ARCH 2500

Sampling Designs

Haphazard or Grab Sampling
  • accept whatever we encounter
  • easy
  • introduces uncontrolled bias

Judgmental Sampling
  • use your judgment to choose samples
  • takes advantage of expertise or previous knowledge
  • introduces uncontrolled bias

Probabilistic Sampling
  • removes observer bias
  • allows you to estimate how close sample values are to population values
  • can extrapolate information gained from sample to the population

Simple Random
  • all units in the population have an equal chance of being selected to the sample

Procedure
  • List all items.
  • Assign a number to each item.
  • Decide on a sample size.
  • Randomly draw sample.

Strengths
  • easy
  • very little information needed

Simple Random

Weaknesses
  • may get poor areal coverage
  • doesn’t use prior knowledge
  • requires larger samples
**Systematic**
* units are chosen at set intervals

**Procedure**
* Same first three steps as in simple random.
* Determine the sampling interval.
* Randomly draw the first item.
* Take remainder of sample at the fixed interval.

**Strengths**
* forces even coverage across space
* easy

**Weaknesses**
* interval may coincide with patterns in data

**Stratified**
* divide a heterogeneous population into smaller, more homogeneous subsets called strata

**Procedures**
* Divide sample into sub-populations/strata
* Sample each stratum independently, as in simple random

**Strengths**
* smaller samples needed

**Weaknesses**
* requires extensive knowledge about population

**Cluster Sampling**
* cluster sampling selects clusters of units
* size and shape of unit important

**Choosing a Sampling Strategy**
* depends on nature of the population
* depends on research goal
* depends on time and money