

Chapter 1 - Financial Asset Prices and Returns

Finance 5330: Financial Econometrics

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Section 1.1: What is Financial Econometrics?

- No simple definition
- Data analysis for finance/economics (we will be reading Tukey's paper later)
- Empirical implementation of financial models (ex: CAPM)
- Methods of estimation and inference
- Forecasting, policy analysis, academic understanding of financial market phenomena
- Draws on finance/economics, probability, statistics, applied math
- Connections to ML & AI
- Basics: Finance Theory + Data Analysis

Section 1.2: Financial Assets

- Fixed income
 - Equity
 - Derivatives
 - Cash flows generated from these securities/contracts (streams of cash flows)
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- Cash: claim on stream of services that it can secure by virtue of its role as a medium of exchange
 - Ludwig von Mises on the evolution of money
 - Cash is a kind of derivative security that derives its value from the opportunity cost of goods and services
 - Exchange rates between currencies (foreign exchange markets are the largest financial markets in the world)

Fixed-Income Securities

- Two streams of cash flows
 - Stream of coupon payments made at regular fixed intervals
 - The eventual return of principal at maturity
 - Financial innovation is a major factor in these markets
 - (the original term fixed-income came from the simplest forms. Subsequent forms are much more sophisticated)
- Money Markets
 - Short-term, very liquid
 - ▶ Treasury bills: simplest form of government debt (3,6,9 month maturities | pure discount bonds)
 - Eurodollar deposits: deposits of US banks held in financial institutions outside the US denominated in USD.

- Bond markets
 - Government bonds (e.g. US Treasury) (often zero-coupon or pure discount)
 - Corporate bonds (e.g. CAT)
 - ▶ Typically coupon-paying bonds
- Equity Securities
 - Common stock: give the owner an equity stake in the assets of the company and its earnings
 - ▶ (call option on assets w/ K = face value of liabilities)
 - Dividends: payments representing distribution of company earnings
 - Dividend yield: \$ amount per share, or as a percentage of current market price