

Overview

Corporate Finance and Incentives

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- Will go through most relevant material in the curriculum today
- ... not a substitute to the official curriculum
- ... but focus on the main results and intuition
- Exam will consist of 3 exercises.
- The first will consist of 8 separate questions - some calculation based, while others will be based on more intuition.
- Not quite the same as the essay based questions previously, but not too far away either
- The second and third question will be calculation exercises (though intuition is still needed) in areas of the curriculum
- No list with formulas will be provided in the exam - some formulas will be listed, but far from all

- Discounting of cash flows
- Know your bond types:
 - Zero coupon bonds
 - Bullet bonds
 - Annuity bonds (formula will be provided if needed)
 - Variable rate bonds
 - Perpetuities
- Short and forward rates
- Yield to maturity
- Term structure
- Duration and convexity measures
- Bond market pricing in practice - dirty and clean prices

- Understand tradeoff between risk and return
- Be able to derive mean return, variance, covariance and correlations
- The efficient frontier
- Minimum variance portfolio
- The role of risk-free assets
- The tangency portfolio
- The Capital Markets Line
- The Securities Markets line

CAPM and APT

- CAPM (formula will be provided)
- APT
- Factor models
- Fama-French 3-factor model

- What is a derivatives contract
- Pay-off functions
- Used across a variety of markets

Derivatives

Forwards/Futures

- Fixes the value of the underlying asset at a future date

Swaps

- An exchange of two cash flows

Options

- A possibility, but not an obligation, to buy/sell an asset at a future date

Structured credit products

- Asset-backed securities (ABSs), collateralized debt obligations (CDOs), mortgage-backed securities (MBSs), collateralized mortgage obligations (CMOs)

Structured notes

- Notes where the payoff depends on the development in some linked asset - a currency, equity, commodity, interest rate..

- Terminology
- American vs European options
- Binomial trees - pricing
- Put-call parity (formula provided)
- Black Scholes formula (in its various forms - formula provided)
- Moneyness concept
- The Greeks
- Risk neutral valuation and replicating portfolio
- Estimating volatilities
- Implications of dividend payments

Real Investments

- Estimating cashflows
- Evaluation methods, NPV, IRR...
- Risk-adjusting
- Understanding corporate balance sheets
- Debt financing
- Introducing taxes
- WACC
- Cost of Capital and Cost of Equity
- How to use option theory to price project with option-like features

- Only chapter 14-16
- Understanding the leverage concept and its implications
- Modigliani-Miller theorem about capital structure
- Dividend irrelevancy Theorem
- Understanding the conflict between debtholders and equity holders