Objective of the Class

The course will focus on modern, quantitative methods to measure and manage the various forms of risk that financial institutions face. We will also discuss some key regulatory issues, such as capital adequacy ratios and deposit insurance.

Recommended Text


Grading

You will have 2 mid-term exams, and one final exam. The breakdown will be approximately

- First mid-term: 25%
- Second mid-term: 25%
- Final: 40%
- Problem sets and class participation: 10%

Description

Part one: Interest rate risk & Market risk

What are the economic forces driving the yield curve? How does the Fed’s reaction to oil price shocks affect the balance sheets of banks? Why are carry trades risky?

What is the duration gap? How can a bank immunize its bond portfolio against interest rate risk? How can it hedge using futures, forwards and options?

What is the Value at Risk? How do we estimate it in practice? What do banks need to do to satisfy capital adequacy ratios?

Part two: Credit Risk

How do we measure credit risk using reduced form models? How do we measure credit risk using structural models? How does Moody’s KMV work? Was Enron’s default predictable?

Why is David Li’s model so useful for pricing credit derivatives? Why did hedge funds lose hundreds of millions of dollars when GM bonds were downgraded?

How should a bank hedge default risk? Is credit risk diversifiable? Are CDOs useful for banks’ risk management strategies?