



How to Find and Use Demographic Information from the U.S. Census Bureau Web Site

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How to Find and Use Demographic Information from the U.S. Census Bureau Web Site

Maud Roucan¹

Department of Agricultural Economics
Purdue University

Many sources of information useful for entrepreneurs, planners, and policy makers are available on the Internet. One very useful information source is the U.S. Census Bureau. The census data is very rich, but navigating through the Web site of the U.S. Census Bureau is sometimes quite challenging.

You can use census data to find information regarding population demographics in order to create customer profiles and understand marketplace trends. This information would also help you develop an effective marketing plan. Grant writers, social researchers, and community planners may also benefit from using census data to analyze community changes.

This publication explains how to extract, download, analyze, and map census demographic data. It provides a practical example, formulas you would be most likely to use, and numerous pop-up windows explaining the procedure.

Census Background

The Census Bureau reports data about the U.S. population and economy. General information about individuals and establishments is collected in order to compile statistics. The Census Bureau conducts many important censuses and surveys. The most

¹ Maud Roucan may be contacted at: Department of Agricultural Economics, 403 W. State Street, West Lafayette, IN 47907-2056, phone:(765)494-3259, fax:(765)494-4333; e-mail: mroucan@purdue.edu

well-known (and the subject of this publication) is the official population census of the United States, called the “decennial census”.

Organized every 10 years, the decennial census collects data from every household in the U.S. and its territories. The most recent data available online are from the 1990 and 2000 censuses online. The following statistical information is collected by the decennial censuses:

- Population characteristics (urban versus rural, number of housing units, etc.),
- Social characteristics (age, citizenship, education, race, language, marital status, sex, etc.),
- Economic characteristics (commuters, income, occupation, employed versus unemployed, poverty level, full-timers versus part-timers, etc.),
- Housing characteristics (type and size of households, owned versus rented housing units, value and year of housing units, etc.).

Four Data Sets

The statistical information is presented in four forms that differ in the breadth and depth of information provided.

- Summary file 1 (or SF1) collects the information derived from seven basic questions (population, race/ethnicity, age, sex, household relationships, housing unit data, and institutionalized populations such as those in dorms, prisons and nursing homes). These seven questions are asked of the entire population.
- Summary file 2 (SF2) contains most of the SF1 data tables cross tabulated by race and ethnic categories. In the 2000 Census, some race and ethnic categories were added which makes some of comparisons with the 1990 Census difficult.² For example, the Asian and the Pacific populations were grouped in one category in 1990: Asian and Pacific Islander. In 2000, the Census created two categories: Asian Alone and Native Hawaiian and Other Pacific Islander Alone.

²Note: for comparisons between the two censuses refer to: <http://www.aecf.org/kidscount/categories.htm>.

- Summary file 3 (SF3) collects detailed data based on 53 questions. These 53 questions are asked of 17% of the population. It is the most used data set because of the large amount of information about small geographical areas.
- Summary file 4 (SF4) contains most of the SF3 data tables cross tabulated by race, ethnic, and ancestry categories. It is the most detailed dataset on race and ethnicity available through the census. However, it is not as geographically detailed as SF3.

The American Community Survey (ACS) is a new census project to provide more timely and accurate data. This project surveys a small sample of housing units in each county each month. (Three million housing units are surveyed annually.) The results are released annually in July of the following year. This annual survey produces data similar to the SF3 form and will replace the census SF3 form in 2010. As for the 1990 and 2000 censuses, comparisons between SF3 and ACS will have to be done cautiously because some of the questions are somewhat different.

The American Community Survey project began in 1996. Since 2003, ACS data has been available for all locations with 250,000 or more persons across the US. In 2006, 2005 data will be available for all places with a population of 65,000 or more. Finally, in 2011, 2010 data will be available by tract³ for all areas.

Useful Vocabulary and Information

Some of the vocabulary used in Census Bureau reports may not always be clear to occasional users. Several terms are used regularly. **MSA** stands for Metropolitan Statistical Area. A **county** is composed of **tracts**, and tracts are composed of **blocks**. Use of tracts is recommended for local level analysis. The poverty line is not adjusted regionally.⁴ The federal definition of **low income**, **very low income**, and **extremely low income** is respectively 80%, 50%, and 30% of the local area median household income.

³ A census tract is a small, relatively permanent statistical subdivisions of a county averaging about 4,000 inhabitants.

⁴ Poverty guidelines for 2004 can be found at: <http://uscis.gov/graphics/howdoi/affsupp.htm#poverty>.

Accessing Data

The following sections provide step by step guidelines to retrieve and use the information available through the Census Bureau. The directions provide a guide for performing specific actions.

How Do I Retrieve Census Data?

A large amount of information is available and organized into the four forms mentioned above. Once you determine which form has the information you need, take the following steps to access the information.

1. Go to the Census Bureau website (www.census.gov), and click on **American FactFinder** on the left. [\[Click here to get a visual of the procedure.\]](#)
 2. Click on **Data Sets** on the left. [\[Click here to get a visual of the procedure.\]](#)
 3. Select the data set/form you want. By default, the Web site goes to the decennial census. If you want the American Community Survey data, select **American Community Survey** on your left. [\[Click here to get a visual of the procedure.\]](#)
 4. On the right is a list of tables that can be selected. Select **Detailed Tables**. If you are working with the American Community Survey; select **Data Profiles** for a summary table for one year. Select **Multi-Year Profiles** for a summary table for several years. Select **Detailed Tables** to have access to the same list of tables as with the decennial census. For the 2001 American Community Survey and the 2000 American Community Survey, detailed tables are your only option. Select **Ranking Tables** for access to tables reporting data for all the geographical types. [\[Click here to get a visual of the procedure.\]](#) Once you select **Ranking Tables**, click on the scroll down menu, select your table and hit **Go**. You can choose a different year by clicking on the left side. Click on **States** if you want data by state. Click on **Counties** if you want the data by County. Click on **Places** to access data by main cities. Skip the following steps. [\[Click here to get a visual of the procedure.\]](#)
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5. You can now select a geography type and hit **Add**. You can repeat this step as many times as you wish to select more than one geography. [\[Click here to get a visual of the procedure.\]](#) If you are using data profiles or multi-year profiles, click on **Show Result**, and skip steps 6, 7 and 8. Once you click on show results, you can obtain social, economic, housing, and other data by clicking on one of the blue underlined sections (labels such as “social,” “economic,” etc.) available on top of the reported results. [\[Click here to get a visual of the procedure.\]](#)
6. Once you have selected your desired geography, click **Next**. [\[Click here to get a visual of the procedure.\]](#)
7. You can now choose your table(s) by choosing a table selection method. By default, the table selection method is **Show all tables**, and by scrolling down you can have access to the entire list of tables. Select a table and hit the **Add** button. [\[Click here to get a visual of the procedure.\]](#) You can also do a keyword search to find the tables you are interested in by clicking on the tab **by keyword**. [\[Click here to get a visual of the procedure.\]](#) Finally, tables can also be organized by subject for an easier search by clicking on the tab **by subject**. [\[Click here to get a visual of the procedure.\]](#)

Note: To select more than one table at a time, keep holding down the Ctrl key on your keyboard, and select the tables.

8. Click **Show Result**.

How Do I Save the Data in the Format I See Onscreen?

You may want to save the information you collected in the default format (see the following paragraph for other formats.) Saving is useful because results are lost if your session is inactive for 20 minutes or more. Furthermore, saving the information gives you the opportunity to access the table in the future without having to repeat the steps presented in “How to Retrieve the Census Data.”

1. Click on **Print/Download**, and select the **Save Query** option.
2. Click **Save**, and save it to the location you desire on your computer. [\[Click here to get a visual of the procedure.\]](#)

3. The only way to view files saved from the census, is to go back to the Census Bureau Web site. To view your file, go the main AFF page (click on the tab **Main** at the top or http://factfinder.census.gov/home/saff/main.html?_lang=en).
4. Click on the **Data Sets** button on the left, and click on **Load Query** at the right top. [\[Click here to get a visual of the procedure.\]](#)

How Do I Save the Data in Other Formats?

The format proposed by the Census Bureau may not be the format you want to use, particularly if you want to import the information into Excel. The following steps help you save the data into one of the several available formats.⁵

1. Click on **Print/Download** (at the top), and select the **Download** option.
2. **Rich Text Format (.rtf)** is recommended if you want to later include the data in a report. The **Comma Delimited (.csv)** is the recommended format to use the data in Excel. [\[Click here to get a visual of the procedure.\]](#)

Note: the easiest way to get the data into Excel is simply to copy and paste the table into Excel. [\[Click here to get a visual of the procedure.\]](#)

How Do I Print the Data?

Printing the data from the Census Bureau Web site is a nice way to record how you retrieved the information. A number at the top of the printed page will indicate the table number as well as which census and which form was used. The location of the information (i.e., url) is at the bottom of the printed page.

The following steps guide you through the printing process.

1. Click on **Print/Download** (at the top), and select the **Print** option, OR go to **File** and select **Print**. [\[Click here to get a visual of the procedure.\]](#)

⁵ Several formats are listed as possible options. **Comma delimited** is a data format in which each column value is separated from the next column value by a comma and in which each row starts a new line. This is a popular format for transferring data from one application to another, because most database systems are able to import and export comma-delimited data. **Tab-delimited** is a common, standard format for database and spreadsheet programs (e.g., MS Excel, FileMaker, etc.). The information is separated by a tab space. **Rich Text Format (RTF)** is a file format that lets you exchange text files between different word processors in different operating systems. The format will stay the same and can be read by different systems. Finally, users not familiar with WinZip are recommended not to use the last two options offered under the section “database compatible.”

2. As always when printing, select the right printer, determine your desired options and preferences, report the number of copies expected, and click **Print**.

How Do I Make a Map?

Some census data can be used to create a map instead of a table. The following steps help you create the map associated with the desired data.

1. Go the main AFF page (click on the tab **Main** at the top or http://factfinder.census.gov/home/saff/main.html?_lang=en&_ts=), and select **Maps and Geography** on the left.
2. Click on **Thematic Maps**.
3. Select **Data Sets with Thematic Maps** (in blue at the top of the page), and choose the date set/form you want. The SF3 form offers more maps and hit **Next**.
4. Then choose the geography. To obtain a map with multiple tracts, select **Place**. Add your geography and hit **Next**.
5. You can select the map(s) by **Subject**, **Keyword** or **Show All Themes** (the tabs on top). Then click on **Show Results**.
6. To modify the map (ranges, boundaries, colors, titles and others), click on one of the links under the section **Change** (on the left of the map).

[\[Click here to get a visual of the procedure.\]](#)

Practical Example

John owns a vineyard and is thinking about starting a winery business in Lafayette, IN. He is planning on targeting populated cities such as Lafayette (Tippecanoe County), Kokomo (Howard County), and Indianapolis (Marion County). His target customers will be householders between the age of 25 and 34 with household income of \$50,000 or more. John decides to calculate how many bottles he can expect to sell with the following steps.

- 1) John goes to www.census.gov, clicks on **American FactFinder** (on the left), and then clicks on **Data Sets** (on the left).
- 2) John then chooses the **Census 2000 Summary File 3**, and clicks on **detailed tables**.

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- 3) For geographic type, John chooses **county**, and then clicks on the state **Indiana**. For the geographic area, John selects **Howard, Marion, and Tippecanoe** counties and hits **next**.
- 4) John selects the tables **P13**, and **P55**, clicks **add**, hits **show results**, and obtains the following results for the year 2000:
 - From table P13, John calculates that there are 91,495 (= 4,430+ 46,120+ 7,078+ 1,486+ 27,972+ 4,409) householders (family or non-family) between the age of 25 and 34.
 - From table P55, John calculates that there are 34,874 (=798+8,527+1,301+856+ 8,827+1,114+721+6,908+937+196+2,318+265+39+933+93+41+567+6+4+383+ 40) householders between the age of 25 and 34 who have a household income of at least \$50,000.
- 5) John decides that there are on average 1.75 adults per household.
- 6) John finishes his analysis by going to the Indiana Wine Grape Council Web site (www.indianawines.org/) and finding out that 9 bottles of wine are consumed per year per adult and that the market share of Indiana wineries is 13%. John assumes that his target customers will also be buying 9 bottle of wine per year, and he hopes to also get a 13% market share.
- 7) Using all the data and assumptions, John concludes that he can expect sales of 71,404.5 bottles (Table 1).

[\[Click here to get a visual of the procedure.\]](#)

Table 1: John's Calculations

Number of Householder 25 to 34 in Tippecanoe, Marion, and Howard Counties	91,495
w/ Household Income \$50k+	34,874
X Adults/Household	1.75
No. Adults in Target	61,029.5 (=34,874*1.75)
X Bottles Wine Consumed/Year/Adult	9
Bottles Wine Consumed in Target	549,265.5 (=61,029.5*9)

X % Indiana Wineries	13%
Effective Demand (bottles)	71,404.5 (=549,265.5*0.13)

Common Formulas

If you’ve gathered numeric data, you may wish to do some analysis to better understand its meaning or explain to others the significance of what you’ve found. The following sections present several commonly used mathematical formulas that help transform raw data reported by the Census Bureau into compelling information.

1) Percentage

Formula: (Small Number ÷ Large Number)

Example: Percentage of US urban population in 2000

	A⁶	B	Source	Excel Formula
1	US total population in 2000	281,421,906	Census 2000 Summary File 3 (SF 3) - Table P5. URBAN AND RURAL	
2	US urban population in 2000	222,358,309	Census 2000 Summary File 3 (SF 3) - Table P5. URBAN AND RURAL	
3	Percentage of US urban population in 2000	79%	=222,358,309÷281,421,906=0.79	=B2/B1 ⁷

Consequently, we can state that 79% of the US population was urban in 2000.

[\[Click here to get a visual of the procedure.\]](#)

2) Percentage Point Increase/Decrease

Formula: (New Year – Old Year)

⁶ For the following tables, the bold letters on top of the tables, and the bold numbers on the left side of the tables refer to excel features. The columns “Excel formula” refer to formulas you can enter in excel for excel to calculate the results.

⁷ If using excel to calculate formula, “=B2/B1” is the excel formula to type in the cell B3. Note: do not type the quotation marks.

Example: Percentage point change of the Chicago city, IL population (25 years or over) having a bachelor's degree from 2000 to 2003

	A	B	<i>Source</i>	<i>Excel Formula</i>
1	Percentage of the population (25 years or over) having a bachelor's degree in 2000	15.83%	<i>2003 American Community Survey, Multi-Year Profiles, Social</i>	
2	Percentage of the population (25 years or over) having a bachelor's degree in 2003	16.79%	<i>2003 American Community Survey, Multi-Year Profiles, Social</i>	
3	Percentage point change	0.96%	<i>=16.79%-15.83%</i>	<i>=B2-B1</i>

Thus, we can state that there was a 0.96 percentage point increase of the Chicago population (25 years or over) having a bachelor's degree from 2000 to 2003.

[\[Click here to get a visual of the procedure.\]](#)

3) Rate of Change

a. Gross Rate of Change

Formula: $(\text{New Year} - \text{Old Year}) \div \text{Old Year}$

Example: Rate of change of the male population in Indiana from 1990 to 2000

	A	B	<i>Source</i>	<i>Excel Formula</i>
1	Male population in Indiana in 1990	2,688,281	<i>1990 Summary Tape File 1 (STF 1) - Table P5. SEX</i>	
2	Male population in Indiana in 2000	2,982,474	<i>Census 2000 Summary File 1 (SF 1) - Table P12. SEX BY AGE.</i>	
3	Gross Rate of Change	11%	<i>=(2,982,474-2,688,281) ÷ 2,688,281=0.11</i>	<i>=(B2-B1)/B1</i>

Consequently, we can state that there has been a 11% increase of the male population in Indiana from 1990 to 2000.

[\[Click here to get a visual of the procedure.\]](#)

b. Net Rate of Change

Formula: $(\text{New Year Percentage} - \text{Old Year Percentage}) \div \text{Old Year}$

Percentage * 100

Example: Rate of change of the male population in Indiana from 1990 to 2000

	A	B	Source	Excel Formula
1	Male population in Indiana in 1990	2,688,281	1990 Summary Tape File 1 (STF 1) - Table P5. SEX	
2	Female population in Indiana in 1990	2,855,878	1990 Summary Tape File 1 (STF 1) - Table P5. SEX	
3	Percentage of the male population in Indiana in 1990	48.49%	$=2,688,281 \div (2,688,281 + 2,855,878) = 0.4849$	$=B1/(B1+B2)$
4	Male population in Indiana in 2000	2,982,474	Census 2000 Summary File 1 (SF 1) - Table P12. SEX BY AGE.	
5	Total population in Indiana in 2000	6,080,485	Census 2000 Summary File 1 (SF 1) - Table P12. SEX BY AGE.	
6	Percentage of the male population in Indiana in 2000	49.05%	$=2,982,474 \div 6,080,485 = 0.4905$	$=B4/B5$
7	Net Rate of Change	1.16%	$=(49.05 - 48.49) \div 48.49 = 0.0116$	$=(B6 - B3)/B3$

Consequently, we can state that there is a 1.16% increase in the proportion of the male population.

[\[Click here to get a visual of the procedure.\]](#)

Note: dollar related variables cannot be compared because of inflation.

4) Ratio Formula

Formula: Big Number ÷ Small Number

Example: Number of workers who carpool to go to work in Indianapolis city, IN

	A	B	<i>Source</i>	<i>Excel Formula</i>
1	Number of workers 16 years and over in Indianapolis City, IN	368,518	2003 American Community Survey, Data Profiles, Economic	
2	Number of workers who carpool to go to work in Indianapolis City, IN	33,925	2003 American Community Survey, Data Profiles, Economic	
3	Proportion of workers who carpool in Indianapolis City, IN	10.9	$=368,518 \div 33,925 = 10.9$	$=B1/B2$

We can't report .9 of a worker, so we round 10.9 to 11. Thus, we can state that in Indianapolis city, 1 out of 11 workers carpools to work.

[\[Click here to get a visual of the procedure.\]](#)

5) Income Range Break Formula

Income data in the census are reported by range. Therefore, the following steps may be useful when working with income data.

Example: Determine the number of households earning 80% or less of the median income (i.e., low income, very low income, and extremely low income households) in 1999.

	A	B	<i>Source</i>	<i>Excel Formula</i>
1	a. Determine 80% of the median household income in Indiana in 1999			
2	Median household income in 1999 in Indiana	\$ 41,567	Census 2000 Summary File 3 (SF 3) - Table P53. MEDIAN HOUSEHOLD INCOME IN 1999	
3	80% of median household income in 1999 in Indiana = "break point number"	\$ 33,253.60	$=41,567 * 0.80$	$=B2 * 0.8$

4	b. Find the range, the break point number belongs to			
5	\$33,253.60 belongs to range	\$30,000-\$34,999	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
6	Beginning range number:	\$ 30,000.00	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
7	Ending range number	\$ 34,999.00	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
8	c. Subtract the beginning range number from the ending range number			
9	Substraction result	\$ 4,999	=\$34,999-\$30,000	=B7-B6
10	Number of households belonging to the range 30,000-34,999	158,149	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
11	d. Subtract the beginning range number from the break point number			
12	New income range	\$ 3,253.60	=33,253.60-30,000	=B3-B6
13	e. Divide the result from d. by the result from c.			
14	Apportionment of the new income range (\$30,000-\$33,253.60) vs the original income range (\$30,000-\$34,999)	65%	$3,253.6/4,999=0.65$	=B12/B9
15	f. Multiply the number of households in the original range by the apportionment			
16	Number of households in the new range (\$30,000-\$33,253.60)	102,931	=158,149*65%	=B10*B14
17	g. Add the apportioned households (96,209) plus all the households that earned even less than the break point			
18	Number of households with an household income less than \$10,000	188,408	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
19	Number of households with an household income in the range \$10,000-\$14,999	145,493	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
20	Number of households with an household income in the range \$15,000-\$19,999	152,634	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
21	Number of households with an household income in the range \$20,000-\$24,999	162,259	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	

22	Number of households with an household income in the range \$25,000-\$29,999	161,613	Census 2000 Summary File 3 (SF 3) - Table P52. HOUSEHOLD INCOME IN 1999	
23	Number of households in the new range (\$30,000-\$33,253.60)	102,931	result for e.	=B16
24	Number of households earning 80% or less of the median income	913,338	=188,408+145,493+152,634+162,259+161,613+102,931	=SUM(B18:B23)

Thus, we can state that 913,338 households have an income of 80% or less the median income.

[\[Click here to get a visual of the procedure.\]](#)

[\[Click here to print a summary of the section “Common Formulas”.\]](#)

Final Thought

Although using the U.S. Census Bureau Web site may seem difficult at first, by following these procedures a few times, you will be surprised at how easier it gets. Good luck!

Other Useful Sources:

- STATS Indiana (<http://www.stats.indiana.edu/profiles/pr18000.html>) includes a nice compilation of census data for Indiana counties.
- Censtats (<http://censtats.census.gov/>) is a collection of statistical resources offered by the U.S. Census Bureau.
- Reports of the Census 2000 (<http://www.census.gov/prod/cen2000/>) provide profiles of general demographic characteristics already written up in reports - United States and all states by county and city.
- FedStats (<http://www.fedstats.gov/>) has links to federal statistics.
- Bureau of Labor Statistics (<http://www.bls.gov/>) provides labor economics and statistics data.
- Longitudinal Employer-Household Dynamics (LEHD) (<http://lehd.dsd.census.gov/led/index.html>) is a program within the U.S. Census Bureau. It combines federal and state administrative data on employers and employees with core Census Bureau censuses and surveys.

- Bureau of Economic Analysis (<http://www.bea.doc.gov/>) provides information concerning income and gross product.