API-120: Advanced Macroeconomics of Open Economies II, Spring 2024

Harvard Kennedy School, Harvard University

Staff
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Office hours: Tuesdays, 4:30-6:00 pm (1/23-3/5); & by appt.
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Times --
Lectures: moved to Mondays & Tuesdays, 1:30-2:45 pm in W-436. ¹/
Review Sessions: Wednesdays, 4:30-5:45 pm or 6:00-7:15 pm
Final exam: Friday, May 3, 2:00-5:00 pm.

Course Description: API-120 is “Macro II” -- the second in the two-course core sequence on Advanced Macroeconomics of Open Economies in the MPA/ID program. Topics covered in the first half of this semester 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 and New Keynesian models, and finishes by discussing the practical workhorses of modern macro: Dynamic Stochastic General Equilibrium models and Vector Autoregressions.

Nature of the approach: The course is mostly 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. The second half of Macro II calls for a higher level of math than the first. We strongly recommend students to engage in advanced reading of the required material for this second half.

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, one or two students who have successfully taken API 119 in the fall may be admitted by permission of instructor.

¹/ There will be an extra lecture (Unit 3) on Friday, Jan. 26, 4:30 pm-5:45 pm in W436.
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 recorded mini-Lecture from the professor, plus one or more quizzes. Students should do the asynchronous component after the live lecture, as in API-119. Do not get behind in taking the quizzes!

The teaching Fellow (TF) will conduct a substantive review session Wednesdays, 4:30-5:45 pm or 6:00-7:15 pm, in W436.

The entire teaching team will 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.

Grading:

25%: 6 Problem sets
10%: Quizzes*
20%: Mid-term exam
40%: Final exam
5%: Class participation.

* Quizzes are to be taken bi-weekly, as part of each Asynchronous Module. You will need to master the basic material of each Unit before taking the corresponding quizzes. They are due at 8:30 a.m., the morning of the subsequent lecture. We have found that this tight deadline is necessary to keep students from falling behind in the material. When taking the quiz, you will have 3 minutes per question; if there are 4 questions in the main quiz, then you have 12 minutes for it. Usually there will be only 1 question in the post-video quiz, you will have 3 minutes for it. If you take the quiz one or more days after the deadline, there will be a penalty of 1 point per day (out of a total of 4 or 5 points). The quizzes for the first week (three units) do not count for your grade.

Problem Set Due date (10:30 am). No late problem sets. (We make the solutions available.)

1. Friday, Feb. 2
2. Friday, Feb. 16
3. Friday, Feb. 23

[Mid-term exam, Tuesday, March 5, 2024, in class]

4. Friday, March 29
5. Friday, April 12
6. Friday, April 26

[Final exam: Friday, May 5, 2:00-5:00 pm]

Please check the dates and times of the midterm and final exams. Do not make plans for air travel, weddings, job interviews, or anything else that would conflict with the exam times.

Please note: Use of ChatGPT is not allowed in this course.

Students must take 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 either not their own or without clear attribution to the original source, including but not limited to the Internet, they will be subject to discipline by the HKS Administrative Board, ranging from a warning to required withdrawal or expulsion from HKS.”
I. INTEGRATION OF FINANCIAL MARKETS

1. (1/22/2024) The theory of gains from intertemporal trade
   Mini-lecture: Graphical analysis

2. (1/23) Do financial markets work in practice as they do in theory?
   Mini-lecture: Macro-prudential policies

3. (1/26 Extra Friday lecture) Measuring financial integration: Interest Rate Parity
   Mini-lecture: Quantity tests of financial integration

II. EXPECTATIONS AND THE MONETARY MODEL OF EXCHANGE RATES

4. (1/29) With flexible goods prices
   Mini-lecture: Derivation of the monetary model with rational expectations

5. (1/30) The speculative attack model
   Mini-lecture: Generations 2 & 3 of speculative attack models

6. (2/5) With sticky prices: The overshooting model
   Mini-lecture: Empirical performance of exchange rate forecasts

III. THE CARRY TRADE, RISK, & PORTFOLIO DIVERSIFICATION

7. (2/6) Forward rate bias
   Mini-lecture: Introduction to the portfolio balance model

8. (2/12) Optimal portfolio diversification
   Mini-lecture: The efficient frontier, as viewed by Botswana’s Pula Fund

9. (2/13) Home bias, currency risk, and equity risk
   Mini-lecture: The model applied to country risk

   2/19 Holiday (Washington’s Birthday)

IV. DEBT & EM CRISES

10. (2/20) Debt Sustainability Analysis
    Mini-lecture: Explosive debt

   ___ PS 3 due 2/23
11. (2/26) Sovereign Default *(Guest lecture by F. Sturzenegger, remote)*
   Mini-lecture: Consequences of default

12. (2/27) The political economy of fiscal policy
   Mini-lecture: The case of Chile’s fiscal institutions
   [Note: It is possible that this unit might trade places with Unit 11.]

13. (3/4) EM crises: Early Warning Indicators
    No Asynchronous Module

14. (3/5) *Midterm exam*

   [March 9 – March 17 SPRING BREAK]

   Second half of semester: Professor F. Sturzenegger

V. GROWTH THEORY

15. (3/18) Solow and cross-country income disparities
    Mini-lecture: A review of dynamic systems

16. (3/19) Ramsey neoclassical growth model
    Mini-lecture: Thinking about cross country differences in income

17. (3/25) Endogenous growth: Factor accumulation
    Mini-lecture: The Solow model with reproducible factors

18. (3/26) Endogenous growth: Models of innovation
    Mini-lecture: May growth stagnate?

19. (4/1) Overlapping Generations Models
    Mini-lecture: Models of savings

20. (4/2) OLG applications: social security, the Biden fiscal expansion, bubbles and crypto
    Mini-lecture: The r<g economy and the future of cryptos

IV BUSINESS CYCLE THEORY

    Mini-lecture: What is calibration?

22. (4/9) New Keynesian models of fluctuations: the basics
Mini-lecture: The Lucas island model

___ PS 5 due Fri. 4/12

   Mini Lecture: Was the US 2023 inflation caused by the Russian invasion of Ukraine?

25. (4/22) Vector Autoregression (VAR)
   Mini-lecture: Estimating a DSGE.

V. DOING POLICY

   ___ PS 6 due 4/26

   Final exam: Friday, May 3, 2:00-5:00 pm.

Readings

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

Readings for first half of semester (Prof. Frankel)

The textbooks are the same as for API-119:
(i) 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. Also via chapter links below, as are other readings.
(ii) An Easy Guide to Advanced Macroeconomics, by Filipe Campante, Federico Sturzenegger and Andres Velasco 2021 (LSE Press) is available online and should also be available at the Canvas course page and at the Coop.

I. INTEGRATION OF FINANCIAL MARKETS

1. The theory of gains from intertemporal trade

World Trade and Payments, 10th edition, Chapter 21.5. ***
2. The Lucas Paradox and imperfections in financial markets


3. Interest Rate Parity & other tests of financial integration

*WTP*, Chapters 21.4, 27.1 . ***


II. EXPECTATIONS & EXCHANGE RATE DETERMINATION

4. The monetary model with flexible prices

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


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

5. Speculative attack models

*WTP*, 10th edition, *Ch. 24.3* ***


6. With sticky prices: the overshooting model
III. THE CARRY TRADE, RISK, PORTFOLIO DIVERSIFICATION

7. Forward bias and the risk premium

World Trade and Payments, 10th ed., Chapter 28.1


8. Optimal portfolio diversification

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


9. Exchange rate risk, equity risk, and home bias

World Trade and Payments, Chapter 28.3


IV. DEBT & EM CRISES

10. Debt Sustainability Analysis

WT&P, Supplement to Ch.24, pp. S47-S48 (DSA in continuous time).
11. Sovereign default
Federico Sturzenegger, 2020, “Do We Need to Rethink Debt Policy in Latam?” UNDP LAT C19 PDS No. 23, Nov. ***
“Jamaica’s tumultuous relationship with the IMF has a happy ending,” The Economist, Nov. 9, 2019.
“Default option: Poor countries struggling with debt fight to get help,” Economist, March 6, 2021. *

12. The political economy of fiscal policy
CSV (Chapter “23”): 18.2, Political Economy Approach; Rules & Institutions, pp.299-302.**

13. 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.
“Hot and Sour: What Asia learned from its financial crisis 20 years ago,” The Economist, July 1, 2017.
“The fragile four: Which emerging markets are most exposed to a Treasury tantrum?” The Economist, March 6, 2021.
14. Midterm exam

Readings for second half of semester -- Prof. Sturzenegger

Textbooks:

An Easy Guide to Advanced Macroeconomics, by Filipe Campante, Federico Sturzenegger and Andres Velasco 2021 (LSE Press) is now available online for free and should also be available at the Canvas course page and at the Coop.


Recursive Macroeconomic Theory, by Ljungqvist, L. and Sargent, T. 2018, The MIT Press. (Note: Ph.D in economics level)

15. Solow and cross-country income disparities

CSV, Chapter 2 ***

16. Ramsey’s Neoclassical Growth Model

CSV, Chapter 3 ***
CSV, Chapter 4 (if you want to see the model applied to the open economy you saw with Prof. Frankel)
CSV, 18.3 (if you want to see an application to the capital-labor taxation debate. Note: very difficult)

17. Endogenous Growth: Factor Accumulation

CSV, Chapters 5.1-5.4***

18. Endogenous Growth: Models of Innovation

CSV, Chapter 6. ***
AlphaGo The Movie, (2017), Youtube***.

19  **OLG Models**

CSV, Chapter 8. ***

20. OLG applications: social security, the Biden fiscal expansion, bubbles and crypto

CSV, Chapter 9, 22.3***
CSV 22.3.1 and 22.3.3
21. Real Business Cycles

CSV, Chapter 14. ***

22. New Keynesian Models of Fluctuations: the basics

CSV, Chapter 15.1-15.3.***
Romer, D (2019) Advanced Macroeconomics, Chapter 7 (Same in 4th and 5th ed)

23 & 24. New Keynesian Models of Fluctuations: fiscal and monetary policies and passthrough

CSV, Chapter 15.4, 17.4, 18.2***
Soylu, Can (2021), Simulating a DSGE Model Video Tutorial https://zenodo.org/record/5572649#.Y3U20exBy3I***

25. (4/27) Vector Autoregression (VAR)
CVS and der Meguerditchian (2022) Estimating VARs & SVARs
https://zenodo.org/record/6908013#.Y3UqK-xBy3I***


