Columbia Business School
B8308 - Debt Markets
Fall Term, 2015

Dr. R. Philip Giles  Office: Uris 218-I, 854-4660
rpg2@columbia.edu  Office Hours: 4:00 - 5:00 pm Tue & Thur or by appointment

Class schedule  B8308, Tuesday and Thursday 2:15 - 3:45

Teaching Assistant  Cyrus Aghamolla, caghamolla18@gsb.columbia.edu

Contents: The focus will be mostly on long-term credit market instruments for U.S. and international markets. Conventional debt market instruments will first be examined. This will be followed by fixed income derivatives and structured finance topics. We will closely follow emerging problems in the credit markets including local government debt problems in the U.S. and the sovereign debt crisis within the Euro zone.

This course is intended to give the participant an understanding of instruments, interrelationships and recent developments within the fixed income field. It is not intended to provide an in depth analysis of individual fixed income products.

Current Debt Market Problems Which We Will Address
1. Global market volatility has increased recently with unknown future outcomes
2. Central banking has changed from its traditional stance with traditional monetary tools now replaced and central bank balance sheets expanded
3. Local governments are facing massive deficits with the possibility of defaults
4. The residential mortgage market is facing uncertainty due to new Dodd-Frank provisions and the future of the GSEs
5. The fate of the Euro is being questioned due to Europe’s sovereign debt crisis


Other reading assignments will be posted to CANVAS.

Prerequisites: B6301, Corporate Finance, and B6302, Capital Markets. Prospective students outside the Business School should have taken equivalent prerequisite courses. Please see me on the first day of class if you have not taken these prerequisite courses.

Homework: Many homework problems assume a moderate mathematical capability and all students will be assumed to have a laptop equipped with Excel with financial functions enabled. A financial calculator will not be necessary.
Students may organize into study groups of up to three members and they may submit homework assignments as a group. **Homework assignments will only be credited if received on the original due date.** Please submit all HW problems to my TA in electronic format only. Hardcopies will not be accepted.

**Classroom Participation:** Students will be expected to be aware of current financial and economic developments. Note that classroom participation forms part of the final grade and students should be prepared to be called upon in class for a brief synopsis.

**Grading:** The course grade will be derived as follows, with approximate weights:

<table>
<thead>
<tr>
<th>Classroom participation - 10%</th>
<th>Homework Problems - 20%</th>
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<tbody>
<tr>
<td>Midterm Examination - 30%</td>
<td>Final Examination - 40%</td>
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Proposed topics by class dates are listed below. Watch this space for content update and expansion in the forthcoming weeks.

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Synopsis of Debt Markets Content by Class</th>
<th>General Topical Areas</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Tue Sep 01</td>
<td>Fixed-Income Basics - Treasury Pricing, Yields and Yield Curves</td>
<td>Fixed-Income Basics</td>
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<tr>
<td>2</td>
<td>Thu Sep 03</td>
<td>The Term Structure of Interest Rates and Embedded Forecasts</td>
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<td>3</td>
<td>Tue Sep 08</td>
<td>Corporate and Local Government Bonds</td>
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<td>4</td>
<td>Thu Sep 10</td>
<td>The Status of GSEs and GSE Debt Issues</td>
<td>Credit Market Instruments</td>
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<td>5</td>
<td>Tue Sep 15</td>
<td>Price Volatility - Duration and Convexity</td>
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<td>6</td>
<td>Thu Sep 17</td>
<td>Analysis of Bonds with Embedded Options</td>
<td>Fixed-Income Analysis</td>
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<td>7</td>
<td>Tue Sep 22</td>
<td>International Bonds</td>
<td>Contemporary Fixed-Income Topics</td>
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<td>8</td>
<td>Thu Sep 24</td>
<td>Central Banking, Lender of Last Resort and Quantitative Easing</td>
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<td>9</td>
<td>Tue Sep 29</td>
<td>The Euro, ECB and Sovereign Debt Status</td>
<td>Shadow Banking</td>
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<td>10</td>
<td>Thu Oct 01</td>
<td>The Repo Market and Money Market Mutual Funds</td>
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<td>11</td>
<td>Tue Oct 06</td>
<td>Review of First Half Content and Homework Problems</td>
<td>Test Preparation and Midterm Exam</td>
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<td>12</td>
<td>Thu Oct 08</td>
<td>Midterm (in class)</td>
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<td>13</td>
<td>Thu Oct 22</td>
<td>Short-Term Interest Rate Futures</td>
<td>Fixed-Income Derivatives</td>
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<td>14</td>
<td>Thu Oct 27</td>
<td>Interest Rate Swaps</td>
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<td>15</td>
<td>Thu Oct 29</td>
<td>Bond and Note Futures Concepts</td>
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<td>16</td>
<td>Thu Nov 05</td>
<td>Bond and Note Futures Applications</td>
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<td>17</td>
<td>Tue Nov 10</td>
<td>The Residential Mortgage Market, Loans and Pools</td>
<td>Securitization and Structured Finance</td>
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<td>18</td>
<td>Thu Nov 12</td>
<td>Securitizing Risk-Free Residential Mortgage Pools</td>
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<td>19</td>
<td>Tue Nov 17</td>
<td>introduction to Structured Finance</td>
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<td>20</td>
<td>Thu Nov 19</td>
<td>The Commercial Mortgage Market and CMBS</td>
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<td>21</td>
<td>Tue Nov 24</td>
<td>Securitizing Private Mortgage and Consumer Collateral</td>
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<td>22</td>
<td>Tue Dec 01</td>
<td>Emerging Topics in the Fixed-Income Field</td>
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<td>23</td>
<td>Thu Dec 03</td>
<td>Review of Second Half HW Problems</td>
<td>Course Content Review, Test Preparation and Exam</td>
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<td>24</td>
<td>Tue Dec 08</td>
<td>Review of the Course</td>
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Reading Assignment by Class

1) Debt Market Overview; Global Reference Issues; Bond Pricing Basics
   • Fabozzi, Chapters 1, 2 and 3.

2) The Term Structure of Interest Rates and Embedded Forecasts
   • Fabozzi, Chapters 5 and 6.

3) Corporate and Local Government Bonds

4) The Status of the GSEs and GSE Debt Issues
   • Fabozzi, Chapters 6 (pp. 134 – 137).
   • The Rescue of Fannie Mae and Freddie Mac, Federal Reserve Bank of New York Staff Report, March 2015, http://www.newyorkfed.org/research/staff_reports/sr719.html

5) Price Volatility - Duration and Convexity
   • Fabozzi, Chapter 4.

6) Analysis of Bonds with Embedded Options
   • Fabozzi, Chapter 18, Analysis of Bonds with Embedded Options

7) International Bonds
   • Fabozzi, Chapter 9.

8) Central Banking, Lender of Last Resort and Quantitative Easing

9) The Euro, the ECB and Sovereign Debt Status

10) Shadow Banking: Money Market Mutual Funds and the Repo Market
11) Review of First Half Content and HW Problems

12) Midterm

13) Short-Term Interest Rate Futures
   • Fabozzi, Chapter 29 (pp. 641 - 647).

14) Interest Rate Swaps
   • Fabozzi, Chapter 31.
   • Brown, Keith and Donald J. Smith, *Interest Rate and Currency Swaps: A Tutorial*, Chapter 4, “Pricing Interest Rate and Currency Swaps”

15) Bond and Note Futures Concepts
   • Fabozzi, Chapter 29 (pp. 647 - 658).

16) Bond and Note Futures Applications

17) The Residential Mortgage Market, Mortgage Loans and Pools
   • Fabozzi, Chapter 10.

18) Securitizing Risk-Free Residential Mortgage Pools
   • Fabozzi, Chapters 11.

19) Introduction to Structured Finance
   • Fabozzi, Chapter 11

20) The Commercial Mortgage Market and CMBS
   • Fabozzi, Chapter 14.

21) Securitizing Private Mortgage and Consumer Collateral
   • Fabozzi, Chapters 13 and 15.

22) Emerging Topics in the Fixed-Income Field

23) Review of Second Half Content and HW Problems

24) Course Review and Wrapup