

MFE 409: Financial Risk Management

Problem set 7

Valentin Haddad

due 6/1 before midnight

You should work with your assigned group but should write up your answer individually (except for question 1). Give the name of your group members in your writeup and post it on CCLE before Monday June 1 at midnight.

1 LTCM

Please read in details the paper “Risk Management Lessons from Long-Term Capital Mangement” by Philippe Jorion (on CCLE). Write short essays answering the following questions.

1. What was the broad trading strategy of LTCM?
2. Why did they need so much leverage?
3. How did their demise happen?
4. What were the most important issues with their risk management approach?
5. How would you manage risk for a fund trying to trade similar strategies?

2 Merton model for credit risk

A company’s equity is \$5 million and the volatility of equity is 60%. The face value of debt is \$20 million and time to debt maturity is 1 year. The risk-free rate is 2%.

1. What is the distance to default?
2. What is the default probability?
3. What is the expected recovery rate on the debt?

Make sure to show and explain all steps!

3 Optional: Merton with an Arithmetic Brownian Motion

Solve Long Question 1 from last year's final (on CCLE).