

Introduction to American Community Survey (ACS)

Hsueh-Sheng Wu
CFDR Workshop Series
September 24, 2018

BGSU



Center for
**Family and
Demographic** Research

Overview

- What is ACS?
- Content of ACS
- Different estimates of ACS
- Examples of using ACS data
- ACS PUMS data
- Weighting ACS PUMS data
- Obtaining ACS PUMS data
 - FTP site
 - IPUMS site
 - Data Farret

Overview (Cont.)

- Analyzing ACS data
 - Download data
 - Link household data with person data
 - Stack data over years
 - Use household weight
 - Use personal weights
 - Use replicate weights
- Conclusions

What Is ACS?

- Before ACS, the U.S. government relied on the long form of the Decennial Census Survey to understand population needs every 10 years. However, as the pace of change accelerates in the U.S., the Decennial Census Survey does not provide an accurate and updated description the population.
- ACS is a large, annual survey of the people in the United States and Puerto Rico.
- 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 surveys can also be pooled together and used to describe the average population characteristics over a longer period of time.

What Is ACS? (Cont.)

- ACS allows for understanding how many people are in a certain geographic areas, what their needs are, how they have been changing, how much money and resources should be spent, and how voting areas should be defined.
- Federal government uses ACS estimate to decide \$675 billion of spending on different areas.

Content of ACS

Table 1. The Content of ACS survey

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

Source: Ana-Maria Garcia (2018) Introcuton to the American Community Survey.

Download link:

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwj9uM3cvNLdAhXlXyMKHfIqCvgQFjAAegQIBBAC&url=https%3A%2F%2Fwww.census.gov%2Fcontent%2Fdam%2FCensus%2Fdata%2Ftraining-workshops%2Frecorded-webinars%2Facs-transcript-08-15-2018.pdf&usg=AOvVaw1RZKZAed10fZp8K7bGFH3I>

Different Estimates of ACS

Table 2. Different Estimates in ACS

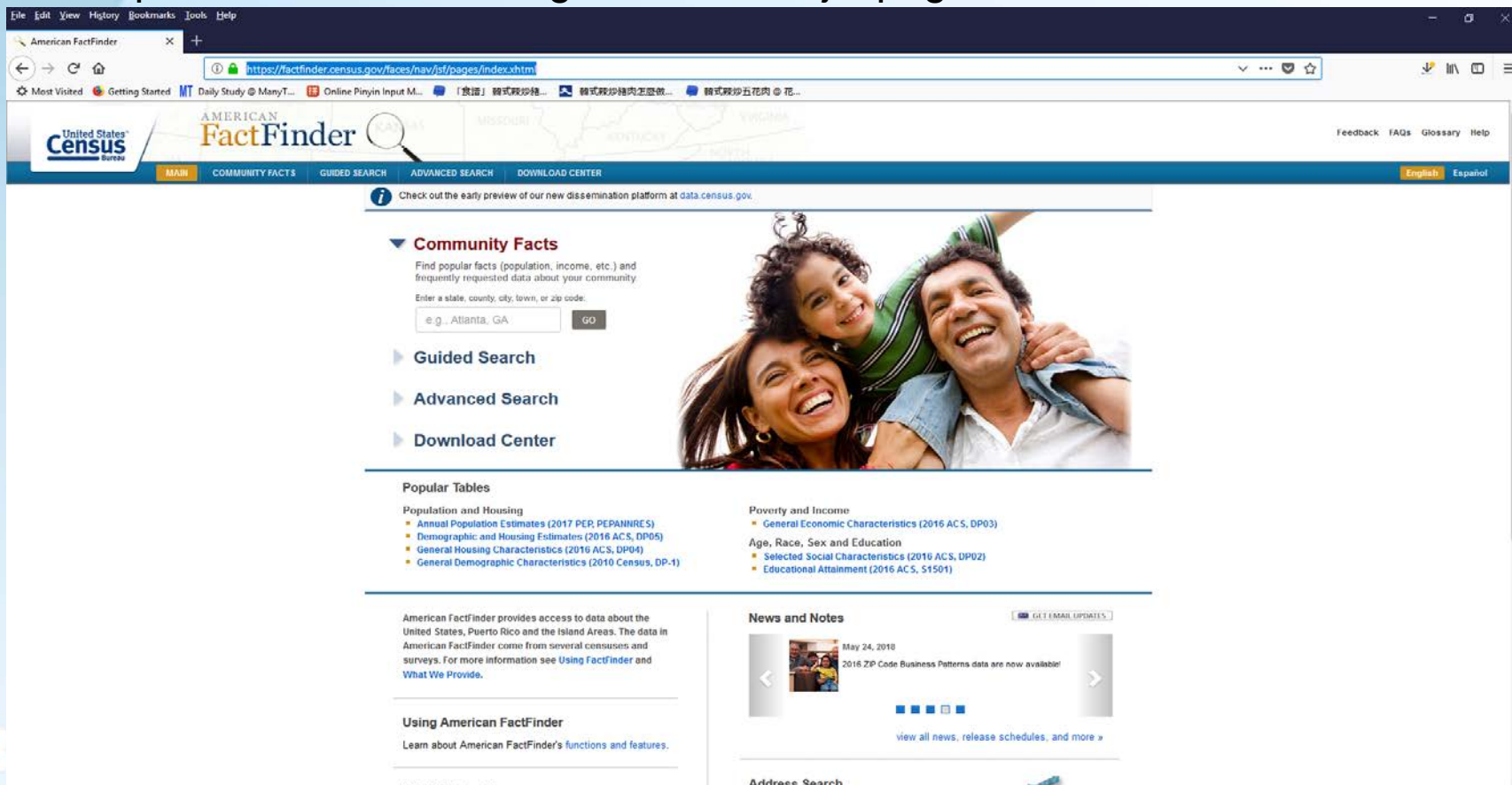
Characteristics	1-year estimates	1-year supplemental estimates	3-year estimates*	5-year estimates
Time Period	12 months of collected data <i>Example: 2017 ACS 1-year estimates</i> <i>Date collected between: January 1, 2017 and December 31, 2017</i>	12 months of collected data <i>Example: 2017 ACS 1-year supplemental estimates</i> <i>Date collected between: January 1, 2017 and December 31, 2017</i>	36 months of collected data <i>Example: 2011-2013 ACS 3-year estimates</i> <i>Date collected between: January 1, 2011 and December 31, 2013</i>	60 months of collected data <i>Example: 2013-2017 ACS 5-year estimates</i> <i>Date collected between: January 1, 2013 and December 31, 2017</i>
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	1, 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

Examples of Using ACS Data

Population Characteristics of Bowling Green City, Ohio, using American FactFinder, Census Business Builder (CBB), and My Congressional District

- American FactFinder web Address:
<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>



Examples of Using ACS Data (Cont.)

The screenshot displays the American FactFinder web application. The browser window shows the URL https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml. The page header includes the United States Census Bureau logo and navigation links: MAIN, COMMUNITY FACTS, GUIDED SEARCH, ADVANCED SEARCH, and DOWNLOAD CENTER. A search bar prompts the user to "Enter a state, county, city, town, or zip code:" with "Bowling Green city, Ohio" entered and a "GO" button. A sidebar on the left lists various data categories: Population, Age, Business and Industry, Education, Governments, Housing, Income, Origins and Language, Poverty, Race and Hispanic Origin, Veterans, and Show All. The main content area is titled "Bowling Green city, Ohio" and shows the "Population" section with a dropdown menu set to "Census 2010 Total Population". The population value is displayed as **30,028**, with a source note: "Source: 2010 Demographic Profile". Below this, a section titled "Popular tables for this geography:" lists several data tables from the 2010 Census, 2016 American Community Survey, 2017 Population Estimates Program, and Census 2000. The footer contains social media links and a disclaimer: "Accessability | Information Quality | FOIA | Data Protection and Privacy Policy | U.S. Department of Commerce".

Examples of Using ACS Data (Cont.)

American FactFinder - Results

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

Community Facts - Find popular facts and frequently requested data about your community

1 Community Facts 2 Table Viewer

DP05 ACS DEMOGRAPHIC AND HOUSING ESTIMATES
2012-2016 American Community Survey 5-Year Estimates

Table View

Actions: [Bookmark/Save](#) [Print](#) [Download](#) [Create a Map](#)

[View Geography Notes](#) [View Table Notes](#)

Tell us what you think. Provide feedback to help make American Community Survey data more useful for you.

Although the American Community Survey (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 nation, states, counties, cities and towns and estimates of housing units for states and counties.

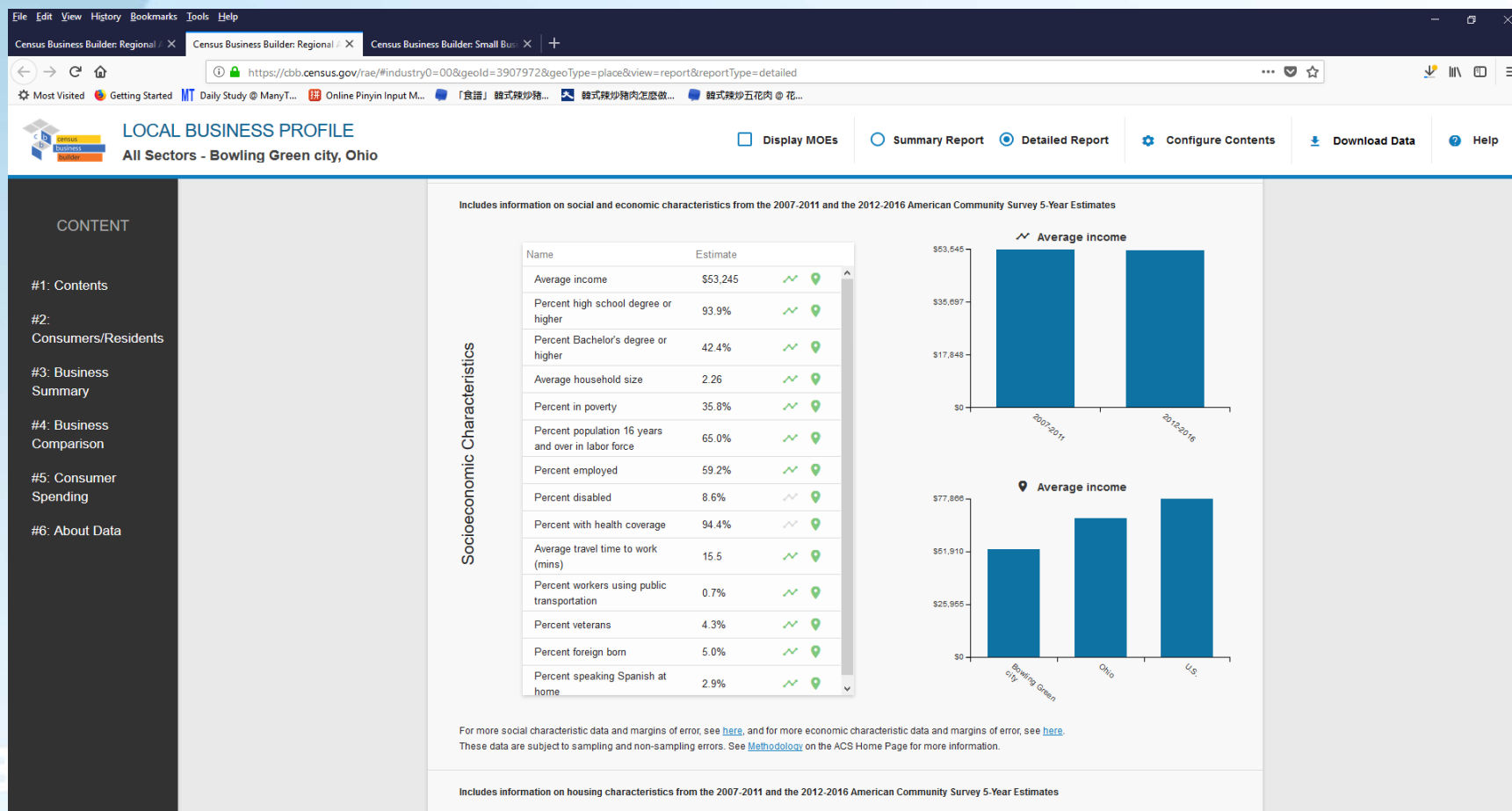
Versions of this table are available for the following years:
2016
2015
2014
2013
2012
2011
2010

Subject	Bowling Green city, Ohio			
	Estimate	Margin of Error	Percent	Percent Margin of Error
SEX AND AGE				
Total population	31,641	+/-26	31,641	(X)
Male	14,530	+/-515	45.9%	+/-1.6
Female	17,111	+/-511	54.1%	+/-1.6
Under 5 years	1,252	+/-182	4.0%	+/-0.6
5 to 9 years	1,120	+/-205	3.5%	+/-0.6
10 to 14 years	990	+/-221	3.1%	+/-0.7
15 to 19 years	5,221	+/-393	16.5%	+/-1.2
20 to 24 years	9,620	+/-558	30.4%	+/-1.8
25 to 34 years	3,484	+/-352	11.0%	+/-1.1
35 to 44 years	2,315	+/-282	7.3%	+/-0.9
45 to 54 years	2,034	+/-217	6.4%	+/-0.7
55 to 59 years	1,285	+/-204	4.1%	+/-0.6
60 to 64 years	1,142	+/-177	3.6%	+/-0.6
65 to 74 years	1,765	+/-246	5.6%	+/-0.8
75 to 84 years	903	+/-194	2.9%	+/-0.6
85 years and over	510	+/-130	1.6%	+/-0.4
Median age (years)	22.8	+/-0.3	(X)	(X)
18 years and over	27,754	+/-316	87.7%	+/-1.0
21 years and over	20,356	+/-575	64.3%	+/-1.8
62 years and over	3,756	+/-279	11.9%	+/-0.9
65 years and over	3,178	+/-246	10.0%	+/-0.8
18 years and over	27,754	+/-316	27,754	(X)
Male	12,562	+/-456	45.3%	+/-1.6
Female	15,192	+/-488	54.7%	+/-1.6
65 years and over	3,178	+/-246	3,178	(X)
	1,303	+/-140	41.0%	+/-3.3

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF#

Examples of Using ACS Data (Cont.)

- Census Business Builder (CBB) web address:
<https://www.census.gov/data/data-tools/cbb.html>
- Economic Characteristics of Bowling Green City, Ohio



Examples of Using ACS Data (Cont.)

File Edit View History Bookmarks Tools Help

Census Business Builder: Regional X Census Business Builder: Regional X Census Business Builder: Small Bus X +

https://cbb.census.gov/rae/#industry0=00&geoid=3907972&geoType=place&view=report&reportType=detailed

Most Visited Getting Started Daily Study @ ManyT... Online Pinyin Input M... 「食譜」韓式辣炒豬... 韓式辣炒豬肉怎麼做... 韓式辣炒五花肉 @ 花...

LOCAL BUSINESS PROFILE
All Sectors - Bowling Green city, Ohio

Display MOEs Summary Report Detailed Report Configure Contents Download Data Help

CONTENT

- #1: Contents
- #2: Consumers/Residents
- #3: Business Summary
- #4: Business Comparison
- #5: Consumer Spending
- #6: About Data

Consumer Spending

Includes information on consumer expenditures per household in 2017 from Esri

Name	Value
Total consumer expenditures per household	\$51,023.25
Consumer expenditures per household on Alcoholic beverages	\$433.71
-- Consumer expenditures per household on Alcoholic beverages consumed at home	\$258.81
-- Consumer expenditures per household on Beer consumed away from home	\$82.01
-- Consumer expenditures per household on Wine consumed away from home	\$34.47
Consumer expenditures per household on Apparel & services	\$1,653.32
-- Consumer expenditures per household on Men's Apparel	\$326.59
-- Consumer expenditures per household on Women's Apparel	\$570.06
-- Consumer expenditures per household on Children's Apparel	\$259.59
-- Consumer expenditures per household on Boys' Apparel	\$81.48
-- Consumer expenditures per household on Girls' Apparel	\$87.98
-- Consumer expenditures per household on Footware	\$351.09
Consumer expenditures per household on Dining out (Food away from home)	\$2,626.29
-- Consumer expenditures per household on Dining out - Breakfast	\$293.96
-- Consumer expenditures per household on Dining out - Lunch	\$801.38
-- Consumer expenditures per household on Dining out - Dinner	\$1,194.92
Consumer expenditures per household on Education	\$1,521.05
Consumer expenditures per household on Entertainment / Recreation	\$2,239.19
-- Consumer expenditures per household on Club membership fees	\$142.42
-- Consumer expenditures per household on Dating services	\$0.81
-- Consumer expenditures per household on Pet food	\$169.27

Source: [Esri \(2016\)](#)

About Data

Examples of Using ACS Data (Cont.)

- My Congressional District web address:

<https://www.census.gov/mycd/>

The screenshot shows the 'My Congressional District' tool on the U.S. Census Bureau website. The user has selected 'Ohio' for the state and 'Congressional District 5' for the district. A map of Ohio highlights District 5 in yellow. To the right, a table displays demographic data for District 5, Ohio, based on 2017 American Community Survey 1-Year Estimates. The table includes categories for Sex and Age, with population estimates. Below the table, there are links to download the data and a 'Margin of Error' checkbox. The footer of the tool mentions it is powered by the American Community Survey and County Business Patterns.

United States Census Bureau

TOPICS: Population, Economy | GEOGRAPHY: Maps, Products | LIBRARY: Infographics, Publications | DATA: Tools, Developers | SURVEYS/PROGRAMS: Respond, Survey Data | NEWSROOM: News, Blogs | ABOUT US: Our Research

My Congressional District

1 Ohio

2 Congressional District 5

People Workers Housing Socio-Economic Education Business

Congressional District 5, Ohio
Source: 2017 American Community Survey 1-Year Estimates

Sex and Age	Estimate
Total population	717,547
Male	356,155
Female	361,392
Under 5 years	41,902
5 to 9 years	43,151
10 to 14 years	48,210
15 to 19 years	50,811
20 to 24 years	49,339
25 to 34 years	86,896
35 to 44 years	82,796
45 to 54 years	89,476
55 to 59 years	52,125
60 to 64 years	50,879
65 to 74 years	70,376
75 to 84 years	34,913

Need help finding your Congressional District?
Enter ZIP code GO

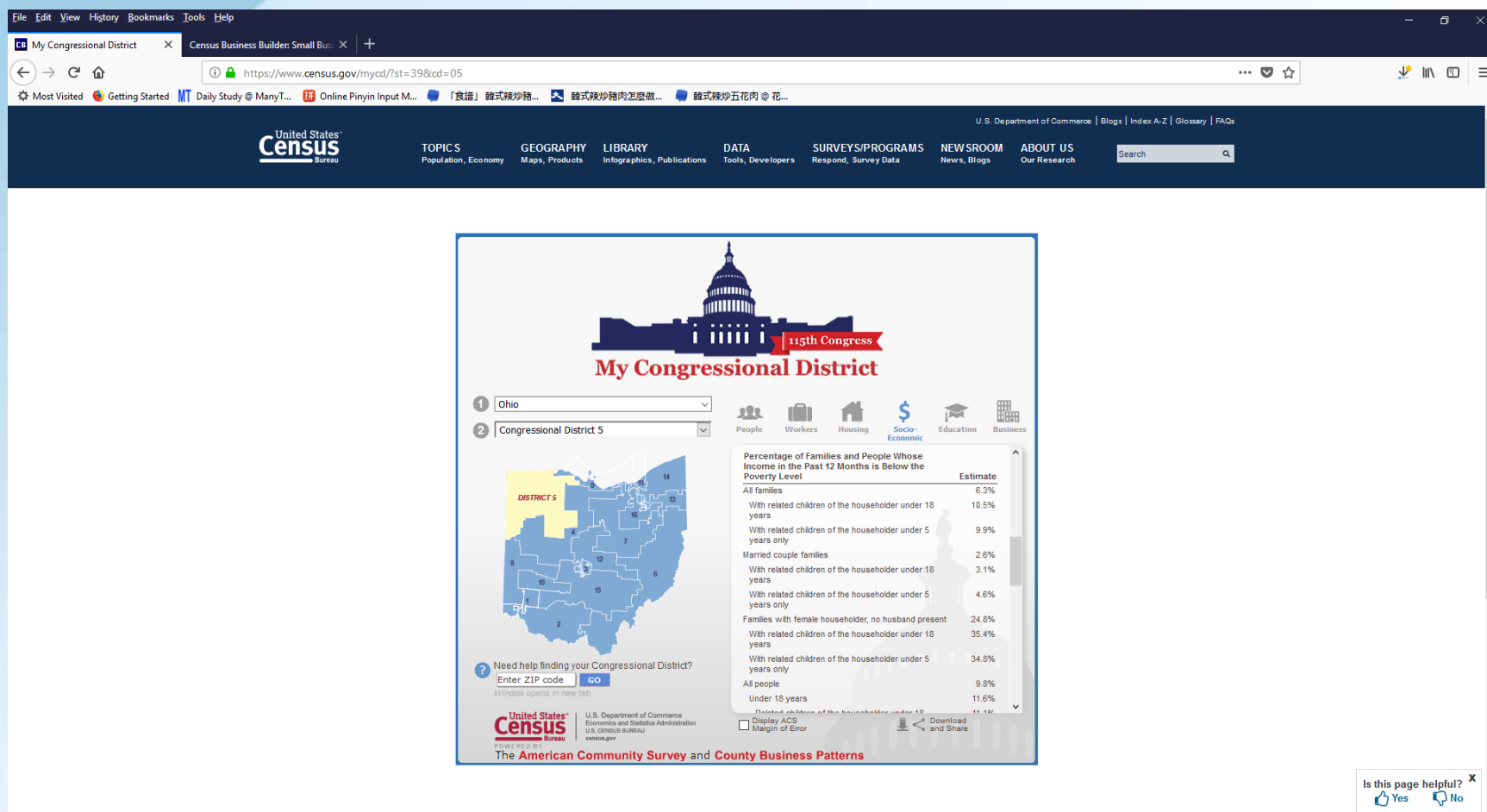
U.S. Department of Commerce
Economics and Statistics Administration
U.S. Census Bureau
census.gov

POWERED BY
The American Community Survey and County Business Patterns

Download and Share
Display ACS Margin of Error

Is this page helpful? Yes No

Examples of Using ACS Data (Cont.)



ACS Public Use Microdata Sample (PUMS) Data

- 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 American FactFinder.
- 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, hours worked.
- 2017 ACS data release schedule: <https://www.census.gov/programs-surveys/acs/news/data-releases/2017/release-schedule.html>

Weighting ACS PUMS Data

- ACS collects data from a sample of people living in the United States and Puerto Rico. Therefore, ACS PUMS 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.

Obtaining ACS PUMS Data

- PUMS data can be downloaded from at least three places:
 - Census Bureau FTP server
(<https://www2.census.gov/programs-surveys/acs/>)
 - Integrated Public Use Microdata Series (IPUMS) at Minnesota Population Center
(<https://usa.ipums.org/usa/index.shtml>)
 - Census Bureau Data Ferrett website
(<https://dataferrett.census.gov/AboutDatasets/ACS.html>)

Obtaining ACS PUMS Data (Cont.)

Using the Census Bureau FTP server

The screenshot shows the Census Bureau website at <https://www2.census.gov/programs-surveys/acs/>. The page displays a directory listing for the American Community Survey (ACS) data. The directory structure includes a 'Parent Directory' and several subdirectories, each with a 'Last modified' date and a 'Size' (mostly 0 or -). The subdirectories listed are: 2006-2008/, about/, contact_us/, data/, geography/, guidance/, lost+found/, main/, methodology/, mytouch, news_updates/, operations_admin/, replicate_estimates/, respond/, summary_file/, tech_docs/, and training/.

The footer of the website contains several sections of links:

- ABOUT US**: Are You in a Survey?, FAQs, Director's Corner, Regional Offices, History, Research, Scientific Integrity, Census Careers, Diversity @ Census, Business Opportunities, Congressional and Intergovernmental, Contact Us.
- FIND DATA**: QuickFacts, American FactFinder, 2010 Census, Economic Census, Interactive Maps, Training & Workshops, Data Tools, Developers, Catalogs, Publications.
- BUSINESS & INDUSTRY**: Help With Your Forms, Economic Indicators, Economic Census, E-Stats, International Trade, Export Codes, NAICS, Governments, Longitudinal Employer-Household Dynamics (LEHD), Survey of Business Owners.
- PEOPLE & HOUSEHOLDS**: 2020 Census, 2010 Census, American Community Survey, Income, Poverty, Population Estimates, Population Projections, Health Insurance, Housing, International, Genealogy.
- SPECIAL TOPICS**: Advisors, Centers and Research Programs, Statistics in Schools, Tribal Resources (AIAN), Emergency Preparedness, Statistical Abstract, Special Census Program, Data Linkage Infrastructure, Fraudulent Activity & Sams, USA.gov.
- NEWSROOM**: News Releases, Release Schedule, Facts for Features, Stats for Stories, Blogs.

Obtaining ACS PUMS Data (Cont.)

The screenshot shows a web browser window with the URL <https://www2.census.gov/programs-surveys/acs/data/pums/>. The page is the U.S. Census Bureau's directory for ACS PUMS data. It features a navigation bar with links to various sections: TOPICS, GEOGRAPHY, LIBRARY, DATA, SURVEYS/PROGRAMS, NEWSROOM, and ABOUT US. Below the navigation bar is a table listing the data directories for each year from 1996 to 2017. The table has three columns: Name, Last modified, and Size. The 'Name' column lists the years, the 'Last modified' column shows the date and time of the last update, and the 'Size' column shows the file size. The table is sorted by 'Last modified' in descending order.

Name	Last modified	Size
Parent Directory	-	-
1996/	06-Aug-2003 13:41	-
1997/	06-Aug-2003 13:42	-
1998/	06-Aug-2003 13:42	-
1999/	06-Aug-2003 13:42	-
2000/	25-Oct-2012 09:15	-
2001/	25-Oct-2012 09:14	-
2002/	25-Oct-2012 09:14	-
2003/	25-Oct-2012 09:14	-
2004/	25-Oct-2012 09:13	-
2005/	25-Oct-2012 09:13	-
2006/	26-Oct-2007 11:19	-
2007/	23-May-2015 11:29	-
2008/	23-May-2015 19:20	-
2009/	23-May-2015 19:51	-
2010/	23-May-2015 20:14	-
2011/	24-May-2015 07:10	-
2012/	24-May-2015 14:36	-
2013/	24-May-2015 14:57	-
2014/	21-Jan-2016 00:01	-
2015/	19-Jan-2017 00:01	-
2016/	18-Jan-2018 00:01	-
2017/	19-Sep-2018 13:32	-

At the bottom of the page, there are several sections with links to various resources:

- ABOUT US**: Are You in a Survey?, FAQs, Director's Corner, Regional Offices, History, Research
- FIND DATA**: QuickFacts, American FactFinder, 2010 Census, Economic Census, Interactive Maps, Economic Data
- BUSINESS & INDUSTRY**: Help With Your Forms, Economic Indicators, Economic Census, E-Stats, International Trade, Export Guides
- PEOPLE & HOUSEHOLDS**: 2020 Census, 2010 Census, American Community Survey, Income, Poverty
- SPECIAL TOPICS**: Advisors, Centers and Research Programs, Statistics in Schools, Tribal Resources (AIAN), Emergency Preparedness, Statistical Abstracts
- NEWSROOM**: News Releases, Release Schedule, Facts for Features, Stats for Stories, Blogs

Obtaining ACS PUMS Data (Cont.)

File Name	Date	Time	Size
csv_por.zip	18-Oct-2017	12:55	7.9M
csv_ppa.zip	18-Oct-2017	12:55	24M
csv_ppr.zip	18-Oct-2017	12:55	5.9M
csv_pri.zip	18-Oct-2017	12:54	2.2M
csv_psc.zip	18-Oct-2017	12:54	9.4M
csv_psd.zip	18-Oct-2017	12:54	1.9M
csv_ptn.zip	18-Oct-2017	12:54	13M
csv_ptx.zip	18-Oct-2017	12:54	50M
csv_pus.zip	18-Oct-2017	12:53	597M
csv_put.zip	18-Oct-2017	12:43	5.7M
csv_pva.zip	18-Oct-2017	12:43	16M
csv_pvt.zip	18-Oct-2017	12:43	1.5M
csv_pwa.zip	18-Oct-2017	12:43	14M
csv_pwi.zip	18-Oct-2017	12:43	11M
csv_pvw.zip	18-Oct-2017	12:42	3.6M
csv_pwy.zip	18-Oct-2017	12:42	1.4M
unix_hak.zip	18-Oct-2017	12:41	841K
unix_hal.zip	18-Oct-2017	12:41	4.3M
unix_har.zip	18-Oct-2017	12:41	2.8M
unix_haz.zip	18-Oct-2017	12:41	5.6M
unix_hca.zip	18-Oct-2017	12:41	26M
unix_hco.zip	18-Oct-2017	12:40	4.5M
unix_hct.zip	18-Oct-2017	12:40	3.0M
unix_hdc.zip	18-Oct-2017	12:40	852K
unix_hde.zip	18-Oct-2017	12:40	1.0M
unix_hfl.zip	18-Oct-2017	12:40	17M
unix_hga.zip	18-Oct-2017	12:40	8.0M
unix_hhi.zip	20-Nov-2017	08:52	1.3M
unix_hia.zip	18-Oct-2017	12:40	2.8M
unix_hid.zip	18-Oct-2017	12:40	1.5M
unix_hil.zip	18-Oct-2017	12:40	10M
unix_hin.zip	18-Oct-2017	12:40	5.5M
unix_hks.zip	18-Oct-2017	12:39	2.6M
unix_hky.zip	18-Oct-2017	12:39	3.9M
unix_hla.zip	18-Oct-2017	12:39	4.0M

Obtaining ACS PUMS Data (Cont.)

Using the IPUMS website:

The screenshot shows the IPUMS USA website in a web browser. The browser's address bar displays <https://usa.ipums.org/usa/>. The website has a dark blue header with the IPUMS USA logo and navigation links: HOME | SELECT DATA | MY DATA | FAQ | HELP. Below the header is a banner image showing various people. The main content area is divided into several sections:

- DATA**: BROWSE AND SELECT DATA, DOWNLOAD OR REVISE EXTRACTS, ANALYZE DATA ONLINE, IPUMS REGISTRATION.
- DOCUMENTATION**: VARIABLES, SAMPLES, USER'S GUIDE, GEOGRAPHIC TOOLS, FAQ.
- RESOURCES**: ENUMERATION FORMS, PUBLISHED CENSUS VOLUMES, ERRATA AND REVISIONS.
- RESEARCH**: CITATION AND USE, BIBLIOGRAPHY, RELATED SITES.
- CONTACT US**: HELP, USER FORUM, IPUMS STAFF.

The central text area reads: "U.S. CENSUS DATA FOR SOCIAL, ECONOMIC, AND HEALTH RESEARCH". It states: "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." Below this is the slogan "USE IT FOR GOOD -- NEVER FOR EVIL".

Two prominent buttons are visible: "Get Data" and "Analyze Data Online".

The "WHAT IS IPUMS?" section explains: "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."

The "IPUMS-USA DATA UPDATES" section lists: "2016 5-YEAR DATA | 1900 100% DATA | 2016 ACS/PRCS DATA | NEW IPUMS FAMILY INTERRELATIONSHIP VARIABLES".

Obtaining ACS PUMS Data (Cont.)

File Edit View History Bookmarks Tools Help

Census Business Builder: Regional / X Census Business Builder: Small Bu... X American Community Survey / X Data via FTP X American Community Survey / X 2016 ACS 1-Year PUMS Data Di... X IPUMS-USA: vars by group: fam... X

https://usa.ipums.org/usa-action/variables/group?id=fam_inter

Most Visited Getting Started Daily Study @ ManyT... Online Pinyin Input M... 「食譜」 韓式辣炒豬... 韓式辣炒豬肉怎麼做... 韓式辣炒五花肉 @ 花...

LOGIN | IPUMS.ORG

IPUMS USA

HOME | SELECT DATA | MY DATA | FAQ | HELP

DATA CART
YOUR DATA EXTRACT
0 VARIABLES
0 SAMPLES

SELECT HARMONIZED VARIABLES

HOUSEHOLD PERSON A-Z SEARCH

SELECT SAMPLES

☒ HARMONIZED VARIABLES [HELP](#)
☐ SOURCE VARIABLES [DISPLAY OPTIONS](#)

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

FAMILY INTERRELATIONSHIP VARIABLES -- PERSON [TOP](#)

Add to cart	Variable	Variable Label	Type	Codes	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1990	1980	1970	1960	1950	1940	1930	Variable	1920	1910	1900	1880	1870	1860	1850
					acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	5pct	5pct	5pct	met2	met1	5pct	1pct	1pct	5pct		1pct	1pct	5pct	10pct	1pct	1pct	1%+
+	FAMUNIT	Family unit membership	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	FAMUNIT	X	X	X	X	X	X	X	
+	FAMSIZE	Number of own family members in household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	FAMSIZE	X	X	X	X	X	X	X	
+	SUBFAM	Subfamily membership	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SUBFAM	X	X	X	X	X	X	X	
+	SFTYPE	Subfamily type	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SFTYPE	X	X	X	X	X	X	X	
+	SFRELATE	Relationship within subfamily	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SFRELATE	X	X	X	X	X	X	X	
+	CBSUBFAM	Subfamily number (original Census Bureau classification)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	CBSUBFAM	X	X	X	X	X	X	X	
+	CBSFTYPE	Subfamily type (original Census Bureau classification)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	CBSFTYPE	X	X	X	X	X	X	X	
+	CBSFRELATE	Subfamily relationship (original Census Bureau classification)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	CBSFRELATE	X	X	X	X	X	X	X	
+	MOMLOC	Mother's location in the household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MOMLOC	X	X	X	X	X	X	X	
+	IMPMOM	Imputed location of mother	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IMPMOM	X	X	X	X	X	X	X	
+	STEPMOM	Probable step/adopted mother	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	STEPMOM	X	X	X	X	X	X	X	
+	MOMRULE	Rule for linking mother (new)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MOMRULE	X	X	X	X	X	X	X	
+	MOMRULE_HIST	Rule for linking mother	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MOMRULE_HIST	X	X	X	X	X	X	X	
+	POPLOC	Father's location in the household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	POPLOC	X	X	X	X	X	X	X	
+	IMPPOP	Imputed location of father	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IMPPOP	X	X	X	X	X	X	X	
+	STEPPOP	Probable step/adopted father	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	STEPPOP	X	X	X	X	X	X	X	
+	POPRLULE	Rule for linking father (new)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	POPRLULE	X	X	X	X	X	X	X	
+	POPRLULE_HIST	Rule for linking father	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	POPRLULE_HIST	X	X	X	X	X	X	X	
+	SPLOC	Spouse's location in household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SPLOC	X	X	X	X	X	X	X	
+	IMPSP	Imputed location of spouse	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IMPSP	X	X	X	X	X	X	X	

Add to cart	Variable	Variable Label	Type	Codes	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1990	1980	1970	1960	1950	1940	1930	Variable	1920	1910	1900	1880	1870	1860	1850
					acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	acs	5pct	5pct	5pct	met2	met1	5pct	1pct	1pct	5pct		1pct	1pct	5pct	10pct	1pct	1pct	1%+
+	SPRULE	Rule for linking spouse or partner (new)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SPRULE	X	X	X	X	X	X	X	
+	SPRULE_HIST	Rule for linking spouse	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SPRULE_HIST	X	X	X	X	X	X	X	
+	MOMLOC2	Second mother's location in the household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MOMLOC2	X	X	X	X	X	X	X	
+	MOM2RULE	Rule for linking second mother (new)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MOM2RULE	X	X	X	X	X	X	X	
+	POPLOC2	Second father's location in the household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	POPLOC2	X	X	X	X	X	X	X	
+	POP2RULE	Rule for linking second father (new)	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	POP2RULE	X	X	X	X	X	X	X	
+	NCHILD	Number of own children in the household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NCHILD	X	X	X	X	X	X	X	
+	NCHLT5	Number of own children under age 5 in household	P	codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	NCHLT5	X	X	X	X	X	X	X	

Obtaining ACS PUMS Data (Cont.)

- Using Data Ferrett website

The screenshot shows a web browser window with the URL <https://dataferrett.census.gov/>. The page features the United States Census Bureau logo and a navigation menu with categories: Topics (Population, Economy), Geography (Maps, Products), Library (Infographics, Publications), Data (Tools, Developers), Surveys/Programs (Respond, Survey Data), Newsroom (News, Blogs), and About Us (Our Research). A search bar is located in the top right corner.

The main content area is titled "TheDataWeb" and includes a sub-header "DataFerrett". A warning message states: "DataFerrett only works with Microsoft Internet Explorer and the ESR version of Mozilla Firefox. DataFerrett does not work with Microsoft Edge or Google Chrome." Below this, a notice mentions increased internet security standards and provides instructions on how to change Java Policy settings. A list of five steps is provided:

1. Update Java to latest version from java.com
2. Go to where java is installed (usually C:/Program Files)
3. Navigate through jre1.8.0_51 > lib > security > policy > unlimited
4. Copy local_policy.jar and US_export_policy.jar from this folder
5. Paste these .jar files into the "limited" folder located under the "policy" folder. (you can save a copy of the existing "limited" .jar files elsewhere if you want to restore them later)

A sidebar on the right contains links for DataFerrett Home, Getting Started, About the Datasets, User Resources, and FAQs, along with a "Launch DataFerrett" button.

The bottom section, titled "What you should check before getting started:", includes two checklist items: "Java Installed: Check your version or Download the latest version" and "Allow Pop-ups". A small cartoon dog icon is visible in the bottom right corner of the main content area.

Obtaining ACS PUMS Data (Cont.)

The screenshot displays the DataFerrett web application interface. The top navigation bar includes links for 'Introduction', 'Step1: Select Dataset & Variable', and 'Step2: DataBasket/Download/Make A Table'. The 'Step1' section is active, showing a 'Select Data Types' sidebar with options like Microdata, Aggregate Data, Longitudinal Data, and Time Series Data. A 'Refresh Dataset List' button is also present. The main area shows a search results table with columns for Topic, Name, Availability, and Variable Label. The table lists various ACS PUMS datasets for the year 2006, such as Population PWGTP, AGE, ANCESTRY, DECADE, etc. A search bar at the top right allows for filtering variables, and a 'Search' button is provided. The bottom of the interface shows a list of datasets under 'Select Dataset(s) to search:'.

Select Data Types:

- ☒ Microdata
- ☒ Aggregate Data
- ☒ Longitudinal Data
- ☒ Time Series Data

Refresh Dataset List

Microdata is data in which every record is at the unit of analysis level and all records must be added up to get the totals for each data item. For example, for surveys of individuals, microdata contain records for each individual interviewed; for surveys of organizations, the microdata contain records for each organization.

Variable ☒ Labels ☐ Names ☐ Topics ☐ Question Text ☐ Values

☒ match ANY word ☐ match ALL words

Select Dataset(s) to search:

- Search All Datasets
- American Community Survey
 - 3-Year Estimates - Public Use Microdata Sample
 - 5-Year Estimates - Public Use Microdata Sample
 - 5-Year Estimates - Puerto Rico Public Use Microdata Sample
 - Public Use Microdata Sample
 - 2016
 - 2015
 - 2014
 - 2013
 - 2012
 - 2011
 - 2010
 - 2009
 - 2008
 - 2007
 - 2006
 - 2005
 - 2004
- Puerto Rico Public Use Microdata Sample
- Summarized Data
- American Housing Survey
- County Business Patterns
- Current Population Survey
- Decennial Census of Population
- Decennial Public Use Microdata
- National Population Projections
- National Survey of Fishing, Hunting, and Wildlife-Occupational Status
- Population Estimates
- Public Libraries Survey
- Survey of Income and Program Dynamics
- Survey of Program Dynamics

127 Variables returned from search. 0 variables selected in DataBasket.

Topic	Name	Availability	Variable Label
Population	PWGTP	2006 - current	PUMS person weight
Population	AGE	2006 - current	Age
Population	ANCESTRY	2006 - current	Ancestry categorization
Population	DECADE	2006 - current	Decade of entry
Population	DRIVE	2006 - current	Number of vehicles calculated from JWRI
Population	HISP	2006 - current	Hispanic recode
Population	INTP	2006 - current	Interest, dividends, and net rental income past 12 months (signed)
Population	JWAP	2006 - current	Time of arrival at work categorization
Population	JWDP	2006 - current	Time of departure for work - hour and minute
Population	JWIMP	2006 - current	Travel time to work
Population	JWRIP	2006 - current	Vehicle occupancy
Population	NATIVITY	2006 - current	Nativity
Population	POP	2006 - current	Nativity of Parent
Population	QIP	2006 - current	All other income past 12 months
Population	PAP	2006 - current	PUMS SSI/AFDC/other welfare income
Population	POPIP	2006 - current	Income-to-poverty ratio recode
Population	SPORDER	2006 - current	Person key after swapping
Population	QTRBIR	2006 - current	Quarter of birth
Population	RACAIAN	2006 - current	Race includes AIAN
Population	RACASN	2006 - current	Race includes Asian
Population	RACBLK	2006 - current	Race includes Black
Population	RACNUM	2006 - current	Number of race groups represented
Population	RACSOR	2006 - current	Race includes Other race
Population	RACWHT	2006 - current	Race includes White
Population	RETP	2006 - current	Retirement income past 12 months
Population	SEMP	2006 - current	Self-employment income past 12 months (signed)
Population	SSIP	2006 - current	Supplementary Security Income past 12 months
Population	SSP	2006 - current	PUMS Social Security or Railroad Retirement Income
Population	WAGP	2006 - current	PUMS Wages/salary income
Population	WAOB	2006 - current	World area of birth
Population	WKHP	2006 - current	Usual hours worked per week past 12 months
Population	CIT	2006 - current	Citizenship status
Population	COW	2006 - current	Class of worker
Population	DORS	2006 - current	Difficulty dressing
Population	DPHY	2006 - current	Physical difficulty
Population	DREM	2006 - current	Difficulty remembering
Population	ENG	2006 - current	English ability
Population	ESP	2006 - current	Employment status of parents
Population	ESR	2006 - current	Employment status recode
Population	GCL	2006 - current	Grandparents living with grandchildren
Population	GCM	2006 - current	Length of time responsible for grandchildren
Population	JWTR	2006 - current	Transportation to work
Population	LANX	2006 - current	Speaks another language at home

Analyzing ACS PUMS Data

- Before analyzing the PUMs data, check out at least three related documents on the website (<https://www.census.gov/programs-surveys/acs/technical-documentation/pums/documentation.html>).
- The ReadMe file
- The Data Dictionary file
- Top coded and bottom coded values

Analyzing ACS PUMS Data (Cont.)

- 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 current 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.
- When analyzing ACS data, you need weight the data.
- 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 5H, Williams Hall.