

SYLLABUS

Course Description:

We economists traditionally divide the general field of International Economics into two subfields: International Finance and International Trade. In this course we will ignore this division. We will start by studying models from International Trade — the Ricardian model, the Heckscher-Ohlin model, and variants of the New Trade Theory model of increasing returns and monopolistic competition. By emphasizing dynamic general equilibrium versions of these models, we will develop tools compatible with modern, general equilibrium macroeconomics. We will then use these sorts of models to address a number of topics, some of which are typically studied in International Finance courses. Specifically, we will try to answer the questions: (1) Why did static applied general equilibrium models of the North American Free Trade Agreement do such a poor job in predicting its impact on trade flows? (2) How can we best model real exchange rate fluctuations and the relationship of these fluctuations to international capital flows? (3) How can we use dynamic general equilibrium models to analyze the causes and consequences of international financial crises like those that afflicted Mexico in 1994–1995 and Argentina in 2001–2002 and are have more recently occurred in the Eurozone? (4) How does trade liberalization affect a country’s growth rate?

Office Hours:

Wednesdays, 9:00 am – 10:00 am on Zoom. You will receive a link to a sign-up spreadsheet via Google Sheets. Some weeks, office hours will be on a different day than Wednesday. Check on the sign-up spreadsheet. If you need to meet at some other time, please do not call me at home; send me an e-mail message at tkehoe@umn.edu.

Assignments and Grading:

There will be five problem sets, a group project, and a final exam. All assignments must be completed in order to receive a final grade for the course. The mark for each problem set will be counted once and the mark for the group project and the mark for the exam will be counted twice. The lowest of these marks will be dropped and the remaining marks averaged. Notice that this means that, if the lowest grade is that of the group project or that of the exam, its weight will be halved, but it will not be completely dropped.

Group Project:

Students will form groups to work on projects. Each group will consist of two or three students (but not one student). Topics for projects will be related to empirical issues in international economics, such as predictions of the gravity “model” for world trade flows, or to issues of current policy relevance, such as the modeling financial crises. Each group will make a 50 minute presentation of its research at the end of the course.

Late Policy:

Any late assignment will be penalized 10 (out of 100) points for each class period it is late, up to a maximum of 40 points.

Cooperation on Assignments:

Students are permitted (and encouraged) to discuss the answers to problem sets together. Copying from another student's answers is not allowed. No cooperation on the final is allowed.

Readings:

Copies of many of the readings will be available on the course web site.

There is no textbook for this course. A good textbook in international trade — which will be especially useful the first few weeks of the course for anyone who has not studied international trade previously — is

R. C. Feenstra, *Advanced International Trade: Theory and Evidence*. Princeton University Press, 2003.

Treb Allen and Costas Arkolakis have an excellent set of notes, some of which follow the approach here, but go far beyond them based on their own research:

T. Allen and C. Arkolakis, *Elements of Advanced International Trade*. Unpublished manuscript, Yale University, 2016.
(<http://www.econ.yale.edu/~ka265/teaching/GradTrade/notes/ClassNotes.pdf>)

The best textbook in open economy macroeconomics is

M. Obstfeld and K. Rogoff, *Foundations of International Macroeconomics*. MIT Press, 1996.

We will also spend time talking about depressions and crises. A useful reference is

T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*. Federal Reserve Bank of Minneapolis, 2007.

This book has a web page with data sets and computer programs:

<https://researchdatabase.minneapolisfed.org/collections/gh93gz52t>.

List of Topics and Readings

0. Traditional Trade Theory

R. Dornbusch, S. Fischer, and P. A. Samuelson, “Comparative Advantage, Trade, and Payments in a Ricardian Model with a Continuum of Goods,” *American Economic Review*, 67 (1977), 823–839.

R. Dornbusch, S. Fischer, and P. A. Samuelson, “Heckscher-Ohlin Trade Theory with a Continuum of Goods,” *Quarterly Journal of Economics*, 95 (1980), 203–224.

Feenstra, Chapters 1–3.

C. A. Wilson, “On the General Structure of Ricardian Models with a Continuum of Goods: Applications to Growth, Tariff Theory, and Technical Change,” *Econometrica*, 48 (1980), 1675–1702.

1. Increasing Returns and Imperfect Competition

Feenstra, Chapter 5.

E. Helpman, “Increasing Returns, Imperfect Markets, and Trade Theory,” in R. W. Jones and J. P. Neary, editors, *Handbook of International Economics*, vol. 1. Amsterdam: North-Holland, 1984, 325–365.

E. Helpman and P. R. Krugman, *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition, and the International Economy*. MIT Press, 1985.

P. R. Krugman, “Increasing Returns, Monopolistic Competition, and International Trade,” *Journal of International Economics*, 9 (1979), 469–479.

J. Markusen, “Explaining the Volume of Trade: An Eclectic Approach,” *American Economic Review*, 76 (1986), 1002–1011.

2. Dynamic Trade

J. Asturias, S. Hur, T. J. Kehoe, and K. J. Ruhl, “The Interaction and Sequencing of Policy Reforms,” *Journal of Economic Dynamics and Control*, 72 (2016), 45–66.

C. Bajona and T. J. Kehoe, “Demographics in Dynamic Heckscher-Ohlin Models: Overlapping Generations versus Infinitely Lived Consumers,” Federal Reserve Bank of Minneapolis Staff Report 377, 2006.

C. Bajona and T. J. Kehoe, “Trade, Growth, and Convergence in a Dynamic Heckscher-Ohlin Model,” *Review of Economic Dynamics*, 13 (2010), 487–513.

G. M. Grossman and E. Helpman, *Innovation and Growth in the Global Economy*. MIT Press, 1991.

R. E. Lucas, "Trade and the Diffusion of the Industrial Revolution," *American Economic Journal: Macroeconomics*, 1 (2009), 1–25.

E. R. McGrattan and E. C. Prescott, "Openness, Technology Capital, and Development," *Journal of Economic Theory*, 144 (2009), 2454–2476.

Obstfeld and Rogoff, Chapters 4 and 5.

H. Uzawa, "Optimal Growth in a Two-Sector Model of Capital Accumulation," *Review of Economic Studies*, 31 (1964), 1–24.

J. Ventura, "Growth and Interdependence," *Quarterly Journal of Economics*, 112 (1997), 57–84.

A. Young, "Learning by Doing and the Dynamic Effect of International Trade," *Quarterly Journal of Economics*, 106 (1991), 369–406.

3. Models with Heterogeneous Firms

J. Asturias, S. Hur, T. J. Kehoe, and K. J. Ruhl, "Firm Entry and Exit and Aggregate Growth," *American Economic Journal: Macroeconomics*, 15 (2023), 48–105.

J. Asturias, S. Hur, T. J. Kehoe, and K. J. Ruhl, "The Interaction and Sequencing of Policy Reforms," *Journal of Economic Dynamics and Control*, 72 (2016), 45–66.

C. Arkolakis, "Market Access Costs and the New Consumers Margin in International Trade," *Journal of Political Economy*, 118 (2010), 1151–1199.

T. Chaney, "Distorted Gravity: Heterogeneous Firms, Market Structure, and the Geography of International Trade," *American Economic Review*, 98 (2008), 1707–1721.

J. Eaton and S. Kortum, "Technology, Geography, and Trade," *Econometrica*, 70 (2002), 1741–1779.

J. Eaton, S. Kortum, and F. Kramarz, "An Anatomy of International Trade: Evidence from French Firms," *Econometrica*, 79 (2011), 1453–1498.

M. J. Gibson, "Trade Liberalization, Reallocation, and Productivity," University of Minnesota, 2006.

M. Melitz, "The Impact of Trade on Aggregate Industry Productivity and Intra-Industry Reallocations," *Econometrica*, 71 (2003), 1695–1725.

A. Ramanarayanan, "Imported Inputs and the gains from Trade," *Journal of International Economics*, 122 (2020).

K. J. Ruhl, “The Elasticity Puzzle in International Economics,” University of Texas at Austin, 2008.

4. Empirical Evidence

D. K. Backus, P. J. Kehoe and T. J. Kehoe, “In Search of Scale Effects in Trade and Growth,” *Journal of Economic Theory*, 58 (1992), 377–409.

S. L. Baier and J. H. Bergstrand, “The Growth of World Trade: Tariffs, Transport Costs, and Income Similarity,” *Journal of International Economics*, 53 (2001), 1–27.

R. Bergoeing and T. J. Kehoe, “Trade Theory and Trade Facts,” Federal Reserve Bank of Minneapolis, Staff Report 284, 2003.

C. Broda, J. Greenfield, and D. E. Weinstein, “From Groundnuts to Globalization: A Structural Estimate of Trade and Growth,” *Research in Economics*, 71 (2017), 759–783.

A. V. Deardorff, “Testing Trade Theories and Predicting Trade Flows,” in R. W. Jones and P. B. Kenen, editors, *Handbook of International Economics*, vol. 1, North-Holland, 1984, 467–517.

D. Hummels and P. J. Klenow, “The Variety and Quality of a Nation’s Exports,” *American Economic Review* 95 (2005), 704–723

D. Hummels and J. Levinsohn, “Monopolistic Competition and International Trade: Reconsidering the Evidence,” *Quarterly Journal of Economics*, 110 (1995), 799–836.

T. J. Kehoe, J. M. Rossbach, and K. J. Ruhl, “Using the New Products Margin to Predict the Industry-Level Impact of Trade Reform,” *Journal of International Economics*, 96 (2015), 289–297.

T. J. Kehoe and K. J. Ruhl, “How Important is the New Goods Margin in International Trade?” *Journal of Political Economy*, 121 (2013), 358–392.

K.-M. Yi, “Can Vertical Specialization Explain the Growth of World Trade?” *Journal of Political Economy*, 111 (2003), 52–102.

5. Applied General Equilibrium Analysis of Trade Policy

Feenstra, Chapter 6.

Francois, J. F. and C. R. Shiells, editors, *Modeling Trade Policy: Applied General Equilibrium Assessments of North American Free Trade*, New York: Cambridge University Press, 1994.

P. J. Kehoe and T. J. Kehoe, “Capturing NAFTA's Impact with Applied General Equilibrium Models,” *Federal Reserve Bank of Minneapolis Quarterly Review*, 18:2 (1994), 17–34.

P. J. Kehoe and T. J. Kehoe, “A Primer on Static Applied General Equilibrium Models,” *Federal Reserve Bank of Minneapolis Quarterly Review*, 18:2 (1994), 2–16.

T. J. Kehoe, “An Evaluation of the Performance of Applied General Equilibrium Models of the Impact of NAFTA,” in T. J. Kehoe, T. N. Srinivasan, and J. Whalley, editors, *Frontiers in Applied General Equilibrium Modeling: Essays in Honor of Herbert Scarf*, Cambridge University Press, 2005, 341–377.

T. J. Kehoe, P. S. Pujolàs, and J. Roszbach, “Quantitative Trade Models: Developments and Challenges,” *Annual Review of Economics*, 9 (2017), 295–325.

J. Romalis, “NAFTA’s and CUSFTA’s Impact on North American Trade,” *Review of Economics and Statistics*, 89 (2004), 416–435.

D. Trefler, “The Long and Short of the Canada-U.S. Free Trade Agreement,” *American Economics Review*, 94 (2004), 870–895.

6. Real Exchange Rates

R. Bems and K. Jönsson Hartelius, “Trade Deficits in the Baltic States: How Long Will the Party Last?” *Review of Economic Dynamics*, 9 (2006), 179–209.

C. M. Betts and M. B. Devereux, “Exchange Rate Dynamics in a Model of Pricing-to-Market,” *Journal of International Economics*, 50 (2000), 215–244.

C. M. Betts and T. J. Kehoe, “Real Exchange Rate Movements and the Relative Price of Nontraded Goods,” University of Minnesota and University of Southern California, 2002.

C. M. Betts and T. J. Kehoe, “Tradability of Goods and Real Exchange Rate Fluctuations,” University of Minnesota and University of Southern California, 2001.

C. M. Betts and T. J. Kehoe, “U.S. Real Exchange Rate Fluctuations and Relative Price Fluctuations,” *Journal of Monetary Economics*, 53 (2006), 1297–326.

V. V. Chari, P. J. Kehoe, and E. R. McGrattan, “Can Sticky Price Models Generate Volatile and Persistent Real Exchange Rates?” *Review of Economic Studies*, 69 (2002), 533–563.

M. Crucini, C. Telmer, and M. Zachariadis “Understanding European Real Exchange Rates,” *American Economic Review*, 95 (2005), 724–738.

C. Engel, “Accounting for U.S. Real Exchange Rate Changes,” *Journal of Political Economy*, 107 (1999), 507–538.

G. Fernandez de Cordoba and T. J. Kehoe, “Capital Flows and Real Exchange Rate Fluctuations Following Spain's Entry into the European Community,” *Journal of International Economics*, 51 (2000), 49–78.

J. Imbs, H. Mumtaz, M. O. Ravn, and H. Rey, “PPP Strikes Back: Aggregation and the Real Exchange Rate,” *Quarterly Journal of Economics*, 120 (2005), 1–44.

Obstfeld and Rogoff, Chapters 8, 9, 10.

S. Rebelo and C. A. Vegh, “Real Effects of Exchange Rate-Based Stabilization: An Analysis of Competing Theories,” in B. S. Bernanke and J. J. Rotemberg, editors, *NBER Macroeconomics Annual 1995*. The MIT Press, 1995, 125–174.

A. C. Stockman and L. L. Tesar, “Tastes and Technology in a Two-Country Model of the Business Cycle: Explaining International Comovements,” *American Economic Review*, 85 (1995), 168–185.

7. Capital Flows and Crises

M. Aguiar, M. Amador, E. Farhi, and G. Gopinath, “Crisis and Commitment: Inflation Credibility and the Vulnerability to Sovereign Debt Crises,” NBER Working Paper 19516, 2013.

A. Araujo, M. Leon, and R. Santos, “Welfare Analysis of Currency Regimes with Defaultable Debts,” *Journal of International Economics*, 89 (2013), 143–153.

C. Chamley and B. Pinto, “Why Official Bailouts Tend Not to Work: An Example Motivated by Greece 2010,” *The Economists’ Voice*, 8 (2011).

H. L. Cole and T. J. Kehoe, “A Self-Fulfilling Model of Mexico's 1994-95 Debt Crisis,” *Journal of International Economics*, 41 (1996), 309–330.

H. L. Cole and T. J. Kehoe, “Self-Fulfilling Debt Crises,” *Review of Economic Studies*, 67 (2000), 91-116.

J. C. Conesa and T. J. Kehoe, “Gambling for Redemption and Self-Fulfilling Debt Crises,” *Economic Theory*, 64 (2017), 707–740.

J. M. Da Rocha, E. Gimenez, and F. Lores, “Self-Fulfilling Crises with Default and Devaluation,” *Economic Theory*, 53 (2013), 499–535.

T. J. Kehoe, “What Happened in Mexico in 1994–95?” in P. J. Kehoe and T. J. Kehoe, editors, *Modeling North American Economic Integration*, Kluwer Academic Publishers, 1995, 131–47.

T. J. Kehoe and K. J. Ruhl, “Sudden Stops, Sectoral Reallocations, and the Real Exchange Rate,” *Journal of Development Economics*, 89 (2009), 235–49.

T. J. Kehoe, K. J. Ruhl, and J. B. Steinberg, “Global Imbalances and Structural Change in the United States,” *Journal of Political Economy*, 126 (2018), 761–796.

Note:

We will take the material in topic 0 for granted, reviewing some of it selectively throughout the course. We will cover topics 1, 2, 3, and some of topic 4 for sure. We will not have time to do all of topics 5, 6, and 7. I hope to cover at least one of these three topics (probably 7).