INTERNATIONAL TRADE AND PAYMENTS THEORY **T. J. KEHOE**
ECON 8401 **FALL 2009**

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? (4) How does trade liberalization affect a country's growth rate?

Readings:

Copies of many of the readings will be available on the course web site: http://www.econ.umn.edu/~tkehoe/classes/8401-09.

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.

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, computer programs, and a link to the book's web page at Amazon.com:

http://www.greatdepressionsbook.com.

Office Hours:

Wednesday, 9:00 am – 11:00 am at 4-175 Herbert M. Hanson Jr. Hall, 612-625-1589. There is a sign-up sheet outside my door. 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:

There will be four problem sets, a group project, and a final exam. All assignments must be completed in order to receive a final grade for the course.

Grading:

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, providing a total of eight marks. 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, three, or four students. Topics for projects will be related to empirical issues in international economics, such as empirical tests of the Heckscher-Ohlin model, or to issues of current policy relevance, such as the modeling financial contagion. Each group will make a one hour 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.

Guidelines for Defining Scholastic Dishonesty:

The University Student Conduct Code defines scholastic dishonesty as follows:

Scholastic Dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis.

Scholastic dishonesty includes, but is not limited to, the description above. It could also be said that scholastic dishonesty is any act that violates the rights of another student with respect to academic work or that involves misrepresentation of a student's own work. Also included would be cheating on assignments or examinations, inventing or falsifying research or other findings with the intent to deceive, submitting the same or substantially similar papers (or creative work) for more than one course without consent of all instructors concerned, depriving another of necessary course materials, and sabotaging another's work. (*CLA Classroom, Grading & Examination Procedures*, http://advisingtools.class.umn.edu/cgep/studentconduct.html.)

Penalties for scholastic dishonesty of any kind in any course will entail an "F" for the particular assignment/exam or the course.

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

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," Federal Reserve Bank of Minneapolis Staff Report 378, 2006.

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," National Bureau of Economic Research Working Paper 13286, 2007.

E. R. McGrattan and E. C. Prescott, "Openness, Technology Capital, and Development," Federal Reserve Bank of Minneapolis Working Paper 651, 2007.

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

C. Arkolakis, "Market Access Costs and the New Consumers Margin in International Trade," Yale University of Minnesota, 2008.

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," New York University, University of Minnesota, and CREST-INSEE, 2005.

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

T. J. Kehoe and K. J. Ruhl, "On Models of International Trade with Heterogeneous Firm," University of Minnesota, 2009.

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

A. Ramanarayanan, “International Trade Dynamics with Intermediate Inputs,” University of Minnesota, 2006.

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,” NBER Working Paper 12033, 2006

A. V. Deardorff, “Testing Trade Theories and Predicting Trade Flows,” in R. W. Jones and P. B. Kenen, editors, *Handbook of International Economics*, vol. l, 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 and K. J. Ruhl, “How Important is the New Goods Margin in International Trade?” University of Minnesota, 2002.

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.

J. Romalis, “NAFTA’s and CUSFTA’s Impact on North American Trade,” University of Chicago, 2004.

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,” University *Journal of Monetary Economics*, 53 (2006), 1297–1326.

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. Modeling World Trade Patterns

F. Alvarez and R. J. Lucas, "General Equilibrium Analysis of the Eaton-Kortum Model of International Trade," *Journal of Monetary Economics*, 54 (2007), 1726–1768.

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

N. Ramondo and A. Rodríguez-Clarez, "The Gains from Openness: Trade, Multinational Production, and Diffusion, University of Texas-Austin and Pennsylvania State University, 2008.

M. E. Waugh, "International Trade and Income Differences," University of Iowa, 2007.

8. Capital Flows and Crises

C. Bajona, M. J. Gibson, T. J. Kehoe, and K. J. Ruhl, "Trade Liberalization, Growth, and Productivity," Federal Reserve Bank of Minneapolis, 2009.

R. Bergoeing, P. J. Kehoe, T. J. Kehoe, and R. Soto, "A Decade Lost and Found: Mexico and Chile in the 1980s," in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*. Federal Reserve Bank of Minneapolis, 2007, 217–246.

G. A. Calvo, A. Izquierdo, E. Talvi, "Phoenix Miracles In Emerging Markets: Recovering Without Credit From Systemic Financial Crises," National Bureau Of Economic Research Working Paper 12101, 2006.

V. V. Chari and P. J. Kehoe, "Hot Money," *Journal of Political Economy*, 6 (2003), 1262 – 1292.

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

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.

J. C. Conesa, T. J. Kehoe, and K. J. Ruhl, "Modeling Great Depressions: The Depression in Finland in the 1990s," in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*. Federal Reserve Bank of Minneapolis, 2007, 427–475.

J. M. Da Rocha, E. L. Giménez, and F. X. Lores (2002), "Devaluation Beliefs and the Argentinian Debt Crisis," Universidade de Vigo, 2002.

T. J. Kehoe, "Comments on Krugman," in Ben S. Bernanke and Julio J. Rotemberg, editors, *NBER Macroeconomics Annual 1996*, MIT Press, 1996, 378–392.

T. J. Kehoe, "What Can We Learn from the 1998–2002 Depression in Argentina?" in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*. Federal Reserve Bank of Minneapolis, 2007, 217–246.

T. J. Kehoe and K. J. Ruhl, "Recent Great Depressions: Aggregate Growth in New Zealand and Switzerland," in T. J. Kehoe and E. C. Prescott, editors, *Great Depressions of the Twentieth Century*. Federal Reserve Bank of Minneapolis, 2007, 335–372.

T. J. Kehoe and K. J. Ruhl, "Sudden Stops, Sectoral Reallocations, and the Real Exchange Rate," *Journal of Development Economics*, 89 (2009), 235–249.

P. R. Krugman, "A Model of Balance of Payments Crises," *Journal of Money Credit and Banking*, 11 (1979), 311–325.

P. R. Krugman, "Are Currency Crises Self-Fulfilling?" in B. S. Bernanke and J. J. Rotemberg, editors, *NBER Macroeconomics Annual 1996*. The MIT Press, 1996, 345–378.

M. Obstfeld, "Models of Currency Crises with Self-Fulfilling Features," *European Economic Review*, 40 (1996), 1037–1048.

Obstfeld and Rogoff, Chapters 5, 6, 7.

Please note: I 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 8 and some of topic 4 for sure. We will not have time to do all of topics 4, 5, 6, and 8. I hope to cover at least one of these three topics.