Professor Paul Bergin Kiel Advanced Studies Program
August 2017

Macroeconomics in Open Economies

This course will study the fundamental theories of international macroeconomics, as well as their application for issues of current interest in the academic literature, and their implications for monetary and exchange rate policies. It will involve theoretical readings applying tools of dynamic programming. Several short problem sets will be assigned during the course.

The course website contains links to the readings as well as homework assignments: http://faculty.econ.ucdavis.edu/faculty/bergin/kiel/

A useful reference for background material is the following textbook: Uribe, Martin and Schmitt-Grohe, Stephanie. Open Economy Macroeconomics. Princeton University Press, 2017.

Topic 1: **Global Financial Imbalances and Intertemporal Models of the Current Account**

Do current account imbalances serve a useful role in facilitating macroeconomic adjustment? Develop an intertemporal optimization-based theory of the current account. Evaluate theory empirically, and apply it to recent experiences in Europe, China and US.

Reading: Hoffmann, M., 2013, "What drives China's Current Account," *Journal of International Money and Finance* 32, 856-883.

Other references:

- "Why Germany's current-account surplus is bad for the world economy," *The Economist*, July 8, 2017.
- Sheffrin, Steven and Wing T. Woo, 1990, "Present Value Tests of an Intertemporal Model of the Current Account," *Journal of International Economics*, 29 (3-4) November, 237-253.
- Bergin, Paul R. and Steven Sheffrin, 2000, "Interest Rates, Exchange Rates and Present Value Models of the Current Account," *The Economic Journal*, 110 (April) 535-558.
- JM Campa, A Gavilan 2011. Current accounts in the euro area: An intertemporal approach Journal of International Money and Finance 30, 205-228.
- Corsetti, Giancarlo and Panagiotis T. Konstantinou, 2012, "What Drives US Foreign Borrowing? Evidence on the External Adjustment to Transitory and Permanent Shocks," *American Economic Review* 102, 1062-1092.
- Obstfeld, Maurice, 2012, "Does the Current Account Still Matter?" *American Economic Review* 102, 1-23.
- Feldstein, Martin, and Charles Horioka, 1980, "Domestic Savings and International Capital Flows," *Economic Journal* 90 (358) June, 314-329.
- Glick, Reuven and Kenneth Rogoff, 1995, "Global Versus Country-Specific Productivity Shocks and the Current Account," *Journal of Monetary Economics*, 35 (1) February, 159-192.
- Chapter 2 of Uribe, Martin and Schmitt-Grohe, Stephanie. Open Economy Macroeconomics. Princeton University Press, 2017

Topic 2: **International Co-movement in Business Cycles**

To what degree do recessions of countries move together? Discuss other empirical regularities in their national business cycles, and how well simple business cycle models can explain them.

Readings: Backus, D.K., P.J. Kehoe and F.E. Kydland, 1992, "International Real Business Cycles, " Journal of Political Economy 100, 745-775.

- Charles Engel, Jian Wang, 2011," International Trade in Durable Goods: Understanding Volatility, Cyclicality, and Elasticities," Journal of International Economics 83, 37-52.

Other references:

- Backus, D. K., and G. W. Smith (1993): "Consumption and Real Exchange Rates in Dynamic Economies with Non-Traded Goods," Journal of International Economics, 35(3), 297–316.
- Corsetti, Giancarlo, Luca Dedola and Sylvain Leduc, 2008, "International Risk Sharing and the Transmission of Productivity Shocks," *Review of Economics Studies* 75, 443-473.
- Miyamoto, Wataru and Nguyen, Thuy Lan, 2017, "Understanding the cross country effects of U.S. technology shocks," *Journal of International Economics* 106, 143-164. http://www.sciencedirect.com/science/article/pii/S002219961730034X
- Obstfeld, M., and K. Rogoff (2001): "The Six Major Puzzles in International Macroeconomics: Is There a Common Cause?," in NBER Macroeconomics Annual 2000, Volume 15, pp. 339–390. MIT press.
- Eaton, J., S. Kortum, B. Neiman, and J. Romalis (2016): "Trade and the Global Recession," forthcoming *American Economic Review*.
- Eaton, J., S. Kortum, and B. Neiman, (2016): "Obstfeld and Rogoff's International Macro Puzzles: A Quantitative Assessment," Working Paper.

Topic 3: **International Risk Sharing and Portfolio Diversification**

Consider recent evidence on the degree of integration and diversification in equity markets. Establish the gains from international risk sharing. Compare theories for a lack of full diversification.

Reading: Jonathan Heathcote and Fabrizio Perri (2013)."The International Diversification Puzzle Is Not as Bad as You Think," Journal of Political Economy 121, 1108-1159.

Other references:

- Lucas, Robert E., Jr. 1982. "Interest Rates and Currency Prices in a Two-Country World." Journal of Monetary Economics 10, 335–59.
- Cole, Harold L., and Maurice Obstfeld. 1991. "Commodity Trade and International Risk Sharing: How Much Do Financial Markets Matter?" Journal of Monetary Economics 28, 3–24.
- Nicolas, Kollmann, Robert, and Martin, Philippe, 2010. "International portfolios, capital accumulation and foreign assets dynamics," Journal of International Economics, Elsevier 8, 100-112,

Topic 4: **What Determines Exchange Rates?**

Summarize empirical tests of real exchange rate behavior. Consider theories for why real and nominal exchange rates move.

Readings:

- Berka, Martin, Michael B. Devereux and Charles Engel, 2015, "Real Exchange Rates and Sectoral Productivity in the Eurozone," revise at resubmit, *American Economic Review*
- Bergin, Paul, Reuven Glick, and Jyh-lin Wu, 2014, "Mussa Redux and Conditional PPP," *Journal of Monetary Economics* 68, 101-114.

Other references:

- Alan M. Taylor & Mark P. Taylor, 2004. "The Purchasing Power Parity Debate," *Journal of Economic Perspectives* 18(4), 135-158.
- Imbs, Jean, H. Mumtaz, Morten Ravn and Helene Rey, 2005, "PPP Strikes Back: Aggregation and the Real Exchange Rate," *Quarterly Journal of Economics* 70, 1-43.

- Carvalho, Carlos and Fernanda Nechio, 2012, "Aggregation and the PPP Puzzle in a Sticky Price Model," *American Economic Review* 101, 2391–2424.
- Meese, Richard and Kenneth Rogoff, 1983, "Empirical Exchange Rate Models of the Seventies: Do they fit out of sample?" Journal of International Economics 14, 3-24.
- Engel, Charles and Kenneth West, 2005, "Exchange Rates and Fundamentals," *Journal of Political Economy* 113, 485-517.
- Engel, Charles, Kenneth West, and Nelson C. Mark, 2008, "Exchange Rate Models are Not as Bad as You Think," NBER Macroeconomics Annual (draft posted)
- Balassa, B. (1964), "The Purchasing Power Parity Doctrine: A Reappraisal", Journal of Political Economy, 72 (6): 584–596.

Topic 5: **<u>Monetary Policy in the Open Economy</u>**

Study models of monetary policy based on sticky prices.

Reading: Lahiri, Amartya and Alok Johri, 2008, "Persistent real Exchange Rates," *Journal of International Economics* 76, 223-236.

Other references:

- Obstfeld, Maurice and Kenneth Rogoff, 1995, "Exchange Rate Dynamics Redux," *Journal of Political Economy*, 103 (3) June, 624-660.
- Kollmann, Robert, 2001, "The Exchange Rate in a Dynamic-Optimizing Current Account Model with Nominal Rigidities: A Quantitative Investigation," *Journal of International Economics* 55, 243-262.
- Chari, V.V., Patrick J. Kehoe, and Ellen R. McGrattan, 2002, "Can Sticky Price Models Generate Volatile and Persistent Real Exchange Rates?" *Review of Economic Studies* 69, 533-563.

Topic 6: **<u>Financial Integration and Interest Rate Parity</u>**

Tests of uncovered interest rate parity and their implications.

Reading: Engel, Charles. 2014. "Exchange Rates and Interest Parity." In *Handbook of International Economics*, Vol. 4, edited by Gita Gopinath and Elhanan Helpman, 453–522. Amsterdam: North-Holland. Available here as NBER Working Paper No. 19336.

Other References:

- Eichenbaum, Martin, and Charles L. Evans, 1995, "Some Empirical Evidence on the Effects of Shocks to Monetary Policy on Exchange Rates," *Quarterly Journal of Economics*, 110 (4) November, 975-1009.
- Charles Engel, 2016. "Exchange Rates, Interest Rates, and the Risk Premium," *American Economic Review*, 106, 436-74.
- Benigno, Gianluca, Pierpaolo Benigno and Salvatore Nisticò, 2012, "Risk, Monetary Policy and The Exchange Rate." NBER Macroeconomics Annual 2011, 247-309.
- Wenxin Du, Alexander Tepper, Adrien Verdelhan, 2016. "Deviations from Covered Interest Rate Parity," MIT working paper.

Topic 7: **<u>Optimal Monetary Policy and International Coordination</u>**

What types of monetary policy rules promote welfare within an open economy? Compare fixed and flexible exchange rate regimes, and coordinated versus noncoordinated policies.

Reading: Devereux, M. B. and C. Engel, 2003, "Monetary Policy in the Open Economy Revisited: Price Setting and Exchange Rate Flexibility," Review of Economic Studies 70, 765-783.

Other references:

- Obstfeld, M. and K. Rogoff, 2002, "Global Implications of Self-Oriented National Monetary Rules," The Quarterly Journal of Economics 117, 503-535.
- Corsetti, G., L. Dedola, And S. Leduc, 2010, Optimal Monetary Policy in Open Economies, Handbook of Monetary Economics, vol III, ed by B. Friedman and M. Woodford, 861-933.
- Bergin, Paul and Giancarlo Corsetti, 2016, "International Competitiveness and Monetary Policy: Strategic Policy and Coordination with a Production Relocation Externality," working paper.
- Engel, Charles, 2012, "Currency Misalignments and Optimal Monetary Policy: A Reexamination," American Economic Review 101, 2796-2822.
- Clarida, R., J. Gali and M. Gertler (2002) "A simple Framework for International Monetary Policy Analysis," Journal of Monetary Economics 49:5, 879-904.
- Engel, Charles, 2015, "International Coordination of Central Bank Policy," NBER Working paper 20952.

Topic 8: **<u>Financial Frictions and Shocks</u>**

Study how exchange rate fluctuations imply international wealth reallocation, and how this affects international monetary policy transmission.

Reading: Perri, Fabrizio and Vincenzo Quadrini, 2016, "International Recessions," Working Papers 17201.

Other References:

- Gourinchas, P.O. and Helene Rey, 2014. External adjustment, global imbalances and valuation effects in Handbook of International Economics volume 4.
- Gourinches, Pierre-Olivier and Helene Rey, 2007, "International Financial Adjustment," Journal of Political Economy 115:4, 665-703.
- Tille, Cedric, 2008, "Financial Integration and the Wealth Effect of Exchange Rate Fluctuations," Journal of International Economics 75, 283-294.
- Benetrix, Agustin S, Philip R. Lane, Jay C. Shambaugh, 2015, "International Currency Exposures, Valuation Effects, and the Global Financial Crisis," NBER Working Paper 20820.
- Devereux, Michael and James Yetman, 2010, "Leverage Constraints and the International Transmission of Shocks," Journal of Money, Credit and Banking 42 71-105.
- Devereux, Michael and James Yetman, 2014, "Capital Controls, Global Liquidity Traps and the International Policy Trilemma," Scandinavian Journal of Economics 116, 158-189, and NBER Working Paper No. 19091

Lecture plan

Day 1 part 1	Topic 1: NIA preliminaries, ICA 2 period model
Day 1 part 2	Topic 1: dynamic programming, ICA infinite horizon theory
Day 2 part 1	Topic 1: ICA empirics, discussion of current topic
Day 2 part 2	Topic 1: Investment
Day 3 part 1	Topic 2: RBC: quantities
Day 3 part 2	Topic 2: RBC: relative prices
Day 4 part 1	Topic 2: RBC: trade volatilities
Day 4 part 2	Topic 2: RBC continued? (present papers from rel price lec skipped)
Day 5 part 1	Topic 3: Theory of international asset trade (could be expanded if want to)
Day 5 part 2	Topic 4: PPP, unit root test (may go over to next day)
Day 6 part 1	Topic 4: tests of monetary models (might be shorter)
Day 6 part 2	Topic 4: Balassa –Samuelson (note: I need study Berka results more)
Day 7 part 1	Topic 5: OR 1995
Day 7 part 2	Topic 5: CKM 2001, JL 2008 for discussion
Day 8 part 1	Topic 6: UIP: defs, EE
Day 8 part 2	Topic 6: theory explanations: BBN, Engel (be careful about Engel, need study more, or perhaps drop it. See seungduck slides on it.)
Day 9 part 1	Topic 7: coordination: DE and OR (might run over a bit)
Day 9 part 2	?Topic 7: My paper with Corsetti
Day 10 part 1	Topic 8: valuation effects
Day 10 part 2	Topic 8: Perri-Quadrini, maybe Devereux0-Yetman