Econ4999I: Financial Macroeconomics

The instructor reserves the right to update the syllabus

Course Description:

The course offers an in depth study of the financial economics and their implication on macroeconomics. It aims to bring financial factors into models of macroeconomics. A series of recent financial crises suggest these financial factors which have largely been overlooked in traditional macroeconomics play a crucial role in understanding the macroeconomic data. Topics include: No arbitrage, Arrow-Debreu prices, equivalent martingale measure, capital structure, credit constrains, financial intermediate, asset bubbles, and information imperfection. The course is designed for undergraduate students, but is also open to MSc. students.

Course Intended Learning Outcomes (Course ILOs):

Upon successful completion of this course, you should be able to:

1) Identify important macroeconomic variables and understand their relationships; (SILO # 4.1)
2) Gather and organize the relevant macroeconomic information for a given context; (SILO # 7.2)
3) Apply tools learnt in class to analyze some historical and current macroeconomic events. (SILO # 4.2)
4) Understand the operation of open economy and exchange rate related topics. (SILO #6.1)

Hopefully, you can also

5) Discuss the consequences of a macroeconomic shock or a policy shock; (SILO # 4.3)
6) Develop an appreciation for macroeconomics and a desire to continue further study. (SILO # 9)


Lecture Notes: We will distribute presentation slides that summarize the main takeaways from the course. These are the main background reading.

Textbooks:

There is no textbook for this course. Several textbook will be useful

For an introduction to modern macroeconomics

For an introduction to modern financial theory

- Stephen A Ross, Randolph Westerfield, Jeffrey F Jaffe, and Bradford D Jordan, *Corporate Finance*

**Class Attendance:**

It is important to attend very class. The course is very quantitative and math intensive.

**Grading:** The overall grade is calculated based on the following weighting scheme:

- Class Participation: 30%
- problem Sets: 20%
- Midterm test: 20%
- Final examination: 30%

**Class Participation:** The students will present one case of financial crisis with detailed background information. Discuss the government’s response to the crisis. Compare the economic performance before and after the crisis. Possible Chocie:

- 1980s – Latin American debt crisis – beginning in Mexico in 1982 with the Mexican Weekend
- 1987 – Black Monday (1987) – the largest one-day percentage decline in stock market history
- 1989–91 – United States Savings & Loan crisis
- 1990 – Japanese asset price bubble collapsed
- 1992–93 – Black Wednesday – speculative attacks on currencies in the European Exchange Rate Mechanism
- 1998 Russian financial crisis
- 2001 – Bursting of dot-com bubble – speculations concerning internet companies crashed
- 2008-2011 – Icelandic financial crisis
- 2010 European sovereign debt crisis
- 2014 Russian financial crisis
- 1997-1998 China’s deflation
- 2015 China’s Stock Market Crash and Exchange Rate devaluation
- 2016 Emerging Market Crisis
Two students can form a group to study one country if many countries are evolved in a global crisis. A short essay no less than 8 pages (A4 double space) is required. The essay will be checked by Turnitin (www.turnitin.com) for plagiarism check.

Problem Sets:

Five problem sets: every two weeks. The purpose of the homework problem sets is to better understand the rather abstract material in class. To that end, collaboration is explicitly encouraged. The best way to learn to teach your peer student!!!

Midterm Exam:

The midterm Exam will be match 20th.

Final Exam:

The exams will be closed book. One A4 sheet of paper is allowed. You can write down the essential formulas on both side and as small as you want. It may provide some psychological support. Or it could simply be distracting.

There are no scheduled make-up exams for Midterm exam.

If you are going to miss the midterm for medical reasons (You will need to provide a valid medical or legal document.), email me before the exam for permission. In such case, the weight of the middle exam will add to your final exam. If you fail to do so, you receive 0 for the midterm exam.

Make-up exam will only be given in the case of illness for the final exam.

You must notify me by email earlier for approval.

Grading disputes

with the exception of arithmetic errors, the instructor will handle them. In order to avoid problems associated with self-selection, disputes involving points scored on individual questions will NOT be considered. However, if you wish, the entire exam will be re-graded by the instructor. This re-grading may result in either a higher or lower number of points being scored. Requests for re-grading must be submitted in writing to the instructor within one week of the assignment first being returned.

Office Hours:

Instructor: Friday 2:00-3:00, Room 6068, LSK Building

Course Schedule
1. **No-Arbitrage Pricing**
   - Secure Structure
   - Arrow-Debreu Security
   - No-Arbitrage and Pricing
   - Risk-Neutral Probability

2. **Application: Options Pricing**
   - A two-state Option Model
   - The binominal Options Pricing Model
   - The Black-Scholes Model

3. **Equilibrium Pricing**
   - Preference and Utility Maximization
   - Decision under Uncertainty and expected Utility Theory
   - General Equilibrium and Asset Pricing
   - Revisit the Option Prices

4. **Equilibrium Pricing under Noisy Information**
   - Grossman and Stiglitz Model
   - Benhabib and Wang
   - Benhabib, Liu and Wang

5. **Capital Structure**
   - MM Theory
   - Trade-off Theory
   - Optimal Contract Approach
   - Collateral Constraints

6. **Financial Intermediation**
   - Bank Run
   - Tirole and Homstrom Model

7. **Multiple-Period Pricing**
   - OLG Model
   - Dynamic Program
   - Consumption/Production-Based Asset Pricing Model
   - Speculative Bubbles