

Foundations of Finance  
Midterm Exam Study Guide  
Joel Hasbrouck, Fall, 2008

### Materials

You should have on hand this guide, the class notes, and the books. Online materials include answer keys to the two assigned problem sets; sample midterm exams (mine and Silber's).

### Format

The exam will consist of 20-24 multiple choice questions. Roughly 65%-75% of the problems will require a numerical calculation of some sort; the remainder will be non-numerical/conceptual questions. The exam paper will have space for you to do the calculations, but only the final choice recorded on the answer sheet will count.

You should bring your financial calculator. If it is not one of the following, let me know prior to the exam: Texas Instruments (BA II, BA II plus, BA-35 solar, BA Real Estate) an HP (10b, 10bII, 12c, 17b, 17bII); a Sharp (EL-733, EL-733a).

You can bring one 8 ½ x 11 inch sheet of paper with notes. The sheet can contain verbatim material from the book, class notes, problem solutions, etc. The sheet may be covered on both sides. The font may be as tiny as you please, but you are not allowed to bring in an electron microscope to read it.

In a typical class, the note sheets range from crudely scrawled reminders

(☠ *DNT ÷/× EAR by m* 😊) to elaborately outlined entire-course-on-the-head-of-a-pin transcriptions. I haven't found the completeness of the note sheet to be a very good predictor of exam performance.

I'll time the exam for 90 minutes, but I'll give you up to 120 minutes.

### Study Priorities

You are responsible for all assigned readings, problems and class notes/discussions. Not all of this material is weighted equally, however. Generally, I try to cover the most important things in the class notes, and the recommended problems focus on this material. Below, I offer some further suggestions

### Broad priorities

1. Review the class notes.
2. Skim the indicated sections of the book
3. Try the recommended problems, going back to the solutions or assigned readings as needed.  
The problems are not picked at random. I select particular problems to illustrate concepts, tools or techniques that are important.
4. Try the practice exams, going to the solutions or assigned readings as needed.

Note: the practice exams include actual questions from previous exams. The coverage and emphasis of the current class, however, may differ from the previous classes. I've tried to indicate the relevant problems, but some questions on things we didn't cover may have slipped through.

5. Read the text in depth.

### **Summary of topics, readings and problems**

Time value of money. RWJ Chapters 4 and 5. Ch. 4 problems: 13, 16, 19, 20, 22, 25; Ch. 5 problems: 14, 15, 31, 32, 44, 55, 56. You generally won't need to crank through the formulas on exam problems. You definitely do not need the formulas for present and future values of annuities. All numerical problems can be solved with a financial calculator.

How securities are traded. BKM Chapter 3; Problem sets 4, 5, 8, 12, 14, 17. The class notes and chapter readings cover pretty much the same material, but the organization differs. I discuss the T-bill/bond auctions in the class notes, but it is not covered in the book and you aren't responsible for the details of the procedure. The material on limit order books, margin buying and selling short is particularly important.

Chapter 5. (skip sections 5.9 and 5.10) Problems: 3, 7, CFA Problem 1. The most important things are taxes, inflation, computation of HPRs, arithmetic and geometric averages, and scenario analysis. In the historical statistics section, you should know the mean and standard deviation for US large stocks, as well as the average risk-premium for large US stocks, as we used these numbers extensively later on. But you are not responsible for knowing the historical estimates for other asset classes.

Chapter 6. Recommended problems 1, 2, 4, 17, 18, 21\*, 22\* (\*=relatively difficult). You should know the mean-variance approach to risk and return (but it is not necessary to study the material related to "A", the measure of risk-aversion). In section 6.5, it is only necessary to know the indifference approach to portfolio choice. Section 6.4 (the development of the CAL) is particularly important.

Chapter 7. Sections 7.1-7.4; Skip 7.5 and the appendices; Recommended problems 1-3, 11, 12; CFA problems 5, 6, 7, 12a. The most important sections here are 7.2 and 7.3 (the general treatment of the 2-security, and 2-security+risk-free portfolio problems). You might see an estimated regression on the exam, or a security-characteristic-line plot, but it is not necessary to know the details of the Bloomberg screen.

Chapter 8. Sections 8.2 and 8.3 only. Problems 7 and 8; CFA problem 5.

Chapter 9 through section 9.3. Skip the material dealing with "The risk premium of the market portfolio" (pp. 283-284). Skip the mathematical derivation leading up to equation (9.8). Problem sets: 1-3, 6-12, 16, 19; CFA problems 3-9. The SML and its interpretation are the most important concepts.

Ch. 18 through p. 594 (up to, but not including "Convergence of price to intrinsic value"); Problem sets 3, 4a, 7, 8a. The important thing here is the constant growth dividend discount model.

**Additional Help**

Frank Cavallo (the TA) holds office hours M & W, 5-6p and 9-10p. You can also email us.