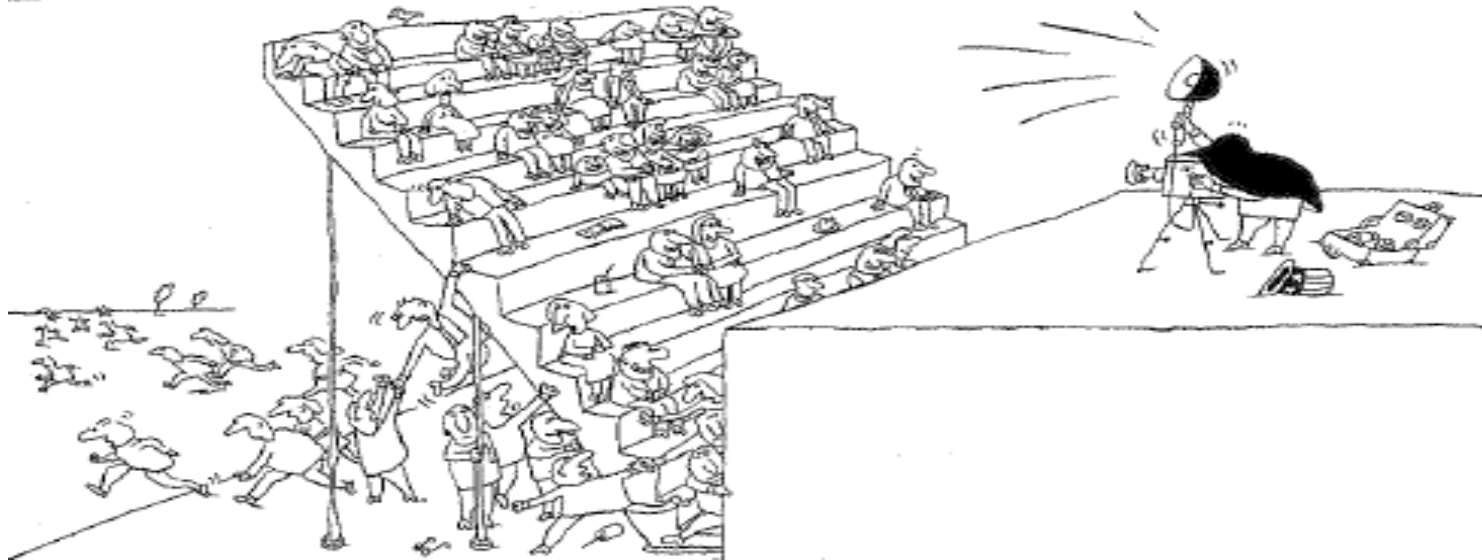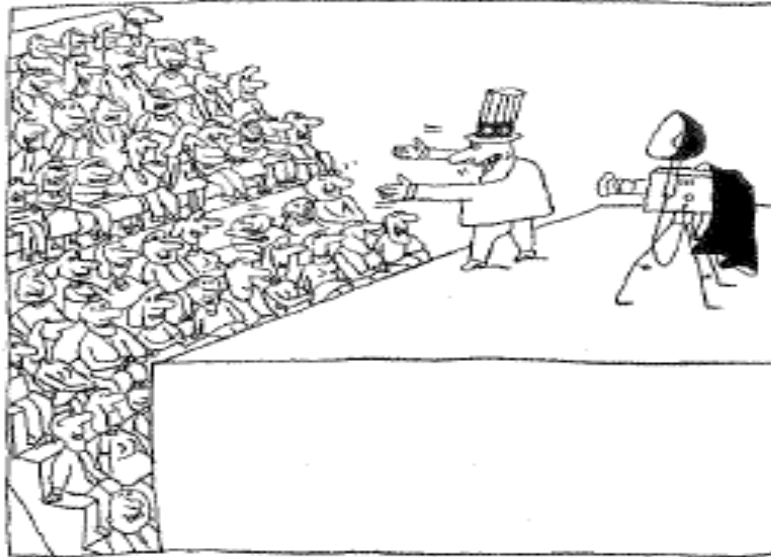# Demographic Analysis

## Migration:

## Concepts, Measurements, Challenges

# Migration

*Outline of this lesson:*

- Background issues and concepts
- Sources of data
- *Challenges* of measurement
  1. Stocks vs. flows
  2. Reference population
  3. De jure vs. de facto
  4. Gross vs. net migration
  5. Boundaries and crossings
  6. Reference time
- Group Activities

# Migration

*Among the components of change in the demographic balancing equation (e.g. births, deaths, and net migration) migration typically shows the least stable trends over time and is the <u>most difficult</u> to measure.*

# Migration – So, Why Try to Measure it?

- Although measuring migration can be challenging, it is important for:

  - Economic planning and rural-urban development

  - Utilities and public spending (sanitation, education, etc.)

  - Internal security

  - Understanding society and social change

United States **Census** Bureau

U.S. Department of Commerce
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# Migration – What Do We Want to Measure?

- The utility of migration data to the analyst (and policymaker) depends on:

  - The exact question(s) one wants answered
  - The accuracy and representativeness of those data

# Who are Migrants?

Some typical categories:

- People moving for work
- People moving to study (students)
- Those moving for family-related reasons (e.g., marriage)
- Internal displacement (wars or forced migration)
- International – above categories, plus refugees, asylum seekers, etc.

# Some Typical Sources of Data on Migration

- Censuses

- Surveys
    - Demographic
    - Labor
    - Economic

- Immigration Registration Systems
    - Example - U.S. Citizenship and Immigration Services (USCIS) (formerly Immigration and Naturalization Service)

# Other Sources of Estimates of Migration

- Transport authorities, including records from
    - Airports
    - Seaports
    - Border crossing, etc.

- "Mirror" Statistics – migrant counts by *other* countries

- Residuals of other estimates in the demographic balancing equation (more on this later)

- Other administrative records (e.g., tax returns)

- Estimates by various organizations
    - United Nations, U.S. Census Bureau, Council of Europe (TACIS), EuroSTAT, OECD, Transmonee, etc.

# Measuring Migration - Challenges

# Measuring Migration – Typical Measures

- As is the case for fertility and mortality, migration can be measured in terms of
  - Numbers of migrants
  - Crude rates of migration (migration/population)
    - Net migration rate = number of net migrants / mid-year population
  - Numbers or rates of migration by age and/or sex

- However, unlike fertility and mortality, a number of additional conceptual issues need to be addressed in the case of migration

# Measuring Migration – Challenges Stocks vs. Flows

- Stocks are the number of people who belong to a category of migrants.

  – Examples:
  - The number of people in Delhi born elsewhere in India.
  - Indian citizens who live abroad.

- Flows are the change in migrant stock over time.

  – Examples:
  - The number of people in Delhi arriving in the past year.
  - Change in the number of India's citizens living abroad since 2005.

# Measuring Migration – Challenges Choice of Reference Population

- Given migrant flows from one area to another, the movement of particular individuals can be measured in different ways.  The size and impact of such migration can differ depending on which reference (origin or destination) is considered.  Consider the hypothetical flow of 1 million migrants from China to Hong Kong:

| AREA | ~MID-YEAR POPULATION | INTER-AREA FLOW | CRUDE MIGRATION RATE (%) FOR THESE MIGRANTS |
|------|----------------------|-----------------|---------------------------------------------|
| CHINA | 1,300,000,000 | -1,000,000 | -0.1% |
| HONG KONG | 7,000,000 | 1,000,000 | 14.3% |

# Measuring Migration – Challenges Dejure vs. Defacto

- The measurement of crude migration rates may be affected by the type of population count used in the denominator:

- *De facto* counts refer to those present at the time of enumeration. Such counts include visitors.

- *De jure* counts refer to those present at the time of enumeration plus those "temporarily absent" (away for no more than some maximum specified time period, e.g., 6 months). The combination of these are referred to as "usual residents."

# Measuring Migration – Challenges
# Flows: Gross vs. Net Migration

- Gross migration refers to the total number of one-way movements across a particular boundary (inflows, outflows, or both).
  - Example:
    - Gross Inflows                                205,000
    - Gross Outflows                              105,000
    - Gross Inflows + Outflows         310,000

  - Net migration is the difference between inflows and outflows which lead to population growth or decline:
    - Net Inflows                                   100,000

# Measuring Migration – Challenges Boundaries and Crossings

- What kind of border crossing defines migration?

- Broadest definition:
  - Any change of address (e.g., across the street)

- Other more limited definitions:
  - Move to another village
  - Move to another state
  - Move to/from another country (International)

# Measuring Migration – Challenges Reference Time

- Censuses and surveys ask a variety of **direct questions** about the reference time of migration, such as

- Migration since a particular point in time
  - Since birth
  - Since X years ago
- Duration of residence
  - How long has this person lived at this address?
  - Full migration history
    - **Each question has strengths and weaknesses …**

# Measuring Migration – Challenges

## Reference Time – Ever migrated since …

| Migration type/measure | Description | Question asked |
|---|---|---|
| Lifetime migration | Migration since birth | Where was the person born? |
| Migration during past year | Change of residence during the past year | Where did the person reside 12 months ago? |
| Migration during last 5 years | Change of residence compared to five years ago | Where did the person reside five years ago? |

# Measuring Migration – Strengths & Weaknesses

## Reference Time – Ever migrated since …

| Migration type/measure | Strengths | Weaknesses |
|---|---|---|
| Lifetime migration | Provides some idea of lifetime movements. | Does not measure recent migration. Limited policy relevance. Trends -- need to compare to prior census |
| Migration during past year | Measures short term movements | Excellent measure but migration may be exaggerated by recent events. Trends? |
| Migration during last 5 years | Measure medium-term population movements | Excellent measure providing picture of movement over past 5 years. Trends? |

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# Measuring Migration – Challenges

## Reference Time – Duration of Migration

| Migration type/measure | Description | Question asked |
|---|---|---|
| Duration of migration | Focus on last migration only | How long has person lived at current residence? Place of previous residence? |
| Full migration history | Full "history" of migration. listing each residence, as well as during lived at that residence. | Questions about dates of arrival at each residence, and length of time lived at that residence. |

# Measuring Migration – Strengths & Weaknesses

## Reference Time – Duration of Migration

| Migration type/measure | Strengths | Weaknesses |
|---|---|---|
| Duration of Migration | Provides better idea of migration intervals than when markers are pre-chosen. | Question about accuracy of responses. Trends? |
| Full Migration History | Excellent source of data to explore patterns, characteristics, and motivations for migration. | Time and expense in collecting detailed histories. |

# Example of one person's migration history over (just) a 2-year period:   June 1992 – June 1994

## Ask sufficient questions -  if this person were asked in Dec. 1993 only about their residence a year earlier, would it appear that they had moved at all?

| Place # | Residence | Start Date | End Date |
| --- | --- | --- | --- |
| 1 | Philadelphia, PA  USA | June 1992 | July 1992 |
| 2 | Canberra, Australia | Aug. 1992 | Dec. 1992 |
| 3 | Hanoi, Vietnam #1 | Jan. 1993 | May 1993 |
| 4 | Hanoi, Vietnam, #2 | June 1993 | Sept. 1993 |
| 5 | Hanoi, Vietnam, #3 | Oct 1993 | Nov. 1993 |
| 6 | Canberra, Australia | Dec. 1993 | Jan. 1994 |
| 7 | Philadelphia, PA  USA | Feb. 1994 | Feb. 1994 |
| 8 | Canberra, Australia | Mar. 1994 | June 1994 |

# Measuring internal migration from a question on residence 5 years before a census

State of residence 5 years prior to census date

| State of enumeration | A | B | C | D | E | Total |
|---|---|---|---|---|---|---|
| A | 2,518 | 152 | 73 | 98 | 20 | 2,861 |
| B | 58 | 6,821 | 69 | 21 | 85 | 7,054 |
| C | 105 | 99 | 7,138 | 68 | 120 | 7,530 |
| D | 32 | 25 | 17 | 3,812 | 57 | 3,943 |
| E | 41 | 23 | 17 | 37 | 1,021 | 1,139 |
| Total | 2,754 | 7,120 | 7,314 | 4,036 | 1,303 | 22,527 |

# Internet Sources of Migration Data

Migration Information Source:

http://www.migrationpolicy.org/programs/migration-information-source

United Nations High Commissioner for Refugees (UNHCR)

http://www.unhcr.org

U.S. Citizenship and Immigration Services (USCIS)

http://www.uscis.gov/

U.S. Census Bureau

http://www.census.gov/population/intmigration/

# Internet Sources of Migration Data

Global international migration flows | Wittgenstein Centre

http://www.global-migration.info/

United Nations Population Division

http://www.un.org/en/development/desa/population/theme/international-migration/

International Organization for Migration

http://www.iom.int/

# **Internet Sources of Migration Data**

Organization for Economic Cooperation and Development (OECD)

http://www.oecd.org/migration/

EUROSTAT

http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics

# **Exercise**

- For your country (or a country of your choosing) find out about what data are available on migration from various sources

- Using data you have or have found, calculate the net migration rate