北京大学 汇丰商学院
Peking University HSBC Business School

# ECON521
# Advanced Macroeconomics II
# Module 3, 2015 – 2016

## Course Information

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***Classes: Tue & Fri 3:30-5:20pm***
Lectures: Tue & Fri 3:30-5:20pm
Venue: PHBS Building, 313

***Course Website:***
http://www.finstab.net/

## 1. Course Description

### *1.1 Context*

Course overview:
This course studies Macroeconomics and Finance from the perspective of both (i) theory and (ii) empirics. This course is divided into three parts. The first part deals with recent financial crisis. The second part examines the relation between Macro Economy and Financial sector. Questions include whether financial crisis leads to economic crisis or the vice versa will be addressed. The last part studies all of these issues empirically using Chinese data.

Prerequisites:
1. Either (i) Macroeconomics or (ii) Advanced Macroeconomics I
2. Applied Stochastic Processes
3. Numerical Methods and Analysis

### *1.2 Textbooks and Reading Materials*

1. José Luis Torres, Introduction to Dynamic Macroeconomic General Equilibrium Models, Vernon Series in Economic Methodology, 2014
2. John Hull, Options, Futures and Other Derivatives, Prentice Hall, 2006
3. Steven Shreve, Stochastic Calculus for Finance II: Continuous-Time Models, Springer, 2007
4. Jagjit Chadha, Alain Durré, Michael Joyce, Lucio Sarno, Developments in Macro-Finance Yield Curve Modelling, Cambridge University Press, 2014

## 2. Learning Outcomes

### *2.1 Intended Learning Outcomes*

| Learning Goals | Objectives | Assessment |
|---|---|---|
| 1. Our graduates will be effective communicators. | 1.1. Our students will produce quality business and research-oriented documents. | O |
| | 1.2. Students are able to professionally present their ideas and also logically explain and defend their argument. | O |
| 2. Our graduates will be skilled in team work and leadership. | 2.1. Students will be able to lead and participate in group for projects, discussion, and presentation. | |
| | 2.2. Students will be able to apply leadership theories and related skills. | |
| 3. Our graduates will be trained in ethics. | 3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it. | |
| | 3.2. Our students will practice ethics in the duration of the program. | |
| 4. Our graduates will have a global perspective. | 4.1. Students will have an international exposure. | O |
| 5. Our graduates will be skilled in problem-solving and critical thinking. | 5.1. Our students will have a good understanding of fundamental theories in their fields. | O |
| | 5.2. Our students will be prepared to face problems in various business settings and find solutions. | |
| | 5.3. Our students will demonstrate competency in critical thinking. | O |

### *2.2 Course specific objectives*

This course first introduces basic macroeconomic tools used for analysis. It then covers the topics which you can use for your future dissertation work. The topics study is quite deep. For the topics, I will teach the theoretical paper, and related empirical paper will be presented by students.

### *2.3 Assessment/Grading Details*

1. Presentation (20%), Participation (20%), Project (20), and Quiz (40%)
2. The weight (no absence: 1, one absence: 0.99, two absences: 0.98, and more than two absences: 0.7) will be used for the final GPA adjustment.

### *2.4 Academic Honesty and Plagiarism*

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to

falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

## 3. Topics, Teaching and Assessment Schedule

Basic dynamic macro models with computing exercise: (1) Neoclassical growth model, (2) Hansen's real business cycle model, (3) Brock-Mirman growth model, (4) Cash-in-Advance model, and (5) Computing exercise with DYNARE

Monetary uncertainty and default: (1) Policy uncertainty and business cycle, (2) Liquidity effect, (3) General equilibrium model with financial frictions, i.e. liquidity and default, and (4) Costs of monetary uncertainty

Cash-in-Advance framework against the Quantity Theory of Money: (1) Liquidity effect, (2) Endogenous default, (3) Financial intermediaries, and (4) Quantity Theory of Money in the short and long runs

Measuring financial fragility: (1) Merton's default measure, (2) Distance to default vs. distant to capital, (3) Systemic risk, i.e. MPoD vs. MPoU, (4) Financial fragility index, and (5) Empirical analysis with Chinese data

Forecasting insolvency risk with Heston model: (1) Stochastic volatility model, (2) Sequential Bayesian estimation, (3) Cox's proportional hazard model, (4) Out-of-sample forecasts, and (5) Empirical analysis with US data

Predicting bank failures – A case of US banks: (1) Predicting bank failures with distance to default, (2) Distant to default and the financial crisis, (3) Forecasting default with the Merton's distance to default model, and (4) Credit conditions and stock return predictability

Financial system structure and systemic risk: (1) Capital liberalization, (2) Financial development, (3) Systemic insolvency risk, (4) Robustness test for market based risk measures, i.e. DD and DC, using panel regressions, (5) Importance measuring of individual bank, and (6) Empirical analysis with Chinese data

Modelling GDP fluctuations with forced damped pendulum: (1) Power law distribution of recessions, (2) Business cycle with agent-based model, (3) GDP fluctuation model based on interacting firms, and (4) Information cascades and the distribution of economic recessions

Long run risks and financial markets: (1) Reduced-form VAR, (2) Long run risks model (Bansal and Yaron, 2004), (3) Kalman filter, (4) Impulse response matching approach, and (5) MLE vs. Bayesian estimation (Barillas et al., 2007)

## 4. Miscellaneous

I strongly encourage you to ask me or discuss with each other during lectures. If you have special needs to reach me outside the lectures or office hours, you can email me. I will try to respond to your email in two business days. If you don't get my response within two business days, please send me a reminder email. When you email me, please prefix the subject header of [AEII] in order to make your email too conspicuous to miss it.