

**Economics 232C: Applied International Trade  
Spring 2002**

Professor Gordon Hanson  
Office: RCB 1324  
Phone: 822-5087  
Email: [gohanson@ucsd.edu](mailto:gohanson@ucsd.edu)  
Class: MW 10:00-11:20  
Office hours: MW 2:30-3:30 (and by appointment)

This is the second course in the graduate international trade sequence. The course covers empirical research in the field and selected theoretical topics. We will strive to achieve a balance between reading classic papers and work that represents current research. The main prerequisite for the course is Economics 232B.

The course requirements include an exam (worth 45% of the grade) towards the end of the term and a research paper (worth 45% of the grade) due on the last day of class (there will be no extensions of this deadline). The paper will be empirical in nature, using data sets that I will make available (or other data that students provide). We will discuss the paper requirement in the second week of class. Attendance of the Applied Economics Seminar is recommended heavily (especially the presentations relating to international trade and development). Participation in class is worth 10% of the grade.

Required readings are indicated by an asterisk (\*). Most of the readings we will discuss are journal articles. We will also use several chapters from a forthcoming graduate text on international trade by Robert Feenstra, available on line at:

Feenstra, R.C. Advanced International Trade: Theory and Evidence. Princeton University Press, forthcoming. ([http://emlab.berkeley.edu/users/visfac/e280a\\_sp02/e280a.html](http://emlab.berkeley.edu/users/visfac/e280a_sp02/e280a.html))

Additional readings are optional, but recommended for those interested in the field. Recommendations for further readings are available on request.

I will place copies of required readings on electronic reserve. You can also access many of these readings online using one of the following web sites:

JSTOR: <http://www.jstor.org/jstor/>

(for economics articles in leading journals published before 1999 or in the case of some journals before 1997)

NBER: <http://papers.nber.org/>

(for NBER working papers online)



Key for journals:

AER	American Economic Review
BPEA	Brookings Papers on Economic Activity
EMA	Econometrica
EER	European Economic Review
EJ	The Economic Journal
IER	International Economic Review
JEP	Journal of Economic Perspectives
JIE	Journal of International Economics
JPE	Journal of Political Economy
QJE	Quarterly Journal of Economics
ReStud	Review of Economic Studies
ReStat	Review of Economics and Statistics

I. The Factor Content of Trade: Testing the Heckscher-Ohlin Model

A. Theoretical Background

(\*) Feenstra, chapters 1-3. (the theoretical material in these chapters is for review)

Vanek, J. 1968. The Factor Proportions Theory: The N-Factor Case. *Kyklos* 21: 749-756.

Mussa, M. 1974. Tariffs and the Distribution of Income: The Importance of Factor Specificity, Substitutability, and Intensity in the Short and Long Run. *JPE* 82: 1191-1203.

Ethier, W.J. 1984. Higher Dimensional Issues in Trade Theory. In Jones, R. and P. Kennen. 1984. Handbook of International Economics, Vols. 1 and 2. North-Holland.

Helpman, E. 1984. The Factor Content of Foreign Trade. *EJ* 94: 84-94.

B. The Factor Proportions Model: Empirical Studies

1. Surveys

Leamer, E. 1984. Sources of Comparative Advantage. MIT Press.

(\*) Leamer, E. and J. Levinsohn. 1995. International Trade Theory: The Evidence. In Grossman, G. and K. Rogoff. Handbook of International Economics, Vol. 3. North-Holland. (also NBER Working No. 4940)

(\*) Helpman, E. 1999. The Structure of Foreign Trade. *JEP* 13(2): 121-44. (also



NBER working paper no. 6752).

## 2. The Leontief Paradox

Leontief, W. 1954. Domestic Production and Foreign Trade: The American Capital Position Re-Examined. Economia Internazionale 7: 3-32. (Reprinted in R.E. Caves and H.G. Johnson, Readings in International Economics, Irwin, 1968.)

(\*) Leamer, E. 1980. The Leontief Paradox, Reconsidered. JPE 88: 495-503. (available on jstor)

(\*) Brecher, R. and Choudri, E. 1982. The Leontief Paradox, Continued. JPE 90: 820-823. (available on jstor)

(\*) Trefler, D. 1993. International Factor Price Differences: Leontief Was Right! JPE 101: 961-987. (available on jstor)

Gabaix, X. 1997. The Factor Content of Trade: A Rejection of the Heckscher-Ohlin-Leontief Hypothesis. Mimeo, Harvard University.

## 3. Cross-Section Tests of the Heckscher-Ohlin Model

Baldwin, R. 1971. Determinants of the Commodity Structure of U.S. Trade. AER 61: 126-146.

Harkness, J. 1978. Factor Abundance and Comparative Advantage. AER 68: 784-800.

(\*) Anderson, J. 1981. Cross-Section Tests of the Heckscher-Ohlin Theorem: Comment. AER Dec. 1037-1039. (available on jstor)

(\*) Leamer, E. and H. Bowen. 1981. Cross-Section Tests of the Heckscher-Ohlin Theorem: Comment. AER Dec. 1040-1043. (available on jstor)

Bowen, H. and L. Sveikauskas. 1992. Judging Factor Abundance. QJE 107: 599-620. (also NBER Working Paper No. 3059)

Romalis, J. 2001. Factor Proportions and the Structure of Commodity Trade. Mimeo, University of Chicago.

## 4. Multicountry, Multifactor Tests of the Heckscher-Ohlin Model

(\*) Bowen, H., E. Leamer, and L. Sveikauskas. 1987. Multicountry, Multifactor Tests of the Factor Abundance Theory. AER: 791-809. (available on jstor)

Harrigan, J. 1995. Factor Endowments and the International Location of



Production: Econometric Evidence for the OECD, 1970-1985. JIE: 123-141.

Harrigan, J. 1997. Technology, Factor Supplies, and International Specialization: Estimating the Neoclassical Model. AER: 475-494.

(\*) Trefler, D. 1995. The Case of the Missing Trade and Other HOV Mysteries. AER 85: 1029-1046. (available on jstor)

(\*) Davis, D. and D. Weinstein. 2001. An Account of Global Factor Trade. AER 91: 1423-1453. (also NBER Working Paper No. 6785.)

## II. Globalization and Wages

### A. Theoretical Background

(\*) Feenstra, chapter 4.

Stolper, W. and P.A. Samuelson. 1941. Protection and Real Wages. ReStud 9: 58-73.

Samuelson, P. 1949. International Factor-Price Equalization Once Again. EJ 59: 181-197.

Rybczynski, T.M. 1955. Factor Endowments and Relative Commodity Prices. Economica 22: 336-341.

(\*) Jones, R. 1965. The Structure of Simple General Equilibrium Models. JPE 73: 557-72. (available on jstor)

Deardorff, A.V. 1994. Overview of the Stolper-Samuelson Theorem. In A.V. Deardorff and R.M. Stern, eds., The Stolper-Samuelson Theorem: A Golden Jubilee. University of Michigan Press, 7-34.

### B. Recent Developments in U.S. Labor Markets

Berman, Eli, John Bound, and Zvi Griliches. 1994. Changes in Demand for Skilled Labor Within U.S. Manufacturing Industries. QJE, 109, pp. 367-398.

(\*) Borjas, George J., Richard B. Freeman, and Lawrence F. Katz. 1997. How Much Do Immigration and Trade Affect Labor Market Outcomes? BPEA 1: 1-90.

(\*) Slaughter, M.J. 1999. Globalization and Wages: A Tale of Two Perspectives. World Economy 22: 609-630. (available at <http://www.ingenta.com/>)



Katz, Lawrence F. and David Autor. 1999. Changes in the Wage Structure and Earnings Inequality. In Orley Ashenfelter and David Card, eds., Handbook of Labor Economics, Vol. 3A, Amsterdam: Elsevier, 1463-1555

#### C. The Stolper Samuelson Theorem and U.S. Wages

Leamer, Edward E. 1998. In Search of Stolper-Samuelson Linkages between International Trade and Lower Wages. In Susan M. Collins, ed., Imports, Exports, and the American Worker. Brookings Institution Press, 141-203.

(\*) Slaughter, Matthew J. 2000. What Are the Results of Product-Price Studies and What Can We Learn From Their Differences? In Robert C. Feenstra (ed), International Trade and Wages. University of Chicago Press, 121-170. (also NBER working paper no. 6591)

Robertson, Raymond. 2002. Relative Prices and Wage Inequality: Evidence from Mexico. Mimeo, Macalester College.

#### D. Foreign Outsourcing

Feenstra, R.C. and G.H. Hanson. 1997. Foreign Direct Investment and Wage Inequality: Evidence from Mexico's Maquiladoras. JIE 42: 371-393.

(\*) Feenstra, R.C. 1998. Integration of Trade and Disintegration of Production in the Global Economy. JEP 12: 31-50.

Feenstra, R.C. and G.H. Hanson. 1999. The Impact of Outsourcing and High-Technology Capital on Wages: Estimates for the United States, 1972-1990. QJE 114: 907-940.

Hsieh, Chang-Tai and Keong T. Woo. 1999. The Impact of Outsourcing to China on Hong Kong's Labor Market. Mimeo, Princeton University.

(\*) Hummels, David, Jun Ishii, and Kei-Mu Yi. 2001. The Nature and Growth of Vertical Specialization in World Trade. JIE 54: 75-96.

(\*) Feenstra, R.C. and G.H. Hanson. 2002. Global Production and Inequality: A Survey of Trade and Wages. In James Harrigan, ed., Handbook of International Trade, Basil Blackwell, forthcoming. (also NBER working paper no. 8372)

#### E. Related Work

Revena, A. 1992. Exporting Jobs: The Impact of Import Competition on Employment and Wages in U.S. Manufacturing. QJE 107: 255-284.

Borjas, G. and V. Ramey. 1995. Foreign Competition, Market Power, and Wage



Inequality: Theory and Evidence. QJE 110: 1075-1111.

Gaston, N. and D. Trefler. 1995. Union Wage Sensitivity to Trade and Protection: Theory and Evidence. JIE 39: 1-25.

Bernard, A. and B. Jensen. 1997. Exporters, Skill Upgrading and the Wage Gap. JIE 42: 3-32.

Gaston, N. and D. Trefler. 1997. The Labour Market Consequences of the Canada-U.S. Free Trade Agreement. Canadian Journal of Economics 30: 18-41.

Slaughter, Matthew J. 2001. International Trade and Labor-Demand Elasticities. JIE, 54: 27-56.

Gandal, N., G.H. Hanson, and M.J. Slaughter. 2002. Technology, Trade, and Adjustment to Immigration in Israel. EER, forthcoming.

Hanson, G.H. and M.J. Slaughter. 2002. Labor-Market Adjustment in Open Economies: Evidence from U.S. States. JIE, forthcoming.

### III. Increasing Returns to Scale and the Volume of Trade

#### A. Theoretical Background

(\*) Feenstra, chapter 5.

Anderson, J.E. 1979. A Theoretical Foundation for the Gravity Equation. AER 69(1): 106-116.

Helpman, E. and P. Krugman. 1985. Market Structure and Foreign Trade. MIT Press, chapters 7-8.

#### B. Gravity and Trade Costs

McCallum, J. 1995. National Borders Matter: Canada-US Regional Trade Patterns. AER 85: 615-23.

Engel, C. and J. Rogers. 1999. How Wide is the Border? AER 86: 1112-1125.

Hummels, D. 1999. Towards a Geography of Trade Costs. Mimeo, University of Chicago.

(\*) Harrigan, J. 2001. Specialization and the Volume of Trade: Do the Data Obey the Laws? In James Harrigan, ed., Handbook of International Trade, Basil Blackwell, forthcoming. (also NBER Working Paper No. 8675.)



(\*) Anderson, J.E. and E. van Wincoop. 2001. Gravity with Gravitas: A Solution to the Border Puzzle. NBER Working Paper No. 8079.

#### C. Gravity and Increasing Returns

Helpman, E. 1987. Imperfect Competition and International Trade: Evidence from Fourteen Industrial Countries. Journal of the Japanese and International Economies 1: 62-81.

(\*) Hummels, D. and J. Levinsohn. 1995. Monopolistic Competition and International Trade: Reconsidering the Evidence. QJE 110: 799-836. (available on jstor)

Harrigan, J. 1995. The Volume of Trade in Differentiated Intermediate Goods: Theory and Evidence. ReStat 77: 283-293.

Evenett, Simon J. and Wolfgang Keller. 2001. On Theories Explaining the Success of the Gravity Equation. JPE, forthcoming.

(\*) Debaere, P. 2002. Testing 'New' Trade Theory without Testing for Gravity: Re-interpreting the Evidence. QJE, forthcoming.

#### D. Related Work

Antweiler, W. and D. Trefler. 1997. Increasing Returns and All That: A View from Trade. Mimeo, University of Toronto.

Davis, D. and D. Weinstein. 1998. Economic Geography and Regional Production Structure: An Empirical Investigation. EER 43: 379-407.

Hanson, G.H. and C. Xiang. 2002. The Home Market Effect and Bilateral Trade Patterns. Mimeo, UCSD.

### IV. Trade Policy, Imperfect Competition, and Productivity

#### A. Theoretical Background

(\*) Feenstra, chapters 7 and 8.

(\*) Feenstra, R. 1995. Estimating the Effects of Trade Policy. In Grossman, G. and K. Rogoff. 1995. Handbook of International Economics, Vol. 3. North-Holland. (also NBER Working Paper No. 5051)

#### B. Trade Policy and Imperfect Competition



Feenstra, R. 1988. Quality Change under Trade Restraints in Japanese Autos. QJE 103: 131-146.

(\*) Knetter, M. 1989. Price Discrimination by U.S. and German Exporters. AER 79: 198-210. (available on jstor)

(\*) Koujianou, P. 1995. Product Differentiation and Oligopoly in International Markets: The Case of the U.S. Automobile Industry. EMA 63: 891-951. (available on jstor)

Feenstra, R., J. Gagnon, and M. Knetter. 1996. Market Share and Exchange Rate Pass-Through in World Automobile Trade. JIE 40: 187-207.

(\*) Berry, S., J. Levinsohn, and A. Pakes. 1999. Voluntary Export Restraints on Automobiles: Evaluating a Strategic Trade Policy. AER 89(3): 400-430 (also NBER Working Paper No. 5235).

#### C. Trade, Productivity and Other Issues in Micro Data

Levinsohn, J. 1993. Testing the Imports as Market Discipline Hypothesis. JIE 35: 1-22.

Harrison, A. 1994. Productivity, Imperfect Competition and Trade Reform: Theory and Evidence. JIE, March.

Roberts, M. and J. Tybout. 1997. The Decision to Export in Columbia: An Empirical Model of Entry with Sunk Costs. AER Sept., 545-64.

Clerides, S., S. Lach and J. Tybout. 1998. Is Learning by Exporting Important? Mirco-Dynamic Evidence from Colombia, Mexico and Morocco. QJE 113: 903-947.

Bernard, A. and B. Jensen. 1999. Exceptional Exporter Performance: Cause, Effect, or Both? JIE Jan., 1-25.

Bernard, A., J. Eaton, S. Kortum, and B. Jensen. 2000. Plants and Productivity in International Trade. NBER Working Paper No. 7688.

Tybout, J. 2001. Plant and Firm Level Evidence on "New" Trade Theories. . In James Harrigan, ed., Handbook of International Trade, Basil Blackwell, forthcoming. (also NBER Working Paper No. 8418)

Blonigen, B. and T. Prusa. 2001. Antidumping. In James Harrigan, ed., Handbook of International Trade, Basil Blackwell, forthcoming. (also NBER working paper 8398).



V. Multinational Firms (required readings to be assigned later)

A. Theoretical Background

Feenstra, chapter 10.

Markusen, J. 1998. Multinational Firms, Location, and Trade. *The World Economy* 21: 733-756.

Markusen, J. and A. Venables. 1998. Multinational Firms and the New Trade Theory. *JIE* 46: 183-203.

Markusen, J. 2001. General-Equilibrium Approaches to the Multinational Firm: A Review of Theory and Evidence. In James Harrigan, ed., Handbook of International Trade, Basil Blackwell, forthcoming. (also NBER working paper no. 8334)

Grossman, G. and E. Helpman. 2002. Outsourcing in a Global Economy. NBER Working Paper No. 8728.

B. Testing Models of Multinational Firms

Froot, K. and J. Stein. 1991. Exchange Rates and Foreign Direct Investment and Imperfect Capital Market Approach. *QJE* Nov.: 1191 - 1217.

Blonigen, B. 1997. Firm-Specific Assets and the Link Between Exchange Rates and Foreign Direct Investment. *AER* 87: 447-465.

Brainard, L. 1997. An Empirical Assessment of the Proximity-Concentration Tradeoff between Multinational Sales and Trade. *AER* 87: 520-544.

Markusen, J.R. and K. Maskus. 1999. Discriminating among Alternative Theories of the Multinational Enterprise. NBER Working Paper No. 7164.

Carr, D.L., J.R. Markusen, and K.E. Maskus. 2001. Estimating the Knowledge-Capital Model of the Multinational Enterprise. *AER*, 91 (3), June: 693-708.

Hanson, G.H., R. Mataloni, and M.J. Slaughter. 2001. Expansion Strategies of U.S. Multinational Firms. In Dani Rodrik and Susan Collins (eds) Brookings Trade Forum 2001.

C. Taxation and Foreign Direct Investment

Swenson, D. 1994. Impact of U.S. Tax Reform on Foreign Direct Investment in the United States. Journal of Public Economics 54: 243-266.



Hines, J. 1996. Altered States: Taxes and the Location of Foreign Direct Investment in America. AER 86: 1076-1094.

Hines, J. 1997. Tax Policy and the Activities of Multinational Corporations. In Alan J. Auerbach, ed., Fiscal Policy: Lessons from Economic Research, MIT Press, pp. 401-445. (Also NBER Working Paper No. 5589)

#### D. Spillovers and Foreign Direct Investment

Wheeler, D. and A. Mody. 1992. International Investment Location Decisions. JIE 33: 57-76.

Head, K., J. Ries, and D. Swenson. 1995. Agglomeration Benefits and Location Choice: Evidence from Japanese Manufacturing Investment in the United States. JIE 38: 223-247.

Aitken, B., G. Hanson, and A. Harrison. 1997. Spillovers, Foreign Investment, and Export Behavior. JIE 43: 103-132.

Aitken, B. and A. Harrison. 1999. Do Domestic Firms Benefit from Foreign Investment? Evidence from Venezuela. AER 89: 605-618.

Slaughter, M.J. and J. Haskell. 2002. Does Inward Foreign Direct Investment Boost the Productivity of Domestic Firms? NBER Working Paper No. 8724.

Hanson, G.H. 2001. Should Countries Promote Foreign Direct Investment? G-24 Discussion Paper Series No. 9.

#### E. Networks and Trade

Rauch, James E. 1999. Networks versus Markets in International Trade. JIE 48(1): 7-37.

Rauch, James E. and Alessandra Casella. 1998. "Overcoming Informational Barriers to International Resource Allocation." NBER Working Paper No. 6628.

Rauch, James E. and Victor Trindade. 1999. "Ethnic Chinese Networks in International Trade," NBER Working Paper No. 7189.

Rauch, James. 2002. Business and Social Networks in International Trade. JEL, forthcoming.

#### VI. Economic Geography (required readings to be assigned later)



#### A. Theoretical Background

Krugman, P. Geography and Trade. MIT Press, 1991, ch. 1-2.

Krugman, P. 1991. Increasing Returns and Economic Geography. JPE 99: 483-499.

Venables, A.J. 1996. Equilibrium Locations of Vertically Linked Industries. IER 37: 341-360.

Fujita, M., P. Krugman, and A. Venables. 1999. The Spatial Economy: Cities, Regions, and International Trade. Cambridge, MA: MIT Press.

#### B. Empirical Studies

Rauch, J. 1993. Productivity Gains from Geographic Concentration of Human Capital: Evidence from the Cities. JUE 34.

Jaffe, A., M. Trajtenberg, and R. Henderson. 1993. Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations. QJE 108: 577-598.

Henderson, J.V., Kuncoro, A., and M. Turner. 1995. Industrial Development and Cities. JPE 103: 1067-1081.

Hanson, G. 1996. Increasing Returns, Trade, and the Regional Structure of Wages. EJ 107: 113-133.

Glaeser, E. and A. Ades. 1995. Trade and Circuses. QJE 110: 195-228.

Hanson, G. 1998. Market Potential, Increasing Returns, and Economic Geography. NBER Working Paper No. 6429.

Redding, S. and A. Venables. 2002. The Economic Geography of Trade, Production and Income: A Survey of Empirics. In James Harrigan, ed., Handbook of International Trade, Basil Blackwell, forthcoming.