Statistics 434: Bullet Points for Day 23

Co-integration and Statistical Arbitrage

In the battle between "trend following" and "mean reversion" almost all of the tools that we have considered in our course have had more to say about the "trend following" argument. With the notion of cointegration (with or without a hyphen) we enter new territory. This territory includes some important economic ideas (such as purchase price parity), and some ideas with a real hedge fund flavor to them (such as the multifaceted world of statistical arbitrage).

- Comments on the Final Project and the Project Proposal
- The Grand Randomization — Who Goes When, Who Comments on Whom
- Classic blunders in regression
    1. Cumulative Net W/L of Philly Flyers and Log Price of CSCO?
    2. Two Random Walks and a Significant Beta?
- Co-integration
    1. When the blunder isn't a blunder?
    2. Origin of the nultipliers
        - Via Theory — e.g. Purchase Price Parity
        - Via Estimation
- Cointegration and error correcting models
- Conintegration and Statistical Arbitrage
    1. Synthetic Index
    2. Pairs Trading
    3. Generalized Surrogates
- LOTS of web resources
    1. A Drunk Man and His Dog (Co-Integration Parable)
    2. The Nobel Advance Information
    3. The Nobel Presentations

Quote of the Day:

"It's difficult to get someone to understand something when his salary depends on his not understanding it." — Upton Sinclair, quoted by John Bogle when discussing the mutual fund industry's attitude toward indexed funds. In fairness, professional blindness is not exclusive to financial services. There are even reported sightings in academia.