OVERVIEW OF DATA

OVERVIEW OF USING DATA: DEFINITIONS AND GOALS

(Lemon 2:1 , Lesson 2.1.1)

Definitions:

- **Data:** The facts and figures collected, analyzed, and summarized for presentation and interpretation.

- **Variable:** A characteristic or a quantity of interest that can take on different values.

- **Observation:** Set of values corresponding to a set of variables.

- **Variation:** The difference in a variable measured over observations.

- **Random variable/uncertain variable:** A quantity whose values are not known with certainty.

TYPES OF DATA

(Lesson 2.1.2)

Definitions:

- **Population:** All elements of interest.

- **Sample:** Subset of the population.

- **Random sampling:** A sampling method to gather a representative sample of the population data.

- **Quantitative data:** Data on which numeric and arithmetic operations, such as addition, subtraction, multiplication, and division, can be performed.

- **Categorical data:** Data on which arithmetic operations cannot be performed.

- **Cross-sectional data:** Data collected from several entities at the same, or approximately the same, point in time.

- **Time series data:** Data collected over several time periods.

  - Graphs of time series data are frequently found in business and economic publications.

SOURCES OF DATA

Definitions:

- **Experimental study:** A variable of interest is first identified.

- **Nonexperimental study or observational study:** Makes no attempt to control the variables of interest.