

# Seminar:

## Macroeconomics and International Economics

University of Bern, Department of Economics

Prof. Dr. Harris Dellas/Prof. Dr. Fabrice Collard  
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Spring Semester 2015

The aim of this seminar is to provide students with a rigorous survey of the traditional *real business cycle* literature, with focus both on monetary and fiscal issues, as well as open economy and labor market questions. The seminar in macroeconomics and international economics is a very demanding course of the MSc in Economics at University of Bern, as it requires both theoretical and practical work. The students select one paper out of a broad list of influential papers in macroeconomics and are asked to read and understand the paper, solve the model and replicate the main findings with Dynare, an extension to Matlab for simulating Dynamic Stochastic General Equilibrium (DSGE) Models.

### Schedule

Steps	Topic	Where and when?
1.	Initial meeting	Wednesday, February 18, 09-10, tba
2.	Selection of the paper	Friday, February 27, use <a href="http://bit.ly/1J0wyCY">http://bit.ly/1J0wyCY</a>
3.	Introduction to Matlab	Monday, February 23, 17-19, PC-Pool
4.	Introduction to Dynare	Tuesday, March 03, 16-18, PC-Pool
5.	PC-Lab Session 1	Tuesday, March 17, 16-18, PC-Pool
6.	PC-Lab Session 2	Tuesday, March 31, 16-18, PC-Pool
7.	PC-Lab Session 3	Tuesday, April 21, 16-18, PC-Pool
8.	PC-Lab Session 4	Tuesday, May 05, 16-18, PC-Pool
9.	Hand-in of Dynare Code	Friday, May 22
10.	Presentations	Week of June 1-5, tba
11.	Hand-in of paper	Friday, June 12

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\*Office hours are on Monday from 14-16, room A330, UniS. Announcement via mail to [philipp.wegmueller@vwi.unibe.ch](mailto:philipp.wegmueller@vwi.unibe.ch)

## Preliminary information

### Prerequisites

As the seminar requires both analytical and applied work, it is strongly recommended that prior to this seminar students have attended the lectures *Macroeconomics 2* and *Monetary Theory*. Although the knowledge of Matlab is not required in advance, it is an advantage to have good computer skills.

### Objectives

During the course, the students learn how to **read, understand, solve and discuss seminal work** in macroeconomics. At the end of the course, the students should be able to:

1. *read* an influential paper in macroeconomics,
2. *understand* its core statements and *classify* them within the literature.
3. *solve* correctly a dynamic stochastic general equilibrium model first on paper and second on the computer using Dynare.
4. *present* and *discuss* their obtained results in oral and written form.
5. *manage* the scientific working process (time allocation, knowledge acquisition).
6. *enhance* existing work, *point out limitations* and *develop new ideas* for future research.

### Working Process

The working process of this seminar includes several important steps, which shall be summarized in the following table. Importantly, the amount of time each student invests into the seminar does not depend on the choice of the paper, but rather on the amount of work one is willing to devote to the analysis of the paper.

After the initial meeting, students have the possibility to choose a paper out of the list at the end of this outline. Each paper can be replicated by two students at most.

Before beginning with the reading of their chosen paper, the students are asked to read the non-technical paper by Sergio Rebelo. Real business cycle models: past, present and future. *The Scandinavian Journal of Economics*, 107(2):217–238, 2005 (<http://bit.ly/1CYsDmy>), which provides a first overview of the traditional real business cycle literature.

Table 1: Approximate workload for a successful seminar participation

Steps	Task	Hours (approx.)	Week
<b>Individual tasks</b>			
1.	Choice of article	8	1-2
2.	First superficial reading <i>Getting an overview of the topic</i>	16	2-3
3.	Second profound reading <i>Solution of model on paper</i> <i>Understanding mechanism</i> <i>Get intuition</i>	40	3-5
4.	Solving the model on computer <i>Dynare-Implementation</i>	40	5-9
5.	Obtaining the results <i>Compare, Analyze and Enhance</i>	16	8-10
6.	Saving the results <i>Write essay and presentation</i>	32	10-12
<b>Meetings with presence</b>			
	Initial Meeting	2	1
	Introduction to Matlab	2	3
	Introduction to Dynare	2	4
	PC-Lab Sessions	8	6, 7, 8, 9
	Presentations	4-8	13

*Notes:* We see the workload presented here as an approximation of the time a student will devote to each part of the seminar when the prerequisites are satisfied. Obviously, if the student lacks prior knowledge of solving rational expectations models and using Matlab, the time invested for a successful participation in the seminar most likely substantially increases.

Thereafter, students dedicate themselves to study their chosen paper. While reading, it is crucial that the student understands the *main contribution* and *research question* of the paper and that he/she familiarizes with the *building blocks* of the model. To replicate the results presented in the paper, the student first solves the model with *pencil and paper*. In a second step, the student then implements the model into Dynare and solves it with the help of the computer. Finally, the results are gathered and compared to the ones reported in the chosen article. Once this is done, the student can set up and prepare the presentation and essay.

After weeks 5, 7 and 9, students are asked to hand in to the assistant a *Micro-Article*. Micro-Articles are a useful tool to report the working progress, originating in the context of knowledge management. For this seminar, its purpose is to facilitate the dialogue between students and teachers and to provide a tool for *reflection* and *monitoring* over the own working process. Each *Micro-Article* is *at most one page* long. In the header it contains the *topic* (Current problem or question regarding stage of work). The main body consists of two sections: (1) the reached *milestones* and *lessons learned*; and (2) a *description* of the current problem. Finally, the Micro-

Article shall mention briefly the *next milestones* the student wants to achieve. The Micro Articles have to be sent to the assistant by mail by the end of the respective weeks and will be discussed either in the PC-Lab sessions or bilaterally.

## Evaluation

The grade will be determined by an oral presentation and an essay.

- At the end of the semester, each student presents his/her paper and discusses his/her work. Each presentation lasts for **15 Minutes** and 10 Minutes of discussion, questions and answers. The grade for the presentation is determined by a weighted average over the following criteria: knowledge of the paper, reasoning, structure of the presentation, presentation skills, media usage.
- The students are asked to write an essay of **10-12 pages**. The essay should include a short description of the model, presentation of the main results, a critical evaluation of the model, and possibilities for future work. Further, it should document the students' working process during the seminar. The grade for the essay is determined by a weighted average over the following criteria: economic content, reasoning, correctness, originality, individuality, coherence, structure, language. Further, the assistant will also evaluate the working process of the students (quality of Dynare code, content of micro-articles, presence in lab-sessions).

One word of caution: We are aware that there are codes of some of the papers available online. We recognize copied codes and penalize students if they use them without letting now the assistant or the professors. However, there exists the possibility to make use of an available code and to write a seminar paper extending the already existing work. In this case, the student shall approach the assistant or the professors.

## List of papers - Real Business Cycle Models

### General Real Business Cycle Questions

#### 1. A progress report on business cycle models

E.R. McGrattan. A progress report on business cycle models. *Quarterly Review*, 18(Fall):2–16, 1994 <http://bit.ly/1d7EIDK>

#### 2. Putting home economics into macroeconomics

J. Greenwood, R. Rogerson, and R. Wright. Putting home economics into macroeconomics. *Quarterly Review*, 17:2–11, 1993 <http://bit.ly/1bxVUT6>

#### 3. The allocation of capital and time over the business cycle

Jeremy Greenwood and Zvi Hercowitz. The allocation of capital and time over the business cycle. *Journal of Political Economy*, 99(6):1188–1214, 1991 <http://bit.ly/1fff4DH>

#### 4. The role of investment-specific technological change in the business cycle

Jeremy Greenwood, Zvi Hercowitz, and Per Krusell. The role of investment-specific technological change in the business cycle. *European Economic Review*, 44(1):91–115, 2000 <http://bit.ly/1ewUqcG>

#### 5. Can News about the Future Drive the Business Cycle?

Nir Jaimovich and Sergio Rebelo. Can news about the future drive the business cycle? *The American Economic Review*, 99(4):1097–1118, 2009 <http://bit.ly/1ctMUmD>

#### 6. The labor market in real business cycle theory

G. Hansen and R. Wright. The labor market in real business cycle theory. *Quarterly Review*, 16(Spring):2–12, 1992 <http://bit.ly/1eg2H8d>

#### 7. Habit persistence, asset returns, and the business cycle

Michele Boldrin, Lawrence J. Christiano, and Jonas D. M. Fisher. Habit persistence, asset returns, and the business cycle. *American Economic Review*, 91(1):149–166, September 2001 <http://bit.ly/1d7DNm0>

#### 8. The role of energy in real business cycle models

In-Moo Kim and Prakash Loungani. The role of energy in real business cycle models. *Journal of Monetary Economics*, 29(2):173–189, 1992 <http://bit.ly/1Cgok0t>

## Monetary Policy

### 9. Modeling the liquidity effect of a money shock

L.J. Christiano. Modeling the liquidity effect of a money shock. *Quarterly Review*, 15(Win):3–34, 1991 <http://bit.ly/1a1c1xo>

### 10. Money's Role in the Monetary Business Cycle

P.N. IRELAND. Money's role in the monetary business cycle. *Journal of Money, Credit, and Banking*, 36(6):969–983, 2004 <http://bit.ly/Mudbac>

### 11. The inflation tax in a real business cycle model

Thomas F Cooley and Gary D Hansen. The inflation tax in a real business cycle model. *American Economic Review*, 79(4):733–48, 1989 <http://bit.ly/1dNA2TA>

## Fiscal policy

### 12. Government size and macroeconomic stability

together with

#### **Government size and macroeconomic stability: A comment**

Jordi Gali. Government size and macroeconomic stability. *European Economic Review*, 38(1):117–132, 1994 <http://bit.ly/Mel4dn>

Jang-Ting Guo and Sharon G Harrison. Government size and macroeconomic stability: A comment. *European Economic Review*, 50(5):1339–1346, 2006 <http://bit.ly/1nigbEz>

### 13. Cyclical effects of government's employment and goods purchases

Mary G Finn. Cyclical effects of government's employment and goods purchases. *International Economic Review*, 39(3):635–57, 1998 <http://bit.ly/1fbxLE8>

### 14. Tax distortions in a neoclassical monetary economy

Thomas F Cooley and Gary D Hansen. Tax distortions in a neoclassical monetary economy. *Journal of Economic Theory*, 58(2):290–316, 1992 <http://bit.ly/1gp0B7z>

### 15. The macroeconomic effects of distortionary taxation

Ellen R McGrattan. The macroeconomic effects of distortionary taxation. *Journal of Monetary Economics*, 33(3):573–601, 1994 <http://bit.ly/1E006dh>

## International Economics

### 16. Emerging Market Business Cycles: The Cycle Is the Trend

Mark Aguiar and Gita Gopinath. Emerging market business cycles: The cycle is the trend. *Journal of Political Economy*, 115(1):69–102, 2007 <http://bit.ly/1d7rGWV>

### 17. International risk sharing and the transmission of productivity shocks

Giancarlo Corsetti, Luca Dedola, and Sylvain Leduc. International risk sharing and the transmission of productivity shocks. *The Review of Economic Studies*, 75(2):443–473, 2008 <http://bit.ly/1d7s3R8>

### 18. International Business Cycles: Theory and Evidence

D. Backus, P. Kehoe, and F. Kydland. International business cycles: Theory and evidence. *Quarterly Review*, 16(w4493):14–29, 1993 <http://bit.ly/1njdRgr>

### 19. Closing small open economy models

S. Schmitt-Grohe and M. Uribe. Closing small open economy models. *Journal of International Economics*, 61:163–185, 2003 <http://bit.ly/1iakz5l>

### 20. Monetary policy in open economies

Harris Dellas. Monetary policy in open economies. *European Economic Review*, 50(6):1471–1486, 2006 <http://bit.ly/1e73jyI>

### 21. Macroeconomic effects of nominal exchange rate regimes: new insights

R. Kollmann. Macroeconomic effects of nominal exchange rate regimes: new insights into the role of price dynamics. *Journal of International Money and Finance*, 24(2):275–292, 2005 <http://bit.ly/1fcQ9hr>

### 22. Tastes and Technology in a Two-Country Model of the Business Cycle: Explaining International Comovements

A.C. Stockman and L.L. Tesar. Tastes and technology in a two-country model of the business cycle: Explaining international comovements. *The American Economic Review*, 85:168–185, 1995 <http://bit.ly/1jICMKg>