

GEOG 245: Geodemographics

Population Data: Vital Statistics
and the US Census

6 October 2016



Plan for Today

- Population Data
 - Introduction to Assignment 1
- Where does it come from?
- The US Census
 - Reading (listening) discussion
 - History of the Census

Population Data

Geodemographics would not be possible without reliable public data about populations

Geodemographics (and demography as a whole) tends to be very data driven.

But...

Data doesn't always give us a complete picture.

What sort of information about a population is missing in surveys such as the US census?

But...

Data doesn't always give us a complete picture.

What sort of information about a population is missing in surveys such as the US census?

Generally, ignores the “why” question (why people move, have children, etc.)

Ultimately comes down to what type of data are you using.

What to consider:

- Content of data
- Quality of data
- Timeliness of data
- Coverage of data
- Availability of data

Content: what variables are included

Quality: how representative is it of the population as a whole

Timeliness: when does it cover?

Coverage: where does it cover?

Availability: can I access it?

First some vocabulary...

Population:

First some vocabulary...

Population: a specific group of people

- Often within a particular geographic unit(university, state, country, world, etc.)
- Sometimes within a particular demographic unit (race, age cohort, etc.)
- Always at a particular point in time

Remember that population includes everyone within the group!

First some vocabulary...

Sample:

First some vocabulary...

Sample: a subset of a population

- Often used when working with large populations
- Often representative of the population as a whole
 - Though sometimes we intentionally use nonrepresentative samples
- Can use a representative sample to make predictions about the population as a whole

Data sources will be either population data (everyone in the population was asked—for example, the decennial census) or more commonly sample data (a representative group of the population was asked—for example, the American Community Survey)

Types of Data

- Primary Data
- Secondary Data

Primary data is data that is collected by the researcher for a particular project
Secondary data is data that already exists and is simply being repurposed for a particular project.

Examples of each?

Pros and cons of each?

Primary: time consuming/expensive to get, but you get exactly what you want and timely

Secondary: often cheap (or free), data is often already cleaned up and/or verified, but you likely have to make compromises about what exactly the data is, how it was collected (sampling scheme) and it may be out of date

What type of data is this?

The US Census

United States CENSUS 2010

This is the official form for all the people at this address. It is quick and easy, and your answers are protected by law.

U.S. DEPARTMENT OF COMMERCE
Commerce and Justice Association
U.S. Census Bureau

Start here

The Census must count every person living in the United States on April 1, 2010.

Before you begin, read Question 1, count the people living in this house, apartment, or mobile home using our guidelines.

- Count all people, including babies, who live and sleep here most of the time.
- The Census Bureau also conducts counts in institutions and other places, etc.
- Do not count anyone living away either at college or in the Armed Forces.
- Do not count anyone in a nursing home, jail, prison, detention facility, etc., on April 1, 2010.
- List each person in the household even if they will return to live here after they leave college, the nursing home, the military, jail, etc. Otherwise, they will be counted twice.

The Census must also include people without a permanent place to stay, so:

- If a person who has no permanent place to stay is staying here on April 1, 2010, count that person. Otherwise, he or she may be missed in the census.
- How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?

Number of people =

1. How many people were living or staying in this house, apartment, or mobile home on April 1, 2010?

2. Were there any additional people staying here April 1, 2010 that you did not include in Question 1? Mark X all that apply.

- A person staying here whose children are not related to the household.
- Relatives, such as adult children, spouses, or in-laws.
- Nonrelatives, such as roommates or live-in baby sitters.
- People staying here temporarily.
- No additional people.

3. Is this a house, apartment, or mobile home —
Mark X ONE

- Owned by you or someone in this household with a mortgage or loan? Include home equity loans.
- Owned by you or someone in this household free and clear (without a mortgage or loan)?
- Rented?
- Occupied without payment of rent?

4. What is your telephone number? We may call if we need more information or a reminder.
Area Code + Number:
 - -

OMB No. 0607-0919-C Approval Expires 12/31/2011.

Form D-45a-mc

5. Please provide information for each person living here. Start with a person living here who owns or rents this house, apartment, or mobile home. If the owner or renter lives somewhere else, start with any adult living here. This will be Person 1.

What is Person 1's name? Print name below.

Last Name
First Name Middle Name MI Male Female

6. What is Person 1's sex? Mark X ONE box.

7. What is Person 1's age and what is Person 1's date of birth? Please report babies as age 0 when the child is less than 1 year old. Print countries in boxes.

Age on April 1, 2010 Month Day Year of birth

→ NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?
Mark X all that apply.

- No, not of Hispanic, Latino, or Spanish origin
- Yes, Mexican Am., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, another Hispanic, Latino, or Spanish origin — *Per example, Argentine, Colombian, Mexican, Cuban, Spanish, and so on.*

9. What is Person 1's race? Mark X one or more boxes.

- White
- Black, African Am., or Negro
- American Indian or Alaska Native — Print name of tribe or group
- Asian Indian Japanese Native Hawaiian
- Chinese Korean Guamanian or Chamorro
- Filipino Vietnamese Samoan
- Other Asian — Print race, for example, Cambodian, Indonesian, and so on
- Other Pacific Islander — Print race, for example, Hula, Tongan, and so on
- Some other race — Print race

10. Does Person 1 sometimes live or stay somewhere else?
Mark X all that apply.

- No
- Yes — Mark X all that apply
 - In college housing
 - For child custody
 - In the military
 - In jail or prison
 - At another place or second residence
 - In a nursing home
 - In another reason

→ If more people were counted in Question 1, continue with Person 2.

U.S. CENSUS BUREAU

Trick question: it depends on who you are...

Types of Data

- Primary Data
- Secondary Data

Note: Whether something is primary or secondary data depends on what it is being used for.

- Ex. The census is primary data for the purposes of the government knowing who its population is, but is often a secondary data source for other research projects.

Primary data is data that is collected by the researcher for a particular project
Secondary data is data that already exists and is simply being repurposed for a particular project

Examples of each?
Pros and cons of each?

What type of data is this?

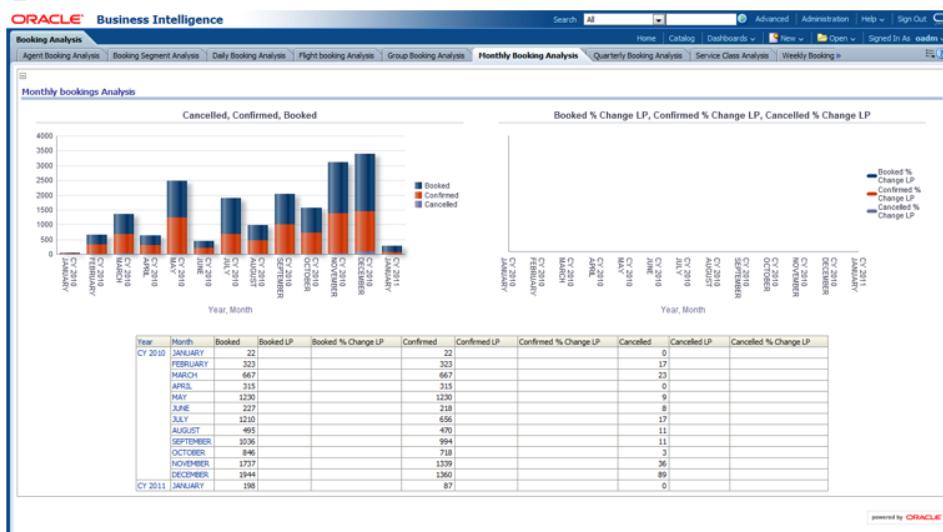
Giving a survey to people
on the sidewalk



Primary data

What type of data is this?

Getting data
from a
corporation



Secondary data

What type of data is this?

Using a hand held GPS
to record the location of
various points of data



Primary data

Key sources of secondary information

- US Census Bureau
- Bureau of Labor Statistics
- Internal Revenue Service
- Statistics Canada
- World Health Organization

Other types of data

- Quantitative data
- Qualitative data

Quantitative: numerical

Quantitative: non-numerical (including case studies, open-ended interviews, focus groups, participant observation, etc.)

Each type of data will help you answer different types of questions

Typically, quantitative data will be better used to assess what is happening, where, who is doing it, how many people, etc. (ex. Who is moving, where, etc.)

Typically, qualitative data is better used to establish why and how such processes take place. (ex. Why are people moving)

In this class...

- Quantitative data
- Secondary

We will primarily be using quantitative secondary data, that is numerical data collected by other people.

Assignment 1

- Two parts:
 - FiveThirtyEight.com
 - Uses secondary quantitative data to produce analyses of what is going on/predictions of what is going to happen
 - Factfinder.Census.gov
 - US Census Bureau tool for retrieving data
- Ultimately, you have to put the analysis (from FiveThirtyEight) and the data (from the Census) together to make a prediction

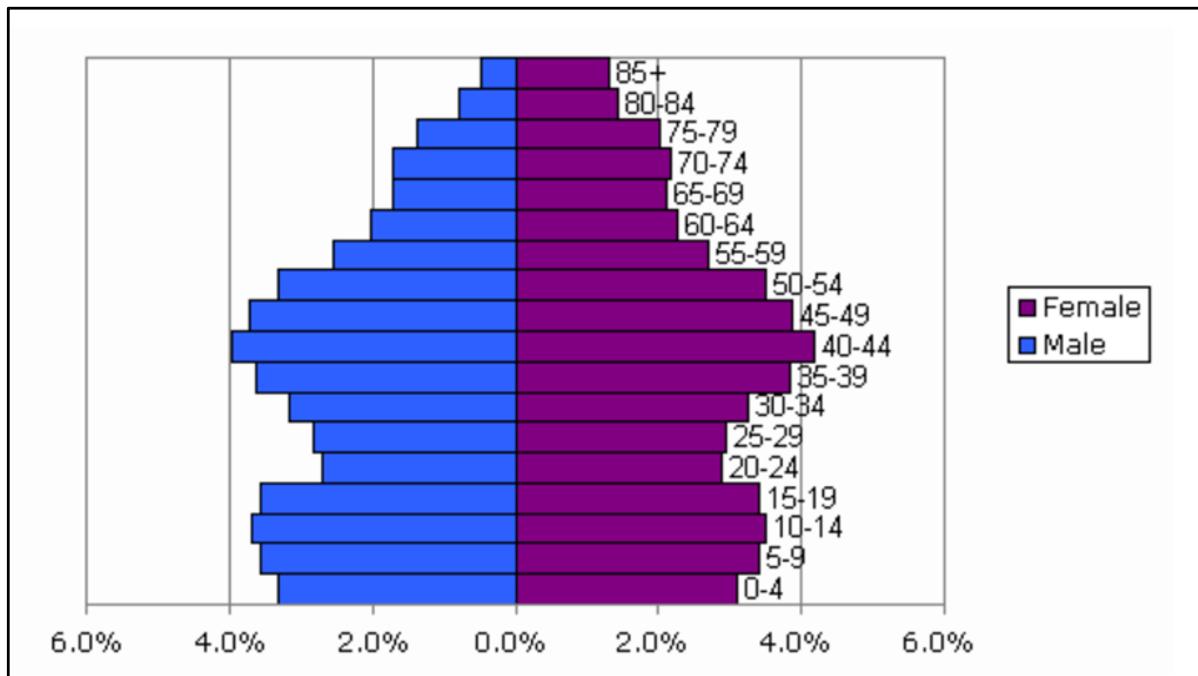
Monday in lab you will work through how to use the census website to get data.

Note: this is not about having a particular politics (please do not put your politics into the assignment), instead it is a timely example of demography at work.

Assignment 1

- To make the assignment doable, you will be looking at a single county:

Stark County, OH



What does this population pyramid tell us about Stark County?
How does it compare to the US as a whole?

While Stark Co. presents a pretty typical age/sex breakdown, your job in the assignment will be to examine the racial (and amongst whites educational) breakdown of Stark Co.

Questions?

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Where does population data come from?

Of course it will depend on what kind of population data we are talking about...

Where does population data come from?

Birth data

Where does population data come from?

Birth data

- Birth certificates
- Surveys
- Parish registries
- Hospital records
- IRS records

Where does population data come from?

Death data

Where does population data come from?

Death data

- Death certificates
- Surveys
- Parish registries
- Hospital records
- Police records
- IRS records

Vital Statistics

- Statistical data about key life events

What are the key life events vital statistics are concerned with?

Vital Statistics

- Statistical data about key life events
 - Births
 - Deaths
 - Marriages
 - Divorces
- Generally collected by governments through a civil registry

Do we have a civil registry in the US?

Civil Registry

- In the US, this is maintained by states (not federal government)
 - This is why your birth certificate (if you were born in the US) is granted by a particular state
- In Washington State, this falls to the Department of Health

Also why gay marriage is only allowed in some states and not others as it is the state that grants such licenses as part of its collecting of vital statistics

Historic Records

- Historically, records were maintained by churches
 - Historians and genealogists often still use parish records
- Sweden was the first country to produce a nationwide civil registry in 1631 (produced by the Church of Sweden at the request of the king)
- Today, the UN guides member countries to maintain civil registers

According to the UN...

Civil registration is “the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events pertaining to the population as provided through decree or regulation in accordance with the legal requirements of a country. Civil registration is carried out primarily for the purpose of establishing the legal documents required by law. These records are also a main source of vital statistics. Complete coverage, accuracy and timeliness of civil registration are essential to ensure the quality of vital statistics.”

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But, we often want to know more...

- Census Data
 - Includes every individual in the population at a given time
 - Usually conducted at the national level (not just in the US)
- Representative Sample Surveys
 - Often paired with census counts
- Indirect Sources
 - Ex: Using US Postal Service Data (Address Change Forms) to look at internal migration patterns

Questions?

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The US has the longest running continuous national census.

It is in the constitution

How many of you have completed a census?

When?

Why have only some of us?

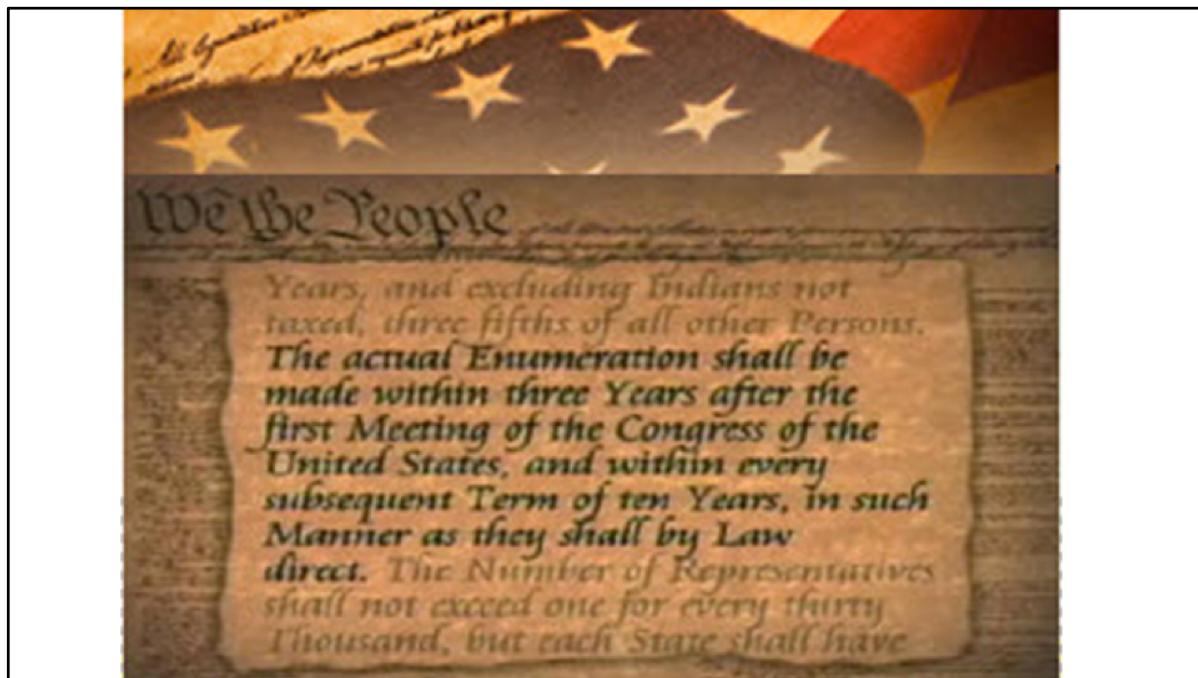
Many of us did in 2010. If you did not (and you were in the US at the time), it probably means that someone else did for you (usually a parent or guardian as head of household).

Reading (listening) discussion

- In small groups with the people around you, take 10 minutes to discuss:
 - What is the primary purpose of the US census?
 - How has the census changed over time?
 - And why?
 - What types of questions does the US census ask?
 - Who uses the census today?
 - And for what?

Why do we have a census?

It is in the constitution



From the US constitution

Why?

Why?

- To ensure that population size, not political influence or wealth, determined how many representatives each state got in congress
- States used to be taxed based on their population (now individuals are taxed)

Who did and did not get counted?

Who did and did not get counted?

- Slaves did get counted, but at 3/5 of a person
 - Known as the three-fifths compromise
 - Compromise between delegates from the northern and southern states

Who did and did not get counted?

- Slaves did get counted, but at 3/5 of a person
 - Known as the three-fifths compromise
 - Compromise between delegates from the northern and southern states
- “Indians not taxed”
 - Native Americans weren’t US citizens until 1926 and thus were not counted

How has the census changed over time?

How has the census changed over time?

- It has responded to the concerns of history

How has the census changed over time?

- Following the War of 1812, there was concern over whether the US could become economically prosperous
- So in 1820, questions were added about manufacturing and business activities

How has the census changed over time?

- In the lead up to the civil war, there was significant concern about the status of a growing mixed race (black and white) population.
- So in 1850, racial questions now identified the mulatto population.

How has the census changed over time?

- In the mid-19th century, there was also concern about how immigrants were changing the country.
- So in 1850, a question was added asking for respondents' place of birth.

How has the census changed over time?

- In the late-19th century, concern over immigrants had increased.
- So in 1880, questions were added about first and second generation immigrants, what languages they spoke, and how literate they were.

How has the census changed over time?

- In the late-19th century, the rising public health movement linked urban density and high fertility with high morbidity and mortality
- So in 1890 questions were added about fertility and the conditions of urban life.

How has the census changed over time?

- Following the Civil War, urbanization increased as part of an economic shift from farming to industrial manufacturing.
- So in 1920 questions were added about cities and the occupations of those living in urban areas.

How has the census changed over time?

- After the dustbowl and great depression...
- In 1940 questions were added about geographic migration within the US, class, earnings, educational attainment, and more detail was asked about employment status

A changing census structure

- Before the mid 1900s, the census was conducted by enumerators visiting all homes.
- 1960
 - Mailed out the census form (still picked up by enumerators)
 - Separated the long and the short form of the census
- 1970
 - Census forms could now be mailed back...
 - ...which means race was now self-identified (no enumerators to assign someone a race)
- 2000
 - Can now select more than one race

What are the long and short forms?

Long forms are the full census questionnaire which was sent to a representative sample of the population (about 10-20%), and the short forms were shorter versions just to get the count and basic info. Today, the content of the long form is now part of the American Community Survey which is done annually (not on a ten year cycle) and what we refer to as the decennial census is only the short form.

Terminology through the years

Table 1: Racial categories of the US Census, 1850-1990*

1850	1860	1870	1880
Black	Black	Black	Black
Mulatto	Mulatto	Mulatto	Mulatto
White	White Indian	White Indian Chinese	White Indian Chinese

Terminology through the years

1890	1900	1910	1920
Black	Black	Black	Black
Mulatto	White	Mulatto	Mulatto
Quadroon	Indian	White	White
Octoroon	Chinese	Indian	Indian
Indian	Japanese	Chinese	Chinese
Chinese		Japanese	Japanese
Japanese		Other	Filipino Hindu Korean Other

Terminology through the years

<u>1930</u>	<u>1940</u>	<u>1950</u>	<u>1960</u>
Negro	Negro	Negro	Negro
White	White	White	White
Mexican	Indian	Am. Indian	Am. Indian
Indian	Chinese	Chinese	Chinese
Chinese	Japanese	Japanese	Japanese
Japanese	Filipino	Filipino	Filipino
Filipino	Hindu	Other	Hawaiian
Hindu	Korean		Part-
Korean	Other		Hawaiian,
Other			etc.

Terminology through the years

1970	1980	1990
Negro or black	Black or Negro	Black or Negro
White	White	White
Indian (Amer.)	Indian (Amer.)	Indian (Amer.)
Chinese	Eskimo	Eskimo
Japanese	Aleut	Aleut
Filipino	Chinese	Chinese
Hawaiian	Japanese	Japanese
Korean	Filipino	Filipino
Other	Korean	Hawaiian
	Vietnamese	Korean
	Asian Indian	Vietnamese
	Hawaiian	Asian Indian
	Guamanian	Samoan
	Samoan	Guamanian
	Other	Other Asian or Pacific Islander
		Other

Lets take a look at the census now...

https://www.census.gov/schools/pdf/2010form_info.pdf

Who is using this data?

Who is using this data?

- Researchers
- Government (for redistricting, distributing federal funding, etc.)
- Businesses (identify markets)
- So many others!

Health departments (and the CDC) use census data to plan for disease outbreaks.

Used in genealogical research

Used to assess our military potential

Used by religious organizations to plan congregations

Used by cities for urban planning

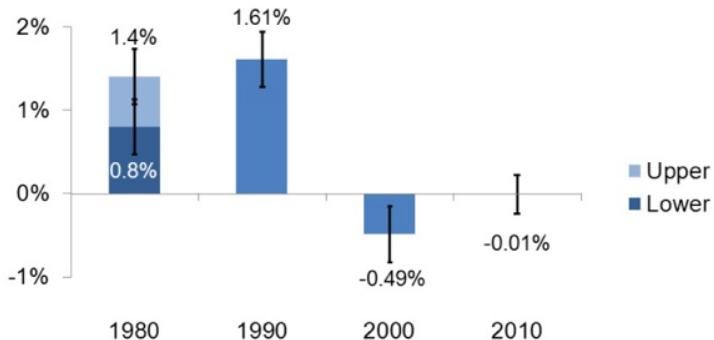
Used to create school districts

Used by the USPS to plan routes, distribution centers, etc.

Etc. etc.

Undercounts

U.S. Total Percentage Net Undercount
from 1980 - 2010



Undercount: number (or percent) of people who were not counted in the census.

- The Census Bureau does a lot of analyses to guess what the undercount was and correct for it.
- But, even if undercount is minimized, certain populations are more likely to be undercounted (ex. Hispanic populations are far more likely to be undercounted)

Who doesn't get counted today?

Who doesn't get counted today?

- Homeless

- Homeless population is very difficult to count, but each census year (2000, 2010, 2020), there is one night that is chosen and counters go out all night counting the people sleeping in the street, under bridges, etc. Shelters also give counts for that night.

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- Undocumented immigrants

- While the Census Bureau does not share information with INS (Immigration and Naturalization Service), undocumented immigrants are often so precarious that they do not want to give their information to the government.

Questions?