

Introduction to American Community Survey (ACS)

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CFDR Workshop Series
September 12, 2022

BGSU

 Center for Family and
Demographic Research

Overview

- What is American Community Survey (ACS)?
- Differences between Census and ACS
- Different Estimates of ACS
- Content of ACS
- Geographic hierarchy in ACS
- Weighting ACS data
- Impacts of the pandemic on ACS data
- Navigate ACS website
- Data analysis using Application Programming Interface (API)
- Data analysis using Public Use Microdata Sample (PUMS)
- Conclusions

What Is ACS?

- ACS is a large annual survey of people in the United States and Puerto Rico. ACS is designed to replace the long form of decennial Census survey.
- ACS samples 3.5 million households and group quarters and collects data from respondents between January 1 and December 31 of the survey year. Therefore, each ACS survey provides the average characteristics of the population in a geographic area over one year. ACS can also be pooled together and used to describe the average population characteristics over a longer period of time.
- Four stages of ACS:
 - Demonstration Period: Census Bureau conducted ACS survey in 4, 8, and 9 sites in 1996, 1997, and 1998, respectively, to evaluate costs, procedures, and data usages.
 - Comparison Period: Census Bureau compared differences in data collected by ACS and the long-form of Census 2000 in 36 cities in each year from 1999 to 2002.
 - Supplementary Period: 700,000 residential addresses from 1,204 sites were added each year from 2002 to 2004 and used to compare the estimates from ACS and Census 2000 for states or geographic areas with more than 250,000 persons.
 - Full Implementation: Since 2005, ACS has been conducted in every county of United States.

Differences between Census and ACS

Table 1. Differences between Decennial Census and ACS

	Decennial Census	American Community Survey
Purpose	provide an official count of the entire U.S. population to Congress.	provide up-to-date sample estimates of the social, economic, housing, and demographic
Inception Year	1790	2005
Frequency	Every 10 years	Every year
Residence definition	Resident living at the sampled address on April 1 of the survey year	Residents living at the sampled address for more than 2 month
Reference time period	March through June time period	Full calendar year
Sample size	all the U.S. citizens (331 millions)	a probability sample of 3.5 millions
Applications	Congressional apportionment and state redistricting	measuring social, economic, housing needs of individuals at the national, regional, state, or county

Different Estimates of ACS

Table 2. Different Estimates in ACS

Characteristics	1-year estimates	1-year supplemental estimates	3-year estimates *	5-year estimates
Time Period	12 months of collected data <i>Example:</i> 2018 ACS 1-year estimates <i>Date collected between:</i> January 1, 2018 and December 31, 2018	12 months of collected data <i>Example:</i> 2018 ACS 1-year supplemental estimates <i>Date collected between:</i> January 1, 2018 and December 31, 2018	36 months of collected data <i>Example:</i> 2011-2013 ACS 3-year estimates <i>Date collected between:</i> January 1, 2011 and December 31, 2013	60 months of collected data <i>Example:</i> 2014-2018 ACS 5-year estimates <i>Date collected between:</i> January 1, 2014 and December 31, 2018
Availability	Data for areas with populations of 65,000+	Data for areas with populations of 20,000+	Data for areas with populations of 20,000+	Data for all areas
Data Release	Annually released: 2005-present	Annually released: 2014-present	Annually released: 2007-2013	Annually released: 2009-present
Reliability	Less reliable than 3-year or 5-year	Less reliable than 5-year	More reliable than 1-year; less reliable than 5-year	Most reliable
Currentcy	Most current data	Most current data	Less current than 1-year estimates; more current than 5-year	Least current
When to use	Currency is more important than precision Analyzing large populations	Currency is more important than precision Analyzing smaller populations Examining smaller geographies because the standard 1-year estimates are not available	More precise than 1-year, spans fewer years than 5-year Analyzing smaller populations Examining smaller geographies because the standard 1-year estimates are not available	Precision is more important than currency Analyzing very small populations Examining tracts and other smaller geographies because 1-year estimates are not available

* The 3-year estimates discontinued after 2013

** <https://www.census.gov/programs-surveys/acs/guidance/estimates.html>



Content of ACS

Table 3. The Subjects included in ACS

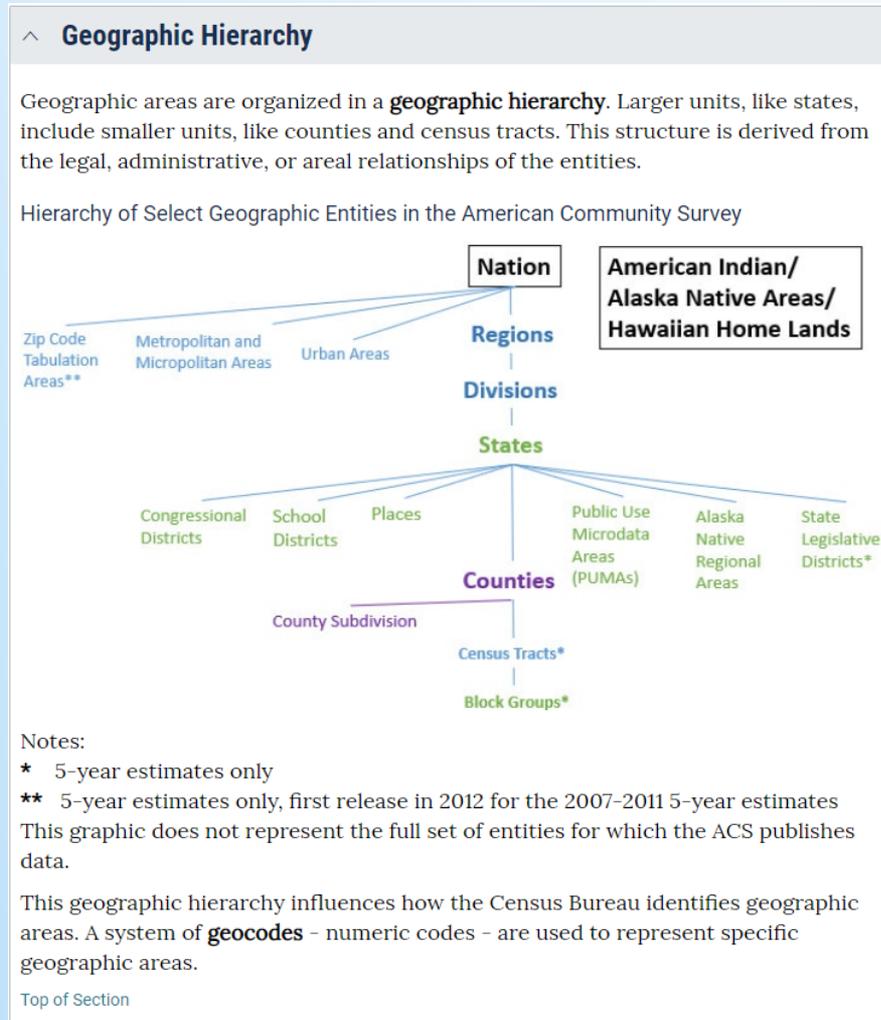
Population		Housing
Social	Demographic	
Ancestry	Age; Sex	Bedrooms
Citizen Voting-Age	Group Quarters	Computer and Internet Use
Citizenship Status	Hispanic or Latino Origin	House Heating Fuel
Disability Status	Race	Kitchen Facilities
Educational Attainment	Relationship to Householder	Occupancy/Vacancy Status
Fertility	Total Population	Occupants per Room
Grandparents as Caregivers		Plumbing Facilities
Language Spoken at Home	Economic	Rent
Marital History	Class of Worker	Rooms
Marital Status	Commuting (Journey to Work) and Place of Work	Selected Monthly Owner Costs
Migration/Residence 1	Employment Status	Telephone Service Available
Place of Birth	Food	Tenure (Owner/Renter)
School Enrollment	Health Insurance	Units in Structure
Undergraduate Field of Degree	Income and Earnings	Value of Home
Veteran Status; Period of Military Service	Industry	Vehicles Available
Year of Entry	Occupation	Year Householder Moved Into Unit
	Poverty Status	Year Structure Built
	Work Status Last Year	

Source: Subjects Included in the Survey

<https://www.census.gov/programs-surveys/acs/guidance/subjects.html>

Geographic Hierarchy in ACS

<https://www.census.gov/programs-surveys/acs/geography-acs/concepts-definitions.html>



Weighting ACS Data

- ACS collects data from a sample of people living in the United States and Puerto Rico. Therefore, ACS data need to be weighted to get the accurate housing units and population estimates and their standard errors.
- PUMS household weights (WGTP) are used for producing housing unit estimates, while household replicate weights (WGTP1-WGTP80) are used for calculating standard errors at the household level.
- PUMS person weights (PWGTP) are used for producing population estimates, while population replicate weights (PWGTP1-PWGTP80) are used for standard errors at the population level.
- For ACS 2020, experimental weights should be used to create one-year estimate.

Impacts of the Pandemic on ACS data

- The pandemic has an impact on the data collection and quality of ACS 2020, including sample sizes, response rates, coverage rates for different groups of respondents. (see <https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/>). Not all of these impacts on ACS 2020 are negative, however. For example, the coverage rate is low for non-Hispanic Blacks, but high for American Indians, non-hispanic Alaska Natives, and Non-Hispanic Asians.
- While the 5-year ACS data (2016-2020) are analyzed like other ACS data, the 1-year experimental data in 2020 need to be weighted using experimental weights (<https://www.census.gov/programs-surveys/acs/data/experimental-data.html>). When using the ACS 2020 PUMS 1-year file, Census Bureau advises users not to compare it to other ACS PUMS sample years.
- ACS 2021 data will be released on Sep.15, 2022. We will then know more about the extent to which the data collection and quality of ACS 2021 were influenced by the pandemic and how to analyze ACS 2021.

Navigate ACS webiste

- <https://www.census.gov/programs-surveys/acs>

An official website of the United States government [Here's how you know](#) ▾

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Documentation for the 2021 American Community Survey 1-year estimates is now available. Data will be released on September 15.

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American Community Survey (ACS)

The American Community Survey (ACS) helps local officials, community leaders, and businesses understand the changes taking place in their communities. It is the premier source for detailed population and housing information about our nation.



Featured

Respond to the ACS

Learn the different ways to respond to the American Community Survey – online, by phone, by email. Read our FAQs or call us for more help with the survey.

American Community Survey Data

The American Community Survey releases new data every year, in the form of estimates, in a variety of tables, tools, and analytical reports.

Subscribe

Subscribe to GovDelivery email updates to stay up-to-date on the latest news and events about the American Community Survey.

Data

2021 Data Release

Learn more about the upcoming 2021 ACS data releases, including the release schedule.

data.census.gov

Access American Community Survey data on the Census Bureau's new platform, data.census.gov.

Navigate ACS website (continued)

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- Experimental Data
- Race/Ethnicity and American Indian & Alaska Native
- Summary File
- Variance Replicate Estimate Tables

American Community Survey Data

The American Community Survey (ACS) releases new data every year through a variety of data tables that you can access with different data tools. Learn more about the different types of tables and profiles powered by ACS data. We also have information about other special datasets, such as the ACS Experimental Data, ACS Summary File, and ACS Public Use Microdata Sample (PUMS) files.

Get Started Accessing ACS Data

Check out [data.census.gov](#), the Census Bureau's main data dissemination tool. Here, you can access tables and maps with ACS data. You can also view [data.census.gov Resources](#) for step-by-step guidance, video tutorials, FAQs, and more.

[GO TO DATA.CENSUS.GOV](#)

[data.census.gov Resources](#)

2020 ACS 1-Year Experimental Estimates

Related Information

Data

[data.census.gov Resources](#)

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Share Your ACS Data Story

Navigate ACS website (continued)

<https://www.census.gov/programs-surveys/acs/data/data-via-api.html>

The screenshot shows the top navigation bar of the Census Bureau website with the logo and search bar. Below the navigation bar is a banner for the 2021 American Community Survey 1-year estimates. The main content area features a breadcrumb trail, a left sidebar with navigation links, a central article titled 'American Community Survey Data via API', and a right sidebar with 'Related Information' links. The article text explains the API tool and includes a diagram of the API workflow and a PDF download link.

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Related Information

- Developers
- [data.census.gov Resources](#)
- [Census Data API User Guide](#)

American Community Survey Data via API

The Census Bureau's Application Programming Interface (API) is a tool that you can use to access American Community Survey (ACS) data more efficiently. It reduces the need for data storage and provides users with a set of standard commands to easily access statistics that can be incorporated into their programs and applications. You can also use it to create simple queries to access ACS data through an internet browser. Learn more about how to access ACS datasets via the API, as well as resources to learn more about using the API.

Download Building an API Query for ACS [PDF - <1.0 MB]

Due to the impact of the COVID-19 pandemic, the Census Bureau changed the 2020 American Community Survey (ACS) release. Instead of providing the standard 1-year data products, the Census Bureau released experimental estimates from the 1-year data. They are posted on the [2020 ACS 1-Year Experimental Data Release page](#); they are not available on [data.census.gov](#) or the API.

Navigate ACS website (continued)

<https://www.census.gov/data/developers.html>

Using the API to Get All Resu... : Using the API To Get Results... :

USING THE API TO GET ALL RESULTS FOR A FEW STATES USING THE API TO GET RESULTS FOR A FEW STATES

United States Census Bureau United States Census Bureau

Using the API with ACS Data

Publication

What Users of the Census Data API Need to Know

This guide provides an overview of the Census Data API and how it can be used to build custom queries to quickly and consistently access ACS data.

Webinar

Using the Census API with the American Community Survey

In this webinar, we discuss how to leverage the Census Bureau's API to access, load and manipulate American Community Survey data using statistical software.

Get Help With the Census Bureau Data API

Developers

Developer portal to access services and documentation for the Census Bureau's APIs.

Developers' Forum on Slack

The Developers Forum is available to help improve access to public datasets and to encourage innovative use of data products. We invite developers join our Developers Forum, and provide feedback to help the Census Bureau move forward with continued API development.

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Navigate ACS website (continued)

<https://www.census.gov/data/developers/data-sets/acs-1year.2019.html>

Detailed Tables

- **Example Call:** `api.census.gov/data/2019/acs/acs1?get=NAME,group(B01001)&for=us:1&key=YOUR_KEY_GOES_HERE`
- 2019 ACS Detailed Tables Variables [[html](#) | [xml](#) | [json](#)]
- [ACS Technical Documentation](#)
- [Examples and Supported Geography](#)

Subject Tables

- **Example Call:** `api.census.gov/data/2019/acs/acs1/subject?get=NAME,group(S0101)&for=us:1&key=YOUR_KEY_GOES_HERE`
- 2019 ACS Subject Tables Variables [[html](#) | [xml](#) | [json](#)]
- [ACS Technical Documentation](#)
- [Examples and Supported Geography](#)

Data Profiles

- **Example Call:** `api.census.gov/data/2019/acs/acs1/profile?get=group(DP02)&for=us:1&key=YOUR_KEY_GOES_HERE`
- 2019 ACS Data Profiles Variables [[html](#) | [xml](#) | [json](#)]
- [ACS Technical Documentation](#)
- [Examples and Supported Geography](#)

Navigate ACS website (continued)

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// Census.gov / Our Surveys & Programs / American Community Survey (ACS) / ACS Data / ACS Data via FTP

American Community Survey Data via FTP

The Census Bureau produces downloadable American Community Survey (ACS) data files, as well as other materials, on the Census Bureau's file transfer protocol (FTP) server.

Files on the FTP server are **intended for advanced users**. You can learn about other ways to access ACS data on the [Data Tables & Tools](#) page.

American Community Survey directories are located on the FTP server at www2.census.gov/programs-surveys/acs/. If you are using a **FTP client**, the server address is [ftp2.census.gov](ftp://ftp2.census.gov). You do NOT need a user name and password. If prompted for one, use "anonymous" as the user name, and no password. The ACS directories contain:

Item	Year(s)	Link
Experimental Data	2020	programs-surveys/acs/experimental/
Summary Files	2005-present	programs-surveys/acs/summary_file/
Public Use Microdata Sample (PUMS) Files	1996-present	programs-surveys/acs/data/pums/
Variance Replicate Estimate Tables	2014-present	programs-surveys/acs/replicate_estimates/
Table Shells	2004-present	programs-surveys/acs/tech_docs/table_shells
Data Tables	1996-2004	program-surveys/acs/data/archive
ACS/Census Comparison	1999-	programs-

Related Information

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Learn how

Data Analysis Using API

Data obtained from Application Programming Interface (API)

- Users do not really access nor analyze ACS data. Instead, users submit their queries via the internet browser, and the Census website conducts the analysis
- Users need to know exactly how to specify their queries to get the tables they want.
- With API, users can customize the ACS tables published on the Census website.
- The API may not be able to generate the table for complex multivariable models.

Data Analysis Using API (Cont.)

- Generating a data profile with the one-year estimate of ACS 2019
- <https://api.census.gov/data/2019/acs/acs1/profile.html>

Census API: Datasets in /data/2019/acs/acs1/profile and its descendants

Title	Description	Vintage	Dataset Name	Dataset Type	Geography List	Variable List	Group List	SortList	Examples	Developer Documentation	API Base URL
American Community Survey: 1-Year Estimates: Data Profiles 1-Year	The American Community Survey (ACS) is a uswide survey designed to provide communities a fresh look at how they are changing. The ACS replaced the decennial census long form in 2010 and thereafter by collecting long form type information throughout the decade rather than only once every 10 years. Questionnaires are mailed to a sample of addresses to obtain information about households – that is, about each person and the housing unit itself. The American Community Survey produces demographic, social, housing and economic estimates in the form of 1 and 5-year estimates based on population thresholds. The strength of the ACS is in estimating population and housing characteristics. The data profiles provide key estimates for each of the topic areas covered by the ACS for the us, all 50 states, the District of Columbia, Puerto Rico, every congressional district, every metropolitan area, and all counties and places with populations of 65,000 or more. Although the ACS produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the us, states, counties, cities and towns, and estimates of housing units for states and counties. For 2010 and other decennial census years, the Decennial Census provides the official counts of population and housing units.	2019	acs> acs1> profile	Aggregate	geographics	variables	groups	sorts	examples	documentation	http://api.census.gov/data/2019/acs/acs1/profile
1 dataset											

Data Analysis Using API (Cont.)

- Household type for all congressional districts in the U.S.

https://api.census.gov/data/2019/acs/acs1/profile?get=NAME,DP02_0001E&for=congressional%20district:*&in=state:*

- Household type for all congressional districts in the state of Texas

https://api.census.gov/data/2019/acs/acs1/profile?get=NAME,DP02_0001E&for=congressional%20district:*&in=state:48

- Percent of vehicle availability in congressional districts of Texas

https://api.census.gov/data/2019/acs/acs1/profile?get=NAME,DP04_0058PE&for=congressional%20district:*&in=state:48

- Household type and percent of vehicle availability in congressional districts of Texas

https://api.census.gov/data/2019/acs/acs1/profile?get=NAME,DP04_0058PE,DP02_0001E&for=congressional%20district:*&in=state:48

Data Analysis Using PUMS

- Researchers may be interested in certain research questions that data tools on the Census Bureau webpage cannot answer. Thus, researchers need to analyze ACS data themselves.
- Census Bureau releases data from about two-thirds of the ACS respondents (i.e., PUMS) for public use. Therefore, the results of using ACS PUMS files may be different from those found from API.
- Values of some variables in PUMS files are masked or edited to prevent respondents from being identified, for example, income, mortgage, rent, utilities, property taxes, home values, property insurance costs, number of rooms and bedrooms, age, travel time to work, and hours worked.
- The latest ACS data (i.e., 2021 ACS) data release schedule: <https://www.census.gov/programs-surveys/acs/news/data-releases/2021/release-schedule.html>

Obtaining ACS PUMS Data

- PUMS data can be downloaded from two websites:
 - Census Bureau FTP server
<https://www2.census.gov/programs-surveys/acs/data/pums/>
 - <https://www2.census.gov/programs-surveys/acs/experimental/>
 - Minnesota Population Center
(<https://usa.ipums.org/usa/index.shtml>)
 - SAS data file are available at the Census Bureau FTP server, and the command files for creating SPSS, SAS, Stata, and R data files are available at the IPUMS website.

Obtaining ACS PUMS Data (Cont.)

Using the IPUMS website



The screenshot shows the IPUMS USA website homepage. At the top, there is a navigation bar with links for 'WELCOME, HSUEH-SHENG', 'ACCOUNT', 'LOG OUT', and 'IPUMS.ORG'. Below this is the IPUMS USA logo and a secondary navigation bar with 'HOME', 'SELECT DATA', 'MY DATA', and 'SUPPORT'. A banner image features several small photos of people in various settings. The main content area is divided into a left sidebar and a main body. The sidebar contains links for 'IPUMS USA' (About, Register, Donate), 'DATA' (Browse and Select Data, Analyze Data Online, IPUMS ABACUS, Download or Revise My Data), 'SUPPLEMENTAL DATA' (Geography & GIS, Linked Census Data, Slave Samples, Full Count Data, Federal Statistical RDC), 'DOCUMENTATION' (User Guide, Sample Descriptions, Questionnaires, Published Census Volumes, Complete Count Data, Revision History), 'SUPPORT' (FAQ, Video Tutorials, User Forum), and 'RESEARCH' (Citing IPUMS USA, IPUMS Bibliography). The main body features the title 'U.S. CENSUS DATA FOR SOCIAL, ECONOMIC, AND HEALTH RESEARCH' and a paragraph describing the data collection. Below this is the slogan 'USE IT FOR GOOD -- NEVER FOR EVIL' and two buttons: 'CREATE YOUR CUSTOM DATA SET' (with a 'Get Data' sub-button) and 'ONLINE TOOL FOR ANALYSIS' (with an 'Analyze Data Online' sub-button). Further down, there is a 'WHAT IS IPUMS?' section and an 'IPUMS USA DATA UPDATES' section with links to various data releases.

WELCOME, HSUEH-SHENG | ACCOUNT | LOG OUT | IPUMS.ORG

IPUMS USA

HOME | SELECT DATA | MY DATA | SUPPORT

IPUMS USA
ABOUT
REGISTER
DONATE TO IPUMS

DATA
BROWSE AND SELECT DATA
ANALYZE DATA ONLINE
IPUMS ABACUS
DOWNLOAD OR REVISE MY DATA

SUPPLEMENTAL DATA
GEOGRAPHY & GIS
LINKED CENSUS DATA: 1850-1940
SLAVE SAMPLES: 1850-1860
FULL COUNT DATA: 1790-1840
FEDERAL STATISTICAL RDC

DOCUMENTATION
USER GUIDE
SAMPLE DESCRIPTIONS
QUESTIONNAIRES
PUBLISHED CENSUS VOLUMES
COMPLETE COUNT DATA
REVISION HISTORY

SUPPORT
FAQ
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RESEARCH
CITING IPUMS USA
IPUMS BIBLIOGRAPHY

U.S. CENSUS DATA FOR SOCIAL, ECONOMIC,
AND HEALTH RESEARCH

IPUMS USA collects, preserves and harmonizes U.S. census microdata and provides easy access to this data with enhanced documentation. Data includes decennial censuses from 1790 to 2010 and American Community Surveys (ACS) from 2000 to the present.

USE IT FOR GOOD -- NEVER FOR EVIL

CREATE YOUR CUSTOM DATA SET

Get Data

ONLINE TOOL FOR ANALYSIS

Analyze Data Online

WHAT IS IPUMS?

IPUMS provides census and survey data from around the world integrated across time and space. IPUMS integration and documentation makes it easy to study change, conduct comparative research, merge information across data types, and analyze individuals within family and community context. Data and services available free of charge.

IPUMS USA DATA UPDATES

[SUPPLEMENTAL POVERTY MEASURE AND 2019 EXPERIMENTAL WEIGHTS](#) | [2020 5-YEAR DATA](#) | [2020 1-YEAR DATA](#)
| [1900-1930 FULL COUNT FILES](#) | [DATA AND DOCUMENTATION IMPROVEMENTS](#)

Obtaining ACS PUMS Data (Cont.)

WELCOME, HSUEH-SHENG | ACCOUNT | LOG OUT | IPUMS.ORG

IPUMS USA

HOME | SELECT DATA | MY DATA | SUPPORT

SELECT SAMPLES

Variable documentation on the web site can be filtered to display only material corresponding to chosen datasets ([more information](#) on this feature).

SUBMIT SAMPLE SELECTIONS

USA SAMPLES | USA FULL COUNT | PUERTO RICO

Default sample from each year

2020	<input type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr		
2019	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr		
2018	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr		
2017	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr		
2016	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr		
2015	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr		
2014	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 5yr		
2013	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr	
2012	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr	
2011	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr	
2010	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr	<input type="checkbox"/> 10%
2009	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr	<input type="checkbox"/> ACS 5yr	
2008	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr		
2007	<input checked="" type="checkbox"/> ACS	<input type="checkbox"/> ACS 3yr		
2006	<input checked="" type="checkbox"/> ACS			
2005	<input checked="" type="checkbox"/> ACS			
2004	<input checked="" type="checkbox"/> ACS			
2003	<input checked="" type="checkbox"/> ACS			

Obtaining ACS PUMS Data (Cont.)

WELCOME, HSUEH-SHENG | ACCOUNT | LOG OUT | IPUMS.ORG

IPUMS USA

HOME | SELECT DATA | MY DATA | SUPPORT

DATA CART
YOUR DATA EXTRACT
0 VARIABLES
21 SAMPLES
[VIEW CART](#)

CHANGE SAMPLES

SELECT HARMONIZED VARIABLES

HOUSEHOLD PERSON A-Z SEARCH

HARMONIZED VARIABLES **1**
 SOURCE VARIABLES

DISPLAY OPTIONS [HELP](#)

AN "X" INDICATES THE VARIABLE IS AVAILABLE IN THAT DATASET.

DEMOGRAPHIC VARIABLES -- PERSON [TOP](#)

Add to cart	Variable	Variable Label	Type	Codes	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	2000
					acs																				
<input checked="" type="radio"/>	RELATE	Relationship to household head	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input type="radio"/>	IMPREL	Imputed relationship to household head	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	SEX	Sex	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="radio"/>	AGE	Age	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="radio"/>	AGEORIG	Age (original version)	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	1	X	X	X	X	-	-	X	
<input type="radio"/>	AGEMONTH	Age in months	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input type="radio"/>	BIRTHMO	Month of birth	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	BIRTHQTR	Quarter of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	
<input checked="" type="radio"/>	MARST	Marital status	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="radio"/>	BIRTHYR	Year of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input checked="" type="radio"/>	MARRNO	Times married	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	MARRIN1YR	Married within the past year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	YRMARR	Year married	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	
<input type="radio"/>	MARRMONTH	Month married	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input type="radio"/>	MARRQTR	Quarter of first marriage	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input type="radio"/>	AGEMARR	Age at first marriage	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input type="radio"/>	DURMARR	Duration of current marital status	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	DIVIN1YR	Divorced in the past year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	WIDIN1YR	Widowed in the past year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	-	-	-	
<input type="radio"/>	WIDOW	Marriage ended by death	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	CONMARST	Consensual marriage, Puerto Rico	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input checked="" type="radio"/>	FERTYR	Children born within the last year	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<input type="radio"/>	CHBORN	Children ever born	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<input type="radio"/>	CHSURV	Children surviving	P	codes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Obtaining ACS PUMS Data (Cont.)

WELCOME, HSUEH-SHENG | ACCOUNT | LOG OUT | IPUMS.ORG

IPUMS USA

DATA CART
YOUR DATA EXTRACT
8 VARIABLES
21 SAMPLES

HOME | SELECT DATA | MY DATA | SUPPORT

DATA CART

ADD MORE VARIABLES
ADD MORE SAMPLES
CREATE DATA EXTRACT

[Clear Data Cart](#)

In cart	Variable	Variable Label	Type	Codes	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	2000	5pct
<input checked="" type="checkbox"/>	YEAR	Census year [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	SAMPLE	IPUMS sample identifier [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	SERIAL	Household serial number [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	CBSERIAL	Original Census Bureau household serial number [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	.	.	.	.	.	.
<input checked="" type="checkbox"/>	HHWT	Household weight [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	CLUSTER	Household cluster for variance estimation [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	STRATA	Household strata for variance estimation [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	GQ	Group quarters status [preselected]	H	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	PERNUM	Person number in sample unit [preselected]	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	PERWT	Person weight [preselected]	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	RELATE	Relationship to household head	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	SEX	Sex	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	AGE	Age	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	AGEORIG	Age (original version)	P	codes	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X
<input checked="" type="checkbox"/>	BIRTHQTR	Quarter of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	.	.	.	.	.	.
<input checked="" type="checkbox"/>	MARST	Marital status	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	BIRTHYR	Year of birth	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Analyzing ACS PUMS Data (Cont.)

See the attached Stata command files

- Merge household data with personal data
- Combine data files across multiple years
- Obtain the marital statuses of different age groups using personal weights
- The distribution of internet access by type of unit using household weights
- Multinomial logistic regression of marital status on age, using replicate weights

Conclusions

- ACS data allow researchers to gain an understanding of the demographic, social, and economic characteristics of the populations in the United States and Puerto Rico.
- ACS also allows for examining how these characteristics change over time. However, before conducting such studies, researchers should ascertain that the definitions of the characteristics and geographic areas are the same at different time points.
- The sizes of ACS data files are large. When using ACS data, you may want to only select the variables you want to use.
- ACS 2020 remains one of the best data sets to understand social, economic, demographic, and housing characteristics of Americans in 2020. However, care should be exercised when ACS 2020 data are used. For example, the one-year data of ACS 2020 need to be weighted with experimental weights and should not be compared to those one-year estimates from prior years.
- For additional helps about ACS, you can contact Census Bureau at 1-844-275-3282 and census.askdata@census.gov, ask question at the data user group (<https://acsdatacommunity.prb.org/>), or come see me at room 5D, Williams Hall.