Syllabus

232D Option Markets
Sec 01 (MBA)

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Schedule
Meets: Thursday, 8:30 – 11:20 am
Room: Cornell, D-313

Teaching Assistant
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Office Hours
TBA

Focus

Option pricing theory is one of the most exciting areas in finance. It started as an esoteric and specialized subject forty years ago, to become a cornerstone of modern finance today. The total notional amount of the global derivatives market represents more than $600 trillion. It is thus as important as ever to understand the opportunities as well as the risks implied by derivative instruments.

The main theme of this course is the use and pricing of forwards and futures, swaps and options. The main tool we will use is the binomial model and we will also discuss its close relative, the Black-Scholes model.

We will discuss several important applications, such as financial and commodity forwards and futures, interest rates derivatives, swaps, exotic options, corporate securities, real options, credit instruments, and risk management. We will put emphasis on practical implementation. Expect numerous numerical examples.
Prerequisites

MGT 230 (Theory of Finance), basic knowledge of economics and capital markets, mathematics, and statistics. As the subject is inherently analytical, the course places slightly higher quantitative demands on students than the average MBA course.

Organization of the Course

The course will be in a traditional lecture format, with a midterm and a final exam. There are 5–10 problem sets. I strongly advise working in groups, but you will have to submit problem sets individually through Equiz.me (I will give more details about homeworks during the first class).

In addition to enrolling through the proper authorities, please send me an email with the following information:

- name
- program and year in program
- major (if any)
- your background in finance and mathematics
- telephone number
- any other information you consider important

Course Materials

Main textbook for the course

Robert McDonald, *Derivatives Markets*, Pearson Addison Wesley, second edition, 2006. This book is very good at explaining how options, futures, and other derivatives are used as well as how to price them. It offers a well balanced mix of intuition and rigor, and is easily accessible to MBA students and advanced undergraduates.

Optional textbook


Grades

40% final exam, 30% midterm, 20% problem sets, 10% class participation.
Course Outline

The following is a tentative list of topics covered in this class:

- Introduction to derivatives: payoff and profit diagrams, forwards and options (McDonald Chapters 1, 2, Appendix B)
- Binomial option pricing, risk-neutral pricing (McDonald Chapters 10, 11)
- Black-Scholes: basic formula, greeks, delta-hedging (McDonald Chapters 12, 13)
- Financial forwards and futures, commodity forwards and futures (McDonald Chapters 5, 6)
- Interest rates forwards and futures (McDonald Chapter 7)
- Swaps: interest rate swaps, currency swaps, commodity swaps, swaptions (McDonald Chapter 8)
- Beyond Black-Scholes: pricing and hedging volatility risk, variance and volatility swaps (McDonald Chapters 11.4, 12, 23)
- Risk management (McDonald Chapters 3, 4, 15)
- Additional topics as time permits:
  - exotic options
  - corporate securities
  - credit instruments
  - real options

References

The binary options market has evolved greatly since its early beginnings. The market used to be an Over-the-Counter (OTC) instrument that was traded exclusively by high net-worth investors and financial institutions. This was until 2007 when the Securities and Exchange Commission approved proposals to open the market up to the public. Since then, there has been a transformation in the depth of the market and in how the financial assets are traded. The binary bet markets is indeed a huge opportunity that has presented itself for the taking. Perceptive traders can step out of the comfort zone of conventional investment vehicles to take advantage of what the binary bet markets has to offer. The D 232 One dropper seatpost is the most interesting product in the 232 lineup. DT Swiss. The key product in DTâ€™s new 232 range is the D 232 One inverted dropper post. The headline spec of the dropper is its â€“ in the context of dropper posts â€“ feathery weight. Weighing a claimed 369g, the D 232 One is lighter than most mainstream droppers on the market. While options have existed on the fringe of the market for some time now, given that DT â€“ a huge brand that is unlikely to invest R&D budget in a passing fad â€“ has thrown its hat into the ring suggests there is a real appetite for lightweight droppers in the XC racing world. DT Swiss 232 One inverted cross-country dropper seatpost key specs.