

Exercise 11. Population Growth

Purpose: This exercise will demonstrate ways of measuring change in growth of a population. Essentially two views are important. First is the absolute increase in numbers since it indicates where the overall impact of more people will be greatest. Second, is the percent increase or decrease in population. This indicates where the relative impact of growth will seem most pronounced. It is these latter areas that indicate shifts in people's behaviors and may indicate places that could become major population concentrations in the future as they catch up to slower growing places.

Absolute Population Change

1. Open the spreadsheet *UScoPop80-00.xls* This contains the total population and the Hispanic population for the last three decades. Note Alaska was not included due to large boundary changes.

2. In new columns compute the change in number of persons from 1990 to 2000 and from 1980 to 1990.

3. Select all rows in the spreadsheet and sort the counties in descending order of population change for 1990 - 2000.

4. List the top ten population gaining counties.

5. List the bottom population losing counties.

Where does population change seem largest? Use a map to find any counties that you don't recognize.

6. Copy the county names and the column based on the 1980 to 1990 population change to the right of the

previous values so that you can view both decades of change at once.

7. Again list the top ten population gaining and bottom ten population losing counties.

8. Are any counties included in both decades? Describe the changes that took place over the two decades.

Percent Population Change

1. In two additional columns compute the percent change from 1990 to 2000 and the percent change from 1980 to 1990. To calculate the percent change for 1990 to 2000 you would use the following formula $(\text{Pop } 2000 - \text{Pop } 1990) * 100 / \text{Pop } 1990$

2. Again sort the counties in descending value by percent change in population from 1990 to 2000.

3. Examine the top ten percent population gaining counties and the bottom ten population losing counties. Generally where are the gainers and losers?

4. Copy the county names and the percent change in population from 1980 to 1990 into two new columns on the right of the spreadsheet. Sort these values by declining percent change in population.

5. Are the same counties in the same parts of the United States appearing at the top and bottom of the sorted list?

6. Can you describe what generally seems to be happening?

Change in Share of the Total

1. Delete your calculations from parts A and B above if the spreadsheet is open.

2. Calculate the percent Hispanic population for 2000 and the percent Hispanic population for 1990.

3. Subtract the 1990 percent value from the 2000 percent value to get the difference in percentage points.

This difference indicates the increase or decrease in the Hispanic share of the total population.

4. Note the top ten gaining counties.
These increased their share of Hispanic persons.

5. Note the bottom losing counties.
These decreased their share of Hispanic population.

Exercises

1. Download the total population by state from SF1 for both 2000 and 1990. Compare the changes in total population and the percent change among the states.

2. Download the population by race and Hispanic by state for 2000 and for 1990. Compare the change in number and percent for one or more race groups.

3. Consider applying the above methods to education, poverty, foreign-born, or homeownership.