

**Economics 704B Spring 2020**  
**Advanced Macroeconomic Theory 2**

Course Website at [learn.bu.edu](http://learn.bu.edu)

<p><b>Instructor:</b></p> <p>Robert G. King <a href="mailto:rgkbucourses@gmail.com">rgkbucourses@gmail.com</a> 270 Bay State Road, Room 502</p> <p>Class sessions: TU and TH 11:00-12:15</p> <p>Open office hours: Thursdays 12:30-1:30 Appointment office hours: Thursdays 1:30-2:30 using Google Calendar at <a href="http://www.bu.edu/econ/rking">www.bu.edu/econ/rking</a></p> <p>Zoom for class sessions and office hours: <a href="https://bostonu.zoom.us/my/rgking">https://bostonu.zoom.us/my/rgking</a></p>	<p><b>Teaching Assistant:</b></p> <p>Michele Marcaletti <a href="mailto:mmarcale@bu.edu">mmarcale@bu.edu</a></p> <p>Section: FR 10:10-11:25</p> <p>Office Hours: W 9.00-11:30</p> <p>Zoom for sections and office hours: <a href="https://bostonu.zoom.us/j/829688176">https://bostonu.zoom.us/j/829688176</a></p>
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Overview

EC704B is the second module of the second macroeconomics course in BU's PhD program. After reviewing some ideas about policy in a rational expectations context and the structure of dynamic general equilibrium models, it covers:

- (1) the neoclassical approach to fiscal policy within the representative agent macro model, beginning with the positive analysis of the effects of government purchases and tax rates and then considering basic theories of optimal taxation;
- (2) examples of fiscal policy in heterogeneous agent settings, including the nature of optimal redistributive taxation and the consequences of government transfers;
- (3) search models, focusing on the labor market; and
- (4) basic financial mechanisms that can initiate or shape economic fluctuations.

Course materials

Readings for each section of the course will be posted on [learn.bu.edu](http://learn.bu.edu) in a folder labelled **King Course Materials**. There will be approximately two required readings per class session. For some class sessions, there will be lecture notes and there will be presentation slides for many class sessions.

The readings on the website as of March 22 are included at the end of this document. There may be some modifications to this material, with changes announced about a week in advance.

There will be pre-recorded video presentations related to some of the classes and interactive class sessions will be recorded. All course-related videos will be available through the course website in a folder labelled **King Course Videos**.

#### Course requirements and student evaluation

The registrar has scheduled the exam to be held on Wednesday May 6 from 12-2pm. However, the COV-19 emergency may cause a change in the timing and duration of the exam. Details will be provided by Thursday April 16 and will be discussed in class on that day.

There will be four Problem Sets due at 10 am on alternate Tuesdays beginning March 31. Students will upload their problem sets to the course website. Students are encouraged to work in groups to solve the problems, but must write up their answers independently and indicate the members of the group in the submitted answer document. Students are strongly advised to submit their answers as a PDF created using LATEX. The problem sets will be graded as: Check+, Check, Check-, 0. If a student makes an effort to answer every problem, then the grade will be a check, which is considered full credit.

Problem Sets to be submitted through learn.bu.edu.

Grading for EC704B: 75% Final, 25% Problem Sets

Grading for EC704 as a whole: based on grades for EC704A and EC704B



Success: Financial Mechanisms edited.



## King Course Materials

Build Content

Assessments

Tools

Partner Content



### Office Hours via Google Calendar and Zoom

My office hour policies are described in the attached document. For EC702, I am experimenting with holding an open office hour session 12.30--1.30, rather than asking students to sign up for a 15 minute slot (as an individual or group) through my Google calendar. However, students can also sign up for individual appointments 1.30-2.30 (please see the attached document for requirements)

I am using the same rules that I have long used for office hours in person for individual appointments. Sometimes students think that these mean I am not keen on talking with students or that I am really busy. Neither is true. Instead, I want to (1) make your meeting with me productive; (2) minimize the time that you spend waiting around; and (3) think about your topic/questions in advance of the meeting.

[Office Hours for PhD students Spring 2020](#)



### Q and A on class materials

We are going to use Google documents to collect questions on class materials. This folder will always contain a PDF file with clickable links to these documents. We have been able to access the documents with Google Chrome, Firefox, and Microsoft Edge.

[EC704B QandA Instructions](#)



### Lundquist-Sargent Second Edition On Line

We will use selected chapters from the 2004 edition of this textbook.

<http://pages.stern.nyu.edu/~dbackus/Identification/LS%20RMT2ed%2004.pdf>



## **Current Events March 2020**



## **Rational Expectations and Economic Policy**

### **RE1: Rational Expectations: Origins and Consumption Applications**

Required readings:

[Muth](#)

[Lucas](#)

[Hall](#)

### **RE2: Mechanics of Rational Expectations Models**

Required readings:

[BK80](#)

lecture notes and slides

Further readings

[KW98](#)

[Klein2000jedc](#)



## **The Neoclassical Approach to Fiscal Policy**

### **Lecture NFP1: Overview of the Neoclassical Approach**

Barro, Robert J., (1989) "The Neoclassical Approach to Fiscal Policy," in Modern Business Cycle Theory, Harvard University Press.

### **Lecture NFP2: Fiscal Policy and the Basic Real Business Cycle Model**

Baxter, Marianne and Robert G. King, "Fiscal Policy in General Equilibrium," American Economic Review, vol. 83 no. 3 (June 1993), 314-324.

Ramey, Valerie A. 2011. "Can Government Purchases Stimulate the Economy?" Journal of Economic Literature, 49(3): 673-85.

Notes on taxation in (representative agent) recursive equilibrium

### **Lecture NFP3: Optimal Taxation Across Goods, Time, and States**

Lucas, Robert E., Jr. and Nancy L. Stokey, "Optimal fiscal and monetary policy in an economy without capital," *Journal of Monetary Economics*, Volume 12, Issue 1, 1983, Pages 55-93.

Atkinson, Andrew, Patrick J. Kehoe and V.V. Chari, "Taxing Capital: A Bad Idea," Federal Reserve Bank of Minneapolis *Quarterly Review*, Summer 1999, 3-17.

Lundquist-Sargent, RMT, chapter 15 "Optimal Taxation With Commitment"



## **Fiscal policy and heterogenous agents** ▼

### **Lecture FPHA1: Optimal redistributive taxation**

Peter Diamond and Emmanuel Saez, "The Case for A Progressive Tax: From Basic Research to Policy Recommendations," *Journal of Economic Perspectives*—Volume 25, Number 4—Fall 2011—Pages 165–190. [diamond-saezJEP11full](#) ▼

Mankiw, NG, Weinzierl M, Yagan D., "Optimal Taxation in Theory and Practice," *Journal of Economic Perspectives*. 2009, 23 (4) :147-174. [MankiwOptimalTax](#) ▼

Slides: [Optimal Redistribution](#) ▼

Further optional reading: Ivan Werning, "Optimal Taxation With Redistribution," *Quarterly Journal of Economics*, 122, 3(August 2007), 925-967 [Werningfiscal\\_policy\\_QJEB](#) ▼

Slides [WerningTaxes](#) ▼

### **Lecture FPHA2: Stimulus Effects of Transfer Payments**

Oh, Hyunseung, and Ricardo Reis. 2012. "Targeted Transfers and the Fiscal Response to the Great Recession." *Journal of Monetary Economics* 59 (S): S50–S64.

McKay, Alisdair, and Ricardo Reis. 2016. "The Role of Automatic Stabilizers in the U.S. Business Cycle." *Econometrica* 84 (1): 141–94.

Parker, Jonathan A., Nicholas S. Souleles, David S. Johnson, and Robert McClelland. 2013. "Consumer Spending and the Economic Stimulus Payments of 2008." *American Economic Review* 103 (6): 2530–53.

Sahm, Claudia R., Matthew D. Shapiro, and Joel Slemrod. 2012. "Check in the Mail or More in the Paycheck: Does the Effectiveness of Fiscal Stimulus Depend on How It Is Delivered?" *American Economic Journal: Economic Policy*, 4 (3): 216-50.

See also <http://www-personal.umich.edu/~shapiro/stimulus.html>




## **Search and Matching** ▼

### Search and matching models of the labor market

- This part of the class will concern search in labor markets using three models as reference points: (1) the McCall model of individual search; (2) The Lucas-Prescott model of labor reallocation across island (interpreted as directed search); and (3) The Diamond-Mortensen-Pissarides model of undirected search and Nash wage bargaining.

There are many presentations of these models, particularly the individual search and DMP models. Required readings for this section of the course are components of the following : **RSW**: Rogerson, Richard, Robert Shimer, and Randall Wright . 2005. "Search-Theoretic Models of the Labor Market: A Survey." *Journal of Economic Literature*, 43(4): 959-988. [RSW2005JEL](#) ▼

**LS:** Lundquist, Lars, and Thomas J. Sargent, 2005, *Recursive Macroeconomic Theory* (second edition) on reserve in Mugar Library,  
Chapter 6: Search, Matching and Unemployment and Chapter 26: Equilibrium Search and Matching

**RS:** Rogerson, Richard, and Robert Shimer [RS], 2011, "Search in Macroeconomic Models of the Labor Market," *Handbook of Labor Economics*, vol. 4, part A, 619-700 [RS2011HLE](#) 

Other elements of the reading list will be of three types: alternative presentations (AP) that the student may prefer; (CA) classic articles that the student may wish to review in order to understand the context within which the research was conducted; and further readings (FR) for the interested student. Models in this area have been constructed using discrete time methods and continuous time methods of individual optimization and general equilibrium, so that these will each be used as desirable.

### **Background Labor Market Facts for the US and other Countries**

RS, sections 2.1 and 3.1


FR: Data Presentation for Investors by Deutsche Bank [DB2018March ChartBook](#) 

### **Lecture SML1 : Introduction to Search and the McCall model**

Slide notation follows Stigler's consumer search model and the RSW presentation of the McCall model

LS, sections 6.1-6.3

RSW, sections 1, 2.1(discrete time), 2.2 (continuous time), 2.3 (turnover from exogenous separations)

Optional reading on consumers searching over price (CA): Stigler, George (1961). "The economics of information," *Journal of Political Economy*. 69 (3): 213-225.[stigler](#) 

Optional reading on labor market search (CA) McCall, John J. (1970). "Economics of information and job search". *Quarterly Journal of Economics*. 84 (1): 113-126.[mccall](#) 

### **Lecture SML2: Search as Reallocation**


Slides

Notation on slides follows Lundquist-Sargent

LS, sections 26.1 and 26.2

This lecture concerns the Lucas-Prescott (1974) island economy modified to feature island-specific productivity shocks as in Lundquist-Sargent rather relative demand shocks as in LP. The lecture stresses a key property of this framework: the market level employment responses to productivity shocks resemble those of an S,s model, with a zone of inaction and highly elastic increases or decreases outside of that range.

On a technical level, however, LP (1974) is notable as the first modern recursive equilibrium analysis of a heterogeneous agent economy in which effects of idiosyncratic shocks must be aggregated and in which the long-run stationary distribution is used as the setting for exploration of the implications of frictions.

Optional reading (CA): Lucas, Robert E., Jr. and Edward C Prescott (1974). "Equilibrium search and unemployment," *Journal of Economic Theory*, 7(2): 188-209.[LP1974JET](#) 

Modern application (FR): Alvarez, Fernando and Marcelo Veracierto, (2000) "Labor-Market Policies in an Equilibrium Search Model," *NBER Macroeconomics Annual 1999*, 14: 265 - 316. This paper provides an early application of the recursive equilibrium methodology to a heterogeneous agent economy, with specific objective of evaluating alternative policies. It

notably involves three labor market states: employment, unemployment, and nonparticipation. It also combines elements of the LP directed search approach with that of the DMP model. It is aimed at explaining cross-country differences in various labor market outcomes. Comments by Giuseppe Moscarini and Alan Krueger are useful in placing the model in the broader context of macro-labor research. [AVnberma2000\\_c11049](#)

### Lecture SML3: Making the Search Model Operational

Pissarides, Christopher A. (1985). "Short-run Equilibrium Dynamics of Unemployment Vacancies, and Real Wages," *American Economic Review*, 75(4): 676-690. The tractability of the DMP model lies in the assumption of a matching function rather than the derivation of match outcomes from an underlying environment. The power of this approach for thinking about macroeconomics was made clear by Pissarides (1985). [PissaridesAER85](#)  
[Pissarides1985slides](#)

FR: Petronglio, Barbara and Christopher A. Pissarides, (2001) "Looking into the Black Box: A Survey of the Matching Function." *Journal of Economic Literature* 39(2): 390-431. The conceptual issues with constructing a matching function and estimating its parameters are reviewed, along with a summary of the evidence through the 1990s. [PP2001jel](#)

### Lecture SM4: The Workhorse Search Equilibrium model

DMP slides: [DMP\\_RK2](#)  
, [DMPnotation](#)

RSW, sections 4.1-4.3  
LS, section 26.3

AP: Pissarides, Christopher A. (2000), *Equilibrium Unemployment Theory*, 2000 (second edition), chapter 1 (particularly sections 1.1 through 1.6). An elegant textbook treatment of the DMP model from one of its originators. Notation is close to lecture slides (table gives comparison)

FR: The Nobel committee's discussion of the research that led to the three researchers being awarded the 2010 prize [https://www.nobelprize.org/nobel\\_prizes/economic-sciences/laureates/2010/popular-economicsciences2010.pdf](https://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2010/popular-economicsciences2010.pdf) One can also listen to their lectures at the same site.



## Financial Mechanisms

### Lecture FM1: Balance Sheets and the Financial Accelerator

Bernanke, B.; Gertler, M. (1989). "Agency Costs, Net Worth, and Business Fluctuations". *American Economic Review* 79(1):114-31 [BG1985aer](#)

### Lecture FM2: Bank Runs and Coordination Failure

Diamond DW, Dybvig PH (1983). "Bank runs, deposit insurance, and liquidity". *Journal of Political Economy* (3): 401-419 [DD1983jpe](#)

### Further reading

Bernanke, B.; Gertler, M.; Gilchrist, S. (1996). "The Financial Accelerator and the Flight to Quality" *Review of Economics and Statistics*. 78 (1): 1–15.

Gilchrist, Simon, and Egon Zakrajšek (2012). "Credit Spreads and Business Cycle Fluctuations." *American Economic Review*, 102 (4): 1692-1720

Gertler, Mark, and Nobuhiro Kiyotaki. (2015). "Banking, Liquidity, and Bank Runs in an Infinite Horizon Economy." *American Economic Review*, 105 (7): 2011-43.

Gertler, Mark, and Simon Gilchrist. (2018). "What Happened: Financial Factors in the Great Recession." *Journal of Economic Perspectives*, 32 (3): 3-30.