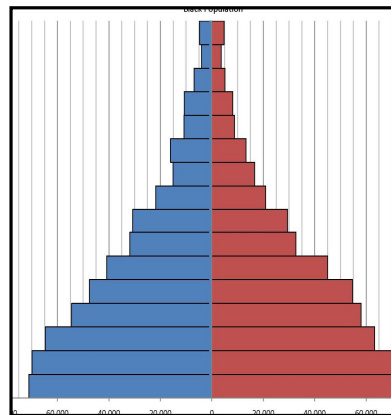


## Age and Sex composition (Cont'd) Racial and Ethnic Composition



Ayman Zohry

CDC 103 – Lecture 6 – March 11, 2012



**Analysis of Age Composition**



## Graphic Analysis

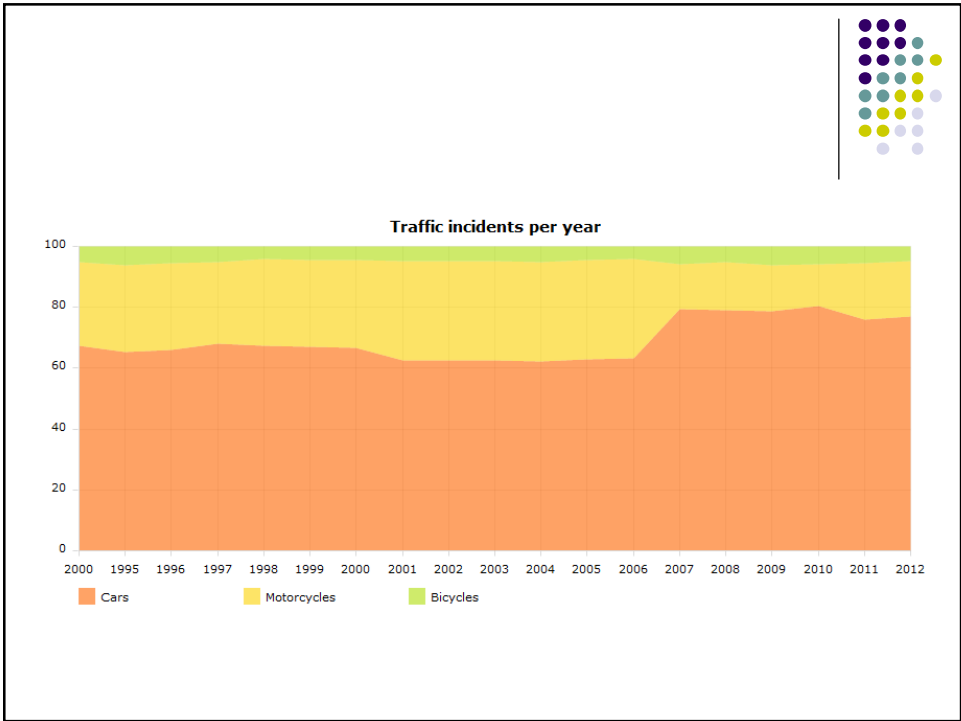
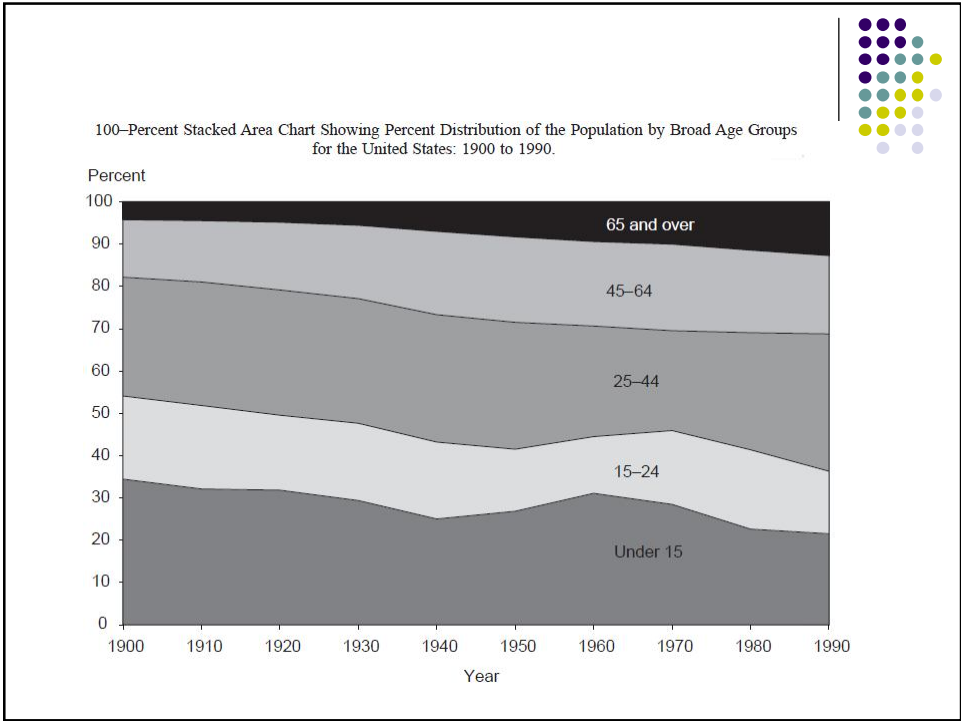


- Two graphic measures are particularly applicable to the analysis of age composition:
  - Time Series Charts
  - Population Pyramid

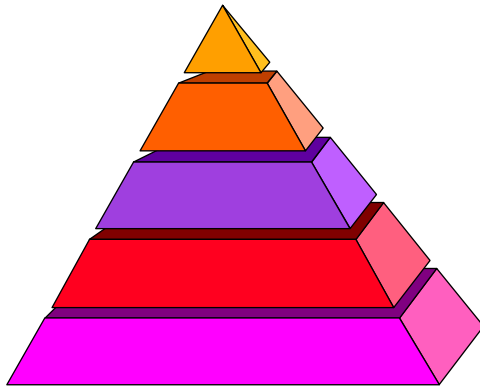
## Time Series Charts



- A possible graphical presentation of the change of age composition by time can be maintained by what's called the *one hundred percent stacked area chart*.
- The percentage distribution of the population in broad age groups for a given country over time is required to construct such a chart.



## Population Pyramids



## Population Pyramids

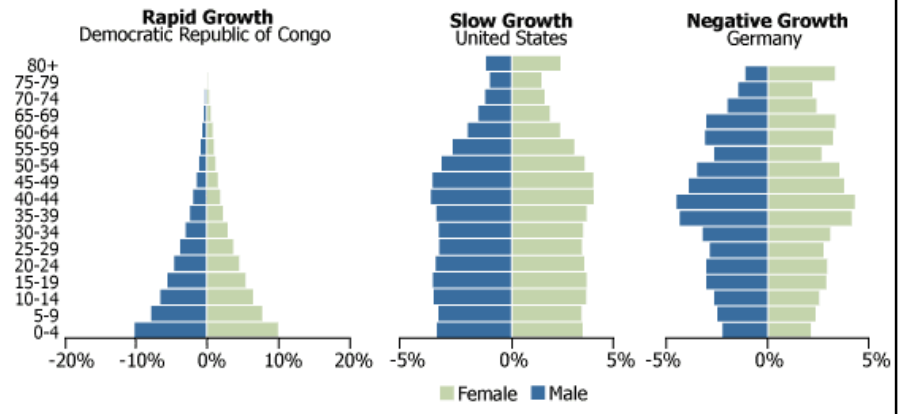


- A **population pyramid** is a graphical illustration that shows the distribution of various age groups in a population (typically that of a country or region of the world), which forms the shape of a pyramid.
- A great deal of information about the population broken down by age and sex can be read from a population pyramid.
- The shape of population pyramids vary from country to another and for the same country in different times.
- The difference is usually attributed to the history of birth and death rates, but migration could play a major role in the shaping of a population pyramid.

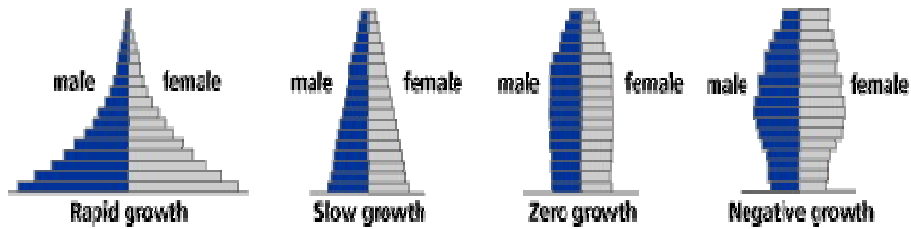


Each pyramid tells a story about the **past**, **present** & **future** of a country and its population

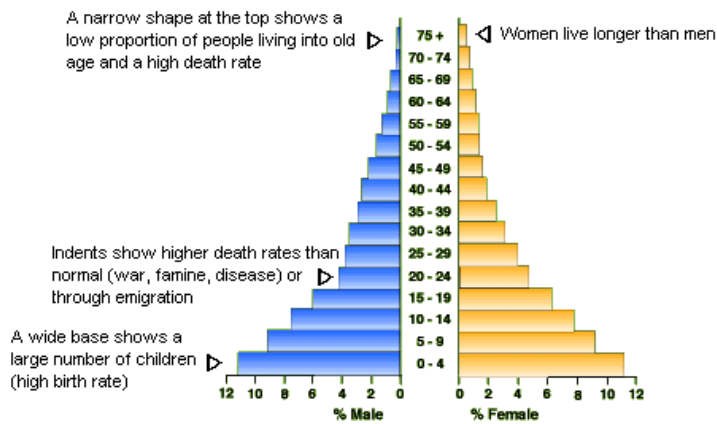
**Patterns of Population Change and Types of Population Pyramids**



## Population Pyramids in Transition

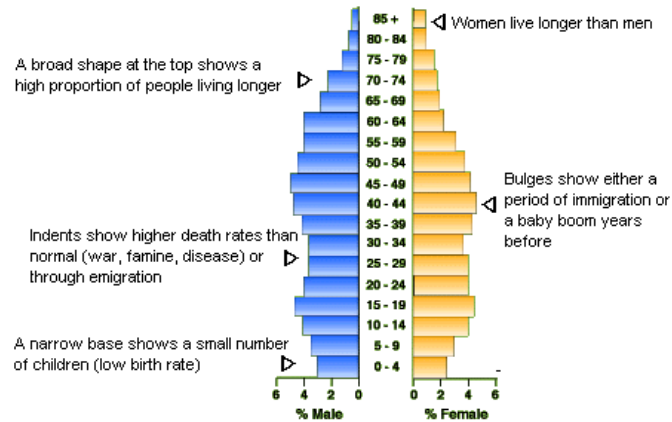


## A Typical Developing Country Pyramid

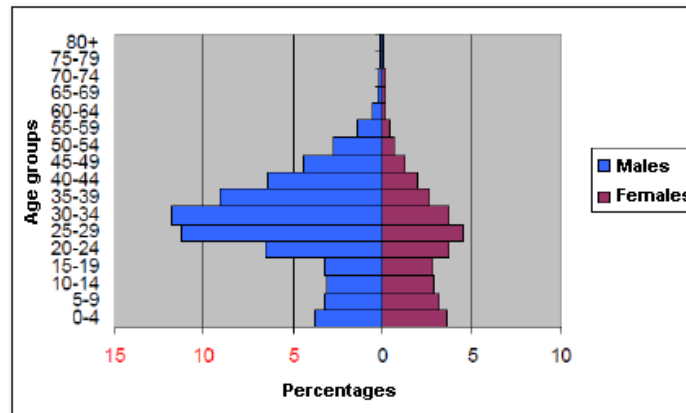




## A Typical Developed Country Pyramid



## UAE Population Pyramid





## Constructing a Population Pyramid

- Data required for a uni-dimensional pyramid:
  - Population by age (groups) and sex
- Software to be used for the construction of a population pyramid.



## Population Pyramids in Excel

Microsoft Excel - PYRAMID.XLS

1 Table  
2 COUNTRY: YEAR  
3 Population, by Age and Sex  
4  
5 Age Male Female  
6  
7 All ages 2,745,766 2,992,008  
8  
9 0-4 427,049 447,127  
10 5-9 433,232 392,707  
11 10-14 347,827 279,082  
12 15-19 201,747 191,734  
13 20-24 211,138 244,120  
14 25-29 221,905 271,959  
15 30-34 199,048 271,087  
16 35-39 200,920 237,384  
17 40-44 160,220 193,519  
18 45-49 128,943 139,475  
19 50-54 65,892 69,318  
20 55-59 39,991 43,055  
21 60-64 46,024 46,203  
22 65-69 32,846 42,161  
23 70-74 17,110 25,471  
24 75-79 4,470 10,859  
25 80-84 3,000 0,000  
26 85-89 1,500 2,500  
27 90-94 780 1,280  
28 95+ 375 425  
29  
30 Source:  
31  
32

Ready Calculate

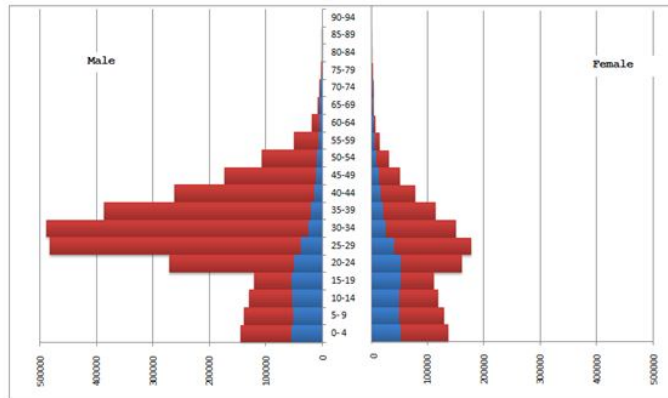
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## Multi-Dimensional Pyramids



Population pyramid of citizens and expatriates, UAE 2005  
(Numbers)



## Multi-Dimensional Pyramids



- Multi-Dimensional population pyramids represent population by age and sex, and another break down variable such as urban/rural, migrants/non-migrants, or any other variables.
- Data Required for a multi-dimensional pyramid:
  - Population by age (groups) and sex, and another categorization



## **Racial and Ethnic Composition**

### **Racial and Ethnic Composition**



- Countries in the world today attempt to identify their populations by some type of racial or ethnic classification.
- These classifications and the population they are intended to represent are of interest to national policy makers, businesses, and researchers.
- Racial and ethnic groups frequently have different geographic distributions, demographic characteristics, socioeconomic attributes, and political views and affiliations.
- Countries composed of races and ethnic groups, create programs to address social and economic disadvantages that certain racial and ethnic groups have experienced.

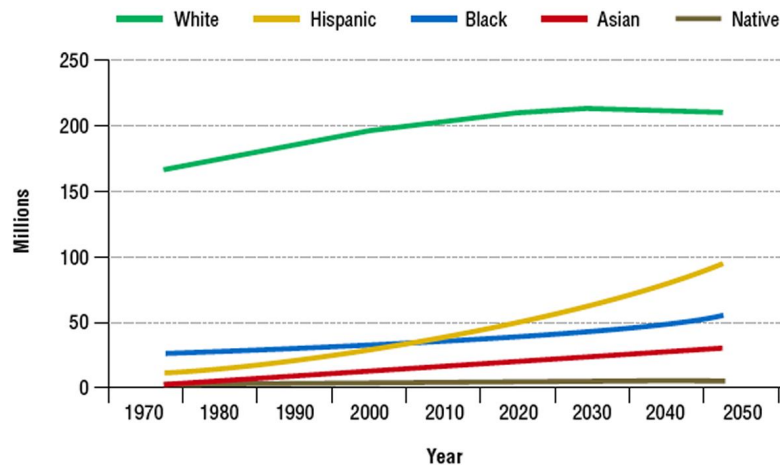


## Racial and Ethnic Composition

- Many areas in the world where racial and ethnic tensions make it politically and otherwise difficult to collect and report race and ethnicity data.
- Even the definition and classifications of the term “race” in a given nation can be a source of conflict and disagreement.
- Several countries have had violent and long-running disputes among racial or ethnic groups such as Sudan and Rwanda.
- If one group perceived that another ethnic group was experiencing a faster rate of population growth, this could lead to increased conflict among them.



## Racial and Ethnic Composition of the United States





### **Definition Problems**

- The definitions of a “racial group” and an “ethnic group” are often mixed-up.
- Whereas two countries might use exactly the same term to describe a given ethnic group within their respective borders, the actual definition of membership could vary rather substantially.
- Mixed marriages also complicate the classification of racial or ethnic groups.



### **Uses and Limitations**

- In countries with populations that are not racially or ethnically homogeneous, statistics according to race or ethnic group are particularly useful for analyzing demographic trends, making population projections, and evaluating the quality of demographic statistics.
- In addition, government or private agencies seeking to target specific populations for social, economic, and health programs often have a keen interest in race and ethnic composition.
- Further, there is also a great need to cross-classify a wide range of socioeconomic and demographic characteristics by race and ethnicity: income, employment, education, immigration, age, and sex.



### Uses and Limitations

- The welfare of indigenous or minority groups is often of special concern to national governments, and information on the size and characteristics of such groups is needed to formulate and implement appropriate policies and plans for servicing these groups.



### Other Classification Measures

- There are not many measures that are specific to racial and ethnic analysis.
- Simple percentage distributions are frequently used.
- The most commonly encountered measures used in racial and ethnic analysis is the Index of Dissimilarity.
- The Index of Dissimilarity can be used to compare the distribution by race (or some other characteristic of interest) in two areas or two groups of another type or, the distribution of two racial groups by some other characteristic, such as age or area.



## Other Population Sub-groups

- Three measures are commonly used for classification of population:
  - Place of Birth
  - Language
  - Religion
- They may not reflect an ethnic or racial groups, but they are important for the analysis of demographic indicators.



## Next Week



- **March 18: Marriage, Divorce, and Family Groups**
- **Readings:**
  - Siegel, J. & Swanson, D. Chapter 9 ; pp :191-210.
- **Assignments:**
  - Construct population pyramids for a country of your choice for 1980, 1990, 2000, and 2010 using data from the Demographic Yearbook.
  - Comment on the results