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Economics 33200  
Theory of Income III  
M-W 9:30-10:50  
SHFE 146

## Syllabus

### Summary

This is the third course in the Theory of Income part of the graduate core. We will cover five topics during this quarter: The Real Business Cycle Model, Nominal Rigidities, Unemployment and Real Wage Rigidities, Investment, and Asset Price Bubbles. Our goal throughout will be to examine how dynamic equilibrium models inform empirical research and how empirical research advances theoretical models.

### Requirements

There will be weekly problem sets, distributed on Wednesdays and due the following Monday in class. Late problem sets will not be accepted. You can work and submit problem sets in small groups (six or fewer). Problem sets count for 35% of your course grade.

There will be a midterm in class on May 1. This counts for 25% of your course grade.

There will be a final exam during exam week. This counts for 40% of your course grade.

### Office Hours

I am available by appointment in SHFE 415. Please email me to set up a meeting.

### Teaching Assistants

The TAs for the class are Agustin Gutierrez and Hyejin Park. They will lead the review class on Mondays, 5:00-5:50 in SHFE 146, grade your problem sets, and hold regular office hours.

## Course Outline

### 1. Canonical Business Cycle Model

#### (a) The Neoclassical Growth Model and Real Business Cycles

- King, Plosser, and Rebelo (1988 *Journal of Monetary Economics*) “Production, Growth and Business Cycles I. The Basic Neoclassical Model”
- Cooley and Prescott (1995 *Frontiers of Business Cycle Research*) “Economic Growth and Business Cycles”

#### (b) Wedge Accounting

- Chari, Kehoe, and McGrattan (2007 *Econometrica*) “Business Cycle Accounting”
- Galí, Gertler, and López-Salido (2007 *Review of Economics and Statistics*) “Markups, Gaps, and the Welfare Costs of Business Fluctuations”

### 2. Nominal Rigidities

#### (a) Monopolistic Competition and Menu Cost Models

- Blanchard-Kiyotaki (1987 *American Economic Review*) “Monopolistic Competition and the Effects of Aggregate Demand”
- Caplin-Spulber (1987 *Quarterly Journal of Economics*) “Menu Costs and the Neutrality of Money”
- Caplin-Leahy (1991 *Quarterly Journal of Economics*) “State Dependent Pricing and the Dynamics of Money and Output”
- Bils-Klenow (2004 *Journal of Political Economy*) “Some Evidence on the Importance of Sticky Prices”
- Golosov-Lucas (2007 *Journal of Political Economy*) “Menu Costs and Phillips Curves”

#### (b) New Keynesian Models

- Galí (Monetary Policy, Inflation, and the Business Cycle, Chapters 1–4)
- Galí (1999 *American Economic Review*) “Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?”
- Chari, Kehoe, and McGrattan (2008 *Journal of Monetary Economics*) “Are Structural VARs with Long-Run Restrictions Useful in Developing Business Cycle Theory?”
- Christiano, Eichenbaum, and Evans (2005 *Journal of Political Economy*) “Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy”

### 3. Unemployment and Real Wage Rigidities

#### (a) Equilibrium Unemployment Theory

- Pissarides (2000 *Equilibrium Unemployment Theory*, Chapter 1)
- Mortensen-Pissarides (1994 *Review of Economic Studies*) “Job Creation and Job Destruction in the Theory of Unemployment”
- Shimer (2005 *American Economic Review*) “The Cyclical Behavior of Equilibrium Unemployment and Vacancies”
- Merz (1995 *Journal of Monetary Economics*) “Search in the Labor Market and the Real Business Cycle”

#### (b) Real Wage Rigidities

- Hall (2005 *American Economic Review*) “Employment Fluctuations with Equilibrium Wage Stickiness”
- Shimer (2012 *Journal of Monetary Economics*) “Wage Rigidities and Jobless Recoveries”

#### (c) Other Approaches

- Lucas and Prescott (1974 *Journal of Economic Theory*) “Equilibrium Search and Unemployment”
- Diamond (1972 *Journal of Political Economy*) “Aggregate Demand Management in Search Equilibrium”
- Jovanovic (1979 *Journal of Political Economy*) “Job Matching and the Theory of Turnover”
- Ljungqvist and Sargent (1998 *Journal of Political Economy*) “The European Unemployment Dilemma”

### 4. Investment

#### (a) Convex Adjustment Costs

- Lucas-Prescott (1971 *Econometrica*) “Investment Under Uncertainty”
- Hayashi (1982 *Econometrica*) “Tobin’s Marginal  $q$  and Average  $q$ : A Neoclassical Interpretation”

#### (b) Non-Convex Adjustment Costs

- Cooper-Haltiwanger (2006 *Review of Economic Studies*) “On the Nature of Capital Adjustment Costs”
- Bloom (2009 *Econometrica*) “The Impact of Uncertainty Shocks”

#### (c) Financing Constraints

- Hubbard (1998 *Journal of Economic Literature*) “Capital-Market Imperfections and Investment”

- Bernanke-Gertler (1989 *American Economic Review*) “Agency Costs, Net Worth, and Business Fluctuations”
- Kiyotaki-Moore (1997 *Journal of Political Economy*) “Credit Cycles”
- Kocherlakota (2000 *Minneapolis Fed Quarterly Review*) “Creating Business Cycles Through Credit Constraints”
- Brunnermeier-Sannikov (2014 *American Economic Review*) “A Macroeconomic Model with a Financial Sector”

## 5. Asset Price Bubbles

### (a) Overlapping Generations and Incomplete Markets Models

- Samuelson (1958 *Journal of Political Economy*) “An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money”
- Diamond (1965 *American Economic Review*) “National Debt in a Neoclassical Growth Model”
- Tirole (1985 *Econometrica*) “Asset Bubbles and Overlapping Generations”
- Woodford (1990 *American Economic Review*) “Public Debt as Private Liquidity”
- Kocherlakota (1992 *Journal of Economic Theory*) “Bubbles and Constraints on Debt Accumulation”
- Blanchard (1985 *Journal of Political Economy*) “Debts, Deficits, and Finite Horizons”

### (b) Models of Fiat Money

- Kiyotaki-Wright (1989 *Journal of Political Economy*) “On Money as a Medium of Exchange”
- Trejos-Wright (1995 *Journal of Political Economy*) “Searching, Bargaining, Money, and Prices”

### (c) Heterogeneous Beliefs

- Harrison-Kreps (1978 *Quarterly Journal of Economics*) “Speculative Investor Behavior in a Stock Market with Heterogeneous Expectations”
- Morris (1996 *Quarterly Journal of Economics*) “Speculative Investor Behavior and Learning”
- Allen, Morris, and Postlewaite (1993 *Journal of Economic Theory*) “Finite Bubbles with Short Sale Constraints and Asymmetric Information”