API-120: Advanced Macroeconomics of Open Economies II, Spring 2021

Harvard Kennedy School, Harvard University

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Times:
Live lectures: Tuesdays and Thursdays, 12:00 noon -1:15 p.m. EST.
(Lectures 1-14 will be remote. Lectures 15-26 will offer an in-class option.
If room capacity necessitates, there may be a Section B at 3:00-4:15pm.)
Review Sessions: Fridays, 9:00-10:00 am EST (+ 3 more sessions preceding PS4-PS6 )
Final exam: May 7.

Course Description: API-120 is the second in the two-course sequence on Advanced Macroeconomics in the MPA/ID program. Topics covered in the first half Macro II include international financial integration, exchange rate models, speculative attacks, the carry trade, portfolio choice, currency risk, default risk, and debt sustainability analysis. The second half of the course uses tools of dynamic optimization. It begins with long-term growth theory including the Solow, Ramsey, and endogenous growth models. It then offers primers on Overlapping Generations, Real Business Cycle theory, New Keynesian models, and Dynamic Stochastic General Equilibrium models.

Nature of the approach: The course is largely built around analytical models. Although real-world examples will appear throughout, the course will rely heavily on theoretical and econometric analysis, as is customary in economics classes.

Who is expected to take the course: This course, like Advanced Macroeconomics for the Open Economy I (API 119), is a required component of the MPA / International Development sequence. In addition to MPA/ID students, a student who has successfully taken API 119 in the fall can be admitted by permission of instructor.
Weekly structure of the course:

A standard week will consist of two units. Each unit will consist of:
(i) a required reading (plus others recommended). Before each live lecture, you should complete the required reading for the new unit;
(ii) the live lecture from the Professor;
(iii) an asynchronous component, which will include a mini-Lecture from the professor, plus quizzes. For Units 1-13, do the asynchronous component after the live lecture, as in API-119. For Units 15-26, do the asynchronous component before the live lecture, as in some other MPA/ID courses.

There will be a Friday review session conducted by the Teaching Fellow (TF), at 9 am for the first half of the semester (TBA for 2nd half). There will be six problem sets. For Problem Sets 4-6 we anticipate an extra TF review session before the due date, perhaps Tuesdays 2-3 pm EST.

The entire teaching team will also hold office hours. Students should make heavy use of mpaid.macro@gmail.com, sending any and all questions to it. The teaching team will monitor it frequently. The response to a student’s question may be a directly e-mailed answer, a decision to dedicate somebody’s office hours to the topic in question, or the arrangement of a special bilateral appointment.

Grading:

20%: 6 Problem sets
20%: Quizzes (in asynchronous modules)
20%: Mid-term exam
35%: Final exam
5%: Course participation.

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<thead>
<tr>
<th>Problem Set</th>
<th>Due date (8:30 am, EST). No late problem sets.</th>
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<tbody>
<tr>
<td>1.</td>
<td>Thurs., 2/4</td>
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<td>2.</td>
<td>Thurs., 2/18</td>
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<td>3.</td>
<td>Thurs., 2/25</td>
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<td>[Mid-term exam, Thurs. March 11, 10:30-11:45 am]</td>
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<td>4.</td>
<td>Friday, 4/2</td>
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<td>5.</td>
<td>Friday, 4/16</td>
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<td>6.</td>
<td>Friday, 4/30</td>
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<td>[Final exam: Friday, May 7. Two slots planned: 8-11 am &amp; 8-11 pm, EST]</td>
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Please note the dates for the mid-term and final exam. If you have conflicts for those dates, you should not register for the course.

Students must do quizzes and exams alone; no discussion with other students is allowed. Students are responsible for knowing what is in the Academic Code, including this paragraph: “Cheating on assignments or exams, plagiarizing or misrepresenting the ideas or language of someone else as one’s own, falsifying data, or any other instance of academic dishonesty violates the standards of our community, as well as the standards of the wider world of learning and affairs…If students submit work not their own…. including from the Internet, they will be subject to discipline by the HKS Administrative Board, ranging from a warning to required withdrawal or expulsion from HKS.”
First half of semester: Professor J. Frankel

I. INTEGRATION OF FINANCIAL MARKETS

1. (1/26/2021) The theory of gains from intertemporal trade
   Mini-lecture: Graphical analysis

2. (1/28) Do financial markets work in practice as they do in theory?
   Mini-lecture: Macro-prudential policies

3. (2/2) Measuring financial integration: Interest Rate Parity
   Mini-lecture: Quantity tests of financial integration

II. EXPECTATIONS, MONETARY POLICY, AND EXCHANGE RATE DETERMINATION

4. (2/4) With flexible goods prices
   Mini-lecture: Illustrations of the importance of expectations
   ___ PS 1 due 2/4

5. (2/9) The speculative attack model
   Mini-lecture: Generations 2 & 3 of speculative attack models

6. (2/11) With sticky prices: The overshooting model
   Mini-lecture: Empirical performance of exchange rate forecasts

III. THE CARRY TRADE, RISK, & PORTFOLIO DIVERSIFICATION

7. (2/16) Forward rate bias
   Mini-lecture: Introduction to the exchange risk premium and portfolio balance model

8. (2/18) Optimal portfolio diversification
   Mini-lecture: The efficient frontier, as viewed by Botswana’s Pula Fund
   ___ PS 2 due 2/18

9. (2/23) Exchange rate risk, equity risk, and home bias
   Mini-lecture: The portfolio balance model applied to country risk

IV. DEBT & EM CRISES

10. (2/25) Debt Sustainability Analysis
    Mini-lecture: Explosive debt
    ___ PS 3 due 2/25
11. (3/2) Default
   Mini-lecture: What determines sovereign spreads?

12. (3/4) Political business cycles and other fiscal failures
   Mini-lecture: The case of Chile’s fiscal institutions

13. (3/9) EM crises: Early Warning Indicators

14. (3/11) Midterm exam
   (3/16 Academic wellness day)

Second half of semester: Professor F. Sturzenegger

V. GROWTH THEORY

15. (3/18) Solow/Ramsey neoclassical growth model
   Mini-lecture: A review of differential equations and Hamiltonians

16. (3/23) Endogenous growth: Factor accumulation
   Mini-lecture: The Solow model with reproducible factors

17. (3/25) Endogenous growth: Models of innovation
   Mini-lecture: Can innovation be faster than optimal?

18. (3/30) Secular Stagnation or Explosive Growth? Taking the Theory to Practice
   Mini-lecture: An introduction to Eggerston, et al.

19. (4/1) Overlapping Generation Models
    Mini-lecture: The r<g economy

20. (4/6) OLG application: Social Security
    Mini-lecture: How policy can go wrong.

IV BUSINESS CYCLE THEORY

    Mini-lecture: What is calibration?

22. (4/13) Search Theory and Unemployment Models
    Mini-lecture: Introducing a Bellman Equation

   (4/15 Academic Wellness Day)
23. (4/20) New Keynesian models of fluctuations
   Mini-lecture: The Lucas model

24. (4/22) The DSGE approach
   Mini-lecture: Estimation of DSGE models

25. (4/27) Consumption and Macro Finance
   Mini-lecture: The equity premium puzzle

V. DOING POLICY

Final exam: May 7. Two time slots: 8-11am and 8-11pm (EST).

Readings
* = required reading
** = required strongly
*** = required strongly to read before lecture. You may be called upon.

Readings for first half of semester (Prof. Frankel)

*World Trade & Payments* (WTP), by R.Caves, J.Frankel, and R.Jones (10th edition, Addison Wesley, 2007) is available via the Coop; or at the professor’s Publications page; or via chapter links below (as are other readings).

I. INTEGRATION OF FINANCIAL MARKETS

1. (1/26) The theory of gains from intertemporal trade

   *World Trade and Payments*, 10th edition, Chapter 21.5.  ***

2. (1/28) Imperfections in financial markets, including the Lucas Paradox


3. (2/2) Interest Rate Parity & other tests of financial integration

WTP, Chapters 21.4, 27.1.


II. MONEY & MODELS OF EXCHANGE RATE DETERMINATION

4. (2/4) With flexible prices

WTP, 10th edition, Chapter 27.2-27.3 and Supplement to Ch. 27, S51-55.

Michael Mussa, 1976, "The Exchange Rate, the Balance of Payments, and Monetary and Fiscal Policy under a Regime of Controlled Floating, Scandinavian J. of Econ. 78, May, 229-48.


“One-way baht: For 15 years, 2 currencies have outperformed all others,” Economist, Dec.7, 2019.

5. (2/9) Speculative attack models

WTP, 10th edition, Ch. 24.3.


6. (2/11) With sticky prices: the overshooting model

WTP, Chapter 27.4-27.6.

Rudiger Dornbusch, 1976, "Expectations & Exchange Rate Dynamics," JPE, 84, 1161-76.


III. THE CARRY TRADE, RISK, PORTFOLIO DIVERSIFICATION

7. (2/16) Exchange rate forecasting, forward bias, and the risk premium


8. (2/18) Optimal portfolio diversification

World Trade and Payments, Chapter 28.2 & Supplement to Ch.28, pp. S55-S58. ***


9. (2/23) Exchange rate risk, equity risk, and home bias

World Trade and Payments, Chapter 28.3 ***


IV. DEBT & EM CRISSES

10. (2/25) Debt Sustainability Analysis

World Trade and Payments, Supplement to Ch.24, pp. S47-S48. ***

"Brazil warned of 'explosive' build-up of public debt," Financial Times, 24 May 2016.

11. (3/2) Sovereign default


“Jamaica’s tumultuous relationship with the IMF has a happy ending,” *The Economist*, Nov. 9, 2019.

“Zambia was already a case study in how not to run an economy. Then came covid-19,” *The Economist*, May 2, 2020.


12. (3/4) Fiscal failures (including the Political Business Cycle)


13. (3/7) EM crises: Early Warning indicators

*WTP*, Ch. 24.1-24.2, 24.4-24.5 & 24.8


Emerging markets debt: The well runs dry,” *The Economist*, March 5, 2016.


14. (3/11) Midterm exam

Readings for second half of semester (Prof. Sturzenegger)

Textbooks:


4. (3/18) Solow and Ramsey’s Neoclassical Growth Model
CSV, Chapters 1 and 2 and 16.4 ***
Romer, D (2019) Advanced Macroeconomics, Chapter 1 &2A (Same in 4th and 5th ed) *

5. (3/23) **Endogenous Growth: Factor Accumulation**

CSV, Chapters 3-9***
Romer, D (2019) Advanced Macroeconomics, Chapter 3.4-3.6 (Same in 4th and 5th ed)*

16. (3/25) **Endogenous Growth: Models of Innovation**

CSV, Chapter 5 ***

17. (3/30) **Secular Stagnation or Explosive Growth? Taking the Theory to Practice**

CSV, Chapters 5, 6 and 9 ***
AlphaGo The Movie, (2017), Youtube. **

18 & 19 (4/1 & 6) OLG Models and Social Security

CSV, Chapters 7 and 8. ***
Romer, D (2019) Advanced Macroeconomics, Chapter 2B (Same in 4th and 5th ed) *
Chapter 9.

20. (4/8) Real Business Cycles

CSV, Chapter 12. ***
Romer, D (2019) Advanced Macroeconomics, Chapter 5 (Same in 4th and 5th ed) *

CSV, Chapter 14. ***

22. (4/20 and 22) New Keynesian Models of Fluctuations and the DSGE Approach

CSV, Chapter 13, 15 and 19. ***
Romer, D (2019) Advanced Macroeconomics, Chapter 7 (Same in 4th and 5th ed) *
http://www.dynare.org/documentation-and-support/tutorial
Cochrane, J. (2021) The Fiscal Theory of the Price Level, Chapter 1, 2 and 5.

24. (4/27) Consumption and Macro Finance
CSV, Chapter 10. ***
Romer, D (2019) Advanced Macroeconomics, Chapter 8 (Same in 4th and 5th ed) *


We list below (in chronological order) a number of classical texts in macroeconomics that you may want to know about and may be handy as references sometime during your career.