

Population Growth and Demographic Shifts

1. China, India, and the US are the world's most populous countries. Using the GapMinder software on your favorite browser (<http://tools.google.com/gapminder/>), let's inspect some of the major demographic trends that distinguish each country.

a. Change the x-axis (horizontal) to "time" and the y-axis to "child mortality". Select "China" and "India" and "United States" from the right hand country list. Then hit the "play" button on the lower left side.

In two sentences or less, comment on the child mortality trends for each country. Why are the trends as they are and how do they compare?

b. Now change the y-axis (vertical) from "child mortality" to "children per woman (fertility)" and press the play button again.

In two sentences or less, comment on how the "fertility" trends differ for each country, specifically how and why they differ between countries.

c. Now change the y-axis (vertical) from "children per woman (fertility)" to "Children and old per adult" and press the play button again.

In 1979 Chinese President Deng Xiaopeng initiated China's "one couple-one child" policy that has been very effective at reducing population growth. **But how is it affecting the demographic balance between young and old segments of the population? Comment on how this policy impacts present Chinese society, and also how it may impact China's society in the coming decades.**

2. Now, pick any two countries of your choosing by checking them on the right-side list. (remove China, India, and US from the checked list). Change the x-axis to “Income per capita” and change the y-axis to “child mortality” and press “Run”. Also examine the y-axis data for these countries for “child mortality”, “fertility”, and “life expectancy”.

- a. In one short paragraph please, compare and contrast their demographic evolution over the 1975-2004 period. Specifically, address when the major demographic changes took place and what happened in terms of child fertility and mortality trends.
- b. Do you know of any specific socioeconomic events in each country that underlie the observed changes ? (you can research this online).
- c. In what demographic stage would you place each country and why?

3. Showing your calculations, calculate the population growth rates for the following countries and time intervals:

- a. United States: 180,700,000 (1960) to 293,600,000 (2004)
- b. Sweden: 7,480,000 (1960) to 8,960,000 (2004)
- c. Pakistan: 45,850,000 (1960) to 152,060,000 (2004)
- d. China: 667,070,000 (1960) to 1,296,000,000 (2004)

4. Using the “Rule of 70” estimate the year from now when the population will double for each country in Question 3 based on the average growth rate you calculated.

5. Do you think this doubling time is reasonable, why or why not?