Syllabus Foundations of Financial Markets
Spring 2010
C15.0002.02

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1 Instructor

Professor Xavier Gabaix
Office: KMEC 9-77
Phone: (212) 998-0257
Fax: (212) 995-4233
Email: xgabaix@stern.nyu.edu
Web page: http://www.stern.nyu.edu/~xgabaix
Office Hours: Monday 3.15-3.45pm, 5.30-6pm, Wednesday, 5.30-6 pm, or by appointment.

2 Teaching Assistant

There is a Teaching Assistant, whose name and office hours will be announced on the class web site and in the first class, and who will teach a review section. Place and time of the review section will be announced on the class web page.

3 Class Time

The class meets twice per week, Monday and Wednesday, 2pm-3.15pm.
The first class is on Wednesday 1/20. The last class is on Wednesday 5/3.
The final exam will take place between May 5 and May 11.
The venue is Tisch, Room 2-01.

Classroom Civility  Your behavior should respect your classmates desire to learn. Each lecture begins exactly at 2:00 p.m. I understand your busy work schedules, but try not to come late. Because of the classroom layout, it is disruptive no matter how quiet you are. If
you carry a cell phone or any other type of ‘audible alert device’, turn it off before entering class. Do not engage in side conversations during the lecture. Repeated occurrence of such disruptions will be reflected in the final grade. If you must miss a class or must come late, please let me know by email beforehand.

4 Readings

The textbooks for this class are:

1 “Essentials of Investments” by Zvi Bodie, Alex Kane, Alan J. Marcus, 7th edition.


We will mainly use [1], abbreviated BKM below. The main role of the textbooks is to serve as a source where you can review the material. BKM is at times very good and tightly linked to the material I cover, but a bit weaker and less related to the material I cover in class on some other topics. That being said, it is currently the best book on the market for our purposes, and you will need it to prepare before class and go over the material after class.

We will only use chapters 4, 5 and 8 from [2], abbreviated RWJ. They come as a supplement in the class material packet. The supplement [2] will only be used in class 2. If you did not buy [1] through the bookstore, you can purchase [2] separately, online on the publisher’s web site (https://ebooks.primisonline.com/eBookstore). On this web site, [2] is called Ross investments supplement. It costs about $11.

The main class material is the course pack, which I will hand out in the first class. It contains all powerpoint slides that I use in class, handouts with important material, problem sets, and practise exams. You will want to take notes during class; space is available next to the slides and on the left page. The handouts at the end of the course pack are there to alleviate the amount of writing you need to do.

Staying Up-to-Date The class web site on Blackboard contains links to recent articles in the financial press that complement the lectures. You are encouraged to follow financial and macroeconomic news in the Financial Times, Wall Street Journal, or The Economist. If you encounter an interesting article that you would like to share with the class, send me an email and I will post it on the class web site. This section of the Blackboard site is regularly update during the semester.

5 Communication

The class web site is on Blackboard at http://sternclasses.nyu.edu/. This is the central location where all teaching materials are posted. TA office hours and class announcements
will be posted here. Problem sets are posted there as well. Solutions to the problem set will be posted no later than one week after the due date; they will not be distributed in class.

The class web site also contains the concept questions (see below), suggested problems, and some finance links and articles. Finally, there is a discussion board where the TAs and myself will participate on a regular basis to answer your questions. You are encouraged to answer each others’ questions. You can turn to the discussion board to read your colleagues questions and the answers to their questions.

6 Exams and Assignments

Grades will be based on the final exam (40 percent), the midterm exam (30 percent), problem sets (20 percent), class participation (10 percent). The participation grade consists of class participation (2/3) and participation in the concept questions on Blackboard (1/3).

At NYU Stern we seek to teach challenging courses that allow students to demonstrate differential mastery of the subject matter. Assigning grades that reward excellence and reflect differences in performance is important to ensuring the integrity of our curriculum.

In core courses, our faculty have adopted a standard of rigor for teaching where:

- 25 – 35% A’s - awarded for excellent work
- 50 – 70% B’s - awarded for good or very good work
- 5 – 15% C’s (or below) - awarded for adequate or below work

Note that while we use these ranges as a guide, the actual distribution for this course and your own grade will depend upon how well each of you actually performs in this course. Please see www.stern.nyu.edu/undergraduate/grading for Teaching and Grading at the NYU Stern Undergraduate College for more information.

Exams The midterm and final exams test your understanding of the key concepts in the class. They do not test your ability to memorize or to use your calculator, rather they probe your deeper understanding of the material. As a result, they may be more challenging than the exams you are used to. To prepare for these exams, you should review the slides together with your own class notes, the handouts (at the end of the course pack), the concept questions, the required readings, the problem sets, the sample exams (located in your course pack behind the homework), and preferably the suggested problem sets and suggested readings. The final exam is cumulative.

You will be allowed one double-sided page of notes at the midterm exam and two double-sided pages of notes at the final exam. The sheets must be no larger than 8.5 inch by 11 inch. There are no restrictions on the content of the formula sheets, except that you are not allowed to reprint my powerpoint slides verbatim.

You are not allowed to take the exam questions home, and no written answers will be provided. There will be a post-midterm discussion in class. Once graded, you are allowed to come visit your midterm in my office, during office hours or by appointment. The same rules apply to the final. If you must miss an exam, you will be required to make it up after the semester is over. No laptops, palm pilots, cell phones are allowed on the exam.
Re-Grading  In line with Grading Guidelines for the NYU Stern Undergraduate College, the process of assigning grades is intended be one of unbiased evaluation. This means that students are encouraged to respect the integrity and authority of the professors grading system and discouraged from pursuing arbitrary challenges to it. If a student feels that an inadvertent error has been made in the grading of an individual assignment or in assessing an overall course grade, a request to have the grade re-evaluated may be submitted. Students should submit such requests in writing to me within 7 days of receiving the grade, including a brief written statement of why he or she believes that an error in grading has been made.

Calculator  You need a calculator for this class. It is a distinct advantage to have a financial calculator, but not an absolute requirement. If you plan to take other finance classes, you will get good use out of a financial calculator anyways. Standard financial calculators include the HP 12C (costs about $70), the HP 10B-II (costs about $30) and the TI BA-II Plus (costs about $30). You are expected to learn how to operate the calculator on your own. However, you can get help by attending the teaching assistants’ review sections (after class 2) or his office hours. Finally, I have included some useful slides in the course pack on how to work with the calculator.

Course Policies Attendance  Class attendance is mandatory and part of a student’s grade. Absences may be excused only in the case of documented serious illness, family emergency, religious observance, or civic obligation. If you will miss class for religious observance or civic obligation, you must inform you instructor no later than the first week of class. Recruiting activities are not acceptable reasons for class absence. Students are expected to arrive to class on time and stay to the end of the class period. Chronically arriving late or leaving class early will have an impact on a student’s grade. Students may enter class late only if given permission by the instructor and can do so without disrupting the class. Note: Instructors are not obligated to admit late students or may choose to admit them only at specific times and instructors are not obligated to readmit students who leave class.

Participation  Participation is an essential part of learning in this course. Students are expected to participate in all facets of classroom learning.

Ethical Guidelines  Student Code of Conduct All students are expected to follow the Stern Code of Conduct (http://www.stern.nyu.edu/uc/codeofconduct) A student’s responsibilities include, but are not limited to, the following: A duty to acknowledge the work and efforts of others when submitting work as one’s own. Ideas, data, direct quotations, paraphrasing, creative expression, or any other incorporation of the work of others must be clearly referenced. A duty to exercise the utmost integrity when preparing for and completing examinations, including an obligation to report any observed violations.

Students with Disabilities  Students whose class performance may be affected due to a disability should notify the professor immediately so that arrangements can be made in con-
sultation with the Henry and Lucy Moses Center for Students with Disabilities http://www.nyu.edu/csd/ to accommodate their needs.

**Concept Questions**  After every class, concept questions are posted on Blackboard under *course documents*. The concept questions test your understanding of the main concepts taught in the class of that day. Usually, there are between 3 and 10 multiple choice questions per test. After you have reviewed the material from class, it should take you no more than 10 minutes to complete these concept questions. Every concept test is available for ten days, starting from the time the class ends. Participation in the concept questions counts towards your participation grade (it is one-third of your participation grade). However, I will not keep track of whether you answered the questions correctly or not. Basically, the concept questions are good preparation for the exam and a device that gives you an extra incentive not to fall behind. If you like to keep the concept questions for your records, you must print them out while the test is online. I do not distribute these questions by email and do not make the link available after the initial ten day period.

**Problem Sets**  There will be 10 problem sets over the course of the semester. For each problem set, you will be rewarded full credit if you have made a good-faith effort to answer all of the questions and if you hand in the problem set on time. Late problem sets will not be accepted. Answers to the problem set must be your own. You are encouraged to acknowledge any help you received on the front page of your problem set solution. The homework questions will be in the same spirit of the exam questions, but slightly easier. The reason is that they are your first confrontation with the implementation of the material.

I will make exceptions for religious observance or civic obligation only when the assignment cannot reasonably be completed prior to the due date and the student makes arrangements for late submission with the professor in advance.

**Suggested Problems**  After every class, suggested problems are posted on Blackboard under *Assignments*. These questions are intended you give you extra practice over and above the homework. You do not have to turn them in, and there is no credit for them. You can look up solutions in your solution manual [2]. The solutions to the questions in the RWJ booklet (class 2) are included in your course pack. Practise makes perfect: You are strongly encouraged to take the suggested problems seriously.

**Study Groups**  It is highly recommended that you regularly review the readings and class notes in a study group. Don’t wait until exam time to set up such a study group. By then it’s too late. You are encouraged to work on the problem sets with your study group, but you must hand in your own answers.

## 7 Course Content and Class Schedule

**Content**  Course Description
This course covers the elements of financial markets, financial securities and how they are valued and traded. The perspective is that of the investment manager, responsible for the investment portfolios of insurance companies, banks, pension funds, mutual funds, endowment funds and personal trusts. What we cover in this course has obvious implications for stock selection strategies by individuals and for financial decisions within firms. However, these topics are covered in greater depth in other courses (Investment Principles C15.0041, Corporate Finance Topics C15.0008) and are merely introduced here. We discuss several outstanding problems of investment management, including the definition of appropriate standards of prudence, security valuation, performance measurement, the asset mix decision and alternative risk control procedures.

The course is a rigorous, quantitative introduction to financial market structure and financial asset valuation. The main topics of the course are arbitrage, portfolio selection, equilibrium asset pricing (CAPM), fixed income securities and derivative pricing. There is a small section on project valuation.

You are expected to understand valuation formulas and be able to apply them to new problems. The appropriate tools necessary for solving these problems will be developed at each stage and practiced in the homework assignments. The models we will cover have immediate applications and implications for real-world financial decisions. Every effort will be made to relate the course material to current financial news.

**Detailed Outline**  We will try to follow the schedule below. Required readings are indicated as RR, suggested readings as SR. The readings starting with 'H' are handouts, situated at the end of your course packet.


<table>
<thead>
<tr>
<th>Overview of class</th>
<th>RR: Syllabus</th>
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<tbody>
<tr>
<td>Financial Instruments</td>
<td>RR: BKM 1.1-6, SR: BKM 2</td>
</tr>
<tr>
<td>Financial Markets</td>
<td>RR: BKM 1.5-6, 3.1-2, 3.5, 3.7 SR: BKM 1.7, 3.3-4, 3.8</td>
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**Topic 2: Performance of Securities (1/27,2/1)**

| PV, FV, annuities, perpetuities | RR: RWJ 4, 5.1-2, H1-2 |
| Compounding and Return measures | RR: RWJ 5.3-4, BKM 5.1-2, H3-5 |

**Review Session: Statistics (2/3)**

| Basics of statistics. See class notes. | RR: RWJ 4, 5.1-2, H1-2 |

**Topic 3: Portfolio Theory (2/8-10)**

| Positions and Portfolio Returns | RR: H6-8, BKM 5.5 SR: BKM 5.3-4 |
| Efficient Portfolios with Two Risky Securities | RR: BKM 6.1-2, H9 |
| Optimal Portfolios and Investor Preferences | RR: BKM 5.2,5.5 |
Topic 4: Portfolio Theory (2/17-22)
Efficient and Optimal Portfolios with Riskless Asset RR: BKM 5.5-6, 6.1.6.3
Efficient and Optimal Portfolios with Multiple risky securities RR: BKM 6.2.6.4-5, H10-11
Introduction to Capital Asset pricing Model RR: BKM 7.1

Topic 5: Capital Asset Pricing Model (2/24,3/1-3)
Applications of the CAPM RR: BKM: 7.5, H13-14 SR: BKM 7.3-4, RWJ 8.1, 8.4
Beyond the CAPM RR: BKM: 13.3

Review session and Midterm (3/8-10)
Review session (3/8)
Midterm exam in class (3/10).

Topic 6: Equity Valuation (3/22,24)
Dividend Discount Models and Valuation Ratios RR: BKM 13.1-4, H16-17, SR: BKM 13.5-6

Topic 7: Arbitrage (3/29)
Arbitrage and the Law of One Price RR: H15

Topic 8: Fixed Income Securities (3/31,4/5-7)
Bond Prices and Yields RR: BKM 10.2 – 4, H18-19, SR: BKM 10.1
Yield Curve and Forward Rates RR: BKM 10.5-6, H20-22
Midterm debriefing
Duration and Immunization RR: BKM 11.1-3, H23-24 SR: BKM 11.4-5

Topic 9: Fixed Income Securities and Options (4/12-14-19)
Options Basics and Strategies RR: BKM 15.1-2, H25 SR: BKM 15.3 – 4
Options Strategies and Minimum Value RR: BKM 16.1, H26-27
Black-Scholes Option Pricing Formula RR: BKM 16.3-4 SR: BKM 16.5

Topic 10: Futures, Swaps (4/21-26)
Futures and Forwards RR: BKM 17.1, 17.3-5, H28 SR: BKM 17.2

Topic 11: Market Efficiency (4/28)
Market Efficiency RR: BKM 8, 9.1
Problem sets There will be 10 problems sets. They are due in class on: 2/8 (PS1), 2/17 (PS2), 2/22 (PS3), 3/1 (PS4), 3/8 (PS5), 3/31 (PS6), 4/5 (PS7), 4/12 (PS8), 4/19 (PS9), 4/26 (PS10).

The weakest two problem sets will not count.

Policy on Lateness: Late problem sets will not be accepted. (Since late problem sets are not accepted, I’ve built a little flexibility into the system by not counting the weakest two problem sets.)