Today's Agenda

Introduce Dataset 1

- Brainstorm models
- Begin univariate analyses

Justin Leinaweaver (Spring 2022)

Scientific models are:

- Neither true nor false
- Limited in their accuracy
- Partial representations
- Useful for only some uses
- A reflection of the interests of the designer

Dataset 1: The Motivating Problem

What drives economic investment in US states?

Why do some states attract greater investment by companies and individuals than others?

Dataset 1: The Motivating Problem

What drives economic investment in US states?

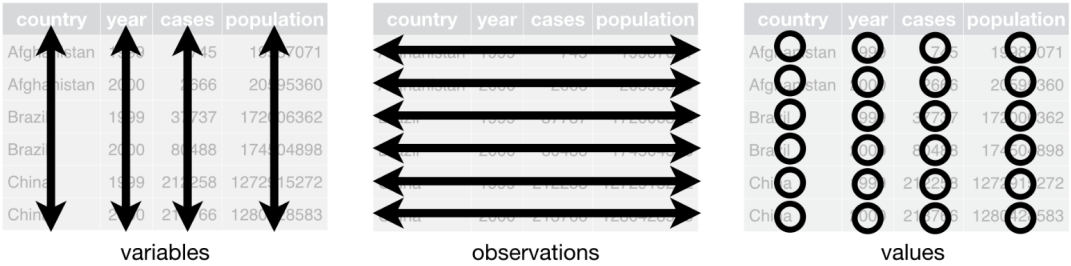
1. Literature Review
2. Exploratory Data Analysis

Dataset 1: Literature Review

What are the important causal mechanisms that explain business investment in states?

1. The Young Entrepreneur Council. (2017, Nov 1). 9 Things to Remember Before Relocating Your Business. *Small Business Trends*.
2. Gonzales, C., Kerlin, M., Schaf, R., and Tucker-Ray, S. (2019). How state and local governments win at attracting companies. McKinsey & Company.

"Three Rules of Tidy Data"



Source: Wickham (2018) R for Data Science. O'Reilly.

Dataset 1: The Motivating Problem

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Descriptive Statistics (Johnson 2012)

Measures of Central Tendency

- Mean
- Median

Deviations from Central Tendency

- Standard deviation

Measures of Variability

- Range
- IQR

Descriptive Statistics (Johnson 2012)

Measures of Central Tendency

- Mean
- Median

Deviations from Central Tendency

- Standard deviation

Measures of Variability

- Range = Maximum - Minimum
- IQR = 75th - 25th percentile

For Thursday

Variables

- Minimum wage
- Unemployment
- Population
- Homeowner Rate
- Manufacturing

Descriptive Statistics

- Mean
- Median
- Standard deviation
- Minimum
- Maximum
- 25th Percentile
- 75th Percentile

For Thursday

Predictors to Analyze (5): Min wage, unemployment, population, homeowner rate and manufacturing

Mean	= AVERAGE
Median	= MEDIAN
Standard deviation	= STDEV.S
Minimum	= MIN
Maximum	= MAX
25th Percentile	= QUARTILE.EXC (quart = 1)
75th Percentile	= QUARTILE.EXC (quart = 3)