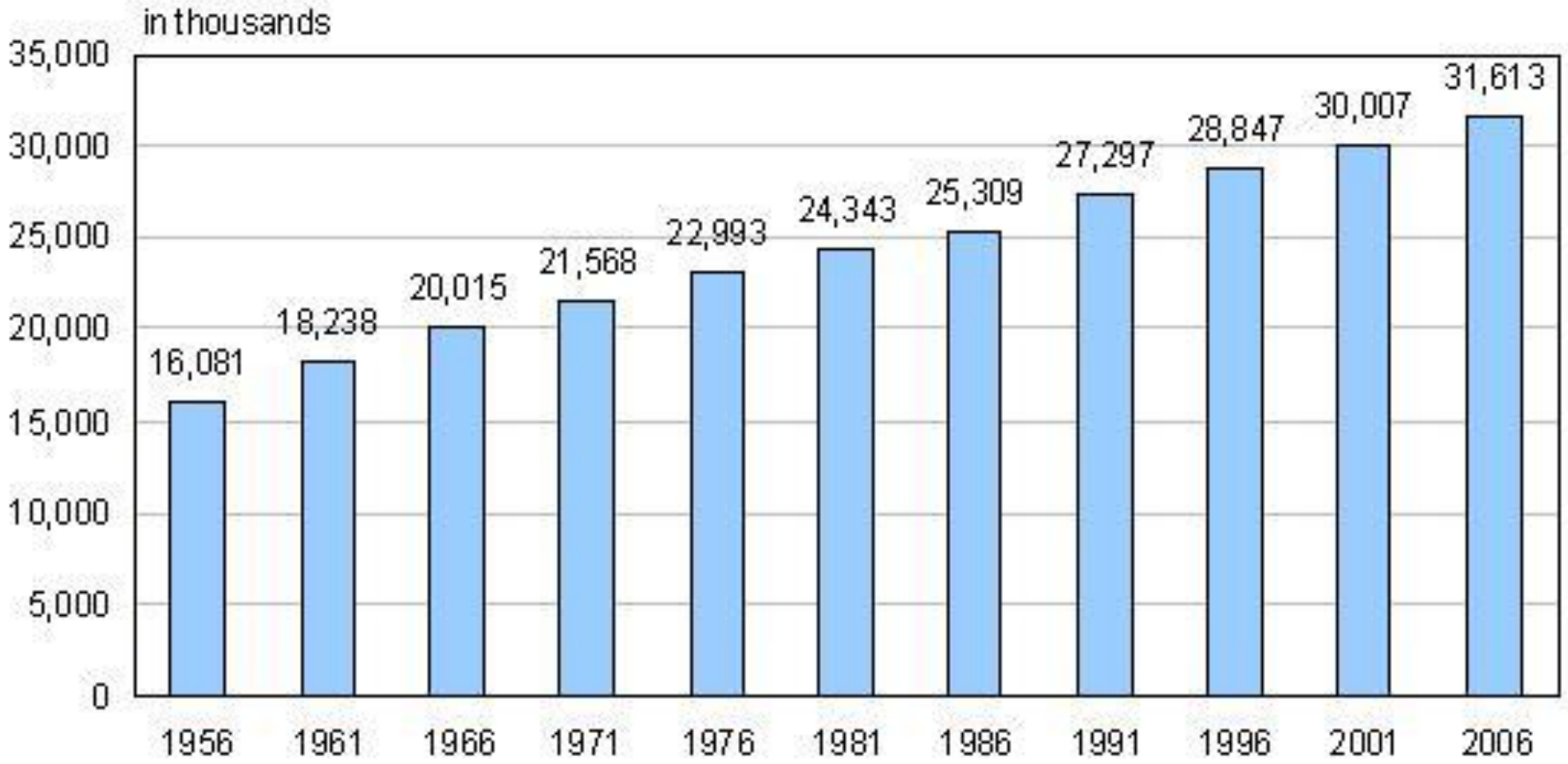
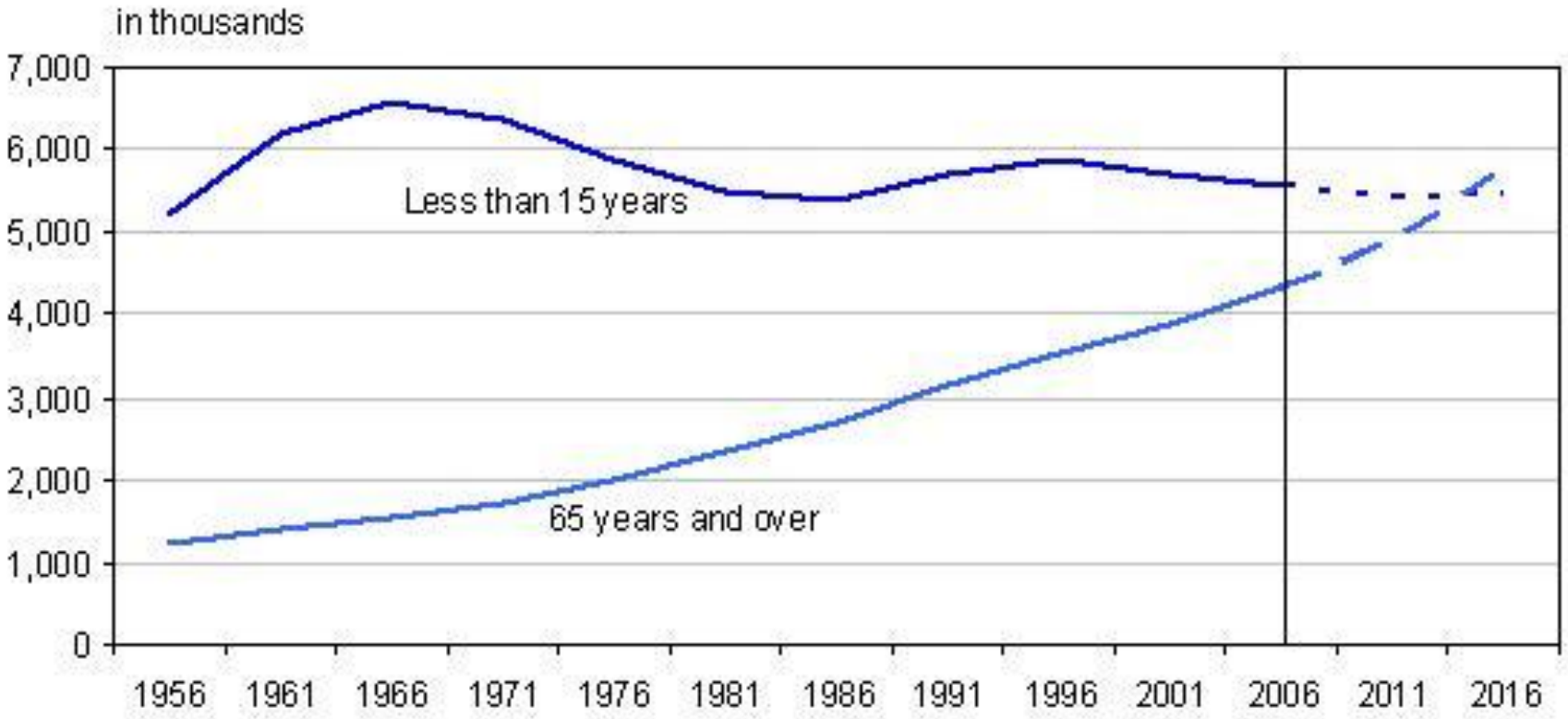
# Population Pyramids and the Demographic Transition Model




**Sources:** Statistics Canada, censuses of population, 1956 to 2006

| Source: www.statcan.gc.ca | Fourth quarter 2007[1] | Fourth quarter 2008[2] | Fourth quarter 2007and fourth quarter 2008 |
|---|---|---|---|
| | number | | difference |
| **Total growth** | **56,343** | **63,403** | **7,060** |
| **Natural increase** | **28,294** | **27,687** | **-607** |
| Births | 88,603 | 90,160 | 1,557 |
| Deaths | 60,309 | 62,473 | 2,164 |
| **Net international migration** | **28,049** | **35,716** | **7,667** |
| Immigration | 55,572 | 53,549 | -2,023 |
| Net non permanent residents | -17,473 | -7,737 | 9,736 |
| Emigration[3] | 10,050 | 10,096 | 46 |




**Sources**: Statistics Canada, censuses of population, 1956 to 2006; and Alain Bélanger, Laurent Martel and Éric Caron-Malenfant. 2005. ***Population Projections for Canada, Provinces and Territories 2005-2031***, Statistics Canada Catalogue no. 91-520, scenario 3.

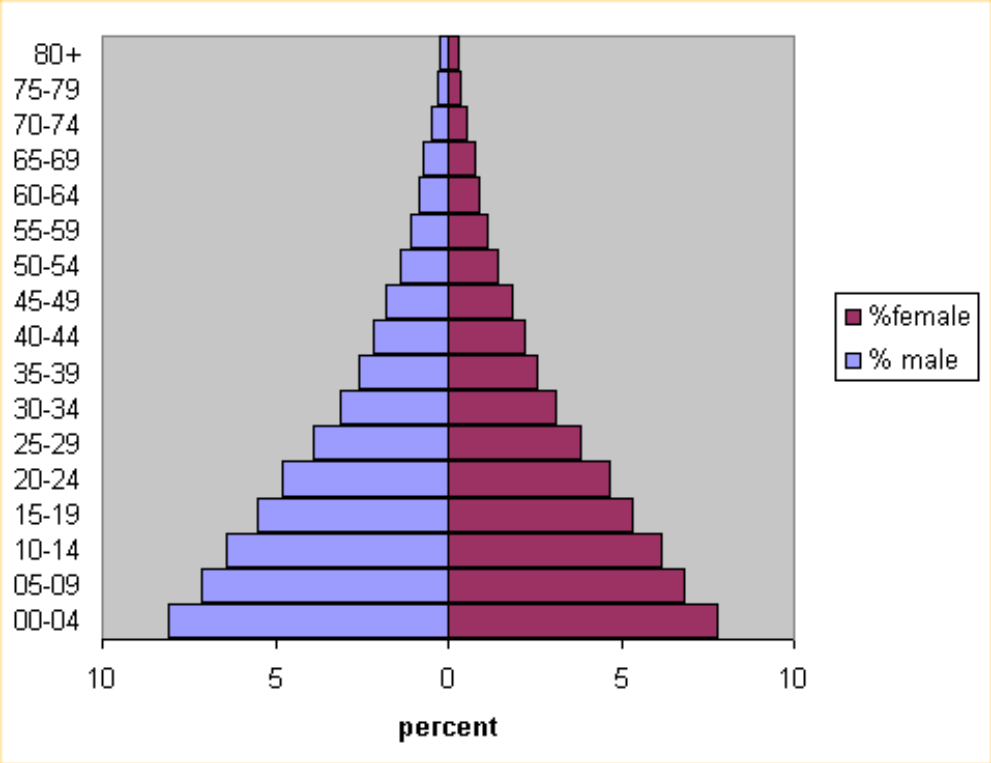
**Population pyramids**, or age-sex diagrams, are:

•actually two back-to-back bar graphs, one showing the number of males and one showing females

•the length of each bar represents the size of the population in a particular five-year age groups (also called a cohort)

•males are conventionally shown on the left and females on the right

•population may be measured by raw number or as a percentage of the total population.




http://homepages.westminster.org.uk/it_new/images/ecdl/mod4/pyr.gif

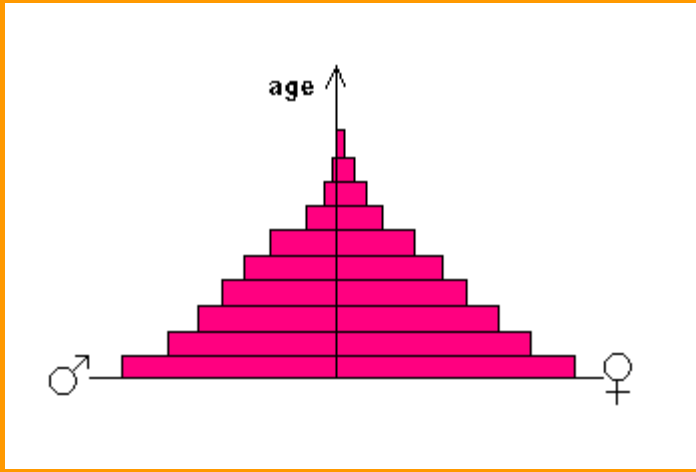
The wider a bar, the more people there are in that age group.

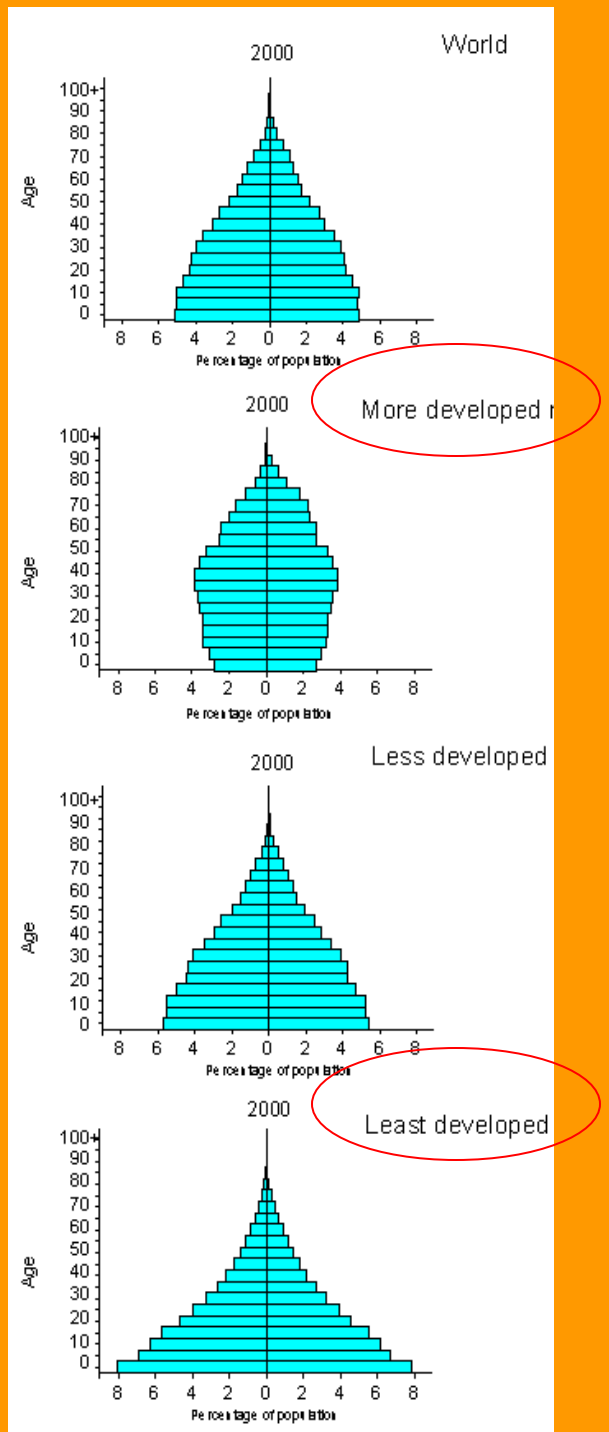
You can tell a lot from population pyramids, for example:

•If a country's population pyramid has a wide base, it means it has a lot of young people, that its birth rate is high.

•If a country's population pyramid gets narrow very quickly, it usually means it has a high death rate.

•A country with a high birth rate and a high death rate is developing country.






These are examples of population pyramids for three different types of countries and for the world overall, in the year 2000.

Compare the least developed country example with that of a pyramid for a developed country.

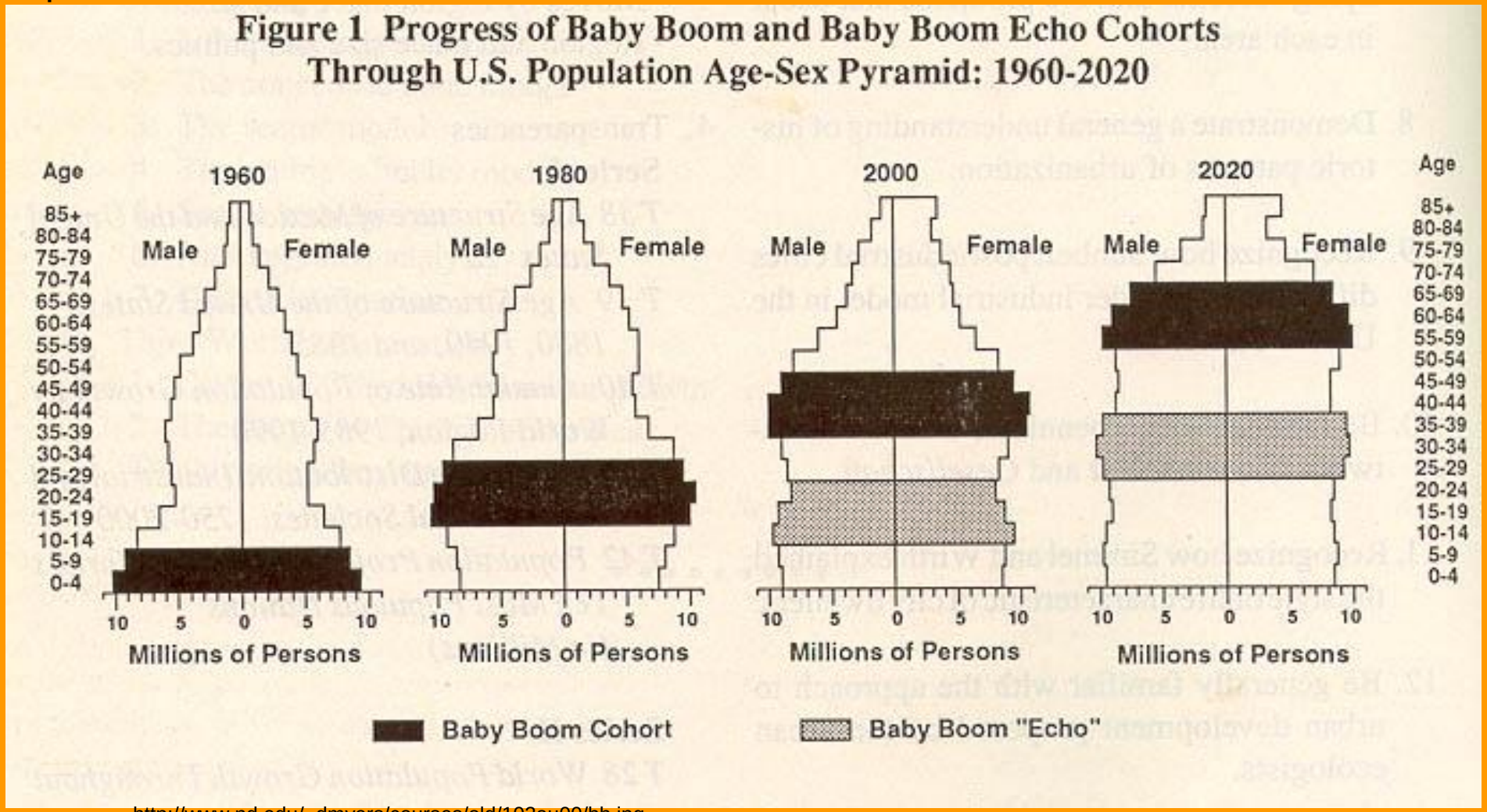
The narrow base of the pyramid for the more developed country indicates a low birth rate.

The wider upper part indicates a lower death rate (because of modern medicine, good food, etc.).

http://www.un.org/esa/socdev/ageing/fig1.gif

After WWII there was a surge in the birth rates of most western countries. This was called the baby boom.

The baby boom can be tracked though population pyramids of different time periods.

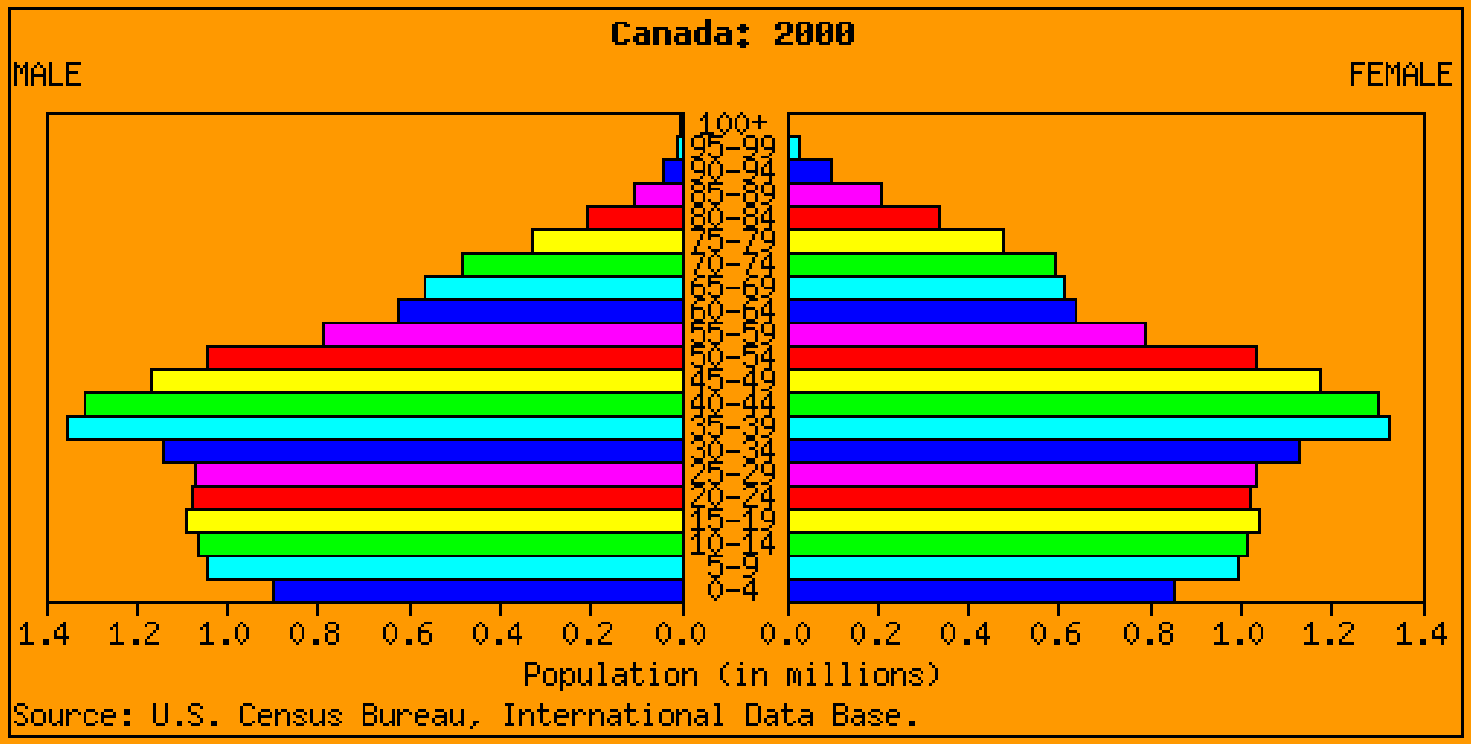


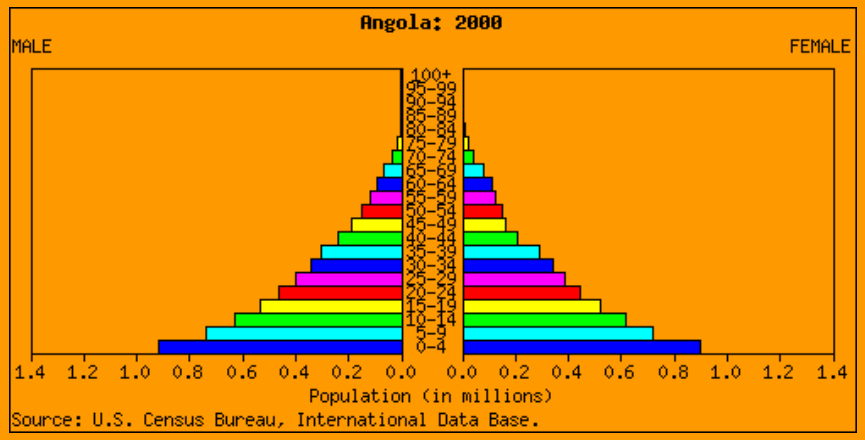

http://www.nd.edu/~dmyers/courses/old/102au00/bb.jpg

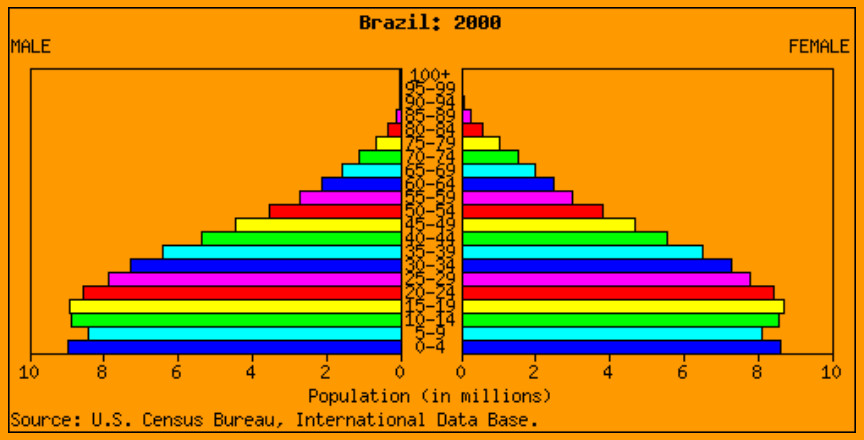
To view an animated population pyramid of Canada's population from Confederation to 2001, click here.

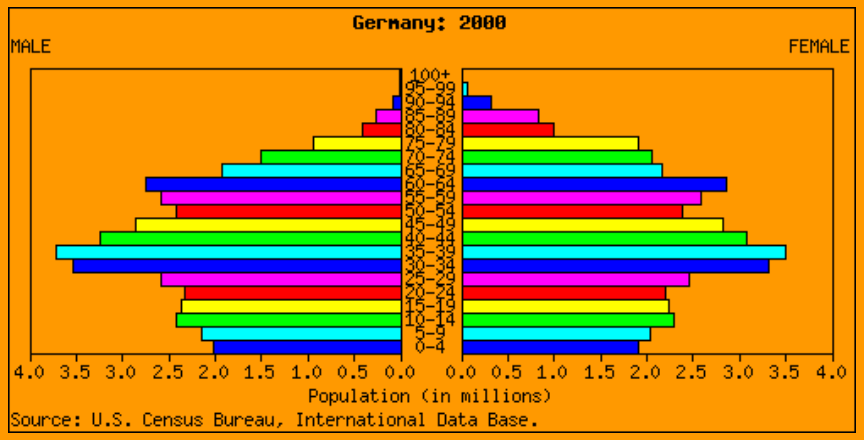
Use the control buttons at the bottom of the pyramid to stop the animation at a year when the baby boom is just getting started. What year did you pick?

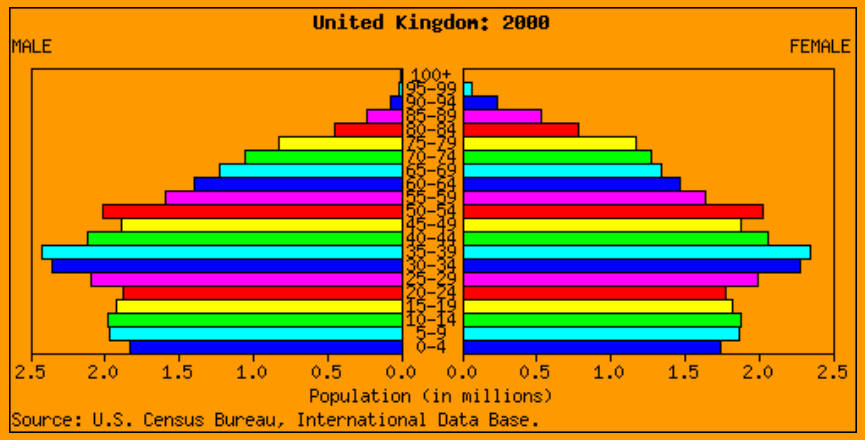
Start the animation again and this time stop it when you think you see the "echo" of the baby boom getting started. What year did you pick?

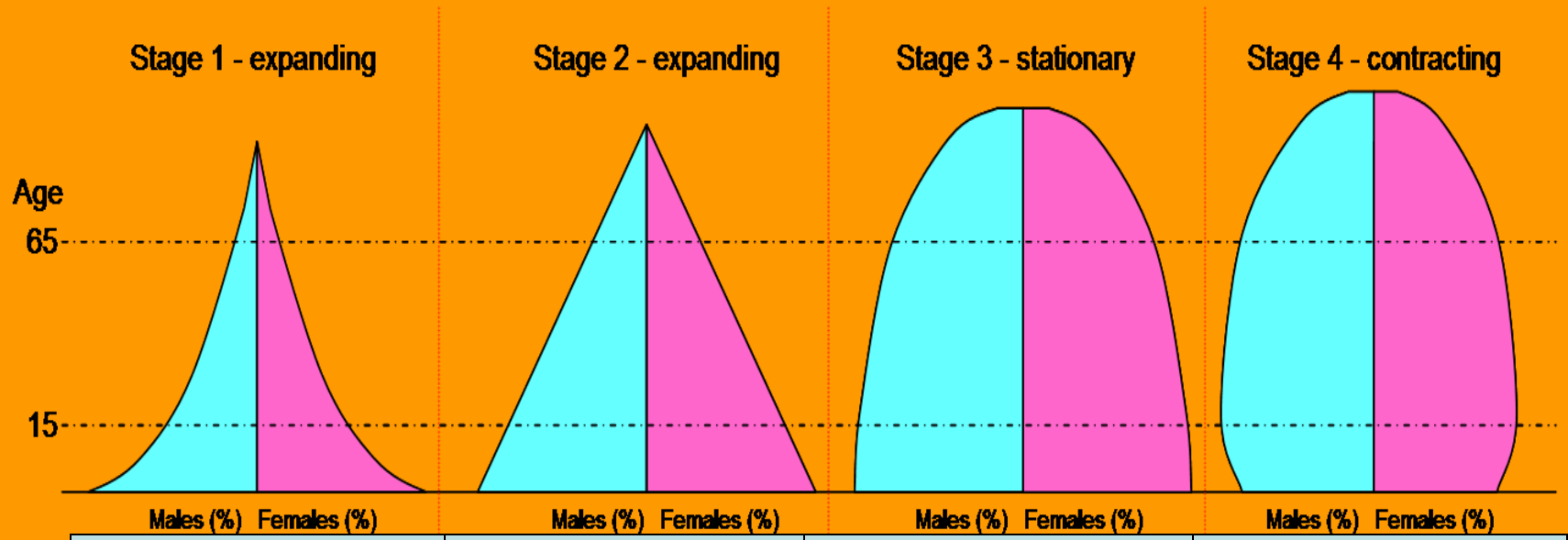



Angola: 2000
MALE
FEMALE
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
1.4 1.2 1.0 0.8 0.6 0.4 0.2 0.0 0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4
Population (in millions)
Source: U.S. Census Bureau, International Data Base.


Brazil: 2000
MALE
FEMALE
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
10 8 6 4 2 0 0 2 4 6 8 10
Population (in millions)
Source: U.S. Census Bureau, International Data Base.


Germany: 2000
MALE
FEMALE
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0
Population (in millions)
Source: U.S. Census Bureau, International Data Base.

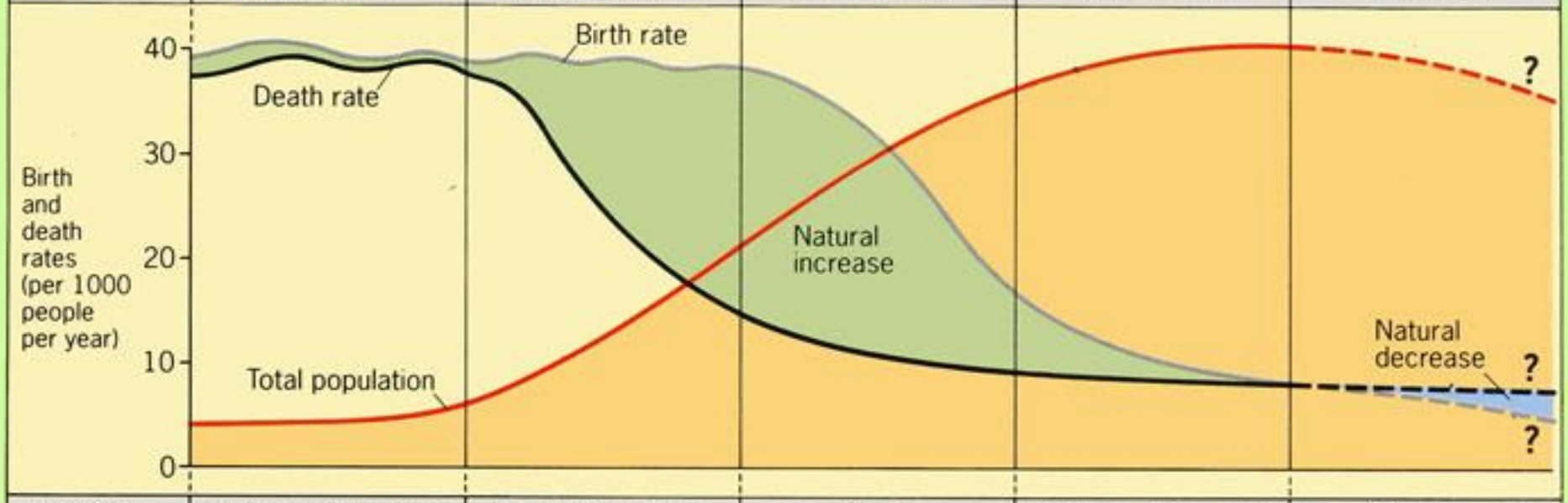

United Kingdom: 2000
MALE
FEMALE
100+
95-99
90-94
85-89
80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4
2.5 2.0 1.5 1.0 0.5 0.0 0.0 0.5 1.0 1.5 2.0 2.5
Population (in millions)
Source: U.S. Census Bureau, International Data Base.




| Stage 1 | Stage 2 | Stage 3 | Stage 4 |
|---|---|---|---|
| Expansive. | Expansive. | Stationary. | Contractive. |
| Concave sides. | Straight sides. | Convex sides. | Convex sides. |
| High birth rate. | Still high birth rate. | Declining birth rate. | Low birth rate. |
| High death rate. | Falling death rate. | Low death rate. | Low death rate. |
| Short life expectancy. | Slightly longer life expectancy. | Long life expectancy. | Longer life expeactancy. |
| Rapid fall in each upward age group due to high DR. | Fall in DR so more people living into middle age. | An increasing proportion of the population is in the 65+ age group. | Higher dependency ratio. |
| **Kenya** | **India** | **Argentina** | **Sweden** |

**Economic development increases >>>>**

http://www.geographyalltheway.com/igcse_geography/population settlement/population/igcse_popn_structure_revision.htm




| Stage | 1 High stationary | 2 Early expanding | 3 Late expanding | 4 Low stationary | 5 ? Declining? |
|---|---|---|---|---|---|
| Examples | A few remote groups | Egypt, Kenya, India | Brazil | USA, Japan France, UK | Germany |
| Birth rate | High | High | Falling | Low | Very low |
| Death rate | High | Falls rapidly | Falls more slowly | Low | Low |
| Natural increase | Stable or slow increase | Very rapid increase | Increase slows down | Stable or slow increase | Slow decrease |
| Reasons for changes in birth rate | Many children needed for farming. Many children die at an early age. Religious/social encouragement. No family planning. | | Improved medical care and diet. Fewer children needed. | Family planning. Good health. Improving status of women. Later marriages. | |
| Reasons for changes in death rate | Disease, famine. Poor medical knowledge so many children die. | Improvements in medical care, water supply and sanitation. Fewer children die. | | Good health care. Reliable food supply. | |

Source: http://www.canaryzoo.com/Geography%20Population.htm