The American Factfinder: A Brief Demonstration

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Abstract

This tutorial will demonstrate how to use the American Factfinder to access and download US Census data, with a specific approach for using the Advanced Search menu. Given the size and complexity of this resource, we'll use the filtering options in the Factfinder to limit our choices based on dataset and geography. We'll use two examples: getting a profile for a specific census tract from the American Community Survey (ACS), and downloading housing data for all ZCTAs (ZIP codes) in a particular county from the 2010 Census. These examples illustrate the differences between: the ACS and the decennial census, profiles and detailed tables, and choosing specific geographies versus groups. Following the examples are brief explanations of the datasets.

1 Methods for Searching the ACS

The American Factfinder (at `http://factfinder.census.gov`) is the Census Bureau's portal for accessing their datasets. You have three options for obtaining data, that range from novice to advanced:

1. If you want basic data for a state, county, city, town, or ZIP Code, you can type the name in the Community Facts search box and hit go. You will be able to view and download profiles (lots of different census variables for one place) from several census datasets.
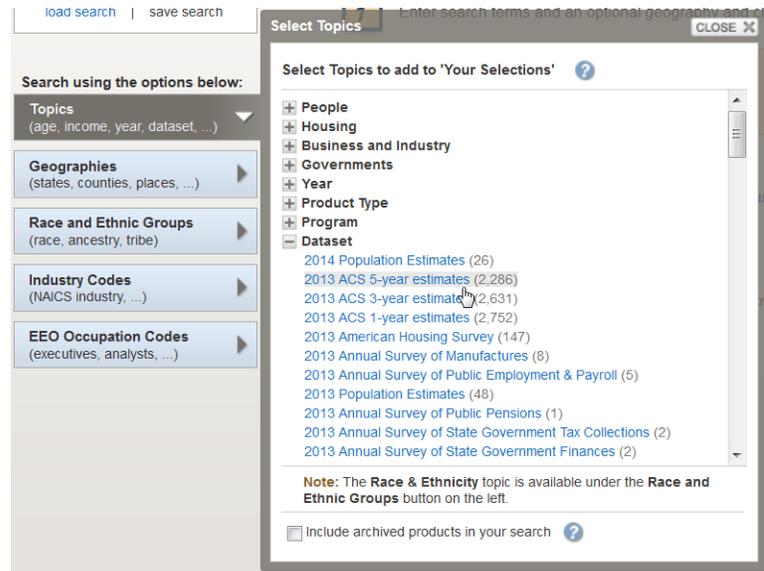
2. If you need more detailed data, or need comparison tables that contain data for many places (i.e. a table with housing data for all census tracts in a county), you can use the Guided Search option to help you make your selections. It includes all the geographies in the Community Facts, plus a few others (congressional districts, metropolitan areas, and census tracts).

3. If you need access to the full range of Census datasets and variables for all types of geographies (including census regions and divisions, PUMAs, legislative districts, block groups), or you want to download several tables at once, you need to use the Advanced Search.

Using the Community Facts is pretty straightforward, and the Guided Search is designed to help you make choices by providing you with basic options and a simple path to follow. The following two sections will focus on using the Advanced Search, since it has the steeper learning curve (but you can apply the same principles if you choose the Guided Search: choosing a dataset and then filtering by topic and geography). The final section discusses the different datasets.

2 Advanced Search: Downloading a Profile from the ACS

In this section we'll download a demographic profile for census tract 68 in New York City (where Baruch College is located) that will give us a broad overview of the population for that area. We'll look at 5-year estimate data from the 2009-2013 American Community Survey (ACS).
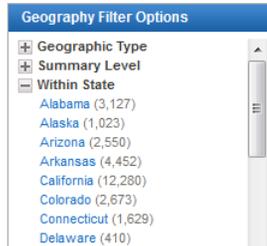
1. Go to the American Factfinder at `http://factfinder.census.gov`.

2. Select the Advanced Search option.

3. In the Options menu on the left select Topics. Expand the drop down menu for Dataset at the bottom of the list (expand it by hitting the plus symbol). Select 2013 ACS 5-Year Estimates to add it to Your Selections. Close the menu.
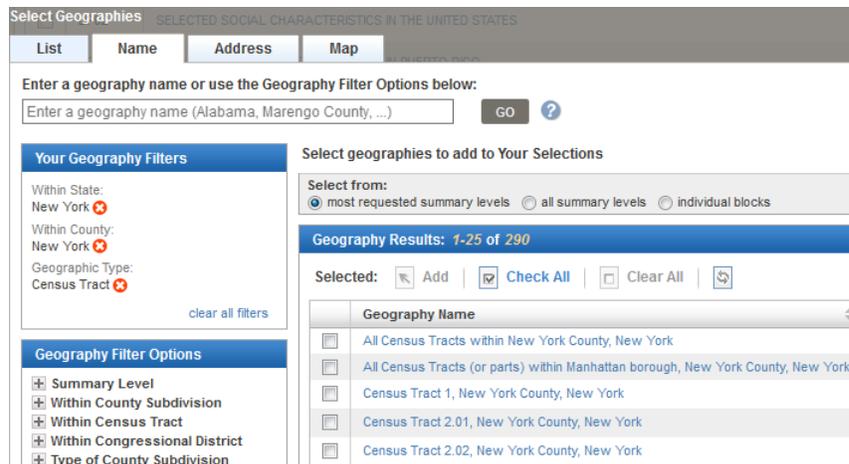

4. In the Options menu on the left select Geographies. In the Select Geographies menu click the Name tab.

5. In the Geography Filter Options menu on the left, collapse the Geographic Type Menu (by clicking the minus symbol) to hide it. Once you do that, other filter options become visible. Expand the Within State menu (by hitting the plus symbol). Scroll through the list and click New York to add it to your selection.
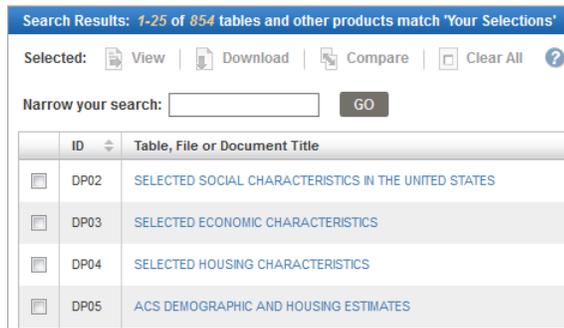

6. Your Geography Filter Options menu has expanded with additional options. Find the drop down option that says Within County and expand it. Scroll through the list and select New York County (this is Manhattan). As you are doing this, note that the Geography Results menu on the right is changing to match your filters.

7. In Your Geography Filter Options menu under Geographic Type, select Census Tracts. You've now filtered your geographic selections to list all census tracts within New York County, New York State.

8. We're looking for census tract 68. Use the page numbers on the upper or lower right hand side to page through the results, which are sorted numerically by tract. Page through until you find census tract 68, then click on it to select it (don't mark the check box - the check boxes are for selecting multiple geographies and adding them simultaneously). This adds it to Your Selections menu on the far left. Once you do that, Close the Select Geographies window.
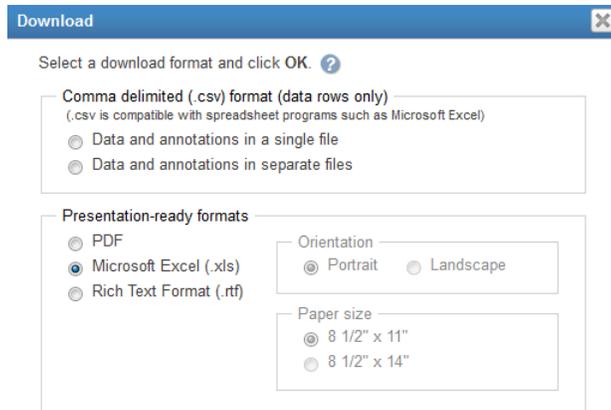
9. All of the tables that appear in the Search Results window now pertain to that specific census tract. Tables that begin with "S" are summary tables for certain characteristics, and tables that begin with "B" or "C" are full, detailed tables. Click on the arrows below the results to get to the last tables in the list. Tables that begin with "DP" are the summary, demographic profile tables.

10. Click on table DP02 Selected Social Characteristics, to open it. You'll see the summary characteristics, with margins of error and percentages for each value. All estimates in the ACS are based on a 90% confidence interval. In this example, we would say that we're 90% confident that there were 3,946 households in census tract 68 between 2009 and 2013, plus or minus 285.

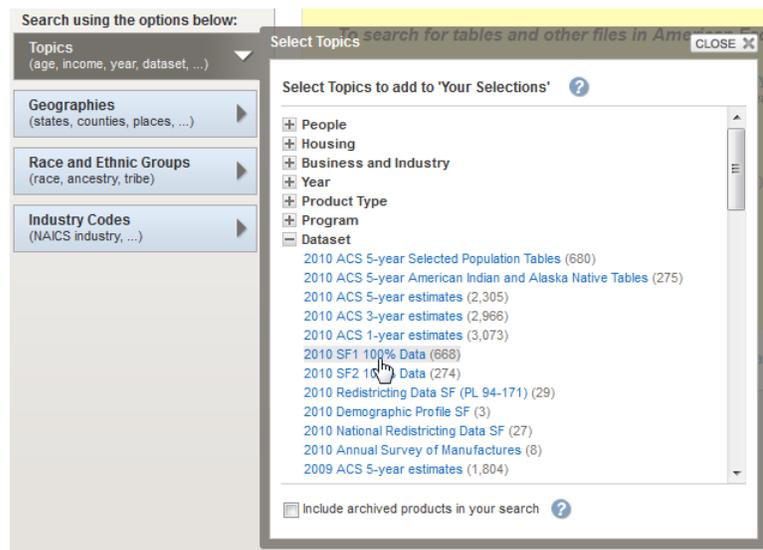| Subject	Census Tract 68, New York County, New York			
	Estimate	Margin of Error	Percent	Percent Margin of Error
HOUSEHOLDS BY TYPE				
Total households	3,946	+/-285	3,946	(X)
Family households (families)	604	+/-179	15.3%	+/-4.2
With own children under 18 years	184	+/-89	4.7%	+/-2.2
Married-couple family	493	+/-143	12.5%	+/-3.5
With own children under 18 years	164	+/-86	4.2%	+/-2.1
Male householder, no wife present, family	0	+/-17	0.0%	+/-0.8
With own children under 18 years	0	+/-17	0.0%	+/-0.8
Female householder, no husband present, family	111	+/-92	2.8%	+/-2.3
With own children under 18 years	20	+/-31	0.5%	+/-0.8

11. Click the download button to save the table. Choose one of the Presentation-ready formats to preserve the way the table looks on the screen; values will be saved in rows and geography in columns.
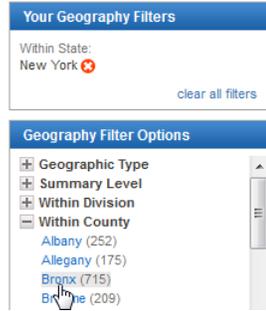
3 Advanced Search: Downloading a Detailed Table from the 2010 Census

In this section we'll download 2010 Census data for housing occupancy for all of the ZIP Codes / ZCTAs in the Bronx.
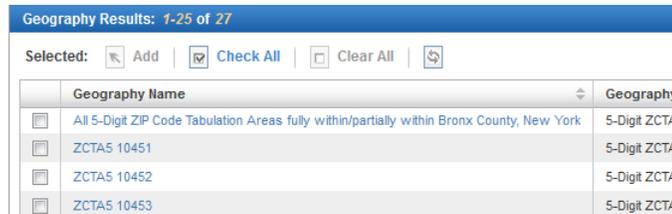
1. If you just followed the previous example, in Your Selections menu click the option to clear all the selections. If you're starting fresh, go to `http://factfinder.census.gov` and then click on Advanced Search.

2. In the Options menu on the left select Topics. Expand the drop down menu for Dataset at the bottom of the list (expand it by hitting the plus symbol). Select 2010 SF1 100% to add it to Your Selections. Close the menu.
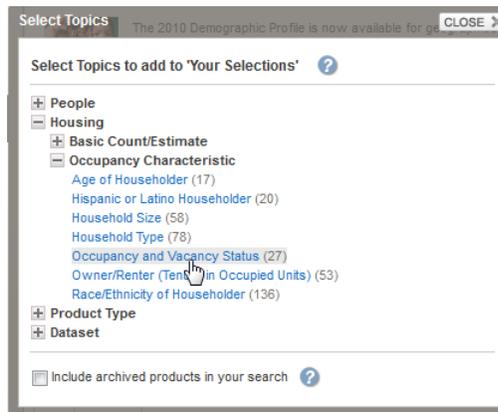

3. In the Options menu on the left select Geographies. In the Select Geographies menu click the Name tab.

4. In the Geography Filter Options menu on the left, collapse the Geographic Type Menu (by clicking the minus symbol) to hide it. Once you do that, other filter options become visible. Expand the Within State menu (by hitting the plus symbol). Scroll through the list and click New York to add it to your selection.

5. Your Geography Filter Options menu has expanded with additional options. Find the dropdown option that says Within County and expand it. Scroll through the list and select Bronx County.

6. In Your Geography Filter Options menu under Geographic Type, select ZIP Code/ZCTA. You've now filtered your geographic selections to list all the ZIPs in the Bronx. In the Selection Menu on the right, click on the first item in the list for all 5 digit ZIPs fully or partially located in the Bronx to add them to Your Selection menu on the far left (don't mark the check box - the check boxes are for selecting multiple geographies and adding them simultaneously). Close the Geography window.

7. All of the tables that appear in the Search Results window now pertain to all ZIPs in the Bronx. Tables that begin with "QT" are quick summary tables, tables that begin with "H" are detailed tables for housing, and tables that begin with "P" are for population. Instead of scrolling through all the tables to find what we want, we'll filter them. In the Options menu on the left, select Topics. Expand the menu for Housing, and then expand the submenu for Occupancy Characteristic. Click the option for Occupancy and Vacancy Status. Close the Topics menu.

8. The filters have narrowed down our table choices. Click on the table labeled Occupancy Status to open it - if you don't see it on the first page, use the arrows at the bottom to scroll to the next page.

9. This basic table shows us the counts for occupied and vacant housing units. The web display only shows us part of the table since there are so many geographies; we'd have to scroll over to see more. Click the download button to save the table. Keep the default setting - comma delimited (.csv) format (data rows only). This will save our data so that geographies will be saved as rows and variables as columns to make the numbers easier to work with in a spreadsheet (this is the opposite of the presentation format). The option to keep data and annotations in a single file will embed any footnotes for the data in the table; if you want to keep the footnotes separate, choose the option for separate files.

4 The Datasets

4.1 Decennial Census

The decennial census is a 100% count of the population taken every ten years. The data represents a snapshot of the nation at a fixed point in time. The number of variables is limited to basic demographic characteristics of the population: race, gender, age, households, family relations, housing units, housing occupancy, and tenure (owner versus renter occupied). Decennial census data is available for practically all geographic areas. The most commonly used series in the dataset is Summary File 1 (SF1).

    http://www.census.gov/2010census/

4.2 American Community Survey (ACS)

The ACS is a sample survey of the population that's compiled every year. Since it's a survey (based on rolling monthly samples) and not a count, the values represent estimates with a 90% confidence interval and margins of error for 1-year, 3-year, and 5-year periods. The number of variables is more extensive than the decennial census; in addition to basic demographic characteristics the ACS also includes socio-economic data like citizenship, educational attainment, income, occupation, home value, and much more. Geographically the data is more limited; geographic areas with 65k residents or more are published annually, areas with 20k residents or more are published as 3-year averages, and areas with less than 20k residents down to census tracts are published as 5-year averages.

    http://www.census.gov/acs/www/

4.3 Population Estimates

Although not shown in this tutorial, Population Estimates are a third Census dataset for population and housing available through the American Factfinder. Annual estimates are calculated using the last decennial census as a baseline and factoring in births, deaths, and migration at the county level from year to year. Once a new decennial

census is conducted the estimates for the preceding ten years are revised. Variables are limited to age, gender, race, and housing units and are only published for states, counties, metropolitan areas, and incorporated places. Since the dataset is small it can also be downloaded directly from the Estimate Program's home page in spreadsheet format.

```
http://www.census.gov/popest/estimates.html
```

4.4 Business Patterns

The Business Patterns dataset is an accessible source for basic counts of US businesses, which the Census Bureau compiles annually from a government register. The total number of known business establishments with paid employees is classified by type of business, with summary data on number of employees and payroll. An establishment is defined as a single physical location at which business is conducted or services or industrial operations are performed. The data is published for states, metropolitan areas, counties, and ZIP codes, and can be downloaded via the American Factfinder or directly from the Business Patterns website.

```
http://www.census.gov/econ/cbp/
```

4.5 Some Geography in Brief

Census Tract : a statistical area designed to have an optimal size of 4,000 residents, with a general range of 1,200 to 8,000. Tracts never cross county boundaries. Available in the decennial census and ACS 5-year estimates.

County : the legal and administrative subdivisions of states; there are over 3,000 counties in the US. Available in the decennial census and partially in the ACS based on population thresholds.

Metropolitan Area : a concentrated, urban population center surrounded by adjacent areas that have a high degree of social and economic interaction with that center, created by aggregating counties. Available in the decennial census and the ACS.

Place : a concentrated settlement of population. Places include legally incorporated municipalities and statistical areas defined by the Census Bureau. Available in the decennial census and partially in the ACS based on population thresholds.

PUMA : Public Use Microdata Area - a statistical area designed to have an optimal size of 100k residents, created by aggregating census tracts. PUMAs never cross state boundaries. Available in all the ACS estimates.

ZCTA : ZIP Code Tabulation Area - the Census Bureau's approximation of residential USPS ZIP Codes, created by aggregating census blocks. ZCTAs may cross any boundary, including state boundaries, and do not precisely represent USPS delivery areas. Available in the decennial census and ACS 5-year estimates beginning with the 2007-2011 series.

4.6 For More Info

Visit these research guides:

- US Census Data: `http://guides.newman.baruch.cuny.edu/us_census`

- New York City Data: `http://guides.newman.baruch.cuny.edu/nyc_data`