ECO764A: Financial Econometrics
Spring 2022
Syllabus

Instructor: Wasim Ahmad
Lectures: T (L20) 10:30-11:45, Th (L20) 12:00-13:15
Location: Online
Course Outline:

Overview of course content:

1. Financial Markets: Asset classes and financial instruments
2. Equity Analysis: Introduction to portfolio theory, Markowitz, equilibrium models – CAPM, APT, Non-standard forms of CAPM, statistical framework for estimation, testing and illustrative implementation, calculation of factors of FF models.
   Software: R Studio and Excel Solver
3. Market microstructure: High frequency finance, bid-ask calculations, calculations of realized volatility, jumps and bi-power variations, intraday (tickbytick) data analysis.
4. Derivatives: Valuation of futures and options, commodity and equity derivatives
5. Time-Series Models: Univariate and multivariate modelling and simulation, the application of these models to equity, debt and derivatives.
6. Volatility Models: Estimation of time-varying volatility, spillover, dynamic hedging and portfolio selection and riskiness modelling
7. Non-linear time-series modelling in finance.
   Software: R Studio

Textbooks:

- Bodie, Z., Kane, A., & Marcus, A. J. (2014). *Investments*, 10th Edition. McGraw-Hill. https://zvibodie.com/book/investments/
- Hull, J. C. (2017), *Options, Futures and Other Derivatives*, Tenth Edition, Pearson, New York
- Ruppert, D., & Matteson, D. S. (2015). *Statistics and Data Analysis for Financial Engineering*. Springer, New York, NY.
  Source files: https://people.orie.cornell.edu/davidr/SDAFE2/index.html
- Tsay, R. S. (2010): "Analysis of Financial Time Series", Wiley, 3rd edition
  http://faculty.chicagobooth.edu/ruey.tsay/teaching/bs41202/sp2013/
- Research papers from leading finance journals.

Course folder:
https://drive.google.com/drive/folders/1aNGWY2jCFvQc2Ox2v6Qic2k2jf2peGtl?usp=sharing

Grading Policy:

1. Mid-term: 30%
2. End-term: 30%
3. Quiz (includes surprise test): 20%
4. Assignments & presentations (individual + group): 15%
5. Attendance: 5%