Thresholds (used with CPS ASEC)

Poverty Thresholds for 2016 by Size of Family and Number of Related Children Under 18 Years

<table>
<thead>
<tr>
<th>Size of family unit</th>
<th>Weighted average thresholds</th>
<th>Related children under 18 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>One</td>
</tr>
<tr>
<td>One person (unrelated individual):</td>
<td>12,228</td>
<td></td>
</tr>
<tr>
<td>Under age 65:</td>
<td>12,486</td>
<td>12,486</td>
</tr>
<tr>
<td>Aged 65 and older:</td>
<td>11,511</td>
<td>11,511</td>
</tr>
<tr>
<td>Two people:</td>
<td>15,569</td>
<td></td>
</tr>
<tr>
<td>Householder under age 65:</td>
<td>16,151</td>
<td>16,072</td>
</tr>
<tr>
<td>Householder aged 65 and older:</td>
<td>14,522</td>
<td>14,507</td>
</tr>
<tr>
<td>Three people:</td>
<td>19,105</td>
<td>18,774</td>
</tr>
<tr>
<td>Four people:</td>
<td>24,563</td>
<td>24,755</td>
</tr>
<tr>
<td>Five people:</td>
<td>29,111</td>
<td>29,854</td>
</tr>
<tr>
<td>Six people:</td>
<td>32,928</td>
<td>34,337</td>
</tr>
<tr>
<td>Seven people:</td>
<td>37,458</td>
<td>39,509</td>
</tr>
<tr>
<td>Eight people:</td>
<td>41,781</td>
<td>44,188</td>
</tr>
<tr>
<td>Nine people or more:</td>
<td>49,721</td>
<td>53,155</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau.
Determining Poverty Status—Con.

- Compare
  - Total income of an individual from all sources with appropriate threshold or
  - Total family income (total individual income from all sources for all family members) with appropriate threshold, then

- If total family income is less than the threshold appropriate for that family,
  - The family is in poverty.
  - All family members have the same poverty status.
  - For individuals who do not live with family members, their own income is compared with the appropriate threshold.
Determining Poverty Status—Con.

• For example:
  • A total family income for a family of three with one child under 18 years in 2016 was $20,000.
  
  • The appropriate threshold in 2016 for this type of families was $19,318.
  
  • Since the total family income is greater than the threshold, the poverty status for this family of three in 2013 was “above poverty level’ (family income of $20,000 is greater than the threshold of $19,318).
The Appropriate Threshold in 2016 for This Type of Families was $19,318

<table>
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<td>14,507</td>
</tr>
<tr>
<td>Three people..................................</td>
<td>19,105</td>
<td>18,774</td>
</tr>
<tr>
<td>Four people...................................</td>
<td>24,563</td>
<td>24,755</td>
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</tr>
</tbody>
</table>

Source: U.S. Census Bureau.
Observations on the Current Poverty Measure

- The current poverty measure is consistent over the years
- Federal and State governments often use these estimates to allocate funds to local communities
Observations on the Current Poverty Measure—Con.

The official poverty measure does not account for:

- Provision of in-kind benefits (SNAP, LIHEAP, WIC)
- Necessary expenses (taxes, health care, work)
- Changes in family or household structure
- Higher standards and levels of living since 1965
- Geographic price differences among regions
Recommendations to Improve the Official Poverty Measures
Recommendations on Developing a Supplemental Poverty Measure (SPM)

• In 2009, the Office of Management and Budget formed and Interagency Technical Working Group (ITWG) on Developing a Supplemental Poverty Measure. The group issued suggestions for the new measure in March 2010.

• The recommendations were based on National Academy of Sciences expert panel on Poverty and Family Assistance recommendations in “Measuring Poverty: A New Approach” (Citro and Michael, 1995)

• The ITWG recommended that the Census Bureau together with the Bureau of Labor Statistics develop a SPM to improve the understanding of the economic well-being of American families.

• The ITWG suggested that the measure use an expanded resource unit that consists of all related individuals who live at the same address, any co-resident unrelated children who are cared for by the family, and cohabiters and their children.
Recommendations on Developing SPM—Con.

- The SPM will not replace the official poverty measure
- Will not be used for resource allocation or program eligibility
- Census Bureau and BLS responsible for improving and updating the measure

**Poverty Rates Using the Official Measure and the SPM: 2009 to 2016**

- Traditional income questions
- Redesigned income questions

## SPM – Poverty Measure Concepts

<table>
<thead>
<tr>
<th></th>
<th>Official</th>
<th>SPM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement units</strong></td>
<td>Family only</td>
<td>OPM Family plus unmarried partners, unrelated children and foster children</td>
</tr>
<tr>
<td><strong>Poverty Thresholds</strong></td>
<td>3 times minimally adequate food diet in 1960</td>
<td>30th-36th percentile of expenditure on food, clothing, shelter and utilities (+20%)</td>
</tr>
<tr>
<td><strong>Threshold adjustments</strong></td>
<td>Vary by family size, composition, and age of householder</td>
<td>Geographic adjustments for differences in housing costs and equivalence scale for family size and composition, 3 separate thresholds by housing status</td>
</tr>
<tr>
<td><strong>Updating thresholds</strong></td>
<td>Consumer Price Index (CPI-U)</td>
<td>5-year moving average of expenditures</td>
</tr>
<tr>
<td><strong>Resource measure</strong></td>
<td>Gross cash income before tax</td>
<td>Cash income, PLUS: in-kind benefits (SNAP, LIHEAP, WIC, housing subsidies) MINUS: Taxes, child support paid, work expenses (including child care), medical out-of-pocket expenses</td>
</tr>
</tbody>
</table>
SPM - Thresholds

2016 Official Poverty Thresholds (Two Adults and Two Children)

$24,339


2016 SPM Poverty Thresholds for Renters (Two Adults and Two Children)

Difference in Poverty Rates by State: SPM - CPS

Figure 7.
Difference in Poverty Rates by State Using the Official Measure and the SPM: 3-Year Average 2014 to 2016

1 Includes unrelated individuals under the age of 15.
Figure 8.
Change in Number of People in Poverty After Including Each Element: 2016
(In millions)

Note: For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <www2.census.gov/programs-surveys/cps/techdocs/cpsmar17.pdf>.
Selected Sources of Poverty Data
Selected Sources of Data


- **Decennial Census** - 2000 Census and prior was source of demographic and socio-economic sub-national data.

- **American Community Survey (ACS)** – Current source of demographic and socio-economic sub-national data.

- **Survey of Income and Program Participation (SIPP)** – Longitudinal survey.

- **Small Area Income and Poverty Estimates (SAIPE)** – Model-based annual estimates of school age poverty for every school district.
Current Population Survey (CPS)

- Produce specific socioeconomic and demographic estimates for the United States and states for total population and selected subpopulations.
- With the Annual Social Economic Supplement (ASEC), provide timely estimates of income and health insurance, as well as official poverty estimates.
- Annual sample size is about 100,000 addresses.
- Telephone and personal-visit interviews for the 50 states and the District of Columbia. The CPS is a voluntary survey.
- Includes people at their usual place of residence (where they spend most of the time during the year).
CPS (Cont’d)

- CPS ASEC asks a series of 50 questions about various sources of income during the previous calendar year.
- Interviews conducted between February-April, asks about last calendar year income.
- Unrelated subfamilies are identified and poverty status is determined as a family.
- Rich historical data
  - For characteristics of U.S. population – since 1959
  - For state level – since 1980
Decennial Censuses

• Census 2000 and Prior Censuses:
  • Best Measures for sub national areas
  • Very large sample
  • Conducted every ten years
  • used a mail-out/mail-back questionnaire and only personal-visit follow-up using paper questionnaires.
  • “short” form basic demographic and housing information, such as age, sex, race, housing.
  • “long” form collected the same information for selected sample as the short form but also collected more in-depth information such as income, education, and language spoken at home

• 2010 Census and future – provide only basic short form information.
American Community Survey (ACS)

• The American Community Survey (ACS), is a nationwide survey that collects essentially the same information on people and housing that was collected on the short and the long-form questionnaires used in Census 2000 and earlier censuses.

• The ACS is a critical element in the Census Bureau's decennial program.
  • 2010 Census focused on counting the U.S. population
  • Same “short form” questions on the ACS

• The ACS is a continuous survey,
  • Each month a sample of about 290,000 housing unit addresses receive a questionnaire.
  • Nearly, 3.5 million addresses are surveyed each year.
ACS—Con.

- Four modes of data collection methods are used:
  - Online (internet)
  - Mail out/mail back
  - Telephone (CATI) (for those with telephone numbers)
  - Personal visit (CAPI) (for those sampled non responding addresses)

- Includes resident population of the United States living in housing units and group quarters – (Puerto Rico Community Survey)

- Counts current residents at the selected address using the “Two month” rule, whether or not they have ‘usual residence elsewhere’
ACS—Con.

- Reference period is the 12-month period prior to the interview month.
- Collects data on various social, economic, housing, and demographic characteristics.
- Asks about money income using a series of eight questions during the past 12 months.
ACS—Con. - Estimates

- ACS estimates are period estimates, describing the average characteristics over a specified period.
- 1-year and 5-year estimates released for geographic areas that meet specific population thresholds.
- The 5-year estimates provides data for all geographic areas while...
ACS—Con. – When to use the Various ACS Estimates

<table>
<thead>
<tr>
<th>1-year estimates</th>
<th>1-year supplemental estimates</th>
<th>5-year estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 months of collected data</td>
<td>12 months of collected data</td>
<td>60 months of collected data</td>
</tr>
<tr>
<td>Data for areas with populations of 65,000+</td>
<td>Data for areas with populations of 20,000+</td>
<td>Data for all areas</td>
</tr>
<tr>
<td>Smallest sample size</td>
<td>Smallest sample size</td>
<td>Largest sample size</td>
</tr>
<tr>
<td>Less reliable than 3-year or 5-year</td>
<td>Less reliable than 5-year</td>
<td>Most reliable</td>
</tr>
<tr>
<td>Most current data</td>
<td>Most current data</td>
<td>Least current</td>
</tr>
<tr>
<td>Annually released:</td>
<td>Annually released:</td>
<td>Annually released:</td>
</tr>
<tr>
<td>2005-present</td>
<td>2014-present</td>
<td>2009-present</td>
</tr>
<tr>
<td>Best used when</td>
<td>Best used when</td>
<td>Best used when</td>
</tr>
<tr>
<td>Currency is more important than precision</td>
<td>Currency is more important than precision</td>
<td>Precision is more important than currency</td>
</tr>
<tr>
<td>Analyzing large populations</td>
<td>Analyzing smaller populations</td>
<td>Analyzing very small populations</td>
</tr>
<tr>
<td></td>
<td>Examining smaller geographies because the standard 1-year estimates are not available</td>
<td>Examining tracts and other smaller geographies because 1-year estimates are not available</td>
</tr>
</tbody>
</table>

*ACS 3-year estimates have been discontinued since 2011-2013.
# ACS Data Products

## Key ACS Data Products

<table>
<thead>
<tr>
<th>Data Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data profiles</td>
<td>Provide broad social, economic, housing, and demographic profiles.</td>
</tr>
<tr>
<td>Narrative profiles</td>
<td>Summarize the information in the data profiles using concise, nontechnical text.</td>
</tr>
<tr>
<td>Selected population profiles</td>
<td>Provide broad social, economic, and housing profiles for a large number of race, ethnic, ancestry, and country/region of birth groups.</td>
</tr>
<tr>
<td>Ranking tables</td>
<td>Provide state rankings of estimates across 86 key variables.</td>
</tr>
<tr>
<td>Subject tables</td>
<td>Similar to data profiles but include more detailed ACS data, classified by subject.</td>
</tr>
<tr>
<td>Detailed tables</td>
<td>Provide access to the most detailed ACS data and crosstabulations of ACS variables.</td>
</tr>
<tr>
<td>Geographic comparison tables</td>
<td>Compare geographic areas other than states (e.g., counties or congressional districts) for key variables.</td>
</tr>
<tr>
<td>Thematic maps</td>
<td>Interactive, online maps that can be used to display ACS data.</td>
</tr>
<tr>
<td>Custom tables</td>
<td>Allow the user to extract specific rows of data from the ACS detailed tables.</td>
</tr>
<tr>
<td>Summary files</td>
<td>Provide access to the detailed tables through a series of comma-delimited text files on the Census Bureau’s FTP site &lt;www2.census.gov&gt;.</td>
</tr>
<tr>
<td>Public Use Microdata Sample files</td>
<td>Provide access to ACS microdata for data users with SAS and SPSS software experience.</td>
</tr>
</tbody>
</table>
INTRODUCTION

Planners and policymakers use poverty estimates as key indicators to evaluate trends and current economic conditions within communities and to make comparisons across demographic groups. Federal and state governments often use these estimates to allocate funds to local communities. Government agencies and local organizations regularly use these estimates to identify the number of individuals and families eligible for various programs.

This brief uses the 2015 and 2016 American Community Surveys (ACS) 1-year estimates to analyze poverty rates for 2016 as well as the changes in poverty from 2015 for the nation, states, and the...
When to Use ACS - CPS Data

- In general national level estimates from both surveys are consistent and comparable, most of the differences are not statistically significant.

- It is recommended to use the CPS estimates at the national level.

- State level estimates from both surveys generally are similar and no systematic differences observed. For the CPS ASEC we recommend using multi-year averages to look at states.

- For use at state and lower geographic levels ACS estimates are recommended.
Survey of Income and Program Participation (SIPP)

- A longitudinal survey designed to track changes over 3-5 years for the same households

- Data from the 2008 panel cover calendar years 2008-2013. The 2014 panel cover 2013 thru 2016. New panel will start in 2018.

- Interview is conducted to same household every 4 months

- SIPP produces monthly estimates of poverty

- SIPP enables us to measure poverty duration and movements into and out of poverty rather than just getting a snapshot of poverty at one point in time
Small Area Income and Poverty Estimates (SAIPE)

• SAIPE estimates combine ACS data with administrative and other data.

• SAIPE produces single-year estimates of median household income and poverty for states and all counties, as well as population and poverty estimates for school districts.

• SAIPE estimates generally have lower variances.
Small Area Income and Poverty Estimates (SAIPE)—Con.
How to Find Poverty Data on Census Webpage
## Summary of Recommendations at Various Geographic Level

<table>
<thead>
<tr>
<th>Geographic Level</th>
<th>Income/Poverty Rate</th>
<th>Detailed Characteristics</th>
<th>Year-to-Year Change</th>
<th>Longitudinal Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>CPS ASEC</td>
<td>CPS ASEC/ACS 1-year estimates for detailed race groups</td>
<td>CPS ASEC</td>
<td>SIPP</td>
</tr>
<tr>
<td>States</td>
<td>ACS 1-year estimates</td>
<td>ACS 1-year estimates</td>
<td>ACS 1-year estimates/ACS ASEC 2-year averages&lt;sup&gt;1&lt;/sup&gt;</td>
<td>SIPP for select states&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Substate (areas with populations of 65,000 or more)</td>
<td>ACS 1-year estimates/SAIPE for counties and school districts</td>
<td>ACS 1-year estimates</td>
<td>ACS 1-year estimates / SAIPE for counties and school districts</td>
<td>None</td>
</tr>
<tr>
<td>Substate (areas with populations less than 20,000)</td>
<td>SAIPE for counties and school districts/ACS using 5-year period estimates for all other geographic entities/Census 2000</td>
<td>ACS 5-year estimates/Census 2000</td>
<td>SAIPE for counties and school districts/ACS using 5-year period estimates for all other geographic entities&lt;sup&gt;3&lt;/sup&gt;</td>
<td>None</td>
</tr>
<tr>
<td>State-to-Nation comparison</td>
<td>CPS ASEC</td>
<td>CPS ASEC</td>
<td>CPS ASEC</td>
<td>SIPP for select states&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
How to Find ACS Poverty data on AFF

• From main Census Web page (www.census.gov):
  – Click on ‘Data’ then ‘Data Tools and Apps’
  – Select ‘The American Factfinder’

• From The American Factfinder page:
  – Click on ‘Topics’ to choose the subject
  – Click on ‘geography’ to choose geographic area then click “ADD”
    • Make sure your selection is showing in the “selection box”
    • Close geographic selection screen
  – Select ‘the table’ and click “VIEW”
    • Make sure to choose the correct dataset (1-year, 3-year, 5-year estimates)
How to Find CPS Data

From the main Census Bureau page (www.census.gov)

• Sequentially click on - ‘Topics’, ‘Income & Poverty’ and ‘Poverty’ or

• Go directly to the poverty page using (www.census.gov/hhes/www/poverty/)

• From the poverty page click on ‘Data’ and choose ‘Current Population Survey’ Annual Social and Economic Supplement (CPS ASEC)
  • Click on Report to see the latest Income and Poverty Report or
  • Click on Detailed Tables or Historical Tables to choose a table or
  • Click on ‘Generate your own tables on-line using CPS table Creator’
CPS Table Creator

www.census.gov/cps/data/cpstablecreator.html

The CPS Table Creator gives you the ability to create customized tables from the Current Population Survey’s Annual Social and Economic Supplement.

- Complete the form to the left and press the “Get Table” button at the top or bottom of the form to create your table.
- To create a table, you must make one or more selections in the Define Your Table section. For all other sections, you may use the default selections or enter alternate selections to customize the table to meet your needs.
- For help in getting started, see the detailed examples of completing the form to create a table.

Disclaimer:
While tabulations may be conceptually the same as published estimates, in many cases they will not exactly match published estimates because the Table Creator uses the CPS public use file. The CPS public use file lacks some of the detailed income information, topcodes several categories of income, and suppresses some geographic identifiers in order to protect survey confidentiality.

* This tool is best viewed with normal font settings and in the Firefox web browser.
How to Find Decennial Data

www.census.gov/library/visualizations/time-series/demo/census-poverty-tool.html
SPM Data

www.census.gov/topics/income-poverty/supplemental-poverty-measure.html
SAIPE DATA

www.census.gov/programs-surveys/saipe.html
Contact Information

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(301) 763 5628