



Real World (SAMPLES)

This is the hands-on world whose characteristic can be observed

- Statistical methods allow us to derive the characteristic of the *population* based on *sample*
- Statistical methods rest on probability theory
- Probability theory is a branch of mathematics and it deals with the modeling of random phenomena in other words phenomena which contain chance effects.
- In the ideal world (population) we have random variables defined on sample spaces
- In the real world (sample) we have statistic(s). Question: What is statistic(s)? Answer: Any aggregate quantity computed from the sample, ie. average, standard deviation.

NOTE THAT

- *We are hoping that the characteristic of our sample reflect well the characteristic of our population*