



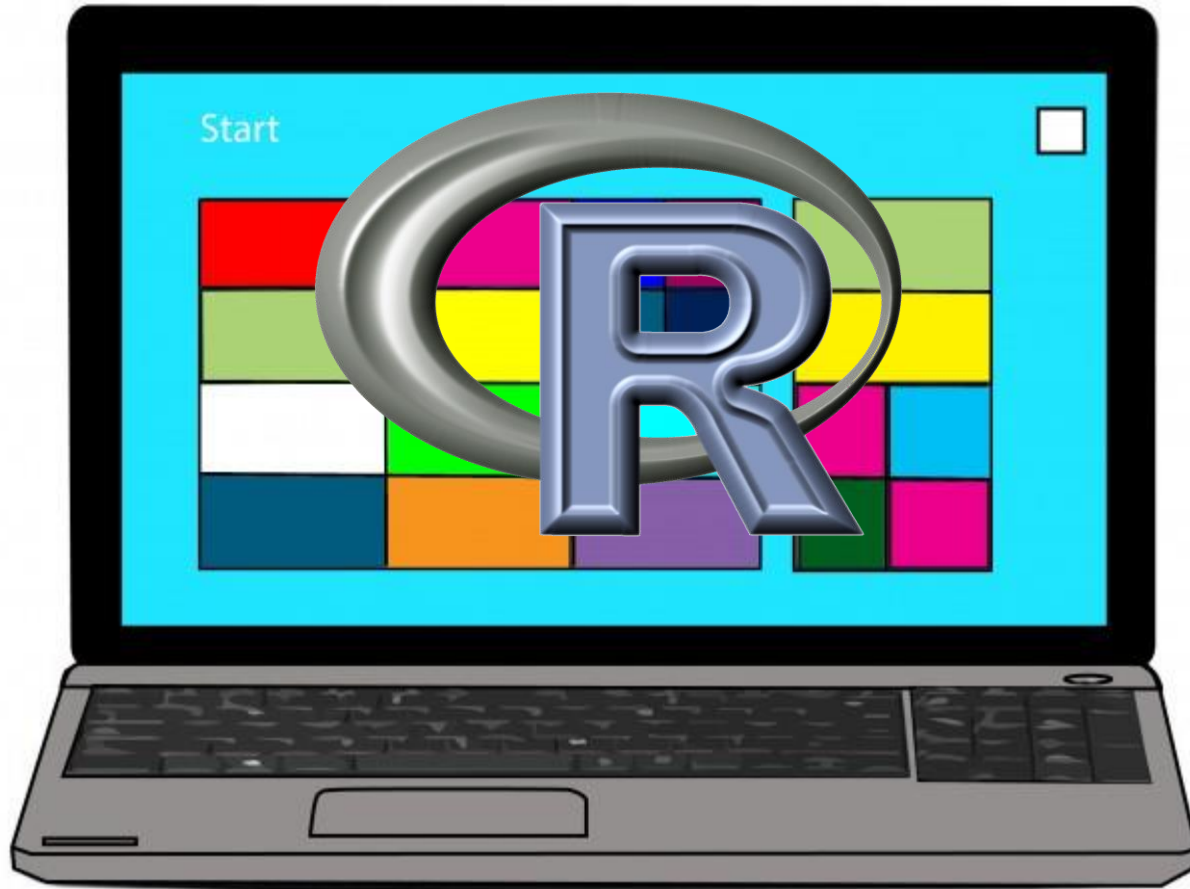
Advanced STATS and R

Multiple Regression

Wayne Stewart

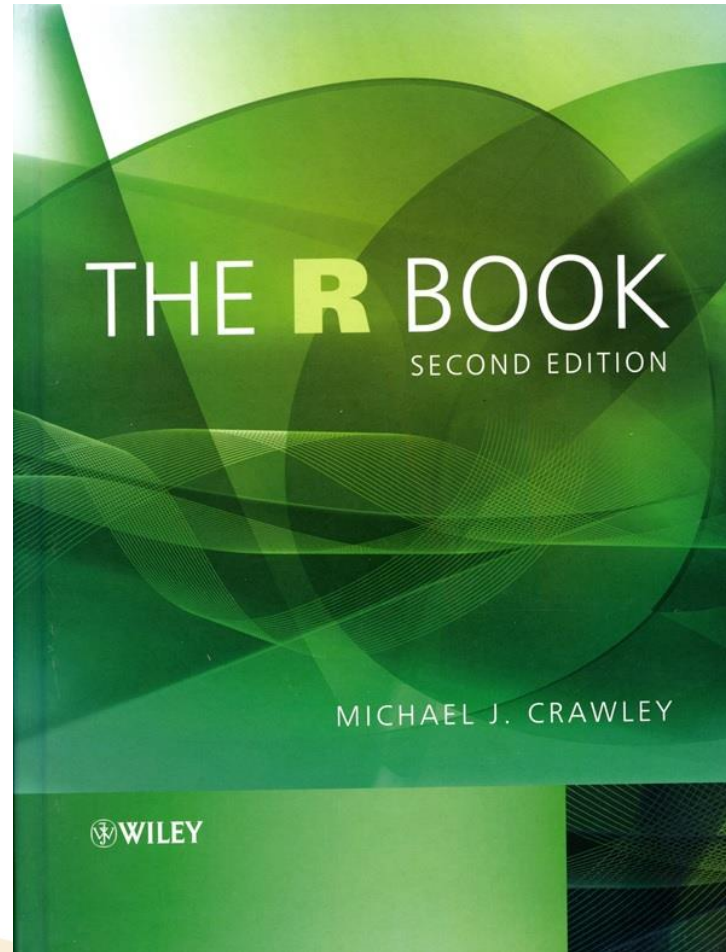


Bring your laptop or use Network.

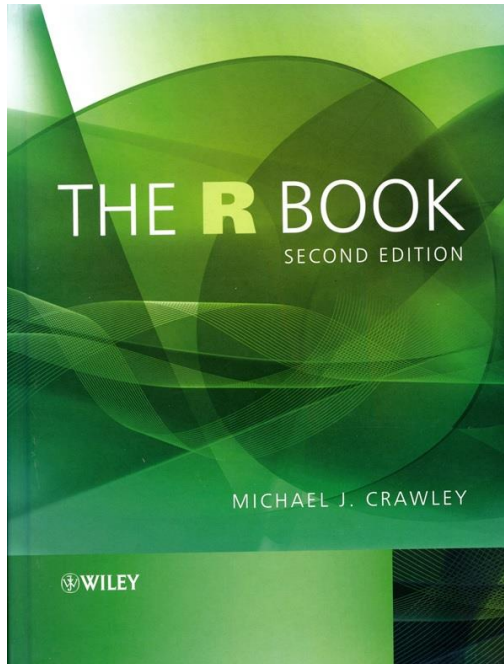


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We will Use the Library (Free)



Last time we looked at the Bootstrap



Bootstrap

Monographs
on Statistics and
Applied Probability 57

An Introduction to the Bootstrap

Bradley Efron
Robert J. Tibshirani

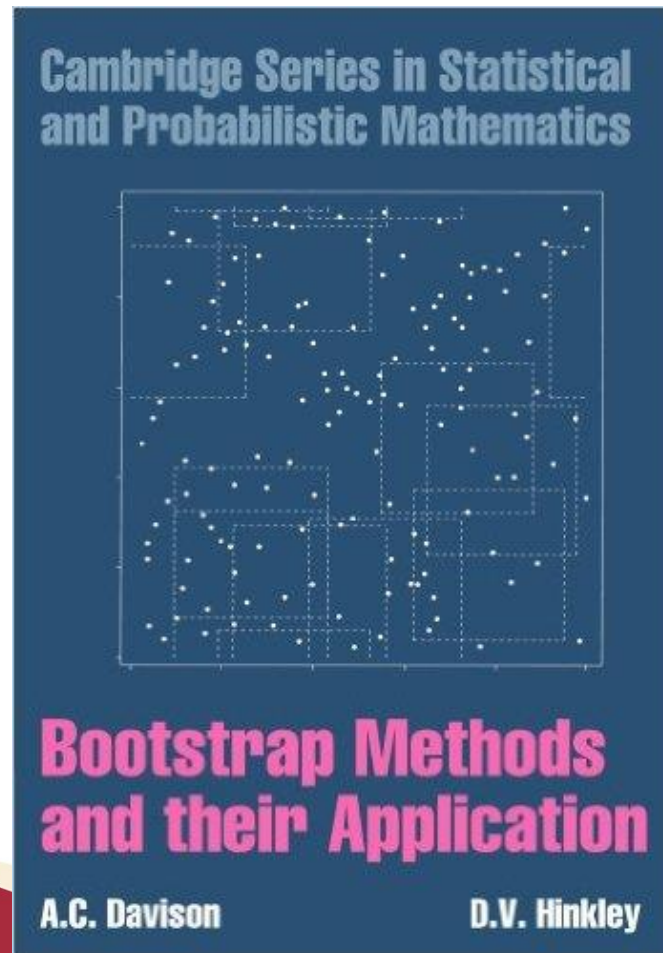


SPRINGER-SCIENCE+BUSINESS MEDIA, B.V.



The University of Oklahoma

Bootstrap

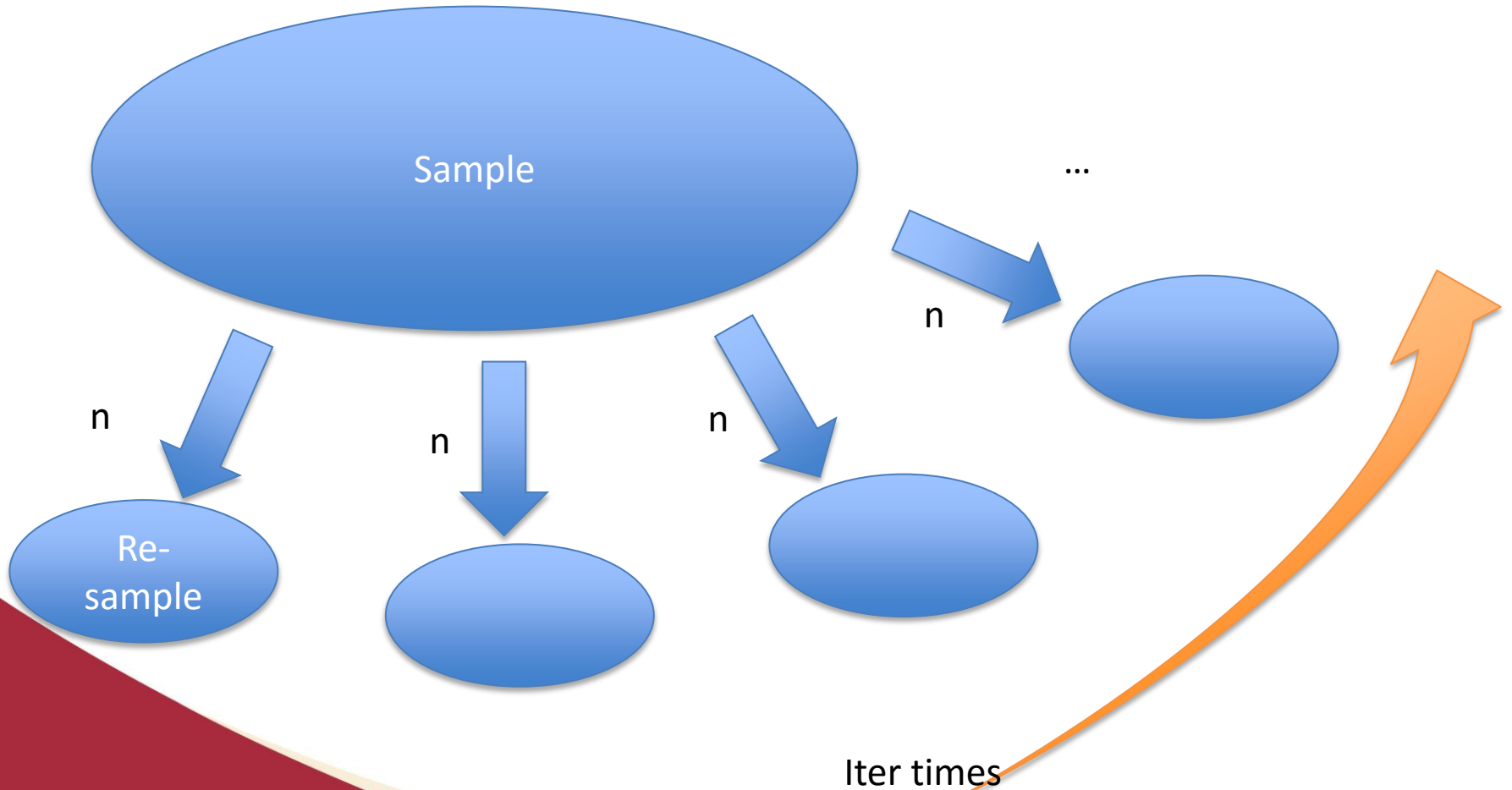


The Method

- Take a sample
 - re-sample from it!
 - Create a statistic from each sample
 - Record their values
 - Create summary statistics



The Method



Apply to multiple Regression

...

$$\hat{\beta} = (X'X)^{-1}X'Y$$



Apply to multiple Regression

$$\hat{\beta} = (X'X)^{-1}X'Y \quad \dots$$

Problems with this:

Computationally singular matrices may arise.

See if you can solve this – discuss next time.



Get the Data and Book

- Link below:
- statsandr.oucreate.com



Courses

- **Bayesian Stats MATH 4803/5803**
- Advanced Applied STATS MATH 4793/5793
- **Applied Statistical Methods MATH 4753**



Next time bring your laptop (if you want to).

