Lecture 1: Time Series

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Course Objectives

- Review Syllabus
- I will try and give an overview of a number of different methods, tools, and techniques
- I will try to teach the course in a very applied manner.
  - Will vary lecture to lecture on how much theory vs. application
- This is a small class- so what matters is what is useful to you not to me.

Course Organization

- I will try and have a break in our (very long) lecture
- This is a small class– please ask plenty of questions
- If you are lost - don't panic - so is everyone else!
- I will post slides and code examples to Github on the day of class

Grading

This is a Ph.D. course so you should be done worrying about grades by now

- (6) Problem Sets
- (1) Exam / Final Project
- Class Participation

Textbooks

You should learn from as many sources as possible
I will follow two main textbooks.

- Greene (2017). *Econometric Analysis*. ISBN: 0134461363
- Tibshirani, Hastie, Friedman (2016), *The Elements of Statistical Learning*. ISBN: 0387848576. Available online at `https://web.stanford.edu/~hastie/Papers/ESLII.pdf`.
- The standard Econometrics Ph.D. course is a bit more theoretical: `https://www.ssc.wisc.edu/~bhansen/econometrics/`

Software/R stuff

R is basically two different languages

- Base R is derived from S/S-Plus
- "Modern" R lives in `tidyverse` with a very different structure
- I will jump back and forth as necessary, but I will try to present things from `tidyverse` when possible
- Most of my day-to-day is in Python so I am far from an expert in R.

```
#always
library(tidyverse)
```